St George's University Hospitals
NHS Foundation Trust

Trust Board Meeting
Thursday 26 March 2020

Agenda and papers

St George's University Hospitals NHS Foundation Trust

Trust Board Meeting (Part 1) – AGENDA

Date and Time: Thursday, 26 March 2020, 16:00-18:00
Venue: Room 52, 1st Floor Grosvenor Wing, St George's Hospital – Virtual Meeting

Time	Item	Subject	Lead	Action	Format
1.0 OPENING ADMINISTRATION					
16:00	1.1	Welcome and apologies	Chairman	Note	Oral
	1.2	Declarations of interest	All	Assure	Oral
	1.3	Minutes of meeting – 27 February 2020	Chairman	Approve	Report
	1.4	Action log and matters arising	All	Review	Report
2.0 CARDIAC SURGERY					
16:05	2.1	Cardiac Surgery: • Statement from the Chief Executive • Reports of the Independent External Mortality Review and Independent Scrutiny Panel • Improvements to the Trust's cardiac surgery unit	Chief Executive / Chief Medical Officer	Assure	Report
3.0 COVID-19					
16:55	3.1.1	Novel Coronavirus (COVID-19) Update	Chief Executive / Acting Chief Nurse	Inform	Report
	3.1.2	Arrangements for Future Board and Council Governance Activities	Chief Corporate Affairs Officer	Approve	Report
4.0 QUALITY & PERFORMANCE					
17:30	4.1	Quality and Safety Committee Report	Committee Chairman	Assure	Report
17:35	4.2	Integrated Quality & Performance Report and Emergency Care Update	Chief Transformation Officer/ Chief Operating Officer	Assure	Report
5.0 FINANCE					
17:40	5.1	Finance & Investment Committee Report	Committee Chair	Assure	Report
17:45	5.2	Finance & Investment Committee (Estates) Report	NED Estates Lead	Assure	Report
17:50	5.3	Finance Report (Month 11)	Acting Chief Finance Officer	Update	Report
6.0 CLOSING ADMINISTRATION					
17:55	6.1	Questions from Governors and the public	Chairman	Note	Oral
	6.2	Any new risks or issues identified	All	Note	
	6.3	Any Other Business		Note	
18:00 CLOSE					

Thursday, 30 April 2020, 09:30-11:30

St George's University Hospitals NHS Foundation Trust

Trust Board
Purpose, Meetings and Membership

Trust Board Purpose:	The general duty of the Board of Directors and of each Director individually, is to act with a view to promoting the success of the Trust so as to maximise the benefits for the members of the Trust as a whole and for the public.

Meetings in 2019-20 (Thursdays)									
28.03.19	25.04.19	30.05.19 (QMH)	27.06.19	25.07.19	29.08.19	26.09.19	31.10.19 (QMH)	28.11.19	19.12.19
30.01.20	27.02.20	26.03.20							

Membership and In Attendance Attendees		
Members	**Designation**	**Abbreviation**
Gillian Norton	Chairman	Chairman
Jacqueline Totterdell	Chief Executive Officer	CEO
Ann Beasley	Non-Executive Director/Vice Chairman	NED
Elizabeth Bishop	Non-Executive Director	NED
Stephen Collier	Non-Executive Director	NED
Prof. Jenny Higham	Non-Executive Director (St George's University Representative)	NED
Dame Parveen Kumar	Non-Executive Director	NED
Pui-Ling Li	Associate Non-Executive Director	ANED
Tim Wright	Non-Executive Director	NED
Andrew Grimshaw	Chief Finance Officer/Deputy Chief Executive Officer	CFO/DCEO
Avey Bhatia	Chief Operating Officer	COO
Robert Bleasdale	Acting Chief Nurse & Director of Infection, Prevention & Control	ACN
Richard Jennings	Chief Medical Officer	CMO
In Attendance		
Harbhajan Brar	Chief People Officer	CPO
James Friend	Chief Transformation Officer	CTO
Stephen Jones	Chief Corporate Affairs Officer	CCAO
Suzanne Marsello	Chief Strategy Officer	CSO
Sally Herne	Quality Improvement Director – NHS Improvement	NHSI-QID
Secretariat		
Tamara Croud	Head of Corporate Governance/Board Secretary	HOCG-BS
Apologies		
Quorum:	*The quorum of this meeting is a third of the voting members of the Board which must include one non-executive director and one executive director.*	

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Minutes of the St George's University Hospitals NHS Foundation Trust Board Meeting
In Public (Part One)
Thursday, 27 February 2020, 10:00 –13:30
Hyde Park Room, St George's Hospital, Tooting

Name	Title	Initials
PRESENT		
Gillian Norton	Chairman	Chairman
Andrew Grimshaw	Acting Chief Executive Officer	ACEO
Ann Beasley	Non-Executive Director	NED
Elizabeth Bishop	Non-Executive Director	NED
Stephen Collier	Non-Executive Director	NED
Prof Jenny Higham	Non-Executive Director	NED
Prof Parveen Kumar	Non-Executive Director	NED
Dr Pui-Ling Li	Associate Non-Executive Director	ANED
Tim Wright	Non-Executive Director	NED
Avey Bhatia	Acting Chief Operating Officer	ACOO
Robert Bleasdale	Acting Chief Nurse and Director of Infection Prevention & Control	ACN/DIPC
Dr Richard Jennings	Chief Medical Officer	CMO
Tom Shearer	Acting Chief Finance Officer (*Part*)	ACFO
IN ATTENDANCE		
Harbhajan Brar	Chief People Officer	CPO
James Friend	Chief Transformation Officer	CTO
Stephen Jones	Chief Corporate Affairs Officer	CCAO
Suzanne Marsello	Chief Strategy Officer	CSO
SECRETARIAT		
Tamara Croud	Head of Corporate Governance/Board Secretary	HCG
APOLOGIES		
Jacqueline Totterdell	Chief Executive Officer	CEO
Ellis Pullinger	Chief Operating Officer	COO
Sally Herne	NHSI Quality Improvement Director	NHSI-QID

Feedback from Board Visits
Board Members provided feedback from the visits conducted in the following areas: • Gwillim Ward and Carmen – Chairman, Elizabeth Bishop and ACOO • Heart Failure Unit and Charles Pumfrey – Ann Beasley and ACFO • Procurement and IT – Prof. Parveen Kumar and ACEO • Florence Nightingale and Vernon Ward – Pui-Ling Li and CMO • McEntee Ward and Ruth Myles Ward – Prof. Jenny Higham, CSO and ACN/DIPC

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Feedback from Board Visits
• Allingham Ambulatory and Chesleden – Stephen Collier and CPO • Nye Bevan Unit and Surgical Admission Lounge – Tim Wright and CTO The Board members reported on some very positive themes that had emerged during the visits. These included strong, engaged leadership, effective multi-disciplinary team (MDTs) meetings and ward rounds working well, good staff morale and high engagement with the ward accreditation process which was helping to drive quality improvement and compliance with key assessment metrics. Patients also provided positive feedback on the care they had been receiving at the Trust. Corporate teams were also supporting the Trust to deliver the best procurement models and information infrastructure so the Trust could continue to provide the highest level of care for patients. Some of the key challenges in the areas visited related to ability recruit staff (especially band five nurses), cleaning standards, estate infrastructure and lack of space in some areas, patient flow – which was impacted by the Trust's ability to discharge patients – and length of stay. Staff also flagged increasing issues with violence and aggression; while staff felt supported, there was an emerging theme – mirrored in the staff survey – about staff sometimes feeling harassed by patients and their family and other staff members. The Board welcomed and noted the updates and agreed that the Board would programme a review of violence and aggression against staff and consider system challenges which were leading to delayed discharge and length of stay.

Values Award
The Board welcomed and thanked Oscar Bridgeman, Electives Team Leader, who supported the Patient Pathway Co-ordinators team to source, collect and deliver notes for surgery for patients booked less than 48 hours away. Oscar had provided this support when the Patient Pathway Co-ordinator team was depleted.

		Action
1.0	**OPENING ADMINISTRATION**	
1.1	**Welcome, Introductions and apologies** The Chairman welcomed everyone to the meeting and noted the apologies as set out above. The following governors were also in attendance as observers: • John Hallmark, Public Governor (Wandsworth) • Nick de Bellaigue, Public Governor (Wandsworth) • Hilary Harland, Public Governor (Merton) • Alfredo Benedicto, Stakeholder Governor (Merton Healthwatch) • Mia Bayles, Public Governor (Rest of England) • Val Collington, Stakeholder Governor (Kingston University) The Chairman welcomed new non-executive director, Elizabeth Bishop to her first formal Board meeting having officially started at the Trust on 1 February 2020. The Chairman also thanked Andrew Grimshaw for acting into the role of Chief Executive Officer in the absence of Jacqueline Totterdell who was due to return to work the following week. The Board also thanked Tom Shearer for stepping up into the role of Acting Chief Financial Officer. The Chairman also reported that Ellis Pullinger had taken on a new role as Chief Operating Officer at another Trust and the Board wished him well and	

		Action
	thanked him for his services and contribution to the Trust. The Board had asked Avey Bhatia to step into the role of Chief Operating Officer until a permanent appointment was made, and her deputy, Robert Bleasdale, had agreed to take on the role of Acting Chief Nurse/Director of Infection Prevention & Control. Accordingly, the Board and the Council of Governors had agreed a temporary amendment to the Trust's Constitution to make the COO role a voting member of the Board. A full review of the Trust's constitution would be undertaken in 2020/21.	
1.2	**Declarations of Interest** The Board noted that, in addition to her new role as non-executive director at St George's University Hospitals NHS Foundation Trust, Elizabeth Bishop was a non-executive director at Epsom and St Helier University Hospitals NHS Trust. The Board noted the interest and acknowledged that Elizabeth Bishop would declare this in relevant matters discussed at Board and Committees.	
1.3	**Minutes of the meetings held on 30 January 2020** The minutes of the meeting held on 30 January 2020 were approved as an accurate record. Ann Beasley commented that it was important that the minutes were not drafted in too high level a way and that it was important they reflected specific challenges raised by non-executives.	
1.4	**Action Log and Matters Arising** The Board reviewed and noted the action log and agreed to close those actions proposed for closure, and noted those actions not yet due and the following updates: • ***Action Item TB19.12.19/09 (Health & Safety Inspection Report)***: The ACEO reported that the Finance & Investment Committee (Estates) had completed a detailed review of the Health and Safety Inspection Report and actions were in hand to address the material issues in the report. • ***Action Item TB30.01.20/01 (New NEDs FFPT)***: The CPO advised that all NED fit and proper person tests had been completed with the only outstanding related to completing Parveen Kumar's qualifications check.	
1.5	**Chief Executive Officer's Update** The ACEO presented the Chief Executive Officer's Update. The following key points were noted: • The Trust continued to adhere to Government guidance pertaining to the Coronavirus (Covid-19) and was taking a number of precautionary steps to reduce the risk of infection occurring. Staff were being provided with regular updates and information about the virus had been placed around the Trust and on the website. Robert Bleasdale was leading this work for the Trust in his new role as ACN/DIPC. In response to an issue highlighted by Tim Wright following the Board visits earlier that morning, the Board noted that it was important the Trust increased the number of times the facilities teams refilled hand sanitizers across the Trust. • The Trust was also working with its partners in South West London	

		Action
	following the publication of Professor Mike Richards' report on Children Cancer Services the previous month. The Trust was carefully considering the findings and recommendations of the report.	
2.0	**QUALITY AND PERFORMANCE**	
2.1	**Quality and Safety Committee Report** Professor Parveen Kumar, Chair of the Committee, presented the report of the meeting held on 25 February 2020, which set out the key matters raised and discussed at the meeting. The Committee heard about the improvements made in the Trust's end of life care service which had culminated in the lifting of the warning notice previously issued by the Care Quality Commission (CQC) in 2016. A recent self-assessment of compliance against the CQC's key lines of enquiry rated the service as 'good'. The Committee were advised of two 'never events', one of which was reported in the Committee's January 2020 report to the Board and included in the month 10 integrated performance report later in the agenda. The second 'never event' had occurred in recent days and was related to 'wrong site' surgery. In response to a query from Ann Beasley it was noted that both incidents would be subject to the Trust serious incident review processes at which time the Committee would complete a deep dive into surgical safety checklists. Immediate actions taken included reinforcing the Trust's policies and practices in relation to the surgical safety list and reviewing imaging before the start of any operation. Both never events had been reported to the CQC. The Committee also received a detailed bi-annual report on infection prevention and control. While it was concerned with the year-to-date position of 46 clostridium difficile cases against the year-end trajectory of 48, the Committee was assured that only eight of these cases were attributable to direct lapses in care. The Board noted the report.	
2.2	**Integrated Quality and Performance Report (IQPR)** The Board received and noted the IQPR at Month 10 (January 2020), which had been scrutinised at both the Finance and Investment and the Quality and Safety Committees. Of note was the deterioration in cancer performance. However, the Trust expected to be able to deliver the cancer target by year-end. Emergency care attendance was 4% lower in January 2020 than it had been in January 2019. The Trust continued to use the rapid assessment system to triage patients coming into the emergency department (ED). Although the Trust was not satisfied with its performance against the four hour standard, the Trust's performance was nevertheless currently the third highest in London. The work the Trust has done with ambulance services had also taken pressure of the ED. The Trust was reviewing the outpatient shortfalls especially in relation to day cases. The number of patients waiting 12 hours or more in the ED for an inpatient bed continued to increase. There had been seven breaches in January 2020 related to patients waiting for mental health beds. This was reflective of the system-wide challenges with mental health bed capacity. The Trust continued to deliver its plan to recover diagnostics waiting times. Referral to treatment (RTT) performance had deteriorated with 10 52-week breaches in January 2020. The Trust's agency spend was below the NHS Improvement cap for the second month in a row. Sickness absence rates were also lower.	

		Action
	The Board noted that there were significant challenges both across London and the wider NHS in achieving the 4-hour emergency department standard. In response to a query from Ann Beasley it was noted that there was a 3% underperformance in outpatients and the Trust was exploring the underpinning issues. The Trust was also conducting demand and capacity analysis. The Trust Chairman queried the impact 2019/20 activity performance would have on next year's plan. It was reported that the Trust was also working closely with commissioners to ensure that 2019/20 performance was appropriately built into 2020/21 contract. The Board received and noted the report.	
2.3	**Cardiac Surgery Update** The Board received the cardiac surgery update and noted the sources of external and internal assurances regarding the safety of the service. Since the Board last met there had been no inpatient deaths in the service. The Board also noted the completion by the independent external mortality review panel of the Structured Judgement Review process. The panel's report was awaited. The Trust was in discussion with partners about the South London Cardiac Surgery Network to ensure that there were adequate facilities to deliver high quality care and cardiac surgery services across the south of the capital. The network was also exploring how to collate meaningful outcomes and benchmarking data. The Board received and noted the report.	
2.4	**Learning from Deaths Quarter Three 2019/20 Report** The Board received and discussed the quarter three 2019/20 learning from deaths report. The Trust's Medical Examiner's office – which would engage with families and the Coroner and escalate deaths for investigation in line with the Trust's process – would be fully in place by quarter one 2020/21. Alongside the Trust's Medical Examiner, Mr Nigel Kennea, Mr Ashar Wadoodi had been appointed as the Trust Lead for Learning from Deaths and the Trust continued to strengthen its governance around learning from deaths processes. Mr Wadoodi would provide the link with local care group leads and the wider Trust learning from deaths system. The mortality review panel reviewed 73.2% of deaths during quarter three against the 70% target. As the Trust embedded the new Medical Examiner system it was foreseeable that this performance could potentially dip during the transition phase. Of the 312 deaths reviewed by the mortality panel two were judged to be more than likely avoidable one of which was subject to a Coroners' inquest. The Trust recognised the need to do more on treatment escalation plans, which was one of its quality priorities. The Trust's overall mortality as recorded with the standard hospital-level mortality index was categorised as lower than expected at 0.83 and the Trust was one of only 14 trusts in this category. Tim Wright commented that there had been a higher level of deaths associated with problems in healthcare and it was noted that this would be monitored very closely to ensure there were no underlying trends. **The Board noted the report and it was agreed that an item on the Medical Examiner system would be included in the Board development programme in the first half of 2020/21.**	**CMO/CCAO**

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		Action
2.5	**Transformation (Q3) Report** The Board received and noted the report on the transformation report programme for quarter three 2019/20.	
3.0	**WORKFORCE**	
3.1	**Workforce & Education Committee Report** Stephen Collier, Committee Chair, provided an update on the meeting held on 27 February 2020. The overall message was one of continuing progress on a number of fronts, but there were some specific challenges. While there had been a number of discernible improvements, the NHS Staff Survey for the Trust was still below the NHS average on a number of areas and pointed to parts of the Trust's workforce feeling left behind. The Trust needed to ensure that it gave focus to working on the areas of challenges outlined in survey. The Committee were grateful for the work undertaken by the HR and Finance teams to reconcile the workforce data and there was now greater transparency on the Trust's establishment. The Board noted the report.	
3.1.1	**Gender Pay Gap Report** The Board received and discussed the gender pay gap report which had been considered by the Workforce and Education Committee on 18 February 2020. The Trust had undertaken a greater level of analysis on gender pay gap than that which was legally required in order to aid understanding and address the factors behind the gap. This analysis highlighted that the Trust needed to do more to ensure that it had equal and equitable pay structures for staff irrespective of gender. Ann Beasley commented that the graph on page eight of the report, which depicted the mean hourly rate for each grade by gender, needed to be presented in a different way (for example as a bar chart) as such data could not be meaningfully presented as a line graph. The CPO agreed to revise this prior to publication. The Board agreed that subject to reflecting the aforementioned change to the chart, the report could be published on the Trust's public website.	
3.1.2	**Ethnicity Pay Gap Report** The Board received and discussed the ethnicity pay gap report which had been considered by the Workforce and Education Committee on 18 February 2020. The Trust was not required to complete this analysis but had done so to support work around diversity and inclusion. It was important that the Trust put in place measures to ensure no group was left behind. The report was due to be discussed by the new BAME staff network at its meeting the following week. The Board agreed that the report could be published on the Trust's public website but noted its concerns regarding the pay gap identified and the little movement achieved in addressing the gap over the previous year. Significant work was required to address this.	

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		Action
3.1.3	**Medical Engagement Scale** The Board received and discussed the 2019 Medical Engagement Scale (MES) Report which had been considered by the Workforce and Education Committee on 18 February 2020. The report highlighted the following issues: • While medical engagement was lower than expected, there had been a definite improvement since the 2016 survey was conducted. • The level of engagement varied between staff groups within the medical body and across different care groups. • Doctors with managerial and leadership responsibilities were, on the whole, more engaged. • Doctors felt very highly engaged with their own immediate care groups, in marked contrast to the relatively low level feeling of engagement with Divisions, or with the Trust as a whole. • The Trust now needed to build on the level of engagement in care groups and seek to achieve this at divisional and trust-wide levels. • The Trust had engaged external support to help deliver a series of workshops with the medical body to co-produce the plan/programme for improving engagement. • Some groups, such as neurosciences and neurology, demonstrated higher levels of engagement and the Trust could use that learning to develop its engagement programme. The Board noted that the Trust needed to do more to break down the barriers to engagement and Jenny Higham flagged the need to better utilise the links with the University to improve medical engagement. The 'new consultants' forum' would support building purposeful communities to improve engagement. It was also important to get consultants to feel a greater sense of 'ownership' in the Trust, its strategy, vision and objectives. Tim Wright flagged that the work on medical engagement would be an integral part of the culture and leadership programme of work which was a key priority for the Board in the year ahead. The Board noted the report and that the Workforce and Education Committee would monitor progress and the implementation of the action plan.	
3.2	**NHS Staff Survey** The Board received and discussed the NHS 2019 Staff Survey, following consideration by the Workforce and Education Committee on 18 February 2020. The response rates for the Trust had increased to 59.5%, which was significant, and there had been year on year improvement in scores with the Trust performing significantly better in 17 questions, worse for three and no change in 70 questions. Performance against the three key questions were as follows: • Staff happy with the standard of care if a friend/relative needed treatment at the Trust had risen from 68% to 72% which was higher than the NHS average of 71%. • Staff saying they would recommend St George's as a place to work had gone up from 57% in 2018 to 61% in 2019. • Staff saying that the care of patients/service users by St George's is one of	

		Action
	our top priorities, was up from 73% in 2018 to 77% in 2019. There were also 1200 lines of free text which the Trust would be analysing. Once again, BAME staff had stated that they had fewer opportunities for career progression, and this was a concern which the Trust would be taking action to address. As noted during the Board visits earlier in the day, there had been a rise in the number of staff subject to violence and aggression from patients/their relatives or other staff members. The Board asked that the Trust do as much as feasible to support staff and adopt a zero-tolerance approach across the Trust. The Board noted the report and that the Workforce & Education Committee would monitor the outputs from the free text analysis and the action plan.	
4.0	**FINANCE**	
4.1	**Finance and Investment Committee Report** Ann Beasley, Committee Chair, provided an update on the meeting held on 20 February 2020. The Trust's financial performance was £3.4m adverse to plan at month 10, however the underlying run rate was such that the Trust would not achieve the original planned £3m deficit at year-end. Work was being undertaken for the 2020/21 a financial plan but there was a financial gap internally and across the sector that needed to be addressed. The key would be to ensure there was sufficient grip and control at all levels of the Trust. The Committee also reviewed and commended the business case related to procurement. The Board noted the report.	
4.2	**Finance and Investment Committee (Estates) Report (FIC(E))** Tim Wright, NED Estates Lead, provided an update on the meeting held on 20 February 2020. Given the magnitude of the estates challenges the Trust had made great progress. Key areas of focus remain ventilation, fire, completing the backlog of estates issues and developing the Estates Strategy. There had also been improvement in the performance of the Mitie cleaning contract. The Board noted the report.	
4.3	**Month 10 Finance Report** The Board noted the Month 10 finance report. The ACFO reported that the Trust was overall reporting a pre-Provider Sustainability Fund (PSF) deficit of £39.8m at month 10 which was £3.4m adverse to plan. The Cost Improvement Programme was adverse against the plan but consistent with forecast. Within the position, cash and income were favourable to the plan. The Trust was waiting for confirmation from regulators that it would receive PSF. The Board noted the report.	

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		Action
5.0	**GOVERNANCE, STRATEGY & RISK**	
5.1	**Education Strategy** The Board received and approved the Education Strategy which had been discussed at a Board Seminar session in January 2020 and reviewed and endorsed by the Workforce and Education Committee at its meeting on 18 February 2020. The Education Strategy built on key elements of the Workforce Strategy. The Board expressed its thanks to Sarah James, Associate Director of Workforce Education and Development who had now moved to a role outside the Trust, and to Kath Brook of the strategy team, for their contribution to the development of the strategy.	
5.2	**Digital Strategy** The Board received and approved the Digital Strategy. The Digital strategy was a key part of the NHS Long-Term Plan. The three priorities were to ensure a robust infrastructure was in place, new models of care for outpatients and new ways of working for staff. This would include actions such as upgrading the Trust's systems, using information technology to interact with patients and supporting clinicians to access information at the point of contact with patients. The Board noted that as the Trust develops the action plan to deliver the strategy there should be clear actions which drive efficiency and productivity. Tim Wright also flagged that the real challenge will be in the implementation and the Trust should harvest the successes from projects such as the rolling-out of iClip across the Trust. Given where the Trust was it was also important to achieve a balance between delivering the wider aspirations while taking the small steps needed to ensure that staff were supported to deliver the best care to patients.	
5.3	**Outpatients Strategy** The Board received the final version of the outpatient strategy that had been discussed by the Board in October 2019 and at the February 2020 Board Seminar. The outpatients' strategy was in line with the NHS Long-Term Plan which call for less face to face contact with NHS patients. Stephen Collier expressed the view, supported by others, that whilst the vision for the strategy was broadly right, there was a lack of confidence that the Trust would be able to fully delivery the ambitions set out in the strategy. It was also important to reflect that the Trust would not be able to deliver and implement plans within a one year cycle. There would need to be an element of double running as the service transitioned to the new approach and the Trust would need to invest monies into the strategy. The Chairman also noted that the Trust could not deliver the strategy in isolation and the commissioners would be integral to changing the way outpatient services are provided. The next step was for the Trust to complete the modelling and develop the business case for investment and implementing the strategy. **The Board approved the strategy subject to a robust business case being undertaken and the Board given the opportunity to scrutinise the financial investment envelop, the key risks and next steps.**	**COO**

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		Action
5.4	**Horizon Scanning Reports:**	
5.4.1	**Policy, Legislative and Regulatory Issues – Quarter Three** The Board noted the report on emerging political, legislative, policy and regulatory issues covering Q3 2019/20 developments and agreed it was a useful update. The CCAO commented that issues identified through horizon scanning would be incorporated, as appropriate, in the Board Assurance Framework approach for 2020/21.	
5.4.2	**Regional and Local Updates** The Board noted the report on local developments in south west London, based on CCG Governing Body and Health and Wellbeing Board papers, and on current and future Clinical Tender opportunities.	
6.0	**CLOSING ADMINISTRATION**	
6.1	**Questions from the public** There were no questions from the public.	
6.2	**Any other risks or issues identified** There were no other risks or issues identified.	
6.3	**Any Other Business** There were no matters of any other business raised for discussion.	
6.4	**Reflections on the meeting** The Chairman invited the ACFO to offer reflections on the meeting. The ACFO reflected that starting the Board day with Board visits helped to set the scene for the day which kept the patients at the forefront of the Board's considerations as discussions progressed. There was also a tangible cohesiveness in the Board and the relationships between the non-executive and executive directors. There was also a good balance between the level of constructive challenge and support.	
7.0	**PATIENT & STAFF STORIES**	
7.1	**Patient Story: Liz Aram – Patient and Patient Partner** The Board welcomed Ms Liz Aram who relayed her relationship with the Trust both as a patient and in supporting the Patient Partnership and Engagement Group (PPEG) as co-chair. She commented that she could see improvement in a number of areas and wanted to thank the Trust for the quality of care she had been provided since 2013. The Board needed to be aware of issues around staff feeling harassed and the Trust needed to provide patients coming for blood work with clear information about the length of time it could take. She also asked the Board to continue the work of PPEG, asked for help in getting more clinical involvement and emphasised the importance of patient engagement and patient experience.	

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		Action
	The Board thanked Ms Aram for sharing her story and continued support for PPEG.	
Date of next meeting: Thursday, 26 March 2020 in the Hyde Park Room, St George's Hospital, Tooting		

Trust Board Action Log Part 1 - March 2020

Action Ref	Section	Action	Due	Lead	Commentary	Status
TB30.01.20/03	**Integrated Quality and Performance Report (IQPR)**	The Board asked that the IQPR be enhanced where possible to include more benchmarking data on key performance indicators and more information regarding estates performance, drawn from the estates dashboard.	26/03/2020	CTO	**CTO to provide verbal update under agenda item 3.2.**	**DUE**
TB26.09.19/04	**Mental Capacity Act and Deprivation of Liberty Standards (Annual Report 18-19)**	**Developing Annual Reports for other performance areas:** The Board agreed that it would be useful to complete annual reports for certain other performance areas such as treatment escalation plans and that proposals on which areas would benefit from this approach would be presented to the Quality and Safety Committee for consideration.	~~26/03/2020~~ 28/05/2020	CN/CTO	Deferred to accommodate focused March agenda and developing national health crisis.	**OPEN/DEFERRED**
TB19.12.19/09	**Finance and Investment Committee (Estates) Report (FIC(E))**	The Board noted the report and asked that the Health and Safety inspection report be presented to the Committee as a matter of urgency.	~~26/03/2020~~ 28/05/2020	ACEO	ACEO reported that the Health & Safty Report Action Plan would be discussed at the FICE meeting and a report provided to Board.	**OPEN/DEFERRED**
TB30.01.20/04	**Seven Day Services Implementation Update**	The Board noted the report and asked that the programme of work be integrated into the development of the annual plan for 2020-21, with the Trust Executive Committee providing oversight and scrutiny of progress.	~~26/03/2020~~ 28/05/2020	CMO	Deferred to accommodate focused March agenda and developing national health crisis.	**OPEN/DEFERRED**
TB19.12.19/01	**Action Log & Matters Arising**	**Plans for Providing Effective Assurance at Committees (Corporate Objectives):** The Board agreed that plans for reporting on and providing effective assurance through Committees to the Board on corporate objectives would be picked up as part of the process for agreeing the objectives for 2020/21.	~~26/03/2020~~ 28/05/2020	CSO/CCAO	Deferred to accommodate focused March agenda and developing national health crisis.	**OPEN/DEFERRED**
TB19.12.19/07	**Freedom to Speak Up Guardian Report**	The Board agreed that the executive team would ensure that the organisation understands the need to engage with the FTSU process in a timely way and provide a method for the FTSUG to escalate non-engagement.	~~26/03/2020~~ 28/05/2020	TEC	Deferred to accommodate focused March agenda and developing national health crisis.	**OPEN/DEFERRED**
TB19.12.19/08	**Freedom to Speak Up Guardian Report**	The Board also agreed that arrangements for executive sponsorship of the Freedom to Speak Up function should be reviewed.	~~26/03/2020~~ 28/05/2020	CEO	Deferred to accommodate focused March agenda and developing national health crisis.	**OPEN/DEFERRED**
TB28.11.19/01	**Medication Incidents and Controlled Drugs Q1-2 Report**	The CMO agreed that the next iteration of the medicine incident and controlled drugs report would include relevant benchmarking data.	28/05/2020	CMO	Not yet due.	**NOT DUE**
TB28.11.19/05	**Annual Research Report**	The Board noted the annual research report and agreed that the next iteration would include comparative data to demonstrate where the Trust sits in relation to other organisations.	Q1 2020/21	CMO	Not yet due.	**NOT DUE**
TB30.01.20/02	**Integrated Quality and Performance Report (IQPR)**	**Non-Medical Appraisals Deep Dive at WEC:** The Board agreed that the Workforce and Education Committee (WEC) would conduct a deep dive into non-medical staff appraisals and the executive team could learn from the work carried out in the estates team to improve the department's appraisal rates.	28/05/2020	CPO	Not yet due.	**NOT DUE**
TB30.01.20/05	**Patient Story: Sickle Cell Patients in the Emergency Department**	The Board thanked Ms Vitalis for sharing her story and agreed that a follow-up report would be presented to the Board setting out the actions that had been taken to ensure that her poor experiences would not be repeated either for herself or for others.	30/06/2020	CN	Not yet due.	**NOT DUE**
TB26.03.20/01	**Learning from Deaths Quarter Three 2019/20 Report**	The Board noted the report and it was agreed that an item on the Medical Examiner system would be included in the Board development programme in the first half of 2020/21.	30/06/2020	CMO	Not yet due.	**NOT DUE**
TB26.03.20/02	**Outpatients Strategy**	The Board approved the strategy subject to a robust business case being undertaken and the Board given the opportunity to scrutinise the financial investment envelop and the key risks and next steps.	28/05/2020	COO	Not yet due.	**NOT DUE**

St George's University Hospitals NHS Foundation Trust

2

Meeting Title:	**Trust Board**		
Date:	26 March 2020	**Agenda No**	**2.1**
Report Title:	**Cardiac Surgery: Reports of the Independent Mortality Review and Independent Scrutiny Panel**		
Lead Director	Richard Jennings, Chief Medical Officer		
Report Author(s):	Richard Jennings, Chief Medical Officer		
Presented for:	Review and Assurance		
Executive Summary	NHS England and NHS Improvement have today (26 March 2020) published two reports into cardiac surgery at St George's University Hospitals NHS Foundation Trust. The first is the report of the Independent Mortality Review, which was carried out by an independent panel of medical and surgical experts and examined the deaths of 202 patients who were looked after by the cardiac surgery service at St George's Hospital in south London between 2013 and 2018. Its report concludes there were failings in the care provided to 102 patients at St George's, and that for 67 patients these care failings either definitely, most likely or probably contributed to their deaths. The second is the report of the Independent Scrutiny Panel, which was set up to act as a 'critical friend' to the Trust in making improvements to the safety, leadership, governance and culture of the service. The Trust accepts in full the findings and recommendations of the reports. The Independent Mortality Review identifies serious failings in care and it is clear that the standard of care provided fell way short of the high standards our patients deserved. Patients and their families have been let down, in some cases very badly. The Trust unreservedly apologises for these failings, and deeply regrets the great impact these failings have had on the patients and on their bereaved and grieving families. Since it received the first National Institute for Cardiovascular Outcomes Research (NICOR) mortality alert in May 2017, the Trust has worked hard to improve the safety, leadership, governance and culture of the cardiac surgery service. The service today is very different from the one the Trust took urgent steps to improve in 2017. These improvements were documented by the Care Quality Commission in their latest inspection report published in December 2019. The latest data from NICOR for the three year period 1 April 2015 – 31 March 2018, received in October 2019, also confirms that the Trust is no longer an outlier for mortality in cardiac surgery. We have already implemented the majority of the recommendations set out in the reviews published today. There is, of course, more work we still need to do, but patients undergoing cardiac surgery can be confident that they will receive safe and effective care at St George's. Changes introduced by the Trust since May 2017 include the appointment of a senior cardiac surgeon from outside the organisation to lead the service, all new cardiac surgery cases being reviewed by a multi-disciplinary team of healthcare professionals, and the introduction of a new system enabling the		

	Trust to monitor mortality and morbidity in real-time.
Recommendation:	The Board is asked to: i. Receive the reports of the Independent Mortality Review and Independent Scrutiny Panel into cardiac surgery at St George's and accept their findings and recommendations in full; ii. Recognise the serious failings in care identified in the reports and endorse the unreserved apology by the Trust to the families of patients who died under the Trust's care; iii. Note the actions that have been taken by the Trust to improve the safety, leadership, governance and culture of the cardiac surgery service at St George's since the first NICOR mortality alert was received in May 2017; iv. Note that the cardiac surgery service is safe, and note the independent external assurance on this provided by both the Care Quality Commission's inspection report of December 2019 and the latest data from NICOR which demonstrates the Trust is no longer an outlier for mortality in cardiac surgery.
Supports	
CQC Theme:	Safe, Well Led
Single Oversight Framework:	Quality of Care Leadership and Improvement Capability
Implications	
Appendices:	**Appendix 1:** Report of the Independent Mortality Review of Cardiac Surgery at St George's University Hospitals NHS Foundation Trust **Appendix 2:** 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 **Appendix 3:** Trust response to reports into Cardiac Surgical Services at St George's University Hospitals NHS Foundation Trust **Appendix 4:** Recommendations of the reports into Cardiac Surgical Services at St George's University Hospitals NHS Foundation Trust and Trust actions and progress

CARDIAC SURGERY:
REPORTS OF THE INDEPENDENT MORTALITY REVIEW AND INDEPENDENT SCRUTINY PANEL

Trust Board, 26 March 2020

1.0 Purpose

1.1 NHS England and NHS Improvement has today (26 March 2020) published two reports into cardiac surgery at St George's: the report of the Independent Mortality Review and the report of the Independent Scrutiny Panel. The Trust accepts the findings and recommendations of the reports in full, which identify serious failures in the care provided. The Trust offers an unreserved apology to the families of the patients who were let down by failings in care and who died.

1.2 This paper presents the reports of the Independent Mortality Review and the Independent Scrutiny Panel to the Board to consider and reflect on their findings and recommendations. It also sets out the improvements that have been made to improve the cardiac surgery service since May 2017 when the Trust received the first mortality alert regarding cardiac surgery. In addition, it provides assurance to the Board that the cardiac surgery service is safe, and sets out the independent external assurance provided through both the most recent Care Quality Commission inspection report published in December 2019 and the most recent data from the National Institute for Cardiovascular Outcomes Research (NICOR) for the period 1 April 2015 to 31 March 2018, received in October 2019, demonstrating that the Trust is no longer an outlier for cardiac surgery mortality.

2.0 Background

2.1 In May 2017, the National Institute for Cardiovascular Outcomes Research (NICOR) issued an alert to St George's highlighting that the mortality rate for patients who had undergone cardiac surgery at the Trust between April 2013 and March 2016 was higher than expected. Of 2,505 cases in the period between 1 April 2013 and 31 March 2016, the risk-adjusted survival rate for cardiac surgery patients at St George's was 96.8% compared with a predicted survival rate of 98.3%. A NICOR alert is triggered when a unit's mortality exceeds the national mean by 2 Standard Deviations (SDs) or more. A second NICOR alert was issued to St George's in April 2018 covering the period 1 April 2014 to 31 March 2017.

2.2 Following receipt of the first NICOR alert in May 2017, the Trust established a cardiac surgery task force chaired by the Acting Medical Director and Chief Nurse, the purpose of which was to address the concerns that had arisen, monitor and improve the safety of the service, and provide assurance to the Trust's Quality and Safety Committee and Board of Directors. Meeting weekly, the task force focused on making improvements to the governance and operation of the service, team working and culture, training and education, and the development of plans for conducting an independent external review of the service. In order to provide assurance that the steps being taken by the Trust were delivering the necessary improvements to the safety of the service with the necessary pace, in May 2018 the Trust commissioned a rapid external independent review to confirm that progress was being made in addressing the concerns of excess mortality, and if not, to advise on what further actions were required. In July 2018, the Trust accepted the recommendations of this review and put in place a clear set of actions to deliver them. In September 2018, in discussion with NHS England, NHS Improvement and the Care Quality Commission, the Trust decided to temporarily transfer the operations of a small number of patients requiring the most complex cardiac surgery to other London Trusts in order to give the cardiac surgery service the space to make the necessary improvements.

2.3 In October 2018, following a request from the Trust, NHS Improvement established an independent scrutiny panel, under the chairmanship of Sir Andrew Cash, to act as a critical friend to the Trust, and to advise, challenge and support the Trust in taking action to address the longstanding issues

affecting the service. Alongside this, in December 2018 NHS Improvement commissioned an independent review into mortality within the cardiac surgery service at St George's. Chaired by Mr Mike Lewis, comprised of a range of leading cardiac surgeons, cardiologists and other senior clinicians, the review examined the case notes of the 202 patients who died under the care of the cardiac surgery service from 1 April 2013 to 1 December 2018. The review period was chosen because this time frame included the period during which the Trust was subject to the NICOR mortality alert. The reports of the Independent Scrutiny Panel and Independent Mortality Review have been published today (26 March 2020).

3.0 Findings of the reviews

Report of the Independent Mortality Review

3.1 The Independent Mortality Review examined the deaths of 202 patients who were looked after by the cardiac surgery service at St George's between 1 April 2013 and 1 December 2018. Its report concludes that there were failings in the care provided to 102 patients at St George's, and that for 67 patients these care failings either definitely, most likely or probably contributed to their deaths. The Trust apologises unreservedly for the serious failures in care, and for the fact that the care patients received fell way short of the high standards they deserved.

3.2 No summary here could do justice to the full findings of the Independent Mortality Review. The full report of the Review is set out at Appendix 1 and its recommendations alongside the actions taken by the Trust in response are set out at Appendix 4. It is, however, important to highlight some of the themes identified by the Review categorised under the headings used by the panel:

a) <u>Professionalism:</u>

- Structured Judgement Reviews undertaken within and by the cardiac surgery unit were of variable quality and lacked independence and rigour, with the SJRs carried out by the panel scored less favourably than the internal reviews.
- Accurate pre-operative information for patients and families, particularly regarding the risk of death, was not always evident and in some instances the risk of death provided to the patient ahead of their operation was significantly under-estimated.
- It was not always evident that there was full discussion about all treatment options at multi-disciplinary team meetings.
- Certification of the cause of death and information to the Coroner was not always accurate or complete.
- Leadership, relationships between teams and specialties, and governance were sometimes lacking or poor.

b) <u>Pre-Operative Care:</u>

- Referrals from cardiology to cardiac surgery were not always sufficiently comprehensive or rigorous.
- Consideration of non-surgical treatments was sometimes insufficient.
- Pre-operative MDT meetings were sometimes insufficiently rigorous or seemed unbalanced.

- Patients did not always receive the most accurate information when giving their consent for surgery.

c) Operative Care:

- Surgical expertise or experience was not always matched to the needs of complex cases.
- At times, the consultant responsible for the care of each patient was not clearly defined.
- Regarding surgical judgement: on some occasions, patients underwent unnecessarily complex operations.
- Regarding timing of surgery: on some occasions, operations were performed out of hours which could have waited.
- Unexpected failings and complications were sometimes not managed as well as they should have been.

d) Post-Operative Care:

- There were many examples of an experienced intensive care unit (ICU) team delivering high quality care.
- Regarding recognising deterioration: there were occasions when the response was too slow, or was inadequate.

3.3 The Review concluded that "*The panel found many examples of good care. There were, however, many cases in which the evidence observed in the case note review suggested that the death of patients was avoidable, or that care was of a poorer standard than would have been expected*".

Report of the Independent Scrutiny Panel

3.4 Alongside the publication of the Independent Mortality Review, NHS England and NHS Improvement has also published the report of the Independent Scrutiny Panel, which was set up at the Trust's request to assist and challenge the Trust in making improvements to the cardiac surgery service. The report of the Independent Scrutiny Panel is at Appendix 2, and its recommendations and the actions taken by the Trust in response are set out at Appendix 4.

3.5 The Independent Scrutiny Panel made a total of 19 recommendations, which the Trust accepts in full. These included – but are not limited to – recommendations and assistance in relation to:

- Appointing a new clinical leader for the cardiac surgery service.
- Implementing new protocols for overseeing the safety of the service.
- Pooling of referrals and sub-specialisation within the service.
- Putting in place a behavioural agreement and reviewing some Human Resources (HR) processes.

3.6 The Independent Scrutiny Panel's report recognises the progress made through the appointment of Mr Steve Livesey as the new Associate Medical Director and Care Group Lead for Cardiac Surgery, improvements in the mortality rate within the unit, and the introduction of improved processes and governance within the unit.

4.0 Communicating with patients' families

4.1 Following the commencement of the work of the Independent Mortality Review, in spring 2019 the Trust wrote to the next of kin of the patients whose death was being considered as part of the review. This was to ensure that the families were aware of the work of the review and the fact that their loved ones' deaths were being examined. We committed at that stage to write to them again following the conclusion of the panel's work to set out the panel's findings.

4.2 Starting on 16 March 2020, we telephoned the families of patients whose deaths were being considered by the panel to explain that the Trust had received the final Structured Judgement Review regarding the care provided to their loved ones and that we would be writing to them to set out what the panel had found. On Friday 20 March, we wrote to each of the families and explained in these letters the conclusions the review had reached in respect of their relative. As part of this process, we have offered to meet with any family who would like to discuss the findings in more detail and the care provided by the Trust. A number of these meetings have taken place already. The Trust will facilitate all meetings requested and would welcome to chance to meet any family affected.

5.0 Improvements to the cardiac surgery service

5.1 Since it received the first NICOR alert in May 2017, the Trust has taken a number of steps to strengthen and improve the cardiac surgery service. On 6 March 2020, the Chief Executive wrote to Sir David Sloman, Regional Director for London at NHS England and NHS Improvement, to set out the actions the Trust had taken. This included a detailed account of the improvements made to date. The letter and response setting out these improvements is at Appendix 3. As noted above, the actions taken by the Trust to respond to the recommendations of the Independent Mortality review and the Independent Scrutiny Panel report are set out in Appendix 4.

5.2 Since May 2017, the Trust has taken a set of remedial actions across four broad themes:

a) *Clinical practice across the whole care pathway:* The changes introduced include changes to referral protocols, inter-hospital transfers, multi-disciplinary care planning, consent, care before, during and after surgery, Intensive Care Unit (ICU) engagement, discharge planning, and sub-specialisation.

b) *Corporate and clinical governance:* The changes introduced include stronger clinical governance, more effective Freedom to Speak Up processes, ensuring Duty of Candour responsibilities are fulfilled, more effective Mortality and Morbidity Meetings, and improved processes for referrals to HM Coroner.

c) *Leadership and management of the unit:* The changes introduced here include new leadership of the service through the appointment of a leading cardiac surgeon from an external centre elsewhere in the UK, introducing a consultant of the week model, a referral system managed by an effective Multi-Disciplinary Team, less reliance on the independent sector and streamlining the IT and electronic record systems.

d) *Culture, behaviours and professional standards:* The changes we have made here include use of mediation within the service, a document setting out the standards of interpersonal behaviour expected, improving the application of HR policies, better job planning, robust consultant appraisal processes, and recruitment practices adherent to the NHS Employers' Employment Checks.

5.2 Implementation of these improvements has been overseen at a number of levels:

a) *Cardiac Surgery Unit:* Action has been taken on all aspects of leadership and culture, including the appointment of a new Care Group Lead in December 2018.

b) *Board oversight:* Under new leadership since 2017, the Trust has strengthened its Board oversight processes, and focused Trust leadership on addressing the issues and supporting the implementation of the recommended actions.

c) *Independent Scrutiny Panel:* Appointed in September 2018 under the chairmanship of Sir Andrew Cash, the Panel acted as a 'critical friend' to the Trust and supported the implementation of the recommended actions.

d) *Enhanced surveillance:* We have submitted a regular dashboard and incident report to NHS England and NHS Improvement and (through NHSI/E) to the Care Quality Commission. Enhanced surveillance continues, reporting to a monthly Quality Surveillance Group chaired by the NHS England and NHS Improvement London Regional Medical Director. Cardiac surgery is also a standing item at the CCG-led monthly Clinical and Quality Review Group (CQRG).

e) *Regional oversight:* Sir David Sloman, the London Regional Director for NHS England and NHS Improvement, chairs a programme board which oversees the response to the mortality review and the plan to secure sustainable and strengthened cardiac surgery services across South London.

5.3 We have implemented the majority of the identified actions and recommendations of the reviews, and the Board is confident that the service is safe. Despite the improvements already made, we also recognise that there is more we still to do in order to improve the sustainability of the service, including working with other London cardiac surgery units (in particular, King's College Hospital NHS Foundation Trust and Guy's and St Thomas' NHS Foundation Trust).

6.0 Safety of the cardiac surgery service

6.1 As a result of the changes made, the cardiac surgery service is very different from the one the Trust took urgent steps to improve in 2017. The service at St George's is safe and patients can be confident that they will receive safe and effective care.

Latest mortality data from NICOR

6.2 The latest data from NICOR demonstrates that the cardiac surgery service is no longer an outlier for mortality. This confirms that the Risk Adjusted In-Hospital Survival Rate for the period April 2015 to March 2018 is within 3 standard deviations of the national mean and independent confirmation has also been obtained from the Society for Cardiothoracic Surgeons (SCTS) that the mortality for this period is also within 2 standard deviations from the mean, and that the Trust is no longer 'in alert'.

Conclusions of the Care Quality Commission

6.3 The CQC carried out an inspection of core services of the Trust between July and September 2019 and this inspection included cardiac surgery. The CQC's report, published on 18 December 2019, recognises the improvements that have been made to the service.

6.4 Among its observations, the CQC concludes that "*on this inspection, we found there had been significant improvements to the leadership of the service*". The CQC observes that "*the service had improved learning from incidents*" and had made further improvements in governance, particularly in relation to mortality and morbidity meetings.

6.5 The CQC also found that "*following several years of cultural challenges in cardiac surgery, we noted that the situation was much improved*" and that "*there was a strong clinical governance lead, who was making a positive difference*". It reports that the Trust had "*taken action to improve all aspects of the leadership and culture of the cardiac surgery service*". In addition, it observes that "*the Trust provided us [CQC] with evidence to demonstrate the actions taken and planned as a result of previous reviews and the on-going review*".

6.6 The CQC report notes that "*staff commented that leaders had grasped difficult issues and demonstrated commitment to dealing with the root cause of the problems*" and that "*service leaders told us [CQC] that they had received strong support from the executive team to resolve the issues in cardiac surgery*".

6.7 The CQC concluded that "*the senior management team had worked consistently in collaboration with external partners to address the on-going concerns of safety, culture and leadership within the service, and we saw evidence of this through our engagement with the Trust*" and that "*overall, this meant that we are now assured that there was credible and effective leadership in the cardiac surgery service*".

Internal safety monitoring

6.4 Key patient safety metrics are reported on the cardiac surgery monthly dashboard and reviewed within the department and at the Cardiac Surgery Steering Group, which is chaired by the Chief Medical Officer and meets monthly. The patient safety metrics include hospital acquired infections, pressure ulcers, post-operative stroke, post-operative renal failure, deep wound infection, repeat surgery for bleeding and post-operative deaths. All post-operative deaths are reviewed by the Trust's Serious Incident Decision Making Group (SIDM), and the decisions made by this group are independently reviewed by an external cardiac surgery expert from outside the Trust. It is worth noting that the CQC's inspection report of 18 December 2019 finds concludes that the cardiac surgery weekly dashboard "*provided a comprehensive view of quality and safety in the specialty*".

7.0 Recommendations

7.1 The Board is asked to:

i. Receive the reports of the Independent Mortality Review and Independent Scrutiny Panel into cardiac surgery at St George's and accept their findings and recommendations in full;

ii. Recognise the serious failings in care identified in the reports and endorse the unreserved apology by the Trust to the families of patients who died under the Trust's care;

iii. Note the actions that have been taken by the Trust to improve the safety, leadership, governance and culture of the cardiac surgery service at St George's since the first NICOR mortality alert was received in May 2017;

iv. Note that the cardiac surgery service is safe, and note the independent external assurance on this provided by both the Care Quality Commission's inspection report of December 2019 and the latest data from NICOR which demonstrates the Trust is no longer an outlier for mortality in cardiac surgery.

Independent Mortality Review of Cardiac Surgery at St George's University Hospitals NHS Foundation Trust

March 2020

Contents

1. Introduction

1.1. Background

St George's Hospital (hereafter "St George's" or "the Trust") provides cardiac surgery services for patients from around South West London, Surrey and Sussex. The cardiac surgery unit provides support to the Major Trauma Centre and Heart Attack Centre based at the Trust.

Unit-based outcomes for cardiac surgery are reported nationally through the National Institute for Cardiovascular Outcomes Research (NICOR). Mortality rates are risk-adjusted to allow for differences in risk profile when comparing hospitals across the UK (for example a particular unit may operate on older patients or more patients with kidney disease). Risk-adjusted outcomes are reported on a three-year rolling basis.

The Trust received two alerts from NICOR concerning cardiac surgery, the first for the period April 2013 to March 2016 and the second for April 2014 to March 2017. An 'alert' is triggered when a unit's survival rate falls below a pre-determined 'safety limit', which is two standard deviations below the mean survival rate for all 31 cardiac surgery units in the UK.

After the first alert, the Trust undertook an internal review of deaths in that time period. The Trust developed an action plan based on the results of that review. After the second alert, the Trust commissioned an external review of the service (not a casenote review of individual patients) by Dr Mike Bewick, which was published in August 2018[1].

Following the second alert there was significant public and media attention focused on the cardiac surgery service at St George's.

NHS Improvement is responsible for overseeing all NHS Trusts and NHS Foundation Trusts. It supports providers to give patients consistently safe, high-quality, compassionate care within local health systems that are financially sustainable. NHS Improvement commissioned this independent mortality review to examine deaths following cardiac surgery during the period April 2013 to September 2018, later extended through a request from the Trust to 1 December 2018. The terms of reference for this panel review are published by NHS England and Improvement alongside this report.

The purposes of this panel review are to verify that the Trust has identified and addressed the concerns raised through both NICOR alerts and to inform the Trust's discussions with the coroner regarding the deaths.

1.2. Methodology

An independent panel (hereafter "the Panel") of 12 assessors was appointed by NHS Improvement. The Panel reviewed 202 deaths under its terms of reference.

The Panel was composed of consultant cardiac surgeons, consultant cardiologists and consultant cardiac anaesthetists with responsibility for intensive care. The review was completed over eight months in 29 sessions. Each session was attended by at least two surgeons, one cardiologist and one intensivist.

A Structured Judgement Review (SJR) was undertaken for each case, based on the methodology described by the Royal College of Physicians (RCP) of London[2] and the Michigan study (described below)[3] All available Trust case notes (in written and electronic format), reviews and investigations were evaluated by the Panel.

A review of mortality following adult cardiac surgery procedures in Michigan within a large study population (1780 patient deaths reviewed) defined a method to evaluate cardiac surgery mortality by analysis of the individual phases of care[3]. This approach was utilised for the case reviews, examining three phases: pre-operative; operative; and post-operative events, along with an overall care assessment. Care at each stage was graded separately on a scale of 1 to 5 (1 = very poor care, 2 = poor care, 3 = adequate care, 4 = good care, 5 = excellent care).

Following completion of the phase of care analysis, a "contribution to death score" was attributed to the overall case, considering all phases of care and using the grading below, as per the RCP methodology:

Score 1 Problems in care identified definitely contributed to the death

Score 2 Strong evidence that problems in care identified contributed to the death

Score 3 Problems in care identified probably (more than 50:50) contributed to the death

Score 4 Problems in care identified possibly contributed to the death but not very likely (less than 50:50)

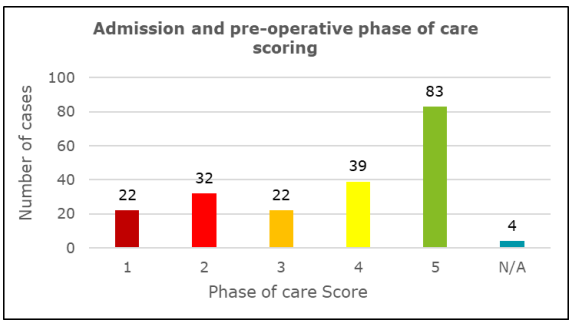
Score 5 Slight evidence only that problems in care identified contributed to the death

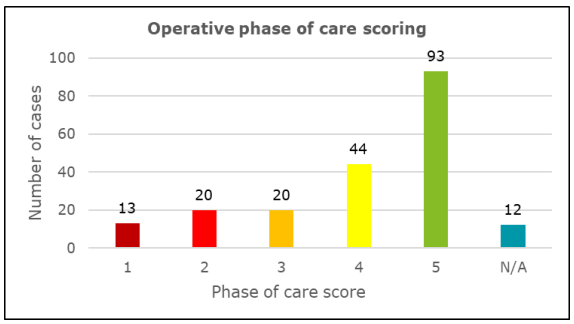
Score 6 No evidence that problems in care identified contributed to the death / no problems in care identified

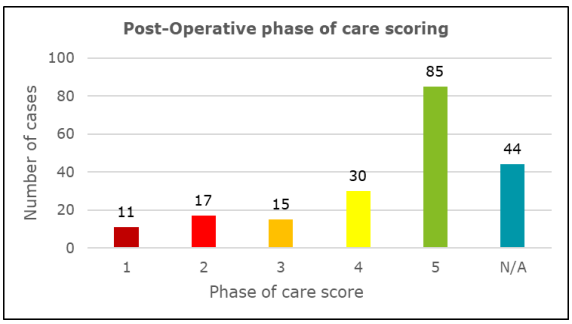
Consensus was achieved for each score, in both domains of analysis. The phase of care and the Contribution to Death were scored independently. If, for example, a key investigation was omitted pre-operatively but was not felt to have contributed to the death, then it would have been possible to have had a low phase of care score but a contribution to death score that indicated no evidence that problems in care had contributed to the death. A narrative was recorded for each phase of care, with an overall conclusion.

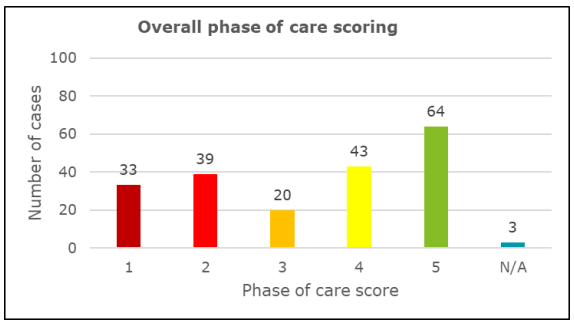
On completion of all the case reviews by the Panel, a factual accuracy check was made with the teams involved in looking after each individual patient. Following this review, the narrative statements and scoring were analysed. 67 cases (covering 125 procedures) were considered to have a contribution to death score of 1 to 3. Further analysis of the narratives associated with these cases allowed the distillation of several themes which were then scrutinised under the headings of "Professionalism", "Pre-operative care", "Operative care" and "Post-operative care". These headings form the basis for the chapters included in this report. Selected cases were used as a narrative to illustrate concerns and/or considerations regarding patient care.

The following graphs and table show the number of cases that were reviewed during the period April 2013 to December 2018, along with their 'contribution to death' score, with the graphs showing the separation into each phase of care:









Contribution to death Score							
1	2	3	4	5	6	N/A	**Total**
21	22	24	16	19	97	3	202

The following table shows the spread of the main procedures reviewed with contribution to death score:

CABG in isolation						
1	2	3	4	5	6	**Total**
4	10	9	4	7	18	**52**

CABG + AVR						
1	2	3	4	5	6	**Total**
0	0	1	0	0	0	**1**

Mitral valve repair/replacement in isolation						
1	2	3	4	5	6	**Total**
0	0	0	0	0	3	**3**

Mitral valve repair/replacement + any other procedure						
1	2	3	4	5	6	**Total**
6	2	5	3	3	5	**24**

AVR in isolation						
1	2	3	4	5	6	**Total**
0	0	1	0	0	5	**6**

Aortic Surgery						
1	2	3	4	5	6	**Total**
5	8	2	2	3	33	**53**

Redo Surgery						
1	2	3	4	5	6	**Total**
4	1	1	2	3	10	**21**

Note: These are the main procedures undertaken, other procedures were undertaken which are not represented in the figures above. Some patients had multiple procedures so the total numbers of procedures (341) is greater than the total number of patients reviewed (202).

Previous clinical reports have used clinical examples to illustrate the issues presented[4]. We have used a similar method, alongside more traditional graphical and tabular analysis.

1.3. "Cause for concern" process

When the panel identified any themes or concerns, such as that current and future patients might be at risk, the Panel Chair discussed the concern with the Chief Medical Officer of the Trust to ensure that local governance arrangements could be applied.

1.4. Caveats in the interpretation of historical data

a) This review looked only at the clinical histories of those patients who had died following cardiac surgery at St George's. The Panel had limited information on the many patients who survived. While every case record was reviewed as objectively as the Panel were able to, it is difficult to exclude having a lower threshold for criticism because the clinical outcome was already known.

b) This review looked at clinical material that was held at St George's Hospital. Patient records from referring hospitals were not available to the Panel. Further developments in information technology in the future, may allow full access to these records which may aid this type of analysis and allow the clinical teams, who were looking after these patients, full oversight of any previous medical history.

c) Clinical opinion changes over time. Wherever possible, the Panel have tried to compare the clinical management with the standard management and clinical guidelines in the year of the patient's operation.

d) Clinical practice for routine cases varies between individuals and centres. Much of this difference in practice reflects a weakness of the evidence base. Clinical opinion varies across the country and the point at which a suggested procedure moves from "very high risk" to "futile" may vary from centre to centre and within centres, from surgeon to surgeon.

e) In several instances where the Panel felt that errors in care had contributed to the patient's death, the Panel accepted that the patient's prognosis was already very poor. Although the Panel may not have recommended surgery in these particular clinical scenarios, they accepted that the patient's death may only have been brought forward by a matter of days or weeks.

2. Professionalism

2.1. Background

Cardiac surgery is a high-profile specialty, set against the ever-changing landscape of the NHS. Surgical teams are expected to operate with high levels of skill and judgement, whilst under increasing levels of scrutiny and accountability.

Since the 2001 report by Sir Ian Kennedy on high death rates in babies undergoing cardiac surgery at Bristol Royal Infirmary (BRI)[5], there has been a steadily increasing focus on cardiac surgical outcomes. Initially, the spotlight fell on the surgeons in the unit, but the full report attributed poor outcomes to a multiplicity of issues, many of which were the responsibility of the Trust rather than an individual surgeon. The report criticised; staff shortages, a lack of leadership, a lax approach to safety, a 'club culture' amongst doctors, secrecy about a doctor's performance and a lack of performance monitoring by management. It was recognised at the time of the failures of governance in Bristol that "*the heart scandal could happen again*"[6].

The metric that emerged from the BRI was that of surgeon specific mortality and this has provided a method to monitor outcomes in cardiac surgery. There is now a well-established system for regular reporting of cardiac surgical outcomes by unit and by surgeon[7,8].

The Francis Report[9] following the Mid Staffordshire NHS Foundation Trust inquiry offered further evidence that the message around patient-centred care was not getting through. It recommended openness, transparency and a duty of candour around the care of vulnerable patients, described fundamental care standards for health care providers and recommended stronger health care leadership.

Despite the Kennedy and Francis Reports, there have been further recent examples of failures of professionalism and governance in health care in both maternity and neonatal services at the University Hospitals of Morecambe Bay NHS Foundation Trust[10], community health services in Liverpool[11], and surgical services in Birmingham[12]. If nothing else, this repeated pattern of behaviour suggests a failure of learning within the NHS.

It has become clear that the duty of professionalism incumbent upon doctors also applies to the health care institutions in which they work.

2.2. What is professionalism?

Traditional attributes of professionalism were defined by Arnold and Stern[13]. These are represented in the figure below:

The position of doctors in society has changed significantly since the Kennedy Report. A working party report from the Royal College of Physicians in 2005 stated:

"Medical professionalism signifies a set of values, behaviours and relationships that underpin the trust the public has in doctors."[14]

Sir Donald Irvine, a former President of the General Medical Council (GMC), who chaired the Conduct Committee at the time of the Bristol Inquiry, summarised the values expected by patients and their relatives, of medical professionals:

"For patients and their relatives, a good doctor is one whom they feel they can trust. They equate goodness with integrity, safety and up to date medical knowledge and skill, and an ability and willingness to form a good relationship with them. For patients, good doctors are clinically expert yet know their limitations."[15]

Guidance from the GMC came into effect on 22 April 2013 for all clinicians working and training in the United Kingdom, in the document "*Good Medical Practice".*[16] This described four domains:

- Knowledge, skills and performance;
- Safety and quality;
- Communication, partnership and team working; and
- Maintaining trust.

These four domains were refined within a surgical context by the Royal College of Surgeons when "*Good Surgical Practice*" was released by Dame Clare Marx in 2016.[17]

The Society for Cardiothoracic Surgery (SCTS) publishing in *"Patients Trust – Modern medical professionalism"* believes that: *"every single patient should always receive the best possible care from every surgeon undertaking cardiothoracic surgery"*[7].

Good practice in surgery requires effective teams which utilise the following methods:

New professionalism maintaining good practice

Doctors are most likely to maintain good practice when they work in teams which:

- Show leadership;
- Have clear values and standards;
- Are collectively committed to sustaining and improving quality;
- Foster learning through personal and team professional development;
- Care for each member;
- Have a *no blame* culture;
- Are committed to the principle of external review; and
- Are open about their professionalism.

Effective teams use:

- Clinical guidelines and operational protocols;
- Good systems;
- Good data;
- Good records;
- Focused education and skills training;
- Systematic audit of performance with feedback;
- Regular, formative peer appraisal;
- Critical incident review; and
- Risk management methods.

Figure: SCTS 2011 Maintaining patient's trust: modern medical professionalism[7]

The document recognises that professionalism is not solely dependent on the clinician but is also dependent on the organisation within which they work.

2.3. Observations on professionalism at St George's Hospital

During the review of cases, the Panel identified many examples of *Good Medical* and *Surgical Practice*, across all four domains. On occasion, the Panel noted areas in which they identified learning opportunities with regards to professionalism.

The standards quoted below in each domain are paragraphs taken from *'Good Medical Practice'*.[16]

Domain 1: Knowledge, skills and performance

No comment on Domain 1 will be made in this chapter as this domain will be covered in the remainder of this report.

Domain 2: Safety and quality

Paragraph 22: *"You must take part in systems of quality assurance and quality improvement to promote patient safety. This includes:*

a) Taking part in regular reviews and audits of your work and that of your team, responding constructively to the outcomes, taking steps to address any problems and carrying out further training where necessary.
b) Regularly reflecting on your standards of practice and the care you provide."

The team at St George's performed several SJRs, using similar methodology to this Panel. The Panel felt that their quality was variable and at times they lacked independence and rigour. Notably, the Panel reviews scored less favourably than the internal reviews. In 27 of 54 cases, the Panel found a greater than one point difference in the contribution to death scoring.

The Panel understand that following the initial review by teams that included some of the surgeons at the Trust, several further SJRs were performed by the Trust themselves. These were not seen by the Panel, but the Panel were able to see the subsequent report (published on 12 October 2017). This Trust report noted some of the conclusions that this independent report outlines, but missed some significant areas in all three phases of care.

For example, when considering Case 1 (below) the Panel was concerned that the operative assistant completed the surgical SJR and omitted to comment on significant post-operative blood loss and a possible myocardial infarction. The subsequent morbidity and mortality review appeared to concentrate on issues that were less relevant to the outcome for the patient and blamed the intensive care team. All phases of care rated by this assessor were scored as excellent, with no evidence of problems in care identified as contributing to the death. This was in marked contrast to the unfavourable assessment by the Panel, which concluded that the management of the patient definitely contributed to the patient's death.

Case 1

A patient in their mid-seventies was admitted for elective aortic root replacement and atrial septal defect (ASD) closure. The patient had significant bleeding post-operatively and suffered a VF arrest, with evidence of myocardial ischaemia on the ECG. This information was passed to the surgical team but the patient was not returned to theatre for seven hours. There appeared to be no consultant to consultant discussion at this stage.

The Panel felt that a root replacement was not required in this case; they would have replaced the aortic valve and ascending aorta. Despite a multi-disciplinary team discussion (see case 4 for explanation), there was evidence of poor surgical planning, as the root was not of a size on CT or echo that indicated replacement.

The Panel felt there was an opportunity to intervene during the early post-operative phase. Given the subsequent events, the Panel felt the decision to perform an aortic root replacement rather than a more straightforward procedure was key to the outcome for the patient. The patient died four days after surgery from multi-organ failure.

There was no documentation at the local mortality and morbidity review (M&M Review) meeting to show there had been significant blood loss or a post-operative anterior myocardial infarction. The subsequent SJR, involving the surgical assistant for the case, failed to recognise the likely contribution to death that these events may have had.

The mechanism for mortality case allocation was uncertain and of more concern; it was noted in Case 2 that the operating surgeon formed part of the team that reviewed the case and therefore reviewed their own work in the SJR. The assessor score differed considerably from the Panel's assessment.

Case 2

A patient in their late seventies was admitted for elective aortic valve replacement and coronary revascularisation.

The operative record from theatre was not clear despite a very long cross-clamp time and the myocardial protection strategy was uncertain. There was a discrepancy between the operation note and the intensive care unit (ICU) handover in relation to the presence or absence of a left superior vena cava. The patient sustained a cardiac arrest shortly after transfer to ICU and died three days later from right ventricular failure.

Domain 3 – Communication, partnership and teamwork

Paragraph 32: *"You must give patients the information they want or need to know in a way they understand."*

When a pre-operative patient consultation is completed, it is important to give clear information; including an operative plan and risk (for explanation of EuroSCORE risk calculation, see section 3.6.2), for both morbidity and mortality. This is particularly important in urgent, emergency and/or high-risk surgery where significant risk of death is anticipated. Unfortunately, this was not always evident in Case 3:

Case 3

A patient in their mid-seventies with previous aortic valve replacement (AVR), root enlargement, and mitral valve repair re-presented with recurrent early prosthetic aortic valve endocarditis, haemolysis because of a leak around the aortic valve and moderate recurrent mitral regurgitation.

The indication for an operation appeared to be haemolysis related to the aortic valve rather than mitral regurgitation, and the patient was consented for redo AVR +/- mitral valve surgery. The quoted Trust risk of death was 10–15%, but EuroSCORE II was calculated to be 33.7%.

The patient underwent urgent redo mitral valve replacement (only) and died three days later from liver failure.

The Panel judged that the operative decision-making was unclear, the patient received a different operation from that they had consented to and the actual risk of surgery was significantly higher than the risk they had been quoted.

Paragraph 35: *"You must work collaboratively with colleagues, respecting their skills and contributions."*

The cardio-thoracic Multi-Disciplinary Team (MDT)[18] discussion is an essential part of modern cardiac surgical practice. Representation by cardiac surgeons (with specialist interest) and cardiologists (interventional, imaging and other sub-specialties) allows a balanced discussion of all available treatment modalities. This was not evident in all cases.

Case 4

A patient in their mid-eighties underwent urgent CABG x3. The patient's management had been discussed at an MDT meeting. However, several comments documented in the case notes suggest that undue pressure was brought to bear on the surgical team to deliver a surgical solution for this patient.

These statements included: "Dr X (cardiologist) feels the patient is a clear-cut surgical candidate" and "Dr Y (cardiologist) wanted a decision for surgery, as opposed to PCI, approved by the MDT."

The review Panel felt that a patient in their eighties with a calculated EuroSCORE II of 25%, with further risk factors (not included in the EuroSCORE) of poor pre-operative right ventricular function and pre-existing cognitive impairment, was far from a "clear-cut surgical candidate". The Panel felt that the MDT did not appropriately weigh the relative risks of surgical and non-surgical treatment for this patient.

The surgical risk quoted to the patient on the consent form was 10%. Had an accurate assessment of risk been quoted to the patient, together with the risks of exacerbation of cognitive impairment and loss of independent living, the patient may have decided in favour of conservative treatment.

The patient died ten days after surgery from bi-ventricular failure.

Collaborative working is emphasised in '*Good Surgical Practice'* as follows: *"The provision of high quality surgical services requires effective team-working within and between teams. Good practice relies on collegiality, personal responsibility and a culture of openness, supportive discussion and accountability to offer safe and effective care to patients. Surgeons have a duty to promote a positive working environment and effective surgical team-working that enhances the performance of their team and results in good outcomes for patients"*[17].

Case 5

A patient in their mid-sixties underwent urgent redo aortic repair.

It was unclear if circulatory arrest was instituted prior to opening the chest but there was a right ventricular injury during chest opening, which was subsequently repaired.

Post-operatively, there was evidence of dysfunctional team working between the cardiac surgeons and ICU consultants. There were angry notes with block capitals and many exclamation marks, which could reflect a challenging working environment. The difference of opinion between the surgical and ICU teams would have caused distress to the patient's relatives, if they had been aware. The Panel noted that this conflict would have also placed the junior medical teams in a very difficult position. The patient died six days after surgery from hypoxic brain injury.

Paragraph 42: *"You should be willing to take on a mentoring role for more junior doctors and other healthcare professionals."*

Every cardiac surgery operation in the UK should be performed under a named cardiac surgery consultant[8]. This consultant has overall responsibility for the care the patient receives. Any patient who has an operation performed by a trainee remains the responsibility of the named consultant. The training of surgeons is essential to ensure the future provision of cardiac surgical care. Appropriate supervision of trainee surgeons is an important part of the role of a consultant cardiac surgeon.

Case 6

A patient in their late sixties was transferred for CABG with an intra-aortic balloon pump in-situ from an outlying hospital. The patient was accepted for out-of-hours emergency surgery.

The operation started in the evening and was undertaken by a registrar with no consultant present; several consultants names were recorded in the casenotes but it was not clear which particular consultant had overall responsibility for the case. Arterial blood gas analysis during surgery showed possible inadequate perfusion on cardiopulmonary bypass (CPB), but this was not recognised or managed in theatre.

The patient died two days later from cardiogenic shock and multi-organ failure.

The Panel judged that emergency out-of-hours surgery was not indicated for a stable patient and that there was an opportunity to optimise medical therapy before surgery. There was no clear consultant ownership of this case; it was inappropriate for this high-risk case to have been undertaken by a registrar on their own, regardless of experience or seniority. A consultant should have been present for this operation. Potentially inadequate perfusion on CPB was not recognised or managed appropriately.

Paragraph 49: *"You must work in partnership with patients, sharing with them the information they will need to make decisions about their care, including:*

a) *Their condition, its progression and options for treatment, including associated risks and uncertainties.*
b) *The progress of their care.*
c) *Who is responsible for each aspect of patient care."*

The Panel were concerned regarding the investigation, management and "ownership" of patients with complex medical problems, particularly in the pre-operative phase. In Case 7, the care was often disjointed and there was little evidence that one individual was responsible for the overall management of the patient. Several individuals appeared to be working in an isolated fashion and appeared to be reluctant to co-operate or plan care with others.

Case 7

A patient in their mid-sixties with multiple co-morbidities was admitted for coronary revascularisation. The patient had several ongoing medical issues requiring investigation and management (anaemia, chest disease and mitral regurgitation in addition to ischaemic heart disease).

Despite a recent percutaneous coronary intervention with a stent, for an ST elevation myocardial infarction (STEMI) and ventricular fibrillation cardiac arrest, there were ongoing symptoms prompting readmission to the cardiology unit and an expedited referral for coronary artery surgery. Both anti-platelet drugs were discontinued in the week before the patient's admission. Investigations for the complex medical issues were undertaken over the following week.

The patient died before going to theatre from acute left ventricular failure, possibly related to stent thrombosis as a result of the cessation of the anti-platelet medications at an early stage after coronary stenting.

Domain 4 – Maintaining trust

Paragraph 71: "You must be honest and trustworthy when writing reports, and when completing or signing forms, reports or other documents. You must make sure that any documents you write or sign are not false or misleading."

The Panel reviewed discussions with the coroner from the available documentation and two important issues were noted:

1. Inaccurate certification of the cause of death:

Case 8

A patient in their mid-seventies was admitted for urgent coronary revascularisation.

The patient died 10 days after surgery. Their cause of death was reported to the coroner and documented as lower respiratory tract infection, coronary artery disease and Type II Diabetes Mellitus.

The Panel could find no evidence that there was a lower respiratory tract infection and were concerned that the coroner may not have had all the information required to make an appropriate decision.

2. Incomplete information:

Case 9

A patient in their mid-seventies with a short history of angina pectoris was transferred for urgent coronary revascularisation for severe left main-stem coronary disease.

Following transfer to ICU, there was significant haemodynamic instability and increasing vasopressor requirements. Two hours following return from theatre, the tip of the CVP line was noted not to be properly positioned in the central vein and was replaced. The patient died three days later.

The issue of the displaced central line noted at the time of haemodynamic instability does not appear to have been discussed with the coroner. The Panel felt that this issue contributed to the patient's death and that such a complication should have prompted a Serious Untoward Incident (SUI) investigation but could find no record of this. The Panel concluded that this demonstrated a potential failing of leadership.

2.4. Conclusion

Many of the cases that the Panel reviewed were complex cases in elderly patients with significant co-morbidity. Within each phase of care, good examples of patient management were seen.

The review of the cases has occasionally revealed a lack of leadership; poor relationships between teams and specialties; poor communication; MDT structures which lack rigour and consistency; poor multi-disciplinary working; and an apparent lack of governance. These issues have previously been noted in other reports, for example that undertaken by Wallwork[19] in 2010.

The Panel understand that the current Trust Board were not aware of the Wallwork Report until reference was made to it in the Bewick Report (2018). As previously noted, the Panel are aware that there have been multiple changes in Trust management in recent years.

The Wallwork Report made several recommendations, the implementation of which might have improved patient care at the Trust. During their SJRs, it was apparent to the Panel that not all of these recommendations had been fully implemented. In addition, the internal SJRs following the 2013 to 2016 NICOR report were often of poor quality and lacking in both independence and rigour. Whilst the Panel understand that a series of further SJRs (not seen by the Panel) were performed by the Trust subsequent to the reviews involving the surgeons, the resulting report published in October 2017 did not recognise a number of areas identified by this Panel, for this time cohort. For example: the quality of referrals to cardiac surgery from cardiology, the undue pressure placed on cardiac surgeons to accept patients for surgery even when they were high-risk, the concerns around the adequacy of myocardial protection and the failure to recognise post-operative myocardial infarction. The subsequent report was, therefore, limited in its analysis and prevented some of the appropriate lessons from being learnt.

Whilst we recognise the challenges that working in the modern NHS present to the professionalism of medical teams, the Panel believes that individuals and institutions must work within a system which is designed and supported to allow professionalism to flourish.

3. Pre-operative care

3.1. Background

Patients with heart disease may be referred to a cardiac surgeon for consideration of elective cardiac surgery following outpatient investigation, or for urgent surgery following emergency admission to hospital with new onset or worsening symptoms. The investigation and management of the patient is undertaken by a multi-disciplinary team but the initial referral for cardiac surgery is made by a cardiologist who has responsibility for the patient's care.

The decision to refer a patient for possible cardiac surgery is determined by the results of investigations, the influence of co-morbidity and the wishes of the patient. In the modern era, when many patients have multiple co-morbidities and are elderly, this decision-making can be complex. Although there are numerous guidelines to inform clinical practice in cardiology and cardiac surgery, many patients on account of extreme age, significant co-morbidity and frailty, would have been excluded from the clinical trials on which these guidelines are based.

The cardiology assessment of a patient should include a thorough investigation and interpretation of test results, a determination of the patient's quality of life and of the possible gains from an operative strategy. These possible benefits need to be balanced against the risks of the operation, not only of death, but of other adverse events that will further compromise the outcome (such as stroke). In patients where the indications for surgery are not clear-cut, symptoms and test results are discordant, or the patient has significant co-morbidity, the patient's management necessitates full discussion at an MDT meeting, where all possible treatment strategies can be reviewed, a provisional recommendation made and the various options subsequently discussed with the patient and their relatives or carers.

3.2. Referral from cardiology for consideration of cardiac surgery

The referral from the cardiology team to the cardiac surgical service should describe the following, as a minimum set of information:

- The patient's presentation and history;
- The patient's current symptoms on (and level of) medical therapy;
- The cardiologist's interpretation of the patient's investigations (e.g. functional study for ischaemia, echocardiogram, angiogram);
- The patient's co-morbidities; and
- The patient's preferences for treatment (if any).

If the patient meets accepted indications for surgery, he or she is listed for surgery following review by the cardiac surgeon. If the indication for surgical intervention is borderline (e.g. infrequent angina, atypical pain or breathlessness alone in a patient with coronary disease, or valve disease that is moderate rather than severe, or symptoms apparently out of proportion to the severity of disease), then a more detailed explanation is required from the cardiologist. This should explain why the patient is being referred for consideration of

surgery and MDT discussion should be the norm. By their nature, referrals for emergency and salvage surgery are usually made by telephone and are not usually discussed at an MDT.

3.2.1 Observations on patient referrals to St George's – General

Several referrals from the cardiology teams were not comprehensive and not tailored to the needs of the individual patient. There was a pattern of referral whereby the patient had undergone some investigations but these had not been fully interpreted by the cardiology team, with the responsibility to interpret the investigations and to decide whether surgery was likely to be in the patient's best interests transferred to the cardiac surgeon. This gives the impression of a lack of commitment and/or diagnostic rigour on the part of the referring cardiology teams and contributed to poor surgical case selection.

Some specific examples identified were as follows:

- Lack of clear description of patient's symptoms;
- Lack of additional investigation(s) when indicated;
- Lack of detail in description of co-morbidities; and
- Lack of discussion about benefits of intervention versus conservative management, particularly in frail, elderly patients or patients with major co-morbidities.

The Panel noted issues with referrals from cardiology from both "in-house" and external teams.

Case 10 describes a patient in whom the indication for elective Coronary Artery Bypass Grafts (CABG) surgery was not clear. Cases 11 and 12 describe patients in whom the cardiology investigations were incomplete and the possible benefit(s) from cardiac surgery were far from clear. All three patients required further investigation.

Case 10

A patient in their early eighties presenting with poor mobility and diabetes was admitted for elective CABG x5. The patient died six days after surgery from multi-organ failure.

The Panel felt that the indication for surgery was not clear. The patient had sustained a possible NSTEMI three months previously and at the time of their admission to hospital for cardiac surgery they were apparently asymptomatic. The clerking document reports "no chest pain and no breathlessness".

Furthermore, the risks and possible benefits of cardiac surgery do not appear to have been re-assessed (or re-discussed with the patient) following the finding of severe bilateral carotid artery disease. The operative risk quoted to the patient was 4%; the calculated EuroSCORE II risk was 12.9%.

Case 11

A patient in their mid-seventies was transferred from a district general hospital for urgent CABG x2. The patient died two days after surgery from myocardial infarction, ischaemic heart disease and lung cancer.

The patient had undergone radiotherapy for a lung cancer one year prior to their admission. The patient had a significant pericardial effusion which was not fully investigated. The pericardial effusion was clearly documented pre-operatively and would not be an expected feature of coronary artery disease. Biopsies taken at the time of surgery showed a metastatic adenocarcinoma.

On the evening before surgery the patient was reviewed by two registrars who both felt that the indication for surgery was not straightforward and that surgery should be deferred pending further investigation. It was unclear whether this patient's investigations were fully reviewed by the operating surgeon prior to taking this patient to theatre. The Panel acknowledged that the patient's prognosis was very poor but felt, nevertheless, that this was an inappropriate and unnecessary procedure. The timing of this lady's transfer was a further complicating factor and may have led to an incomplete assessment of the patient prior to them being taken to surgery.

Case 12

A patient in their early eighties was admitted acutely and subsequently underwent inpatient investigation followed by urgent aortic valve replacement and CABG x1. The patient died ten days after surgery from respiratory failure, chest infection, coronary artery disease and aortic stenosis.

The patient had three separate cardiac pathologies (possible right coronary artery stenosis, moderate aortic stenosis and paroxysmal atrial fibrillation). There seems to have been limited assessment of all three conditions and no MDT discussion about which of these conditions was likely to have been the cause of their symptoms and their acute presentation. Similarly, there was little or no pre-operative documentation as to whether non-surgical intervention or treatments of any one of these conditions (by PCI, TAVI, AF ablation) might have improved their quality of life without the need for cardiac surgery, which was always likely to be high risk. The patient was quoted an operative mortality of 4-5%; the calculated EuroSCORE II was 13.5%.

3.3. Referrals for coronary surgery

Coronary artery bypass surgery is a very effective treatment for the relief of angina and, in certain patient groups has been shown to improve prognosis. There are clear guidelines to underpin practice. The decision to refer for surgery is based on the patient's symptoms (on optimal medical therapy), evidence of ischaemia and the findings at diagnostic angiography. It is increasingly recognised that even experienced interventional cardiologists cannot, without functional information, accurately predict the significance of many intermediate stenoses on the basis of visual assessment alone. For this reason, surgery for intermediate coronary stenosis (50-90% narrowing) is indicated when there is corroborative evidence of ischaemia from functional testing (such as stress echo, stress perfusion imaging or stress MRI) or from intra-coronary measurements of stenosis severity (Fractional Flow Reserve (FFR))[20].

Furthermore, recent guidelines have highlighted the relatively good prognosis for patients with stable angina and recommend that cardiologists and cardiac surgeons should be more conservative with regard to decisions over revascularisation in patients with stable coronary artery disease, especially in; mildly symptomatic patients, patients without extensive demonstrable ischaemia, when a period of optimal medical treatment has not been adequately conducted[20,21], or if surgery is likely to be technically challenging.

3.3.1 Observations on the referral process at St George's - Patients referred for coronary surgery

Many of the referrals were appropriate but there were several cases in which the referral was less comprehensive than it might have been. Specific issues included the following:

- Lack of a clear description as to whether or not the patient had angina that was limiting their activities despite optimal medical therapy;
- In cases of both angina and presumed angina equivalent, a lack of documentation on ischaemia testing;
- Lack of clarity on indication for surgery (was the intended surgery for symptomatic benefit, prognostic benefit, or both?);
- There were instances of poor quality angiograms which were not of diagnostic quality;
- Some angiograms were not fully interpreted by the referring cardiologist, for example the cardiology report referred to "*moderate lesions*" with apparent underuse of ischaemia testing (stress studies prior to angiography or pressure wire assessment at the time of angiography); and
- There were several referrals where the cardiologist appeared to be leaving the cardiac surgeon to decide on the significance of the coronary disease.

Cases 13 and 14 describe patients in whom the history and/or investigations suggested that they were unlikely to benefit from CABG surgery, yet the procedures went ahead. Case 15 describes a patient referred to cardiac surgery with minimal cardiology input, leaving the surgeon to address the patient's co-morbidities.

Case 13

A patient in their mid-seventies underwent CABG x4 but died in theatre that day from heart failure.

A pre-operative cardiac MRI demonstrated very poor left ventricular function. The Panel felt that the MRI and coronary angiogram results indicated that surgery was very unlikely to improve heart function to a degree that would benefit the patient.

Case 14

A patient in their early sixties presented with an extensive anterior STEMI. At emergency angiography, the proximal left anterior descending artery (LAD) was re-opened but the distal vessel remained occluded. This was subsequently re-opened the following day. The patient then underwent CABG x3 surgery three days after admission; they died four days later of multi organ failure.

The Panel acknowledged the desire to help a relatively young patient with a very extensive myocardial infarction and that the preferred treatment option is total revascularisation during the index admission. However, there was a lack of consideration by both cardiology and cardiac surgery as to whether CABG surgery three days after the acute event would be of any benefit to the patient. The patient did have disease of the distal right coronary artery and the non-dominant circumflex, but these lesions did not appear to mandate emergency treatment. There was an underestimation of the Trust risk quoted to the patient; the risk quoted on the consent form was 5% against a calculated EuroSCORE II of 40.6%.

Case 15

A patient in their mid-seventies was referred for angiography following an assessment in a nurse-led, rapid access chest pain clinic.

On the basis of the angiogram findings, the patient was referred for CABG x4 surgery, but it appeared the only time they saw a cardiologist was during their angiogram. The only co-morbidity documented by the nurse was "white-coat hypertension". However, the patient had a long history of hypertension, significant neurological disease (including a subdural haematoma) and a chronic haematological condition. Although the cardiac surgeon who saw the patient made efforts to address these co-morbidities prior to surgery, the Panel felt that these conditions should have been recognised and considered by the cardiologist prior to referral to surgery being made.

3.4. Referrals for valve surgery

Surgical intervention for valvular heart disease is comparable to surgery for coronary artery disease in that it is driven by symptoms and, for some valve lesions, by prognostic considerations. In addition, valve surgery is undertaken to protect the heart from the damaging effects of progressive valve dysfunction. Inherent to the nature of the progression of valve disease are considerations related to optimal timing of intervention. Intervening too early exposes the patient to the risks of an unnecessary operation, intervening too late increases the risk of a poor outcome due to deterioration of cardiac function. For some valve lesions there are interventional (non-surgical) treatments, but non-surgical interventional treatment of valve lesions is less advanced than for coronary artery disease. Several valve interventions (e.g. balloon valvuloplasty) are temporising, while others (e.g. TAVI and MitraClip) are offered to patients deemed to be at prohibitively high-risk for surgery.

3.4.1 Observations on the referral process at St George's - patients referred for valve surgery

Many of the referrals for valve surgery were entirely appropriate, but the Panel felt there were referrals from cardiology to cardiac surgery that were sub-optimal. The specific deficiencies included the following:

1. Lack of a clear description of symptoms and functional status of the patient being referred;

2. Poor quality echocardiograms with incomplete valve assessment to guide management;

3. Lack of understanding by referring cardiologists about surgical risk in frail or elderly patients or in those patients requiring redo sternotomy;

4. Limited discussion on optimal timing of valve surgery;

5. Lack of consideration of non-surgical treatments, such as Trans Aortic Valve Implantation (TAVI)[22,23] or Balloon Aortic Valvuloplasty (BAV), either as a definitive treatment in a high-risk patient or, in the case of BAV, as a bridge to surgery; and

6. Lack of consideration of conservative, symptom-driven, medical treatment.

Cases 16 and 17 describe patients with valvular heart disease who underwent surgery. In both instances the Panel felt that the referrals were poor and that the likelihood of either patient experiencing significant symptomatic benefit, had they survived surgery, was small.

Case 16

A patient in their early seventies was admitted with coronary artery, aortic and mitral valve disease. Pre-operative assessment found very poor left ventricular function. The patient's condition was optimised and they had surgery two weeks later.

The pre-operative transoesophageal echocardiogram (TOE) by the anaesthetist found severe left ventricular dysfunction and only mild valve disease. The patient underwent aortic valve replacement, mitral valve replacement, tricuspid valve repair and CABG x5. They died on the intensive care unit four days later from cardiogenic shock and multi-organ failure.

The Panel were concerned that the patient had not been fully assessed before surgery and that not all options had been considered. The severity of their valvular disease was over-estimated and coronary angioplasty alone may have been adequate treatment for this patient. None of the surgeons on the Panel would have offered surgery. The Panel judged there was another opportunity to avoid unnecessary surgery after the pre-operative TOE found severe left ventricular dysfunction and only mild valve disease. Surgery could have been aborted before sternotomy to allow the opportunity to re-consider the best treatment option.

Case 17

A patient in their early eighties was recommended for elective tricuspid repair. The patient died four weeks later from bronchopneumonia, lung fibrosis and multi-organ failure.

In the setting of very poor left ventricular function and poor lung function (transfer factor <50%), the Panel felt this patient was unlikely to derive any benefit from surgery even had the patient survived to leave hospital. None of the cardiologists on the Panel would have referred the patient and none of the cardiac surgeons would have recommended surgery. The Panel felt that problems in care identified probably (more than 50:50) contributed to the death.

3.5. Multi-disciplinary team meetings

Guidance on the multi-disciplinary, co-ordinated management of patients with cardiac disease using a "Heart Team" model has been published elsewhere[4,18,20]. The overriding principle of an MDT meeting is to ensure best practice and to provide a consensus view as to which treatment strategy is superior or most appropriate to each individual patient. The decision is guided by the available evidence and the collective experience of the team present. It is important that an MDT meeting is quorate and re-evaluates the patient's treatment plan when new information becomes available, or if the patient's clinical condition changes. When decision-making is not straightforward, the MDT documentation should attempt to capture the essential elements of the discussion in order to justify any decision reached. In instances where there is deviation from the MDT decision (clinician or patient decision), this should be documented in the patient's medical records and the patient's management re-discussed at a subsequent MDT meeting.

3.5.1. Observations on St George's MDT meetings

There was evidence of MDT working and of good attendance at MDT meetings. However, a number of shortcomings were also noted, in several instances, including:

- Referrals where expected investigations were missing, for example, left ventricular (LV) viability assessment in a patient with poor LV function and ischaemic cardiomyopathy;

- Cardiology input lacked the expected rigour about the interpretation of diagnostic tests, understanding of the implications of co-morbidity and discussion of interventional options for treatment;

- Instances where decisions had been documented, but not the discussion which underpinned them. This is probably common to many units, but the MDT recommendations do stress that the discussion should be documented, particularly if the decision is to recommend high- risk surgery or high-risk percutaneous coronary intervention (PCI);

- The MDT process often felt like a one-way referral transaction from cardiology to cardiac surgery rather than tailored management of individual patients. Some of the MDT management decisions were surprising to the Panel, who felt that several high-risk patients might have been better served by interventional treatment (PCI, TAVI, valvuloplasty, etc.);

- There were instances where the cardiologists appeared to exert undue pressure on the cardiac surgeons to accept patients for surgery, even when this was high-risk. The decision-making process felt unbalanced, with the cardiology opinion being more forcefully expressed than that of the cardiac surgeon(s);

- There was a lack of acceptance that medical treatment may sometimes be the appropriate outcome of an MDT. This is clearly stated in the NCEPOD report[4]:

  "it should also be remembered that sometimes no intervention is appropriate and that palliative care, rather than a potentially futile intervention, is in the best interests of the patient."

- Failure to revisit decisions about complex patients when new information became available, for example re-assessment of LV function post myocardial infarction or following MRI assessment of viability; and

- Failure to revisit decisions when a patient's overall condition deteriorated. There was a desire to expedite surgery rather than consider whether surgery was still the appropriate treatment strategy.

Cases 4 (see page 14), 18 and 19 illustrate an MDT not functioning as well as it should. In Case 18, an appropriate MDT plan is made, but is then changed for no apparent reason. In Case 4 and Case 18, inappropriate pressure is put on the surgical team to offer a patient high-risk surgery. In Case 19, there is a lack of appreciation by the MDT that the operation being proposed is very unlikely to improve the patient's quality of life.

Case 18

A patient in their mid-seventies underwent urgent CABG x3 and died three days later. The decision to operate appears to have been made before an adequate pre-operative assessment was complete. The patient's left ventricular function was poor and the potential benefit(s) of surgery had not been established. An MDT discussion recommended a cardiac MRI to assess myocardial viability. The Panel felt that this was entirely appropriate clinical practice. However, a decision was then made to proceed to surgery without this information and the reason for the change from the original MDT plan was not explicit, but it did not appear to be based on clinical urgency.

Case 19

A patient in their early seventies was admitted for elective replacement of the ascending aorta and CABG x1. The patient had previously undergone aortic valve replacement many years earlier. The prosthetic aortic valve was competent and did not require re-replacement. The patient died 11 days after surgery.

The patient's main symptom was severe breathlessness and they were reviewed by the cardiology and respiratory teams prior to surgery. Nowhere was it made clear to the patient that the dilated ascending aorta was very unlikely to be the cause of their breathlessness and that aortic surgery was very unlikely to improve their breathlessness and quality of life. Although the diameter of their ascending aorta was above the threshold at which surgery should be considered, this measurement was unchanged between 2008 and the operation in 2016. The patient was quoted a mortality risk of 5%; the calculated EuroSCORE II was 38.6%. Had all of these factors been taken into account, the Panel felt that the patient may well have opted for conservative management.

3.6. Risk assessment and consent

3.6.1. Risk assessment

The decision to proceed to heart surgery requires a careful assessment of the balance of the possible benefits versus the risks of the operation. In older patients with co-morbidities (other medical problems in addition to their heart disease), this assessment becomes more important in choosing between medical therapy and surgery. In some patients, life expectancy may be affected more by their co-morbidity than by their heart disease and in patients without symptoms the benefits of surgery must be weighed carefully against the risks. The decision to offer heart surgery usually involves a multi-disciplinary 'Heart Team' of cardiologists, heart surgeons and other specialists, plus a detailed pre-operative assessment is required for an informed decision to be made and for appropriate consent to be taken.

3.6.2. EuroSCORE II

The current standard in the UK for predicting outcomes after heart surgery is based on the EuroSCORE (European System for Cardiac Operative Risk Evaluation). EuroSCORE is a widely used risk model to predict in-hospital mortality after heart surgery. The first version of EuroSCORE was based on a cohort of patients operated on in the mid-1990s and, although EuroSCORE remained powerful in discriminating between low-risk and high-risk patients, the original EuroSCORE risk model (and subsequent logistic EuroSCORE) over-predicted the risk of surgical practice as heart surgery became safer. Accordingly, an updated, more refined model, EuroSCORE II, was published in 2011. For the purposes of this report, EuroSCORE II will be the version used and referred to as "EuroSCORE".

The EuroSCORE risk for in-hospital mortality is calculated from several risk factors. The greater the number of risk factors or the more impact for an individual factor, the higher the risk of death after surgery. There are three categories of information to calculate the risk of death using EuroSCORE:

1. Patient-related factors: age, gender, degree of symptoms, previous heart surgery, and the presence of other medical conditions such as kidney disease, chest disease, or neurological disease;

2. Heart-related factors: heart function or recent myocardial infarction (heart attack); and

3. Operation-related factors: emergency surgery, type and number of procedures – coronary artery bypass surgery and/or valve surgery, and surgery on the thoracic aorta.

Risk models such as EuroSCORE (other models are used in other countries), are helpful in decision-making before surgery, guiding doctors and patients in the assessment of the benefits versus risks of surgery, and in informing patients and their relatives as part of the consent for surgery. Risk models also allow assessment of the performance of a service by comparing actual with predicted outcomes and facilitate comparison between the performance of different hospitals (and surgeons) by adjusting for differences in risk at different centres. However, no risk model is perfect - there are some common conditions that may increase surgical risk but are not included in EuroSCORE such as liver disease

or less than severe kidney or chest disease. Risk scores should be used to support clinical judgement in the decision to offer surgery.

It is acknowledged that during the timeframe of analysis for this report, that risk scoring systems were adapted from logistic EuroSCORE to EuroSCORE II. This report, for clarity, has used EuroSCORE II throughout. Had this report used logistic EuroSCORE as a risk calculator, we would have, most likely, predicted even higher risk for the cases that were reviewed. Since the criticisms of this aspect of care reflected an under-estimation of the risk given to some patients, the Panel feel that by using EuroSCORE II they have provided a liberal benchmark that allows comparison of the whole cohort.

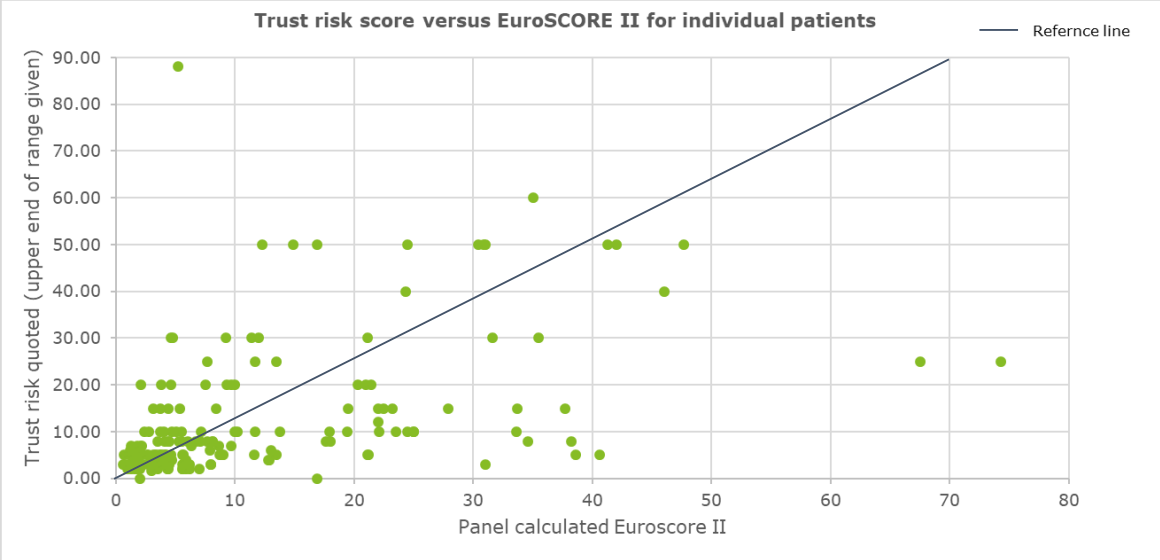
3.6.3. Consent

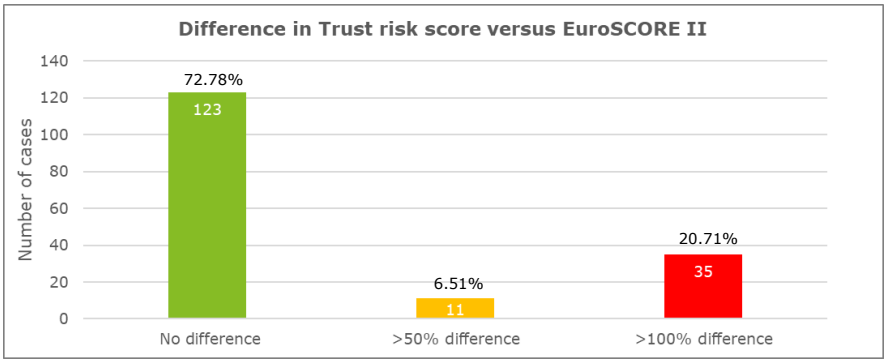
A patient's consent should be obtained before any operation. The validity of this consent depends on a patient being fully informed about the proposed operation, including the benefits and risks, whether there are alternative treatments, and what would happen if treatment does not go ahead. The surgeon's decision to operate and the patient's consent both depend upon an accurate assessment of the benefits and risks of surgery.[17]

The quoted mortality risk may influence the patient's decision if/when to go ahead with surgery. Inherent in this process is the need to reassess the risk as the patient's overall condition changes or new information becomes available.

3.6.4. Observations on the consent process at St George's

There were several instances in which the risk quoted by the surgical team was substantially lower than the risk calculated by the standardised risk scoring system (EuroSCORE). In 21% of the cases which the Panel reviewed, the calculated EuroSCORE II estimated risk was approximately double that of the risk quoted to the patient.





*There were 33 cases where a risk scoring was not appropriate (e.g. resuscitation surgery for stabbing or if the patient died before reaching surgery). These cases are excluded from this analysis.

It is impossible to know whether or not this would have influenced any patient to decide against surgery, but some patients may have opted for conservative treatment had they been quoted a more accurate (higher) risk for surgery. An example of significant under-estimation of risk is described in Case 20.

Case 20

A patient in their early eighties was admitted for urgent mitral valve repair, aortic valve replacement, and excision of the left atrial appendage (a procedure to reduce the risk of stroke in atrial fibrillation). The quoted risk was 5–8% against the calculated EuroSCORE II risk of almost 40%.

The Panel judged that there was evidence of poor MDT decision-making; they felt this patient should not have been offered surgery based on the balance of risks versus benefits. Surgery took longer than expected because of a decision to attempt a complex mitral valve repair. Furthermore there was an error on the perfusion chart with a mis-recording of the patient's height, leading to possible under-perfusion during cardiopulmonary bypass. Under-perfusion on bypass may have contributed to the patient's post-operative complications.

The patient died after 30 days on ITU from bronchopneumonia and multi-organ failure.

4. Operative care

4.1. Background

4.1.1. The cardiac surgical theatre team

The cardiac surgical theatre team comprises a minimum of seven members from different medical disciplines and professions, but in many cases there may be more. A successful heart operation relies upon careful interaction and communication between these team members.

Usually the team is led by a consultant cardiac surgeon and they will have at least one assistant, who may be a surgical registrar or a surgical care practitioner. There may also be a second assistant, who is often a more junior doctor or a surgical care practitioner. The surgical care practitioner is usually responsible for harvesting the saphenous vein from the lower limb or radial artery from the forearm for use as conduits in coronary artery bypass grafting.

The anaesthetic team is led by a consultant anaesthetist who may be assisted by an anaesthetic registrar. In most cases, the consultant anaesthetist is also the operator for TOE. The anaesthetic team is supported by an anaesthetic nurse or operating department practitioner. All operations requiring the use of the heart–lung machine (cardiopulmonary bypass) have at least one clinical perfusionist present to set up and run the cardiopulmonary bypass machine. There is always at least one scrub nurse who sets up and looks after all sterile instruments, and equipment, and stays within the sterile field for the duration of the case; this nurse is assisted by at least one theatre runner who may be a more junior nurse or a health care assistant, whose role is to pass equipment into the sterile field.

4.2. Principles of heart surgery

4.2.1. Heart-lung machine (cardiopulmonary bypass)

Most heart operations require the use of a heart–lung or cardiopulmonary bypass (CPB) machine. The bypass machine takes over the function of the heart and lungs for the duration of the procedure. Blood is drained into a reservoir from a cannula in the right side of the heart, usually the right atrium, and then oxygenated, filtered, and returned to the patient, usually through a cannula in the ascending aorta. The heart–lung machine can also cool a patient to below normal body temperature for a long or complex operation (e.g. aortic dissection surgery) and rewarm the patient afterwards.

The adequacy of perfusion (blood flow to the organs) during the operation is monitored closely using various inline parameters such as blood-flow (which is dependent on an individual patient’s height and weight), blood pressure and regular blood sampling.

Before a patient is established on cardiopulmonary bypass, their blood must first be anticoagulated using heparin to stop blood clots forming in the bypass circuit tubing. The successful management of the heart–lung machine requires close interaction between the perfusionist and anaesthetist as well as the practical aspects of cardiopulmonary bypass established by the surgeon.

Case 6 (page 15) and Case 20 (page 30) are examples where inadequate perfusion on cardiopulmonary bypass may have contributed to a poor outcome after surgery.

4.2.2. Myocardial protection

Most operations on the heart require the heart to be stopped. This is achieved by isolating the heart from the circulation with a clamp across the ascending aorta and then the administration of a solution with a high potassium concentration (cardioplegia) which stops and cools the heart. The cardioplegia can be administered through the antegrade route down a cannula in the ascending aorta (or directly into the ostia (mouths) of the coronary arteries if the aorta is opened), or it can be delivered in a retrograde manner through the coronary sinus and back along the veins that usually drain the heart. There are limitations to both techniques; but in particular, retrograde cardioplegia is less effective for protection of the right ventricle[24]. Cardioplegia administration needs to be repeated throughout the period that the cross clamp is applied (the ischaemic time) during which the heart is not perfused, usually after every twenty minutes. It is normal practice for the perfusionist to remind the surgeon of this throughout the case.

Inadequate myocardial protection (route, volume, and/or frequency) can contribute to poor ventricular function after surgery, leading to a need for inotropic support on ICU and a prolonged length of stay. Case 21 is an example in which the Panel judged that myocardial protection was inadequate.

Case 21

A patient in their late seventies was admitted for elective redo AVR and mitral valve repair. Unfortunately, surgery was postponed and they then developed endocarditis. The patient underwent surgery two weeks later.

The operation was performed by a non-consultant supervised by a consultant; there was a long ischaemic time (duration of aortic cross-clamping) and myocardial protection relied on antegrade cardioplegia induction, followed by repeated retrograde-only maintenance. The patient died from right ventricular failure two days after surgery.

The Panel judged that the strategy for myocardial protection was poorly planned and that inadequate myocardial protection contributed to post-operative right ventricular failure.

4.2.3. Coronary artery bypass surgery (CABG)

The overall mortality for elective CABG in the UK is approximately 1% and has continued to fall over the last decade, despite an increasingly adverse risk profile of patients undergoing surgery. CABG has excellent outcomes; approximately 80% of patients are alive a decade after surgery of whom a large majority (up to 90%) have not required intervention for recurrent angina[25].

Most CABG operations are performed through a median sternotomy (midline incision through the breastbone) which allows good access to the heart. The bypass grafts (conduits) are vessels harvested from elsewhere in the body.

Around 80% of all CABG operations are completed using CPB on a heart arrested with cardioplegia, but some surgeons prefer an off-pump approach (without the use of CPB)[26].

4.2.4. Valve surgery

Diseased heart valves can be repaired or replaced; the type of surgery is dependent on the valve involved, the nature of the disease, the presence of any adverse cardiac effects of valve disease and surgical expertise.

Mitral valve repair is a successful procedure in patients with degenerative mitral regurgitation (leaking) and has excellent long-term survival rates; some valves are too diseased for repair and replacement is required. In certain cases otherwise suitable for repair, mitral valve replacement is the best option if a less complex operation of shorter duration is desirable because of other patient factors, for example in the setting of impaired heart function or when additional heart procedures are needed.

Aortic valve disease (stenosis (narrowing) and/or regurgitation (leaking)), is usually treated with aortic valve replacement. A range of biological and mechanical valves (prostheses) is available for valve replacement. Patients with aortic stenosis may also be considered for TAVI when the risks of conventional surgery are high or prohibitive.

The majority of valve operations are performed through a median sternotomy on cardiopulmonary bypass, as described for CABG.

4.2.5. Aortic surgery

Thoracic aortic surgery is generally more complex and higher risk than the previously described cardiac procedures. Surgery for aortic aneurysm is usually performed for prevention of rupture or dissection (described below). According to international guidelines, patients with proximal (ascending and arch) aortic aneurysms are offered prophylactic surgery, based on aortic dimensions[27].

Aortic root replacement involves replacement of the aortic valve attached to a prosthetic conduit and re-implantation of the patients' own coronary ostia as 'buttons' onto the graft. A less complex operation for a dilated ascending aorta involves the replacement of the ascending aorta with an AVR. This is sometimes appropriate if the proximal aortic root is not dilated.

Aortic arch surgery requires specialist techniques to protect the brain during the procedure because the head and neck vessels need to be sutured in a bloodless operative field. The mainstay of these techniques is hypothermic circulatory arrest (the patient is cooled so that the brain 'hibernates' and the aorta can then be opened during a period of arrest). Circulatory arrest is often supplemented with selective antegrade cerebral perfusion, where the head vessels are perfused with cold oxygenated blood during the period of arrest.

Acute Type A dissection is the most common cardiac surgical emergency operation. It occurs when there is a tear in the innermost layer of the wall of the ascending aorta causing blood to track along between the layers of the aorta. It has >90% risk of death, but this can be reduced by emergency surgery. The overall mortality rate for this procedure remains around 15–25% depending on local expertise[28]. Such procedures often require the use of hypothermic circulatory arrest.

4.3. Complex procedures

Some heart operations are more complex than isolated CABG or valve surgery. For example, a patient may have severe valve disease and significant coronary artery disease requiring valve replacement and CABG during the same operation. Combined procedures such as these are higher risk than isolated procedures. Because the operations are longer, careful pre-operative planning is required to ensure smooth progress of surgery, with particular attention to the cardioplegia strategy to minimise damage to the heart and to reduce the risk of complications after surgery.

Some patients require a second heart operation after a first procedure because of the development of new cardiac disease, for example the development of severe aortic stenosis after a previous CABG. These “redo” procedures have a higher EuroSCORE II because of the risks of damage during re-opening the chest and freeing the heart from scar tissue (adhesions) after a previous operation. Redo surgery requires meticulous assessment and planning.

For some complex operations, it may be appropriate to have two consultant surgeons operating from the outset. This approach has recently been endorsed by the Society for Cardiothoracic Surgery (SCTS).

4.4. Common surgical complications

Heart surgery has become steadily safer, reflecting improvements in the medical management of patients as well as improvements in anaesthetic, surgical and perfusion techniques. The current overall mortality for all heart surgery is approximately 2% in the UK.

Non-fatal complications (morbidity) that may develop after surgery include: stroke, bleeding, sternal wound and other infections, myocardial infarction, kidney injury, abnormal heart rhythms or conduction problems, and bowel ischaemia.

Bleeding is a common problem after surgery because of the pre-operative use of drugs such as aspirin or clopidogrel. In addition, cardiopulmonary bypass itself can affect the body’s clotting mechanisms. Particular attention is necessary at the end of surgery to ensure there is no active bleeding; despite this, about 30-40% patients require blood or blood product transfusion. Excessive bleeding after surgery and the need for more blood transfusion are associated with poorer long-term survival after heart surgery. Approximately 4% of patients need to return to theatre to control bleeding after their initial cardiac surgery[29].

4.5. Operative planning and the conduct of surgery

A successful outcome after surgery depends on several factors:

- Patient related – heart disease and co-morbidities;
- The surgical theatre team – expertise and ability to deal with unexpected problems arising in theatre; and
- The operation – timing and complexity.

The Panel identified recurring themes in the operative phase of care which contributed to poor outcomes. These are highlighted in the case studies below; there is often more than a single theme in each example.

4.5.1. Lack of surgical expertise or experience

The risk of a particular surgical procedure can be highly variable. High-risk patients are usually best treated by experienced surgeons.

Unexpected difficulties can arise during any cardiac surgery and all surgeons should be prepared to ask for help from a colleague in these situations.

Case 21 (page 32) describes a complex case performed by a non-consultant under consultant supervision with inadequate myocardial protection leading to right ventricular failure. Case 22 describes a rare, highly complex procedure where the operative strategy was not entirely clear. Case 23 is an example of a case in which a surgeon with limited experience of the procedure had difficulty dealing with intraoperative complications and there was no call for more experienced help.

Case 22

A patient in their mid-eighties presented with an aneurysm of a coronary vein graft eroding through the chest wall. The patient was accepted for surgery after appropriate assessment and MDT discussion. During surgery, there was massive haemorrhage from the aneurysm sac before systemic cooling on CPB, leading to a prolonged period of poor perfusion and hypotension before deep hypothermic circulatory arrest. The heart failed to wean from CPB at the end of surgery and the patient died on the operating table.

The Panel were concerned by discrepancies between the anaesthetic and perfusion charts, and the operation note. There was haemorrhage from the aneurysm sac before systemic cooling and adequate control of the circulation, leading to a prolonged period of hypotension. However, the records disagree whether this was intentional or due to aneurysm rupture. The evidence presented was contradictory and not reflective of clear decision-making.

Case 23

A patient in their mid-seventies was admitted for elective mitral valve replacement and CABG x3. The case was allocated to a surgeon with limited recent mitral experience, despite the department having several experienced mitral surgeons. The operation was very long, with an almost six hour period of ischaemia. The patient died two days later from cardiogenic shock and multi-organ failure.

The Panel judged that surgery should have been undertaken by a more experienced surgeon and were concerned that despite (poorly documented) problems at surgery leading to a prolonged procedure, there had not appeared to have been any call for experienced help by any member(s) of the theatre team.

4.5.2. Consultant responsibility

No individual consultant is, or should be, available to manage their patients 'around the clock'. There should be well-defined arrangements to ensure that consultant cover is available when required and that the consultant responsible for a particular patient is clearly documented. The Panel found examples in which the consultant responsibility for the patient was not clearly defined at all times.

Case 6 (page 15) was performed out of hours by a registrar with no clear consultant supervision. Three consultants were mentioned in the notes but none appeared to have clear responsibility for the patient.

4.5.3. Surgical judgement

Patients may present with combinations of coronary artery, valve, and other heart disease. A detailed pre-operative assessment is necessary to determine which conditions are severe enough to merit treatment and which may be left alone, a combination of multiple severe conditions or pre-existing co-morbidities may render the risk of surgery prohibitive and non-operative treatment should be offered. A pragmatic approach in dealing with the most pressing of the surgical lesions may be appropriate rather than trying to treat all pathologies. Failure to follow this strategy may lead to unnecessary or overcomplicated surgery. Even if the full complexity of a case only becomes apparent on TOE at the start of surgery, there may still be an opportunity to stop and re-consider the most appropriate option for the patient.

Both Case 1 (page 12) and Case 16 (page 25) describe patients undergoing unnecessarily complex operations rather than receiving treatment for the most severe lesions. Case 24 describes a very complex patient unlikely to survive with or without surgery and the questionable use of post-operative mechanical support.

Case 24

A patient in their late seventies presented with an acute aortic syndrome. They had an extensive history of cardiac disease, including biventricular impairment and severe mitral regurgitation.

The risks of surgery were discussed with the patient and their family. The patient underwent aortic root and mitral valve replacement (although the need for mitral valve replacement was omitted from the consent form).

The patient suffered from right ventricular failure and failed to wean from CPB. A right ventricular assist device (RVAD) was implanted, but despite this, the patient died soon afterwards.

The Panel recognised that this was a challenging case, but none of the Panel judged that surgery was likely to succeed. The need for mitral valve replacement was not listed on the consent form, even though this was apparent in the patient's history. The Panel were surprised that such a complex and elderly patient was placed on mechanical circulatory support and felt that this would not have been offered in other centres.

4.5.4. Timing of surgery

Although there may be pressure on the surgical team to operate as soon as possible for patients admitted as an emergency, there may be benefits in delaying surgery for stable patients to allow for medical optimisation, or to allow urgent surgery to be scheduled within daylight hours or during the working week when more support is available. In addition, it is often appropriate for more complex cases (redo surgery or combined procedures) to be scheduled first on a theatre list.

Case 25 describes a case performed during the night as an emergency for reasons that were not clear.

Case 25

A patient in their early seventies was admitted following an out of hospital cardiac arrest. After a coronary angiogram, the patient was taken for emergency CABG on the night of admission but was pain free and haemodynamically stable. They died after eleven days on the ICU with a complicated post-operative course including early graft failure. The Panel felt there was no clear indication for emergency out-of-hours surgery.

4.5.5. Lack of adaptability or inability to manage unexpected findings

Surgeons need to be flexible and adaptable in response to unexpected findings or problems during surgery. The Panel found several examples in which a poor response to intra-operative challenges contributed to a poor outcome.

Case 16 (page 25) describes a patient where intraoperative transoesophageal echo demonstrated unexpected findings with regard to previously diagnosed valvular lesions. The operative plan was not changed in light of these findings.

4.5.6. Management of complications

Many cases reviewed by the Panel were complex and had difficult, high-risk surgery. Some complications are more common in particular cases and additional care is required to avoid predictable complications which may have a significant impact on a patient's progress.

Case 26 describes a patient who left theatre with active bleeding after a complex operation.

Case 26

A patient in their mid-sixties with previous AVR required urgent redo surgery for endocarditis.

The patient had a difficult operation and was transferred to the intensive care unit with active bleeding. Despite the surgical team being informed of a 1400ml blood loss on transfer to intensive care, re-exploration to control the bleeding was delayed. The patient died the day after surgery from bowel and lower limb ischaemia.

The Panel recognised that this was a complex, high-risk case but judged that the patient should not have left theatre with this degree of bleeding and coagulopathy. During the operation, there appeared to have been inadequate transfusion of clotting factors compared with red cell transfusion.

5. Post-operative care

5.1. Background

This section of the report considers care on the intensive care unit (ICU), high-dependency unit (HDU) and the ward.

Patients who have had cardiac surgery require careful post-operative management. This care is usually provided in two phases. Firstly, the patient is transferred to an intensive care environment (Level 3 care) and then once sufficiently recovered, the patient is returned to the ward (Level 1 care), where the hospital-based recovery is completed. Some patients require an intermediate level of care on a HDU (Level 2 care) prior to their transfer to the ward. Many patients are discharged home within a week following surgery.

The care of the post-operative cardiac surgical patient requires an MDT approach. It is essential that there should be input and support from cardiac surgical and cardiac intensivist teams throughout a patient's stay in hospital.

The routine pathway for a post-operative cardiac surgical patient is as follows:

- The patient is transferred to ICU ventilated, with invasive monitoring, appropriate inotrope and sedative drug infusions and surgical drains present;
- There is a detailed clinical handover and assessment by the ICU team with a plan for ongoing care. There is then regular review by the anaesthetic, critical care and surgical teams. In some cases there will be a need for additional invasive monitoring, cardiac imaging and organ support;
- The ventilated patient is nursed one-to-one until ready for extubation, according to the clinical situation. When extubated, the nursing staff ratio may change, taking into account a patient's dependency requirements;
- The patient is discharged from ICU to either a Level 1 or Level 2 care environment, dependent on local circumstances and the patient's clinical condition; and
- At each step, it is essential that adequate documentation is maintained to ensure good patient care.

The Intensive Care Society has recently produced *'Guidelines for the provision of Cardiothoracic Critical Care'*[29]. The document stresses that there should be:

- A designated lead consultant intensivist;
- A resident doctor with critical care training;
- An on-call cardiac surgeon;
- Care guided by a management plan set during a structured bedside ward round; and
- A consultant in charge who should coordinate input from members of the various teams involved in the daily care of the patient.

5.2. Areas of good practice

The Panel found many examples of an experienced ICU team delivering high quality care. These included:

- Good record keeping;
- Regular consultant review;
- Prompt escalation of inotropic and other organ support;
- Timely involvement of non-cardiac medical and surgical teams;
- Good communication with patients' families; and
- Appropriate contact with specialist nurses for organ donation.

5.3. Areas of concern

Despite the above examples of good practice, the Panel identified a number of areas where practice could have been improved.

5.3.1 Failure to recognise a deteriorating patient

5.3.1.1 Bleeding

Further to the discussion about bleeding in the operative phase of care section, there needs to be continuous assessment of post-operative blood loss and an ability to return the patient promptly to theatre, or to re-open the chest within the ICU. The late management of significant haemorrhage or delayed diagnosis of tamponade (accumulation of blood around the heart) may have significant implications for the recovery of the patient due to impaired cardiac function; leading to multi organ failure, a prolonged ICU stay and possibly death. A prompt return to theatre in these cases could control bleeding and/or relieve the tamponade, preventing these deleterious consequences.

The Panel noted several cases where there was a slow response to significant post-operative blood loss and a delay in returning to theatre, for example in Case 27. There were a number of examples of a delay in which an inadequate response to bleeding contributed to the death of the patient.

Case 27

A patient in their early eighties underwent urgent CABG surgery.

On admission to ICU, the patient was haemodynamically unstable (low blood pressure). In addition, there was excessive bleeding (1500ml in the first six hours, with a further 1600ml in the next twenty-four hours).

The Panel could find no documentation to explain why the patient was not returned to theatre for re-exploration. It appeared that the attending medical team were reassured by repeated echo examinations. However, the Panel judged that the patient should have been returned to theatre within a few hours of surgery.

The patient died two days later from multi-organ failure.

5.3.1.2 Post-operative myocardial infarction

Regular ECG analysis is a key component of post-operative care of the deteriorating patient. Significant changes should be recognised and acted upon when necessary.

The Panel noted several cases where serial ECGs demonstrated evolving myocardial ischaemia in the post-operative period and yet no action was taken, for example in Case 1 (page 12) and Case 28. On several occasions, the Panel felt that earlier recognition and appropriate action may have prevented subsequent mortality.

Case 28

A patient in their early eighties underwent elective AVR and CABG x4.

The operation took longer than expected (with a 4.5 hour duration of cardiopulmonary bypass); the reasons for this were not clearly documented. Post-operative ECGs showed clear evidence of an acute anterior myocardial infarction in ICU, a few hours after surgery.

The Panel found no documentation that the post-operative infarction was recognised or acted upon. It was felt that emergency angiography and attempted percutaneous intervention to re-open an occluded bypass graft or diseased coronary artery was indicated.

The patient died four days later from multi-organ failure.

5.3.1.3 Late deterioration

Complications may develop after patients have been transferred to the ward. Regular review by an experienced clinical team, with timely investigation and treatment, is essential.

In some hospitals, a critical care outreach team is available to support junior medical staff in the management of these patients.

The Panel noted several cases where earlier intervention may have avoided mortality, for example in Case 29 and Case 30.

Case 29

A patient in their mid-seventies underwent elective aortic valve replacement and aortic root surgery.

The patient's early recovery was uneventful and so they were discharged to the ward. However, the patient deteriorated over a period of several hours following transfer. Despite appropriate early intervention by the junior medical team, the patient continued to deteriorate with low blood pressure and reduced urine output.

Senior advice was sought but the remainder of the team were unable to attend. The patient remained in a critical condition and subsequently suffered a cardiac arrest. Their chest was re-opened and a significant tamponade was relieved.

The patient died 18 days after surgery from hypoxic brain injury.

Case 30

A patient in their early eighties underwent urgent AVR and CABG surgery.

The patient's initial ICU recovery was slow, but they made good progress and they were returned to the ward. Serial ECGs demonstrated a progressive prolongation of their PR interval which was not noted in the clinical record.

The patient suffered a cardiac arrest due to complete heart block and died 10 days after surgery.

5.3.2 Communication and team work

The Panel recognised that in many cases, there was good evidence of effective communication and team working. However, working within the complex environment of cardiac intensive care, it is inevitable that at times communication is challenging.

The Panel noted several examples where they felt team working and communication could have been improved. See Case 1 on page 12 and see Case 5 on page 15.

5.3.3 Leadership and responsibility on ICU

The Panel felt that there was generally good leadership within the ICU, however there were some cases where the final “ownership” of the patient seemed to be uncertain. See Case 9 on page 17.

Case 31

A patient in their late sixties, who had undergone previous aortic valve replacement, was admitted as an urgent case. The patient deteriorated to the extent that they required treatment on intensive care.

A series of echocardiograms revealed critical aortic stenosis with progressive dysfunction of the valve, possibly as a result of leaflet thrombosis. The Panel felt there was an earlier opportunity to intervene and were unsure why the patient waited nine days for their operation. The Panel felt that the individuals looking after the patient (cardiologists, cardiac surgeons, TAVI operators and intensivists) did not work effectively as a team and there was no clear leader.

The patient died prior to any intervention to the valve being undertaken.

6. Conclusion

The Panel have reviewed the case records of 202 patients who died after cardiac surgery at St George's Hospital, in the period 1 April 2013 to 1 December 2018, using a phase of care mortality analysis (POCMA) technique.

The Panel found many examples of good care. There were, however, several cases in which the evidence observed in the case note review suggested that the death of patients was avoidable, or that care was of a poorer standard than would have been expected. The reasons for these judgements have been examined in previous chapters.

Our discussion has outlined several clinical and institutional shortcomings that we feel have led to the NICOR alerts for the periods 2013 to 2016 and 2014 to 2017. The Panel have also described a number of deficiencies that have led to a failure to learn from these mortalities.

7. Recommendations

Below are the recommendations of the Panel. The Panel's aim in making these recommendations is to prevent these issues from happening again.

7.1.1 St George's cardiac services

- **Recommendation 1**

  The Trust should ensure the principles included in the GMC publication, "*Effective clinical governance for the medical profession: A handbook for organisations employing, contracting or overseeing the practice of doctors*."[30] are implemented.

  This publication lays out a framework that requires that clinical teams are supported by their employing organisations and boards, in their pursuit of good governance.

- **Recommendation 2**

  Each of the cardiac surgeons, the lead for cardiology, the lead for anaesthesia/ICU and the lead for perfusion should have an individualised feedback meeting with clinical representatives from the Independent Advisory and Mortality Review Panels. These should be confidential and formative. The purpose of these meetings is to allow for an explanation of the Panel findings, to allow for reflection and to form a platform for ongoing mentoring and support. The Trust's Chief Medical Officer should also be present at these feedback meetings.

- **Recommendation 3**

  A change of working relationships within and between cardiac surgery, cardiology and anaesthesia/intensive care teams should be fostered. This should include a mutually established "heads of agreement" document, outlining standards of inter-professional behaviour and mechanisms to ensure these values are maintained, with oversight from the Board. The document should enshrine the principles outlined in "*Duties of a Doctor".*[16]

  New and locum consultants should have formal mentorship arrangements put in place to support their professional development.

- **Recommendation 4**

  The cardiology department should attain full British Society of Echocardiography Departmental Accreditation.

7.1.2 Patient referral and assessment

- **Recommendation 5**

  The Trust should develop sub-specialist teams, if appropriate in collaboration with other hospitals in the network, in mitral, aortovascular and revascularisation surgery.

  The aortovascular and mitral teams should have at least two consultant surgeons in each group and no surgeon should be in both of these teams. The revascularisation team should comprise all cardiac surgeons at the Trust.

  Each team should have designated interventional and imaging cardiology consultants alongside radiology and anaesthesia/intensive care consultant representation, where appropriate.

- **Recommendation 6**

  All referrals for cardiac surgery should be discussed at the relevant sub-specialist MDT, which should ensure the availability of all necessary data before review of the clinical case. Subsequently the MDT should plan treatment (including an operative plan) and allocate a surgeon.

  The MDT should have a pre-defined minimal quorum, with full representation from sub-specialist cardiac surgery, interventional and non-interventional cardiology, and radiology. Anaesthetic advice should be available if required. Discussion, as well as decision, of the MDT should be recorded. If plans for treatment change after discussion at the MDT (either through patient choice or change in the clinical situation) then the patient should be re-discussed to ensure full MDT ratification and oversight of the adapted management plans. Any changes to the original plans should be documented clearly.

  The MDT should have the provision of the very best treatment for the patient as its aim; taking into consideration the full clinical picture. This will include a full review of the surgical, interventional and medical treatment options available.

- **Recommendation 7**

  Risk-scoring, using up to date risk scoring algorithms (for example EuroSCORE II) should be embedded in practice. The team must ensure all risk factors are considered and that data are sought to ensure an accurate risk prediction. This risk prediction must be recorded on the consent form as part of the discussion of the indications, risks and potential benefits of proposed treatments. On occasion, it is justified to include non-scored conditions (e.g. liver or haematological disease) to increase the quoted risk. Conversely, if the risk quoted is less than the calculated risk, then the reasons for this adjustment should be clearly documented in the case record.

  Consent procedure should follow the guidance laid out in the Royal College of Surgeons England publication, "*Consent: Supported Decision-Making. A guide to good practice"*[31]*.*

- **Recommendation 8**

  Standard referral templates for cardiac surgery should be developed across the London network. Cardiologists referring patients for surgery should include details of the symptomatic status of the patient, investigations (and their interpretation), co-morbidity (and potential subsequent impact on proposed benefit(s) of surgery) and consideration of alternative interventional and medical therapies. For patients referred for revascularisation with intermediate angiographic stenoses, functional/ischaemia testing should be performed as part of the referral.

7.1.3 Patient management

- **Recommendation 9**

  The following guidelines/standard operating procedures (SOP) for patient care should be developed and implemented:

  1. An SOP for the management of urgent inter-hospital transfers. This should include a clear description of joint care (cardiology and cardiac surgery) arrangements and responsibilities. It should delineate necessary investigations and the management of medications, in line with best practice guidelines (for example the GIRFT report[28]).

  2. A guideline for management of myocardial protection. All theatre team members should consider themselves responsible for myocardial protection and there should be establishment of a ”flat” theatre hierarchy to ensure that the heart remains well protected during surgery.

  3. A guideline for the management of operative and post-operative haemorrhage. This should include clear indications for when return to theatre is indicated.

  4. A multi-disciplinary guideline for post-operative ECG interpretation, particularly focusing on ischaemia. Clear indications for when emergency repeat coronary angiography, or return to theatre, are warranted, should be included.

  5. A multi-disciplinary guideline for selection and management of patients requiring mechanical support, including Ventricular Assist Devices and Extra-Corporeal Membrane Oxygenation. This protocol should be developed with guidance from a transplant centre.

  6. The Trust should develop a guideline for outreach services for patients who are not in intensive care environments. Rapid, 24/7 expert review should be available to allow timely escalation for patients in need.

7.1.4 Clinical governance

- **Recommendation 10**

  The Trust should develop a robust, independent, multi-disciplinary review of mortality with appropriate governance oversight to ensure that lessons are learnt. The SJR structure of mortality review should be utilised. Panel phase of care and avoidability scores should be presented as part of the Mortality and Morbidity review of the case. Given the findings of the mortality review Panel, the SJR should also include assessments of whether the MDT operation plan was delivered and whether it was performed by the right person at the right time. Review of the case should include an appraisal of discussions made with the coroner.

  The Trust should ensure that it fulfils any responsibility it has under the duty of candour provision of the Health and Social Care Act 2008 (Regulated Activities) Regulations 2014 subsequent to this review and ensure a robust system is in place for patients who receive care in the Trust going forward.

- **Recommendation 11**

  The Trust should adapt the coroner referral form. There should be only one signatory of the form, which should be that of the responsible consultant.

- **Recommendation 12**

  The Panel recognise the substantial contributions that national audits (such as NICOR) and programmes (such as GIRFT) have made to patient outcomes. It is clear that these oversight and review mechanisms are essential in ensuring patient safety in the UK. Indeed, this review would not have come about without the NICOR alert warnings. The Panel recommend continued funding of these national initiatives. Early warning systems should be developed to allow rapid identification of issues within cardiac surgery units, as they arise. Publication of benchmark outcomes (such as the SCTS "*Blue Book*") should be centrally supported.

8. Appendices

8.1. Appendix 1 – Glossary

ASD	Atrial Septal Defect
AVR	Aortic Valve Replacement
BAV	Balloon Aortic Valvuloplasty
BRI	Bristol Royal Infirmary
CABG	Coronary Artery Bypass Graft
CPB	Cardiopulmonary Bypass
ECG	Electrocardiogram
FFR	Fractional Flow Reserve
GIRFT	Getting It Right First Time
GMC	General Medical Council
HDU	High-Dependency Unit
ICU	Intensive Care Unit
IVUS	Intravascular Ultrasound
LAD	Left Anterior Descending Artery
LV	Left Ventricular
M&M Review	Mortality and Morbidity Review
MRI	Magnetic Resonance Imaging
MDT	Multi-Disciplinary Team
NHSI	National Health Service Improvement / NHS Improvement
NICOR	National Institute for Cardiovascular Outcomes Research
NSTEMI	Non-ST Elevation Myocardial Infarction
PCI	Percutaneous Coronary Intervention
POCMA	Phase of Care Mortality Analysis
RV	Right Ventricular
RVAD	Right Ventricular Assist Device
SJR	Structured Judgement Review
SOP	Standard Operating Procedure
STEMI	ST Elevation Myocardial Infarction
SCTS	Society for Cardiothoracic Surgery
SUI	Serious Untoward Incident
TAVI	Trans-catheter Aortic Valve Implantation
TOE	Transoesophageal Echocardiogram

8.2. Appendix 2 – Governance

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Adam Lewarne, Clinical Audit Manager
Mr Steve Livesey, Cardiac Surgery Lead and Associate Medical Director
Mark O'Donnell, Heart Failure Nurse Specialist, Cardiology
Elizabeth Palmer, Director of Quality Governance

Confidentiality and responsibility

The findings and recommendations contained in the Report represent the views of the Panel, reached in good faith following analysis of the clinical case information provided by the Trust and consideration of feedback provided by the individual clinicians involved in those cases. The Panel was and is not responsible for the adequacy, accuracy or completeness of the information provided to it. The Panel would also draw attention to the caveats in the interpretation of the historical data set out in section 1.4 of the Report.

The Panel has prepared the Report so as not to identify the individual patients, clinicians and other NHS staff involved in the cases reviewed by the Panel. Neither the Panel nor NHS Improvement, which is to publish the Report, authorises the public identification of any individuals in the Report. Any public identification by a third party of persons referred to in the report may constitute a breach of the Data Protection Act 2018.

Conflicts of interest

The Panel were appointed independently by NHS Improvement. Prior to each session of review, a conflict of interest declaration was made. The Panel were unaware of any conflicts at each review point.

8.3. Appendix 3 – Analysis

The Panel analysed the following cases:

Cohort 1: Cases from 01 April 2013 to 01 December 2018
193 cases reviewed
2 cases were not reviewed as there were insufficient patient records available.

Cohort 2: Patients who have died whilst waiting for cardiac surgery 01 March 2018 to 31 August 2018
5 cases reviewed

Cohort 3: Patients who died post-discharge from hospital before 30 days 01 March 2018 to 31 August 2018
0 cases identified by the Trust

Cohort 4: Patients families have requested specific review
4 cases reviewed

Total cases reviewed: 202

8.1. Appendix 4 – References

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Independent External Mortality Review

Terms of Reference

Cardiac Surgical Services

St George's University Hospitals NHS Foundation Trust

November 2018

Version Control

Version Control			
Version	**Author**	**Date**	**Changes**
0.1	Cathy Cale	13-09-2018	First draft
0.2	Cathy Cale	14-09-2018	Governance arrangements updated
0.3	Cathy Cale	17-09-2018	Process points updated following discussion with Trust
0.4	Cathy Cale	21-09-2018	Minor updates following comments from Kathy McLean and Steering Group (20-09-18)
0.5	Cathy Cale	24-09-2018	Updated following feedback from NHSI Patient Safety Team
0.6	Cathy Cale	25-09-2018	Updated to ensure the primary focus is the “NICOR” cohort and the secondary foci are samples of discharge to 30 days and waiting patients
0.7	Cathy Cale	05-11-2018	Governance section updated and legal comments received. Programme support removed as superseded by contract of engagement
0.8	Stephen Picken	23-11-2018	Added appendix B outlining rationale and assessment regarding mechanism and approach for informing families / next of kin.
0.9	Cathy Cale	27-11-2018	Appendix B figure 2 added
Final	Cathy Cale	30-11-2018	Agreed by Steering Group as Final

1. Background

a. St George's University Hospitals NHS Foundation Trust (the "Trust") provides a comprehensive, sub-regional cardiothoracic service, including support to the Heart Attack Centre and major trauma centre. Cardiac surgery outcomes are reported by Trusts to the National Institute for Cardiovascular outcomes (NICOR) who analyse and report the data nationally.
b. The Trust has received two alerts from the National Institute for Cardiovascular outcomes (NICOR) for the period April 2013 - March 2016, and 2014-2017. An 'alert' is when survival falls below a line 2 standard deviations below the mean for the peer referenced group of 31 cardiac surgery units in the UK.
c. After the first alert, the Trust undertook an internal review of deaths in that time period. The Trust developed an action plan based on the results of that review. After the second alert, the Trust commissioned an external review of the service (not a case note review of individual patients) by Dr Mike Bewick, which was published in August 2018.
d. Following this report, there has been significant media attention regarding the service.
e. The Trust is engaged in discussions with HM Coroner to ensure that she has been appropriately notified of deaths where concerns have been raised by internal Trust review processes.
f. NHS Improvement[1] is responsible for monitoring and supporting NHS foundation trusts (FTs) through its provider licence[2]. NHS Improvement supports FTs to give patients safe, high quality, compassionate care within local health systems that are financially sustainable.
g. NHS Improvement has decided to commission an external review of mortality of the cardiac surgery patients that died during the period to which the alerts relate. This is to verify that the Trust has identified any lessons to be learnt from the deaths. If further action is required, NHS Improvement will support the Trust through business as usual mechanisms.
h. To avoid duplication, the outputs from this review will be used to inform the Trust's discussion with HM Coroner regarding deaths covered in the review period.

[1] Relying upon the powers of Monitor
[2] See Chapter 3 of Part 3 of the Health and Social Care Act 2012

2. Scope

a. The time period of the review will be deaths since the first NICOR alert (01-04-13) until 01-09-18.
b. “Cardiac surgery” is defined as any surgical procedure undertaken by a cardiac surgeon. It does not include procedures undertaken by interventional cardiologists/radiologists
c. A strengthened Trust mortality review process is in place to review deaths after 01-09-18, any deaths after this date are outside the scope of this review.
d. The primary scope will be deaths of patients after cardiac surgery.
e. “After surgery” has been defined for the purpose of this review as in hospital deaths during initial the cardiac surgical episode
f. Two areas of secondary scope will be reviewed.
g. For these patients, a recent cohort (6 months 01-03-18 to 31-08-18) will be reviewed initially. The review will be extended by the panel if they identify significant areas of concern.
h. These 2 secondary scope cohorts will be
i. deaths within 30 days of discharge ii. patients who have died whilst waiting for cardiac surgery.
i. “Waiting for surgery” has been defined as patients who have been identified during an inpatient admission as requiring surgery and who have died before surgery is undertaken
j. In addition, any other deaths of patients under the care of the St George’s cardiac surgery service in this time period (01-04-13 to 01-09 -8) where family or others have raised concerns will be reviewed.

3. Scale and Timescale

a. It is estimated that the review will cover in the region of 200- 250 patients
b. A significant proportion of these will have already been subject to a case note review (structured judgement review), Significant Incident investigations or local mortality reviews
c. A large proportion will also have been discussed with the coroner, with a smaller proportion having had inquests
d. Estimates of the time taken for review is difficult as different cases will take significantly different amounts of time to review
e. We estimate a reviewer can review 4 cases per day in a panel setting
f. 40-person days are therefore estimated as required to complete the review

g. Time frame within which this can be completed will depend on reviewer availability and numbers
h. It is estimated that a comprehensive review will take at least 6 months to complete
i. Provisional timescales will be agreed with the Chair of the mortality review panel in advance of the process commencing, and will be finalised once the first panel meeting has occurred

4. Project Resource

a. The Trust will commission an external supplier to provide project management and administrative support for the review
b. The Trust lead for Mortality and staff from the risk and governance team will be allocated time to support the review process
c. A panel of external reviewers will be commissioned by NHSI

5. Governance

a. The Panel will provide an interim progress report after each of their meetings. The report will include:
    i. Number of cases reviewed and % progress towards completion ii. Number of cases where concerns raised
    iii. Number of cases where review agrees/ significantly disagrees with previous Trust reviews in terms of likelihood that problems in care contributed to the patient's death
    iv. Lessons learned and themes
    v. Any immediate actions the Trust is required to take including recommendations to undertake an SI or refer to the coroner
b. The project progress report will be
    i. Provided to the Trust (via the Medical Director or his nominated representative) for information, action and discussion (as required) at their Mortality Monitoring Group and Trust Executive Committee. The Trust will ensure that relevant information from the panel progress report follows the normal governance routes via the Quality and Safety Committee to Trust Board. ii. Provided to the NHSI/E SGH steering group (via the programme lead)
c. If required, the Trust will develop actions in response to the progress report (including SIs initiated and cases referred to the coroner and outcome thereof) and will:
    i. Submit the report and actions to the Independent Scrutiny Panel for agreement of actions
    ii. Submit the report and actions to the NHSI/E SGH steering group

(via the programme lead) for assurance iii. Submit to the Clinical Quality Review Group for information

d. Each group receiving the report will provide any feedback or any additional questions they would like addressing to the Panel Chair (via the project secretariat) and NHSI/E (Programme Lead)
e. A final report will be completed by the review panel chair within 2 weeks of completion of the last case note review
    i. The final report will be submitted to the Trust and provided to NHSI/E Programme Lead for information ii. The Trust will develop an action plan within 2 weeks and submit this for scrutiny to the Independent oversight panel
    iii. Once the action plan is approved, the report and action plan will be submitted to NHSI/E Programme lead
    iv. Ongoing assurance will be via CQRG

6. Review Panel

a. The independent review will be undertaken by a review team of independent external reviewers. The review team will consist of a minimum of 2 cardiac surgeons, 2 cardiologists and a cardiac anaesthetist and will have a nominated chair (cardiac surgeon/cardiologist).

7. Review Process and Principles

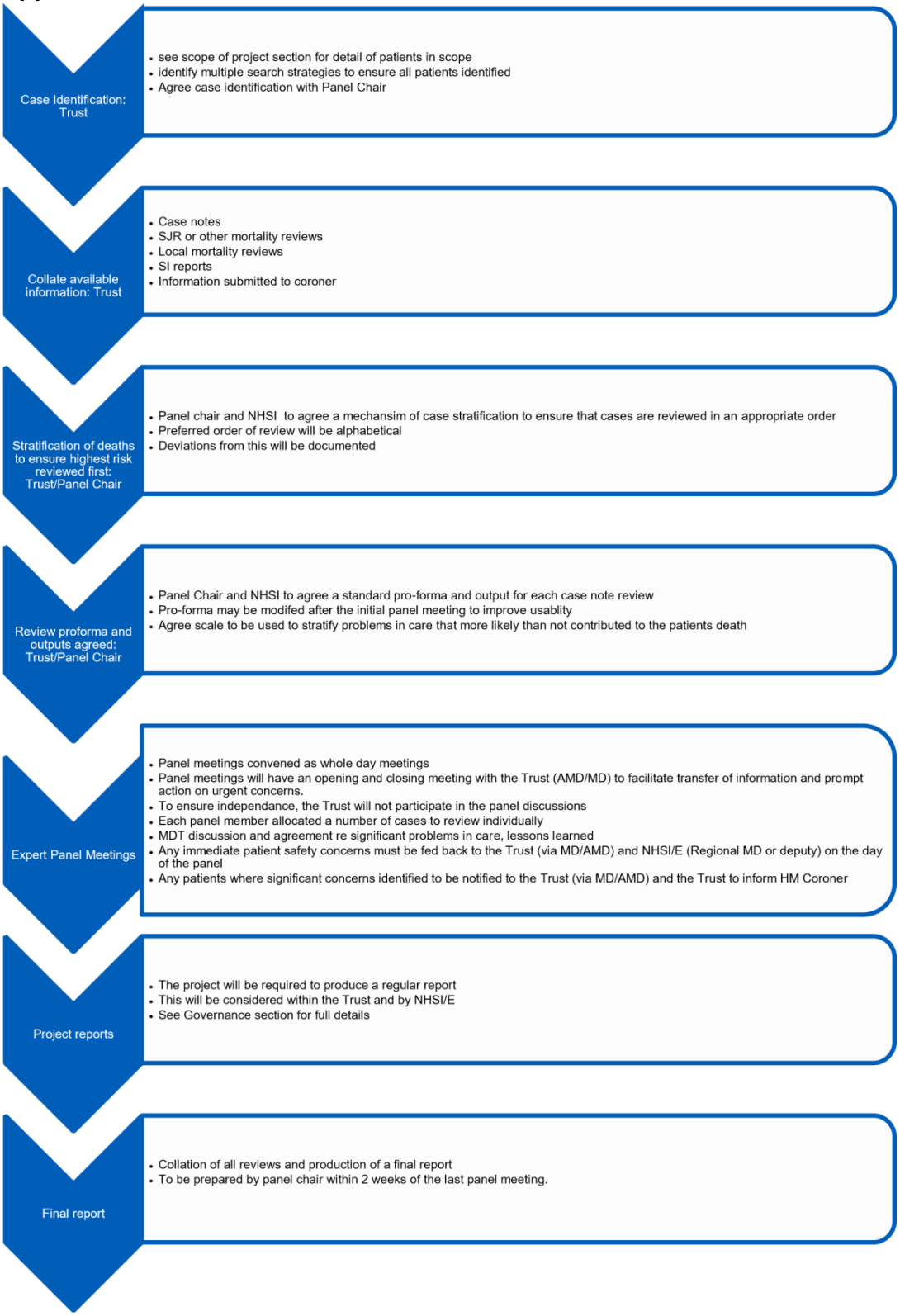
a. The review panel will be provided with a methodology, process (Appendix A) and direction (see section 9) in relation to the conduct of the review to ensure that there is consistency in approach in reviewing each case.
b. The panel will give due consideration to the application of relevant policies and procedures that were in place both nationally and locally at the time of the patient's care
c. The methodology used will be a modified structured judgement review
d. The reviewers will use a combination of original medical records and Trust previous reviews to review cases.
e. If the review team identifies any material concerns that need further immediate investigation or review, they will notify the trust medical director/ the NHS I/E regional medical director with immediate effect.
f. The review team will use the following key principles
    i. Engage wisely, openly and transparently with all relevant parties participating in the review process
    ii. Be respectful when dealing with individuals who have been impacted by the events being investigated

iii. Adopt an evidence-based approach
iv. Apply the principles of a Just Culture whenever considering the roles of individual members of staff

8. Directions to the review team in relation to the conduct of the review

a. Were there any gaps in the records provided that impeded completion of reviews or raised concerns regarding completeness of record keeping/ data submission.
b. Were the standards of care provided to patients in line with national and local policies and standards
c. Was there evidence of care that fell below expected standards of care
d. Were there problems in care that may have or definitely contributed to the death of the patient

Appendix A – Process Outline



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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Appendices

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).

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

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.

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

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.

<u>Recommendation for Health Education England</u>

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.

INDEPENDENT SCRUTINY PANEL FOR CARDIAC SURGICAL SERVICES AT ST GEORGE'S UNIVERSITY HOSPITAL FOUNDATION TRUST ("THE TRUST")

1 Purpose

To scrutinise the Trust's response to the reviews undertaken in respect of the cardiac surgical services at St George's NHS Foundation Trust, to advise the Trust to ensure that the actions taken are appropriate and that implementation of recommendations is effective.

2 Background

A series of reviews and correspondence from experts[1] have identified that there are longstanding issues with the cardiac surgical services at the Trust. The Trust has asked, and NHS Improvement has agreed, to set up an independent panel (the "Panel") to advise, challenge and support the Trust's actions in addressing those issues and related work force challenges in a comprehensive and appropriate manner, with a view to ensuring the quality and safety of those services. The Panel will also report back to NHS Improvement on its work.

3 Duties

3.1 The Panel's duties will be to use their specialist knowledge and experience to:

3.1.1 scrutinise and challenge the Trust Board's proposed actions in relation to its cardiac surgical services and related workforce challenges with a view to ensuring they deliver the required improvements to the cardiac surgical unit, including considering whether the Trust's proposed action regarding the following matters are sufficient and appropriate:

3.1.1.1 implementing the recommendations from the report by Dr Bewick;
3.1.1.2 responding to, and implementing the recommendations from the forthcoming report by Julia Hollywood;
3.1.1.3 co-operating with and responding to the external review commissioned by NHS Improvement of all patients who died following cardiac surgery between 2013 and 2017; and
3.1.1.4 the making of key decisions about the overall management of the cardiac unit, including in relation to staffing;

3.1.2 to provide advice and support to the Chief Executive and Trust Board, and be a "critical friend", in relation to their planned actions (including mitigating identified risks) for improving cardiac surgical services;

3.2 The Panel will:

[1] Including the review by Dr Bewick and two alerts from the National Institute for Cardiovascular Outcomes Research (NICOR).

3.2.1 agree with NHS Improvement its proposals for the work to be carried out by the Panel in exercise of the duties specified in paragraph 3.1, at such times, and in a manner, to be agreed with NHS Improvement; and

3.2.2 report back to NHS Improvement (via its Chair) on its work in a manner to be agreed with NHS Improvement, including identifying any areas of concern, with a view to assisting NHS Improvement's continued oversight of the Trust.

3.3 The Panel will make recommendations and provide advice, however the Trust's Board will remain responsible and accountable for decision making at the Trust, including determining what actions to take in relation to its cardiac surgical services.

3.4 The Panel is not intended to replace the Trust's own professional advisers.

4 Membership

4.1 The Panel will be chaired by an experienced NHS leader and will consist of the following additional experts:

4.1.1 senior doctor with extensive experience as a Medical Director;
4.1.2 experienced cardiologist;
4.1.3 experienced cardiothoracic surgeon;
4.1.4 experienced nurse; and
4.1.5 experts in Human resources and employment matters in the NHS.

4.2 The Chair may nominate one of the members of the Panel to be Vice Chair.

4.3 The Chair may add additional members to the Panel, with the agreement of NHS Improvement.

4.4 Each of the Panel members will be responsible for declaring to the Panel, NHS Improvement and the Trust any conflicts, or potential conflicts, of interest that arise or may arise. Any such conflicts will be addressed in a manner that is mutually satisfactory to the Panel, NHS Improvement and the Trust.

4.5 The Panel may call upon experts to advise it, with the agreement of NHS Improvement.

5 Duration

5.1 The Panel's work will continue until such date as NHS Improvement may, following consultation with the Chair and the Trust, determine, up to a maximum period of nine months (unless exceptional circumstances apply).

5.2 The frequency and format of meetings will be agreed between the Panel and NHS Improvement.

6 Support

6.1 Secretarial support for the Panel will be provided by NHS Improvement.

NHS
St George's University Hospitals
NHS Foundation Trust

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Direct line 0208 7251635

06th March 2020

Sir David Sloman
Regional Director for London
NHS England and NHS Improvement

By email: david.sloman@nhs.net

Dear Sir David

Thank you for sharing the final reports of the Independent External Mortality Review and the Independent Scrutiny Panel. We fully accept their recommendations.

These reports focus on historic failings in care that should not have happened. We would like to give an unreserved apology to the families of patients whose death under our care was in any way linked to care failings. We will be calling and writing to these families from 16th March and will meet with each one of them at their request. We have already met with several families who have requested to see us.

Since the first NICOR alert we have been working hard as a Trust to improve the leadership, governance, care pathways and culture within the Cardiac Surgery Unit. We have already implemented the majority of the recommendations in these reports.

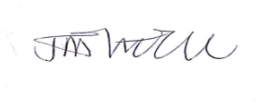
From this work, our internal governance processes, the recent CQC inspection and the most recent NICOR data, the Board can assure the public and NHSEI as regulators that cardiac services are now safe.

However, we realise there is more to do to continue to improve the sustainability of our services, including working with King's College Hospital NHS Foundation Trust and Guy's and St Thomas' NHS Foundation Trust.

In the following pages we have provided a response to these reports for you to refer to as part of your NHSEI assurance process. It describes how issues about the quality of cardiac surgery services were identified and then addressed from the time of the first NICOR alert. The document also sets out what we have done and the further improvement actions that are already under way.

Finally, we want to stress that the improvements set out in the following pages, whilst important, can never put right the serious failings in care that the Independent External Mortality Review has identified.

On behalf of the Trust, we want to say again how deeply sorry we are that the care our teams provided in the past fell so short of the high standards our patients and their families deserved.



Jacqueline Totterdell
Chief Executive

Cc Vin Diwakar, Regional Medical Director, NHS England and NHS Improvement
Ian Abbs, Chief Executive, Guy's and St Thomas' NHS Foundation Trust
Clive Kay, Chief Executive, King's College Hospital NHS Foundation Trust
Gillian Norton, Chairman, St George's University Hospitals NHS Foundation Trust

RESPONSE TO REPORTS INTO CARDIAC SURGICAL SERVICES AT ST GEORGE'S UNIVERSITY HOSPITALS FOUNDATION TRUST, LONDON

Executive Summary

Since 2012, the Cardiac Surgery Unit at St George's University Hospitals Foundation Trust has performed over 6,600 cardiac operations. In May 2017, the National Institute for Cardiovascular Outcomes Research (NICOR) analysis of procedures carried out between April 2013 and March 2016 showed mortality rates at the Unit to be higher than expected and higher of that of other units across the UK, and they issued the appropriate alert to the Trust. A further alert was issued in April 2018 based on patients treated between April 2014 and March 2017. This document focuses on how issues about quality of services and the safety of patients who underwent heart surgery at the hospital were identified and then addressed from the time of the first alert.

In response to the first alert the Trust established a Cardiac Surgery Taskforce and reviewed the findings and recommendations from a concurrent national review by the Getting It Right First Time (GIRFT) team. Following the second alert the Trust commissioned a rapid external independent review to confirm that progress was being made in addressing the concerns of excess mortality, and if not, what further actions were required. A Quality Summit was held with Regulators out of which immediate steps were taken to safeguard patients by restricting the Unit to operate only on patients with low operative risk conditions. Patients with complex conditions were transferred to neighbouring organisations (King's College Hospital and Guy's and St Thomas' Hospital NHS Foundation Trusts).

NHS Improvement commissioned:

- *An Independent External Mortality Review:* an expert clinical review was commissioned to examine the case notes of the 202 patients who died under the care of the Cardiac Surgery Unit from 1st April 2013 to 1st December 2018;

- This review concluded that there were care failings for 102 patients, and for 67 patients these care failings either definitely, most likely, or probably contributed to their deaths. Clinical and institutional shortcomings led to a failure to learn from these deaths. St George's offers a sincere and unreserved apology to the families of all those whose death was contributed to by failings of our care and we are engaging directly with these families;

- *An Independent Scrutiny Panel:* this panel was set up following the second NICOR alert, at our request, and concluded its work in July 2019. Over that period, it made a number of recommendations across two phases of work and noted that as of July 2019 the majority had been implemented with the remainder active work in progress;

In combination, these reviews and inspections led to a set of remedial actions across four broad themes, which are discussed in the main body of this document:

1. *Clinical practice across the whole care pathway:* including changes to referral protocols, inter-hospital transfers, multi-disciplinary care planning, consent, care before, during and post operatively, ITU engagement and discharge planning and the need for further sub-specialisation;

2. *Corporate and clinical governance:* including stronger clinical governance, more effective Freedom to Speak Up processes, ensuring Duty of Candour responsibilities are fulfilled, more effective Mortality and Morbidity meetings and improved processes for referrals to HM Coroner;

3. *Leadership and management of the unit:* including new leadership, introducing a consultant of the week model, a pooled referral system managed by an effective Multi-Disciplinary Team (MDT), less reliance on the independent sector and streamlining the IT and electronic record systems;

4. *Culture, behaviours and professional standards*; including use of mediation, a 'heads of agreement' document relating to expected standards of inter-personal behaviour, improving the application of HR policies, better job planning, robust consultant appraisal processes and recruitment practices adherent to the NHS Employers' Employment Checks.

Implementation of these remedial actions has been overseen at a number of levels:

- *Cardiac Surgery Unit:* action has been taken on all aspects of leadership and culture, including the appointment of a new Care Group Leader in December 2018,

- *Board oversight:* under new leadership since 2017, we have strengthened the Board oversight processes, and focused Trust leadership on addressing the issues and supporting the implementation of the recommended actions;

- *Independent Scrutiny Panel:* appointed in September 2018 under the chairmanship of Sir Andrew Cash, with a Panel membership comprising independent clinical leaders, it acted as our 'critical friend' and supported the implementation of the recommended actions;

- *Enhanced surveillance*: during 2017 we submitted a weekly dashboard and incident report to NHS England and NHS Improvement (NHSEI) and Care Quality Commission (CQC). Enhanced surveillance continues, reporting to a monthly Quality Surveillance Group, currently chaired by the NHSEI Regional Medical Director (London). Cardiac Surgery is also a standing item at the CCG led monthly Clinical and Quality Review group (CQRG);

- *Regional oversight:* Sir David Sloman, the Regional Director of NHSEI (London) chairs a programme board which oversees the management of the mortality review and the plan to secure sustainable cardiac surgery services across south London to which we attend.

In addition, we have had two further inspections by the CQC of the Cardiac Surgery Unit in August 2018 and September 2019.

We have implemented the majority of identified actions and through our work with the Scrutiny Panel, as well as recent NICOR data and CQC inspections, the Board is confident that services are safe.

But our work to improve and sustain services needs to continue. As a result, we will:

- Work with staff across the cardiac surgical service to reflect on these reports, to ensure all the actions within our control are fully implemented and where appropriate reinforce training and monitoring around new care protocols and ways of working. We will manage the workload of the Unit over the coming weeks to create the space to do this;

- Continue our comprehensive plan to assure the implementation of each one of the recommended actions identified by the Independent External Mortality Review and the Independent Scrutiny Panel, including any new actions that may arise from the Coroner or others following publication of this report;

- Propose a set of metrics to NHSEI to monitor culture and behaviours in cardiac surgery and the data which could be used to form a balanced scorecard for future quality surveillance. These will be based on the initial agreement that was signed by all the Cardiac Surgeons

- Work to implement an integrated cardiac surgery service model across South London through our collaboration with King's College Hospital NHS Foundation Trust and Guy's and St Thomas' NHS Foundation Trust over the course of 2020/21.

We would like to thank many different organisations, but particularly our staff, supported by regulators, commissioners, professionals and other hospitals in south London, who have helped support the improvements in the Cardiac Surgery Unit. It is through their hard work, collaboration and willingness to address deficiencies that the performance and safety of St George's Cardiac Surgery Unit is now at the level of similar units across the UK.

Introduction

St George's University Hospitals NHS Foundation Trust (the Trust, SGUH) employs over 9,000 staff and provides acute hospital services and a full range of community services to the 1.3 million people of South West London. It also delivers a number of specialist services, including cardiac surgery, to significant populations from Surrey and Sussex. The Trust's main site, St George's Hospital in Tooting, has over 900 beds and is a major teaching hospital.

The Cardiac Surgery Unit provides both cardiac and thoracic surgery. This Report focuses on cardiac surgery. The Unit performs around 950 cardiac procedures a year, of which approximately 60% are emergency and 40% are elective.

This document focuses on how issues concerning the quality of services and the safety of cardiac patients treated at the Cardiac Surgery Unit were identified and addressed in the period from 2017 to 2020. It also sets out a path forward towards a stronger cardiac network for south London through more formal working with Guys and St Thomas' NHS Foundation Trust (GSTT) and King's College Hospital Foundation Trust (KCH).

The events covered in this report relate to the period of 2017 to 2020. To following reports and interventions are referenced throughout the report and occurred in the following chronological order.

Date	Event
May 2017	**First NICOR Alert**
July 2017	**Trust Quality Committee sets up Cardiac Task Force**
August 2017	**GIRFT Report**
April 2018	**Second NICOR Alert**
June 2018	**Bewick Review**
July 2018	**Trust accepts Bewick recommendations**
August 2018	**CQC Inspection**
September 2018	**Quality Summit**
September 2018	**GSTT and KCH take on high risk patients**
September 2018	**CQC inspection**
October 2018	**Independent Scrutiny Panel established**
October 2018	**Independent External Mortality Review established**
December 2018	**New Cardiac Surgery Unit Leader in post**
July 2019	**CQC inspection**
July 2019	**Independent Scrutiny Panel completes its work**
August 2019	**SGUH starts working with GSTT and KCH on network solution**
September 2019	**CQC inspection**
December 2019	**CQC report**
March 2020	**Publication: Independent External Mortality Review** **Publication: Independent Scrutiny Panel Review**

Background
The Trust had been aware of leadership and cultural issues within the Cardiac Surgery Unit for some years prior to the 2017 alert. It commissioned an independent report from Professor John Wallwork in 2010, which identified the need for changes within the unit, particularly in relation to behaviours, leadership and culture. However, the same report also concluded that there were no issues related to performance or outcomes: *"There is no suggestion that the group, as a whole, or individual surgeons have issues with outcomes following cardiac surgery. These are published by the Healthcare Commission and both the combined results and individual results are better than the expected UK standard. Although there will, inevitably, be subtle differences in individual surgeons' practice, the risk assessment by EuroSCORE shows that they are remarkably similar within the Trust. The issues are essentially how this performance is delivered and how this can be strategically maintained and enhanced for the future."*

Quality Alerts
In May 2017 the Trust received an alert from the National Institute for Cardiovascular Outcomes (NICOR) for the period April 2013–March 2016. This alert was raised because patient survival rate for the 2,505 patients in the audit from the Unit was lower than expected at 97.21%.

We immediately set up a Cardiac Surgery Taskforce with five workstreams comprising safety and governance, operational policies and practice, behaviour, 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.

During 2017 the Getting It Right First Time (GIRFT) team also undertook a review of our Cardiac Surgery Unit, along with all other units across England, so it was able to compare SGUH with the national picture. This review confirmed the Unit was a significant outlier in a number of clinical outcomes including a high post-operative mortality for all cardiac 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 and a low rate of mitral valve repair versus replacement for degenerative valve disease.

In April 2018 the Trust received a second NICOR alert for the period April 2014 to March 2017 which showed the Unit's survival rate of 97.07% continued to be lower than that expected. This second alert, with the background of continuing concerns over performance and professional behaviours in the Unit, led the Trust to commission an external independent review from Professor Mike Bewick.

Analysis of the period April 2015 to March 2018 showed the Unit's results to be within the expected limits. Preliminary (unpublished) analysis of the latest period, April 2016 to March 2019 does not show the service to be an outlier.

Bewick Review and CQC
In 2018, the Trust Board commissioned an independent review by Professor Mike Bewick to assure itself that progress was being made to address concerns about excess mortality and team working.

The report noted that progress had been made on several areas including team leadership, multidisciplinary team working, care planning and clinical governance. However, it noted that much remained to be done on improving the way that clinical care was organised including the management of internal and external referrals, admissions and staffing rosters and the need for standardised common protocols for the referral, assessment, pre, peri and postoperative management of patients. Overall, Professor Bewick's view was of a dysfunctional surgical team, and that there was little evidence of change since the Wallwork review regarding improving the professional relationships within the Unit.

The CQC conducted a focussed visit to the service in August and September 2018. Inspectors found similar issues to Professor Bewick including weak leadership of the Unit, low morale, a lack of trust between colleagues and a culture of not learning from incidents. Record systems were problematic, and the quality of mortality and morbidity meetings were poor.

However, the CQC found that measures had been introduced to protect patients. There were no immediate concerns with regards to patient safety and patients were well-prepared for surgery. Comprehensive risk assessments of patients were being carried out, there was a hospital-wide standardised approach to the detection of deteriorating patients using the National Early Warning System (NEWS) scoring system and staff knew what action should be triggered and when. Consent to care and treatment was sought in line with legislation and guidance. Multidisciplinary (MDT) team meetings took place daily and involved neighbouring NHS trusts.

It was clear from both Professor Bewick's review and the CQC inspection that long standing behavioural and cultural issues in the Unit remained, and that care pathway, leadership and clinical governance issues, needed to be addressed.

Quality Summit
A Quality Summit was held on the 3rd September 2018. This meeting included Care Quality Commission, Health Education England, the General Medical Council and senior leaders from Guys and St Thomas' NHS Foundation Trust (GSTT) and Kings College Hospital NHS Foundation Trust (KCH).

A number of steps at this time were taken to safeguard patients, enhance surveillance; an independent scrutiny panel to support the Trust in implementation; review in detail the case notes of all patients who had died under the care of the Cardiac Surgery Unit in the period that had triggered the NICOR alerts; and to strengthen regional oversight.

Safeguarding patients.
An immediate step agreed at the Quality Summit was that only low risk cases would be operated on at the Trust. Patients with complex conditions were subsequently transferred to two neighbouring organisations with specialist units: KCH and GSTT. Collaboration across the three hospitals continues and forms the basis of a more networked approach moving forward (see later).

Enhanced surveillance
A further immediate step was for NHS Improvement and NHS England to put in place enhanced surveillance to monitor the performance and outcomes of the Unit. This required the Trust to submit a weekly patient safety 'dashboard' to NHS Improvement and NHS England and the Care Quality Commission alongside a weekly incident report. Enhanced surveillance continues through a monthly single item Quality Surveillance Group, which was initially chaired by NHS Improvement's National Medical Director and Chief Operating Officer and now, following the integration of NHS Improvement and NHS England in April 2019, by the London Regional Medical Director.

Independent Scrutiny Panel
In September 2018, an Independent Scrutiny Panel, with the leadership of Sir Andrew Cash, was appointed by NHS Improvement at the request of the Trust to work with the Trust's senior leadership team as a critical friend to support them in implementing the remedial actions from the various reviews and inspections.

The Independent Scrutiny Panel stated that after May 2017, the current senior leadership team and Trust Board acted promptly in taking action. The Trust will continue to implement and further strengthen safety and governance structures throughout the organisation.

Independent External Mortality Review
In November 2018, NHS Improvement commissioned an Independent External Mortality Review to examine the 202 deaths that occurred following cardiac surgery in the unit from the period at the start of the first NICOR alert, May 2013 through to 1st December 2018.

While this review covers the same period as the Bewick review, it uses a different methodology. Professor Bewick based his findings on interviews with staff and analysis of internal clinical governance reports plus a visit to the unit. The Independent External Mortality Review asked a panel of 12 independent clinical experts across the fields of cardiothoracic surgery, cardiology and anaesthesia to perform a structured and detailed analysis of the case notes of patients who died, in order to identify deficiencies and suggest remedies. The purpose was to ensure that all learnings were identified and that, where relevant, to check the appropriate cases had been flagged to HM Coroner.

The Trust wrote to all the families of those patients who were to be included in the review process, who they were able to trace, explaining the review process and letting them know that they would be contacted once the review is complete.

Thematic Review: Findings and Remedial Actions

The issues identified by the Trust, Professor Bewick, the Independent External Mortality and the Independent Scrutiny Panel, as well as the other reviews and inspections, can be grouped into four themes.

THEME I: Clinical Practice Across the Whole Care Pathway

Cardiac surgery consists of a number of complex procedures, each of which requires robust clinical processes before and after surgery. The Independent External Mortality Review carried out a Structured Judgement Review of all patients who died under the care of the Cardiac Surgery Unit in the period covered by the NICOR alerts. This group represented more complex cases in older people with significant co-morbidities. Issues were identified in all phases of the patient pathway by the reviews and inspections triggered following the first NICOR alert.

While it found good examples of care in each phase, it also confirmed that there were problems in the care for some patients relating to referral, peri-operative and post-operative care. The review also noted issues with inadequate assessment and investigation, poor information sharing between clinicians, dysfunctional multidisciplinary meetings, a failure to respond to complications during surgery, a failure to detect and respond to deteriorating patients and a lack of sub specialisation amongst the consultants.

The Independent External Mortality Review concluded that care failings either definitely, most likely or probably contributed to the deaths of 67 patients of the 202 patients.

The Independent Scrutiny Panel has told us that there has been significant progress and that the mortality rate for cardiac surgery has improved. From 1st December 2018 to July 2019 when the Panel finished its work the mortality was 1.7%, compared to 3.4% from 2015/16 to 2017/18 and a UK average of 2.7% for 2017/18.

We now go on to describe the problems observed by the Independent External Mortality Review and other reviews in each phase of care.

Referrals

The Independent External Mortality Review Panel found that some referrals from the cardiology teams were not comprehensive and were not tailored to the needs of the individual patient. There was a pattern of referral whereby the patient had undergone some investigations, but these had not been fully interpreted by the cardiology team. The responsibility to interpret the investigations and to decide whether surgery was likely to be in the patient's best interests was transferred to the cardiac surgeon. The Panel formed an impression of a lack of commitment and/or diagnostic rigour on the part of some of the referring cardiology teams which contributed to poor surgical case selection. Some investigations were of poor quality and there was inadequate consideration given to non-surgical treatments.

In response, the Panel recommended that the cardiology department should obtain full British Society of Echocardiography (BSE) Departmental Accreditation. The echocardiography department is committed to achieving BSE accreditation and has registered with the BSE. A new substantive technical lead has been appointed and this person will lead on the accreditation process with support from clinicians. To gain accreditation the department will need to demonstrate a number of administrative processes are consistently working within the department for a period of 12 months. It is expected that this process of achieving accreditation will be completed over the next 18 months.

The Independent External Mortality Review also recommended that standard referral templates for cardiac surgery should be developed in which cardiologists referring patients for cardiac surgery should include details of:

- the symptomatic status of the patient
- investigations and their interpretation
- co-morbidity (and potential subsequent impact on proposed benefit(s) of surgery)
- consideration of alternative interventional and medical therapies
- for patients referred for an operation called revascularisation with intermediate angiographic stenosis, the review said that functional/ischaemia testing should be performed as part of the referral

These standard referral protocols are being developed in conjunction with Guy's and St Thomas' Hospital and King's College Hospital as part of the emerging South London Cardiac Surgery Network**.** The next step is to finalise with clinicians with their expected by summer 2020.

The Independent External Mortality Review recommended that the Trust should develop a standard operating procedure for the management of urgent inter-hospital transfers. In response, all inter-hospital transfers are managed by the Case Management Team working with the Consultant of the Week. A management plan is made, and the patients are discussed at the following day's multidisciplinary team meeting (MDT) to finalise the plan of care. This was audited in February 2019 and demonstrated compliance.

Multidisciplinary Team Care Planning

A well-structured and inclusive multidisciplinary team meeting (MDT) is an essential component of cardiac surgical practice, where all the information relevant to a patient's care is presented, professional opinions are shared, and views are taken into account. The Independent External Mortality Review found that this was not evident in all cases. A number of shortcomings were noted including:

- Instances where decisions had been documented, but not the discussion which underpinned them;
- Instances in which the MDT process often felt like a one-way referral transaction from cardiology to cardiac surgery rather than tailored management of individual patients;
- Instances where the cardiologists appeared to exert undue pressure on the cardiac surgeons to accept patients for surgery, even when this was high-risk. The decision-making process felt unbalanced, with the cardiology opinion being more forcefully expressed than that of the cardiac surgeon(s);
- There was an over reliance on cardiac surgery over non-surgical medical treatment;
- Instances whether there was a failure to revisit decisions about complex patients when new information became available;
- Instances where there was a failure to revisit decisions when a patient's overall condition deteriorated. There was a desire to expedite surgery rather than consider whether surgery was still the appropriate treatment strategy;
- Instances where patients underwent unnecessarily complex operations rather than receiving medical treatment for the most severe lesions.

The Independent Scrutiny Panel commented that *"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."*

The Independent External Mortality Review and the Independent Scrutiny Panel recommended that:

- All referrals for cardiac surgery should be discussed at an MDT, which should ensure the availability of all necessary data before review of the clinical case;
- Subsequently the MDT should plan treatment (including an operative plan) and 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;
- The MDT should have a pre-defined minimal quorum, with full representation from sub-specialist cardiac surgery, interventional and non-interventional cardiology, and radiology. Anaesthetic advice should be available if required;
- Cardiologists should be encouraged to attend the MDT, either in person or via IT link to present the patient;

- Discussion, as well as decision, of the MDT should be recorded. If plans for treatment change after discussion at the MDT (either through patient choice or change in the clinical situation) then the patient should be re-discussed to ensure full MDT ratification and oversight of the adapted management plans. Any changes to the original plans should be documented clearly.

These recommendations have been implemented in full. The Trust's current Cardiac Surgery MDTs now have a pre-defined minimum quorum, with the recommended full multi-disciplinary representation. MDT discussions and decisions are contemporaneously electronically recorded, and patients are re-discussed when necessary. The CQC verified that these changes were in place in August 2018. They said, "*Comprehensive risk assessments of patients were carried out.*" and that *"Multidisciplinary (MDT) team meetings, took place daily and involved neighbouring NHS Trusts*."

Consent

The Independent External Mortality Review Panel found that there were a number of instances in which the risk quoted by the surgical team was substantially lower than the risk calculated by the standardised risk scoring system (EuroSCORE). In 21% of the cases which the Panel reviewed, the calculated EuroSCORE II estimated risk was approximately double that of the risk quoted to the patient. It is impossible to know whether or not this would have influenced any patient to decide against surgery, but some of these patients may have opted for conservative treatment had they been quoted the more accurate (higher) risk for surgery.

In response the Panel recommended that risk-scoring, using up to date risk scoring algorithms (EuroSCORE II, for example) should be embedded in practice. They said *"the team must ensure all risk factors are considered and that data are sought to ensure an accurate risk prediction. This risk prediction must be recorded on the consent form as part of the discussion of the indications, risks and potential benefits of proposed treatments."*

All patients are now risk assessed using the EuroSCORE II risk assessment algorithm. This has been embedded into daily practice and the risk according to EuroSCORE II is recorded on the consent form. If the risk of surgery is felt to be significantly different from that calculated by EuroSCORE II, then the reason for the variance is documented on IClip, the Trust's electronic patient record.

Consent procedure should follow the guidance laid out in the Royal College of Surgeons England publication, "Consent: Supported Decision-Making. A guide to good practice". The Trust has now revised the consent process. For elective patients it now begins in the outpatient clinic when the consultant surgeon discusses the proposed procedure with the patient outlining the benefits and risks. The patient then has a further opportunity to discuss the proposed surgery when they are seen by the pre-assessment team. The consent form is finally signed on admission for surgery; this is when all the information is available to calculate the EuroSCORE and entered onto the consent form. Should the risk differ significantly from the risk perceived at the initial consultation when all of the information is available, this is discussed with

the patient before admission. The whole process is overseen by the pre-assessment team who are in regular contact with the patient.

To consent emergency patients, which currently make up a large proportion of the hospital's current work, the patient is seen initially be the consultant of the week for an initial discussion of the proposed procedure. When a surgeon is allocated, they visit the patient to discuss the operation in detail.

In addition, there is regular attendance at the Cardiac Surgery MDT by the Professor of Respiratory Medicine and all patients with respiratory issues are reviewed by him and the risk amended as appropriate. A Consultant Haematologist with an interest in cardiac surgery joins the MDT when appropriate. The accuracy of the EuroSCOREs generated is checked as part of the Case Management Team process.

The CQC independently verified that these recommendations were in place in September 2018. They found that consent to care and treatment was sought in line with legislation and guidance. They reviewed recent records and demonstrated that staff ensured informed consent was given by speaking to pre-operative patients about their understanding of their surgery, as well as informing them of the risks and potential complications. Operation notes were accurate and reflected the surgery which were performed.

Peri-operative care

The Independent External Mortality Review Panel had several concerns about the anaesthetic and surgical management of patients including inadequate perfusion on cardiopulmonary bypass that appeared to contribute to a poor outcome after surgery.

In response, the Panel recommended that a guideline for management of myocardial protection should be implemented. All theatre team members should consider themselves responsible for myocardial protection and there should be establishment of a" flat" theatre hierarchy to ensure that the heart remains well protected during surgery. In November 2019 the Trust Board considered a report setting this out.

Myocardial protection strategies have been widely discussed at team meetings and revised. The perfusionist reminds the cardiac surgeon after each 20-minute period of arrest time that another dose of cardioplegia is due. The use of warm retrograde cardioplegia has been discontinued.

The Panel also found that surgeons need to be flexible and adaptable in response to unexpected findings or problems during surgery. The Panel found several examples in which a poor response to intra-operative challenges contributed to a poor outcome. The Trust now assesses any risks and ensures that the most complex patients are only operated on by the most experienced surgeons. Any emergency or complex patients who have their surgery at St Georges are now operated on by two surgeons.

The Independent Scrutiny Panel also recommended that the Trust should develop and use evidence-based peri-operative protocols for the management of routine care

and frequent complications including bleeding. This should include clear indications for when return to theatre is indicated.

A Standard Operating Procedure has been developed and agreed for the management of this scenario. The rate of re-sternotomy for haemorrhage is recorded and reported to the Cardiac Surgery Steering Group on a monthly basis; rates are within national norms. Individual cases are discussed at the Cardiac Surgery Morbidity and Mortality meetings.

The Independent External Mortality Review also recommended a multi-disciplinary guideline for selection and management of patients requiring mechanical support, including Ventricular Assist Devices and Extra-Corporeal Membrane Oxygenation. This protocol should be developed with guidance from a transplant centre. This is now embedded into MDT working at St George's and patients who may need this type of support are referred to another NHS Foundation Trust. This is an uncommon problem and only two patients have been referred from the MDT in 2019.

Post-operative care
The Independent External Mortality Review noted several cases where there was a slow response to significant post-operative blood loss and a delay in returning to theatre and found several cases where earlier intervention may have avoided mortality. This finding triangulates Professor Bewick's recommendations on the need for a more joined up approach to discharge and readmission to ITU and the development of standard operating policies.

In response, the Panel recommended that the Trust develop:

- A guideline for the management of operative and post-operative haemorrhage. This should include clear indications for when return to theatre is indicated;

- A guideline for outreach services for patients who are not in intensive care environments. Rapid, 24/7 expert review should be available to allow timely escalation for patients in need;

- An MDT protocol for post-operative ECG interpretation, particularly focussing on ischaemia, with clear indications for when emergency repeat coronary angiography is warranted should be included.

Communication on discharge from ITU to the cardiac ward
The Independent External Mortality Review recommended changes to the process for discharging patients from ITU to the cardiac ward. We have fully rolled out a new electronic patient record system (iCLIP) across the site, and the cardiothoracic intensive care, cardiology and surgical wards are all using iClip for medical records and prescribing. The discharge policy from cardiothoracic intensive care includes a phone call to the surgical team. The Nurse-in-Charge on the cardiology ward

continues to review potential discharges on cardiothoracic intensive care before they are sent to the ward.

Engagement with surgeons on intensive care and improvements to discharge planning

The Independent External Mortality Review recommended that cardiac surgeons are more involved in the care of patients on ICU. The cardiac surgical consultant of the week now reviews cardiac surgical patients on cardiothoracic intensive care daily with the cardiothoracic intensive care consultant. This is now in line with the national GIRFT review of cardiothoracic surgery. This includes a daily discharge planning discussion. The cardiothoracic intensive care registrar also carries out a 22.30 ward round with the ICU registrar. Discharge criteria from ICU have also been reviewed and updated.

Services for patients following discharge from ITU

The Independent External Mortality Review said that we should review outreach services for patients who are not in intensive care environments. Rapid, 24/7 expert review should be available to allow escalation for the deteriorating patient.

In response, escalation criteria have been reviewed and strengthened and emphasise early escalation to both Cardiothoracic Intensive Care Unit (CTITU) consultant level and external specialist teams.

The Critical Care Outreach Team is currently training all wards on the early warning track and trigger system (NEWS) and how to escalate patients they have concerns about. The CTICU is working with their electronic records provider to develop a system (which is currently used at Kingston Hospital) to effectively track all of the patients in the Trust that have a NEWS > 5 or are scoring 3 or more in one domain. This is currently in testing and will be launched in April 2020.

The Independent Scrutiny Panel has verified that a protocol for transferring high-risk patients is in place. The Care Quality Commission has verified that these recommendations have been implemented. It said that *"Staff identified and responded appropriately to changing risks to patients, including their deteriorating health and well-being. There was a hospital-wide standardised approach to the detection of deteriorating patients using the National Early Warning System (NEWS) scoring system and staff knew what action to take when the score went above four and required escalation."*

Subspecialisation

The Independent Scrutiny Panel said that it appeared that historically 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 Independent External Mortality Review and Independent Scrutiny Panel both recommended that the Trust should develop sub-specialist teams, if appropriate in collaboration with other hospitals in the network, in mitral, aortovascular and

revascularisation surgery. The reviews told us that aortovascular and mitral teams should have at least two consultant surgeons in each group and no surgeon should be in both of these teams. The revascularisation team should comprise all cardiac surgeons at the Trust. Each team should have designated interventional and imaging cardiology consultants alongside radiology and anaesthesia/intensive care consultant representation, where appropriate.

The unit no longer has any surgeons with mixed cardiac and thoracic practice. This change was made immediately after receiving the Bewick report in July 2018 and has remained established practice.

Sub-specialist teams were established in December 2018. The mitral team comprises of two consultant surgeons; no other surgeons operate on the mitral valve. All mitral cases are discussed at the Friday MDT with echocardiography input provided by two consultant cardiologists.

There is a monthly MDT dedicated to this work. All surgeons undertake myocardial revascularisation surgery; only one consultant surgeon performs cases requiring minimally invasive coronary surgery (MIDCAB).

THEME II: Corporate and Clinical Governance

The Board of a hospital is responsible for the quality of care delivered across all services that the organisation provides. The National Quality Board says *“this is achieved though governance arrangements, which delegate responsibility down to the operating level in the organisation. In the case of quality, this mean that although individuals and clinical teams are at the frontline and responsible for delivering quality care, it is the responsibility of the board to create a culture within the organisation that enables clinicians and clinical teams to work at their best, and to have in place arrangements for measuring and monitoring quality and for escalating issues, including, where needed, to the board.”*

At St George’s Hospital Trust this was not the situation described by the CQC in 2016, when the CQC rated St George’s Inadequate for being safe and well-led and issued a Warning Notice to the Trust that highlighted breaches in regulation, one of which related to governance. Failings were identified at every level, from specialty to the board, relating to the Duty of Candour, the culture of being free to speak up when there were problems and the approach to learning form deaths and measuring, monitoring and reporting mortality.

In addition, the CQC raised issues relating to duty of candour and freedom to speak up. It also said, *"There was a lack of ongoing and regular oversight of some aspects of the cardiac services."*

Corporate Governance
The new Trust Board that was put in place in 2017 set out to tackle the issues related to corporate and clinical governance and put stronger systems in place around Duty of Candour and Freedom to Speak Up. We identified clinical governance as a priority for all services.

Duty of Candour
The Care Quality Commission had concerns about our processes for meeting its statutory Duty of Candour. In September 2018, they said *"Not all staff understood the duty of candour, when it was clearly indicated."* The Independent External Mortality Review recommended that the Trust should ensure that it fulfils any responsibility it has under the duty of candour provisions and ensure a robust system is in place for patients who receive care in the Trust going forward.

In their report of December 2019, the CQC reported that this issue had been resolved. They said *"Following the previous inspection, we told the Trust they should ensure all staff understood and applied the Duty of Candour procedure, when it was clearly indicated. Staff and managers we spoke to on this inspection confirmed compliance by consultants with the Duty of Candour as good, although sometimes they had to be prompted. Duty of Candour compliance was monitored through the divisional performance dashboard and reported up through to the divisional governance board. We viewed the performance dashboard from March 2019 and saw staff had achieved 100% compliance from September 2018 to January 2019. The divisional average for completion of Duty of Candour within 10 days was also at 100% over this period. Therefore, this showed the service had made good progress in improving the management of Duty of Candour. Overall these improvements demonstrated that the requirement notice had been met."*

Freedom to Speak Up
In their visit in 2018, the CQC found that the culture within the cardiac surgical service did not always encourage openness and honesty. Not all staff felt confident at raising concerns, and whilst the Trust had a Freedom to Speak Up Guardian and a policy for encouraging staff to raise concerns, it was ineffective.

The Independent Scrutiny Panel recommended that the Trust should ensure the effective and appropriate management of Freedom to Speak Up guidelines, with all disclosures fully investigated and a final report prepared with conclusions and what further action needs to be taken as a result. This includes giving feedback about the investigation to the person who raised the concern.

The Trust has implemented these recommendations.

In December 2019, The Care Quality Commission said *“There were systems in place to support staff to speak up, with a Freedom to Speak Up Guardian and Guardian of Safe Working Hours in place and there was board oversight of this. The board was sighted on the fact that there were areas of the Trust that people did not feel confident to speak up and had asked that the Speak Up service to pull together a strategy to overcome this. The Freedom to Speak up Guardian was line managed by*

the Listening into Action Lead, who sat within the human resources directorate. Whilst the Freedom to Speak up Guardian had direct access to the Chief People Officer, there was an agreement that individual cases were not be discussed with him."

Board Leadership
The CQC and the Independent Scrutiny Panel have both noted the significant leadership demonstrated by our current Board of Directors in addressing the issues set out in these reports.

In December 2019, the CQC reported that *"The Trust had an experienced leadership team with the skills, abilities, and commitment to provide high-quality services. There was a stable executive team in post who were all focused on improving care for patients and the financial position within the Trust and the commitment and abilities to tackle the challenges within the trust. Each of the executive directors had a team to provide them support and oversight of their portfolio, and on the whole, these provided the support required to move forward the strategy and objectives within the Trust. There were good working relationships between the executive and non-executive directors, at board and through subcommittees. The chair and chief executive had a strong working relationship."*

Clinical Governance across the Trust
Our new Board also identified clinical governance - the system for maintaining and improving the quality and safety of patient care - as a major area of focus for the Trust as a whole at the end of 2017. We commissioned a series of three external clinical governance reviews, the first two of which have been completed and the third due to start in March 2020.

In January 2019, we commissioned an independent review of clinical governance across the organisation at a care group and departmental level, with a focus on the mortality and morbidity meetings and multi-disciplinary team meetings. The purpose was to identify areas of good practice and highlight areas for improvement. The review concluded that:

- *Learning from deaths*: the Trust had made good progress in implementing the National Quality Board's National Guidance on Learning from Deaths (2017) but there was more to be done, including strengthening the Mortality Monitoring Committee and implementing the medical examiner system. It recommended the development of a Trust mortality strategy to draw together the various strands of the learning from deaths framework. It also recommended that the Trust consider the interface between the new medical examiner system and the learning from deaths framework to ensure the independence of the ME role;

- *Mortality and Morbidity meetings:* The quality of Mortality and Morbidity meetings varied across the Trust, with examples of good practice and areas

for improvement;

- *Multi-disciplinary Team meetings:* There was variation in the quality and structure of MDT meetings; some worked well and others less so. The review recommended the development of a Trust wide approach to the way MDT meetings should operate.

The report also recommended wider changes to quality governance to strengthen the work of the Chief Medical Officer and Chief Nurse in their approach to quality governance and to reflect on the ward to board reporting framework of meetings. Based on this, a second clinical governance review was undertaken which was completed in June 2019. This review identified the need for significant changes to strengthen the capacity of the Medical Directorate and Nursing directorates to deliver high quality safety governance in the organisation. Appointments to strengthen these directorates have been made.

From these reviews, the Trust is implementing the recommendations to support and strengthen departmental governance, particularly through Mortality and Morbidity Meetings and MDTs, and corporate clinical governance by strengthening of the capacity of the medical and nursing directorates. Implementation of these broader changes to corporate governance will be assured by South West London's Clinical Commissioning Groups Clinical Quality Review Group, supported by NHS England and NHS Improvement.

In cardiac care, the Independent External Mortality Review Panel's analysis of the case notes supports Professor Bewick and the Care Quality Commission's concerns about clinical governance in the Cardiac Surgery Unit.

The key areas highlighted around cardiac surgery for the Trust to address related to clinical governance were improving learning from death, more effective Mortality and Morbidity meetings and ensuring deaths were appropriately reported to HM Coroner. We have taken action on these recommendations. The Independent Scrutiny Panel and the CQC both found that these issues have now been fully resolved.

Clinical Governance: Cardiac Surgery Unit

Learning from Deaths
The Independent External Mortality Review raised concerns about the quality and rigour associated with structured reviews of the case notes of patients who died after cardiac surgery. The Independent External Mortality Review recommended that Trust should develop a robust, independent, multidisciplinary review of mortality with appropriate governance oversight to ensure that lessons are learnt.

As a result, we have strengthened the Board oversight of processes to learn from patients who die after cardiac surgery. All deaths following cardiac surgery at St George’s are referred to the Serious Incident Decision Making Panel chaired by the Trust’s Chief Medical Officer. The Panel is informed by a “Rapid Response Report” outlining the details of the case and by a Structured Judgement Review by which

each phase of care is independently reviewed. The Panel calls witnesses as appropriate. Any incidents in cardiac surgery that are declared as “Serious Incidents” are investigated according to the guidance set out in “Serious Incident Framework : Supporting learning to prevent recurrence” (NHS England March 2015); in addition the outcome of Serious Incident investigations in cardiac surgery patients are subsequently reviewed by an independent external expert. All cardiac surgery deaths are reviewed at the monthly, multi-disciplinary Integrated Cardiac Surgery Governance Meeting and the treatment is graded according to the NCEPOD Assessment of Care scale. The Trust Board then reviews a quarterly report.

Mortality & Morbidity Meetings
Surgical mortality and morbidity meetings are the cornerstone of enabling a service to achieve and maintain high standards of care. While staff were meeting in this way through the period of the review, Professor Bewick, the CQC and the Independent External Mortality Review Panel found problems with culture, behaviour, analysis and documentation.

For example, Professor Bewick found little evidence of ongoing outcomes monitoring of death rates nor significant engagement by surgeons in morbidity review.

The CQC found that there was not a culture of learning from incidents, mortality and morbidity amongst consultants and the quality of mortality and morbidity meetings were poor. It also found a lack of understanding and insight and managerial oversight of the performance within the Unit.

The Independent External Mortality Review found that case note reviews were of poor quality and lacked independence and rigour. As such, they did not identify ways in which the care of patients who died could have been improved. The Trust’s Quality Committee considered a “deep dive” report on cardiac surgery at its meeting in November 2017. This included a detailed review of mortality within the service alongside a number of other quality metrics, including SIs, infection rates, SSI rates, hand hygiene, VTE prevention, complaints, and RTT metrics. It also considered behaviour within the service.

The Independent Scrutiny Panel reports that the Unit now 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.

In December 2019, the CQC found the service had improved learning from incidents in cardiac surgery, which addressed our previous concerns. They said:

"On our focused inspection of cardiac surgery in August 2018, we had concerns whether an individual consultant understood their responsibilities to raise concerns, to record safety incidents, concerns and near misses and to report them internally and externally, where appropriate. Three consultants told us, they did not feel the learning from incidents was shared, to make sure action was taken to prevent recurrence. We found mortality and morbidity (M&M) meetings were not robust and

were not held with a culture of learning. This resulted in us issuing the cardiac surgery service with a requirement notice, for the service to improve learning from incidents, mortality and morbidity amongst consultants. We also told the service they should ensure all medical staff understood their responsibilities to raise concerns, to record safety incidents, concerns and near misses and to report them internally and externally, where appropriate.

On this inspection (December 2019), we found the requirement notice had been met. Leaders had taken steps to ensure improvements were made in cardiac surgery and had strengthened learning from incidents across the surgical services. Leaders and managers reported that all staff, including consultants, were reporting incidents more frequently. Staff reported that staff of all disciplines in cardiac surgery worked together to investigate and resolve issues. This included doctors of all grades and cardiac specialty, nursing staff working on the wards, in theatres and in critical care, and representatives from the medical physics team. For example, leaders told us all staff in cardiac surgery worked cohesively to investigate a series of incidents of cardiac tamponade after removing pacing wires (cardiac tamponade is a type of cardiac emergency). Through this approach, the team implemented the solution of using finer pacing wires to reduce the risk of cardiac tamponade. Leaders monitored incident investigations through weekly performance dashboards, which were a key strand of the cardiac surgery governance structure. Through our engagement with the Trust we received weekly cardiac surgery dashboard and saw this provided a comprehensive view of quality and safety in the specialty. This included numbers of incidents against a target of zero, and actions taken to address and share learning from any incidents. M&M meetings were now held regularly and were multidisciplinary. Staff and leaders described M&M meetings as structured, open and well attended, and they included constructive debate on improving issues or outliers. M&M meetings were chaired by the clinical governance lead and discussions were recorded. Alongside the meetings, leaders used real time mortality and morbidity data to monitor outcomes. There was also a weekly confidential meeting for all surgeons, which meant incidents were discussed as they happened, which leaders told us were constructive with a 'no blame' atmosphere."

A new electronic system for recording cardiac surgery outcomes data was implemented in 2018.

The national cardiothoracic GIRFT review recommended that all trusts should establish a formal Standard Operating Procedure on cardiothoracic data validation, risk adjustment, outlier identification, escalation plans and reporting for GIRFT metrics. Outlier identification is completed on a monthly basis and the Standard Operating Procedure (SOP) for the data validation process is currently being implemented.

Reporting deaths to the coroner
The Independent External Mortality Review found that there were issues with referrals to the coroner including; non-referral despite a recent intervention; inaccurate certification of the cause of death and incomplete information.

The Panel recommended that the Trust should adapt the Coroner referral form. There should be only one signatory of the form; that of the responsible consultant. They also recommended that the Trust's Mortality Review process should include a record of conversations made with the coroner.

The Trust currently uses a form provided by HM Coroner. In 2019, the NHS in England rolled out a new Independent Medical Examiner system in all acute trusts. Medical examiners are senior medical doctors who are contracted for a number of sessions a week to undertake medical examiner duties, outside of their usual clinical duties. They are trained in the legal and clinical elements of death certification processes. St George's has appointed an Internal Medical Examiner and will work with the coroner to develop processes further.

HM Coroner has been updated regularly on the progress of the External Mortality Review Panel and all the structured judgement reviews generated by the Panel have been shared with her. The Trust's Chief Medical Officer and NHS England/NHS Improvement Medical Director for South London have met with HM Coroner to discuss any potential issues arising from the review.

THEME III: Leadership and Management of the Unit

Both the Bewick Review and the Independent External Mortality Review of the case notes revealed that on occasion there was a lack of leadership in the Unit which was a major contributing factor to the quality and patient safety issues they identified. The review raised five issues in this area: leadership; clinical responsibility for patients; management of waiting lists; use of the independent sector; and the use of multiple clinical record systems.

Leadership

Good teamwork requires good leadership. Professor Wallwork, Professor Bewick and the CQC all recommended changes to the leadership of the cardiac surgery unit. Professor Bewick recommended that such a leader would be responsible for operational and governance issues of the unit as well as multi-speciality team working across the whole pathway of care from assessment to long term care.

In response, we appointed a new Clinical Lead / Associate Medical Director in December 2018. This individual has given us a significant local leadership within Cardiac Services for which we thank him.. The CQC confirmed that leadership have taken action to improve all aspects of the leadership and culture of the cardiac surgery service.

The Panel went further and recommended the Trust should appoint a Deputy Clinical Lead in cardiac surgery to support the existing Clinical Lead/Associate Medical Director. This recommendation will be completed within the context of the south London cardiac collaboration.

Clinical Responsibility for Patients
The Independent External Mortality Panel was concerned regarding the investigation, management and "ownership" of patients with complex medical problems, particularly in the pre-operative phase. The Panel found examples in which the consultant responsibility for the patient was not clearly defined at all times.

The Panel said that *"no individual consultant is, or should be, available to manage their patients 'around the clock'. There should be well-defined arrangements to ensure that consultant cover is available when required and that the consultant responsible for a particular patient is clearly documented."* Professor Bewick recommended that this would require a team of 8 consultants.

Although September 2018, the CQC found that the service had moved to a consultant of the week model, which is recommended best practice, they also found that ward staff described inconsistent consultant cover at the weekend. While staff could access an on-call consultant, they described variable attendance at ward rounds.

We have eight consultants in post (including one locum) and the consultant of the week model is fully operational including attending ward rounds at weekends.

Operational Management of Waiting Lists
The Independent Scrutiny Panel identified that operational management of waiting lists had an impact on teamwork and culture. They found that custom and practice in the service led to differences between clinicians evidenced by unequal activity, unequal waiting list size and training commitments.

Both the Independent Scrutiny Panel and Professor Wallwork comment on the tendency of consultant cardiologists to refer to a preferred surgeon and that private practice arrangements should not impede the delivery of care to NHS patients. Best practice is to have all referrals go to a multi-disciplinary team (MDT) and a pooled referral management system. Professor Bewick also said that there should be pooling of patients with decision on appropriate allocation at the MDT, led by 'surgeon of the week'.

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.

In September 2018, the CQC confirmed that MDT meetings take place daily instead of weekly and involve neighbouring NHS Trusts. MDTs were attended by cardiologists and all cardiac surgeons. Cases are allocated to surgeons, with a surgery slot and full discussions held with surgeons. The elective list is reviewed by a consultant cardiologist, to determine which cases should be redirected to other local hospitals. This helped to improve the governance of the unit. Daily MDTs also helped the team to evaluate the waiting list and improve the visibility of patients being admitted.

Use of the Independent Sector

The independent sector is used by the NHS to help it meet the increasing challenges it faces by providing additional capacity to help meet rising demand as 'Waiting List Initiatives'. The Independent Scrutiny Panel told us that the GIRFT data from 2013 to 2016 showed a high proportion of NHS cases operated on by the Unit's surgeons in the independent sector relative to the rest of the country.

The Panel noted that the practice of commissioning waiting list initiative cardiac surgery operations in the independent sector was discontinued in September 2018.

Clinical Record Systems

In 2018, the Care Quality Commission reported that the cardiac surgery unit had several information technology (IT) systems in use, resulting in staff having to access multiple systems to review one patient's care. We have now fully rolled out a new electronic patient record system (ICLIP) at both Tooting and Queen Mary's sites. Cardiothoracic intensive care, cardiology and surgical wards are all using iClip for medical records and prescribing. A new clinical audit system is also fully implemented.

THEME IV: Culture, Behaviours and Professional Standards

Since 2010 and Professor Wallwork's review it has been clear that the culture of the Unit was sub-optimal and behaviours at times dysfunctional. The fact that many of these issues were still being reported and observed by Professor Bewick, the Independent External Mortality Review, the Independent Scrutiny Panel and CQC indicates their deep-rooted nature.

The recommendations to the Trust in this area focus on: culture and behaviours; application of HR policies; effective appraisal and job planning; and stronger employment checks.

Culture and behaviours
The Independent Scrutiny Panel told us that they were 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 at the time that the Panel first met in 2018.

Professor Wallwork, Professor Bewick, the Independent External Mortality Review, the Independent Scrutiny Panel and the Care Quality Commission all found evidence of:

- Lack of cohesion and poor working relationships between surgeons. The consultant surgeons mistrusted each other, as did the cardiologists, intensive care, anaesthetists and senior leaders;

- Staff did not work together to ensure delivery of high quality, safe and effective services that put patients at the centre;

- A culture of bullying and harassment between surgical, anaesthetic and intensivist teams. Some staff including consultants, told these reviews that they did not feel supported, respected or valued and there was a hierarchical culture in existence within the service;

- Behaviours were not in line with the values of the Trust. There was low morale.

In response, in December 2017, we held a mediation event involving members of the cardiac surgical team to deal with poor behaviours and team-working in the Unit. However, the CQC found that while this was reported as having a positive impact initially, it was successful only for a time and the improvement was not sustained. After a few months staff reported a return to poor behaviours and a resurfacing of previous issues.

Good working relationships are being reinforced by working with an independent HR consultant. We commissioned an external cultural review which was taking place at the time of the last CQC inspection to understand these issues further and consider steps to improve the culture. The output of this work will be a team charter or compact or similar. The 2019 staff survey results continue to show improvement in this area.

The work done by us with the consultants and the whole multidisciplinary team has gone a long way to addressing the issues.

The CQC found that *"following several years of cultural challenges in cardiac surgery, we noted that the situation was much improved. There was a strong clinical governance lead, who was making a positive difference. Interactions between staff were a lot better than they were and there was constructive and reasonable challenge amongst colleagues."*

Our nursing teams told the CQC that they were more positive about the culture and working environment on the cardiac surgical wards and described effective working relationships between themselves and the surgeons.

CQC also said, *"It was also notable that the Trust had learnt from challenges in team dynamics within areas of the Trust. We saw evidence that they had taken action to resolve difficulties in team dynamics relating to leadership and relationships amongst senior staff in an area. Mediation and organisational development support had been arranged swiftly to help to resolve these issues."*

HR Policies

The Independent Scrutiny Panel considered lessons that could be learned from the way that human resources processes and policies had been applied in the Cardiac Surgical Unit over several years. They identified ways in which the application of policies covering professional standards, appraisal, job planning, recruitment of locums and Freedom to Speak Up could be improved. In particular, the Independent External Mortality Review said that the Trust should ensure the principles included in the GMC publication, “Effective clinical governance for the medical profession: A handbook for organisations employing, contracting or overseeing the practice of doctors.” are implemented.

We have reviewed relevant GMC and NHS England publications and has implemented the principles described in them.

We have established a weekly ‘Responding to Concerns’ meeting to identify and respond to concerns about any doctor as they emerge. NHS England has also supported the Trust by recommended independent senior doctors and experienced patient and public volunteers for difficult cases where an independent view from outside the Trust is required.

The Trust Board receives a regular update delivered by the Freedom to Speak-up Guardian and from the Guardian of Safe Working Hours, and the Trust receives an annual medical revalidation report from the Responsible Officer. We are also undertaking a review of our Maintaining High Professional Standards (MHPS) policy, to ensure the policy is comprehensive and fully reflects best practice. As part of this, we are putting in place new training to assist those responsible for implementing the policy as well as those who are subject to it.

Appraisal

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

In their inspection report of December 2019, the CQC have also said that *"From April 2018 to March 2019, 75.3% of required staff in surgery at St George’s Hospital received an appraisal compared to the Trust target of 90%. This meant the Trust could not be assured that all staff received an appraisal of their work performance."*

In response we have taken the following actions:

- Information is provided at induction on the requirement to complete an annual appraisal. In addition, doctors are asked to confirm they are aware that if their appraisal is overdue this will be escalated to their Care Group Lead;

- There is targeted monitoring of doctors who have missed a previous appraisal, supported by an electronic medical appraisal system (L2P) which was commissioned in October 2018. All doctors connected to the trust for the purposes of revalidation have an L2P account and all appraisals are now carried out on the system;

- At the time of revalidation, feedback is provided to doctors on appraisal inputs and Personal Development Plans. Top up training was provided for all appraisers in 2018 and the Trust has created an appraisal lead role for each of the Directorates.

Appraisal rates are increasing - as at 1st February 2020 the Trust's medical appraisal completion rate is over 84% overall, and 87% for substantive consultants and clinical academics, up from 68% in 2018/19.

Employment Checks
The Independent Scrutiny Panel recommended that the Trust should undertake a formal review of HR recruitment practice to ensure it adheres to NHS Employers' Employment Checks.

The CQC also found that *"Arrangements for supporting and managing locum staff to deliver effective care and treatment were not always adequate and staff raised some concerns regarding the processes and procedures for recruiting, inducting and supervising them."*

The recruitment processes for all locums on a fixed term contract has been reviewed to ensure that the process meets the standard required. In addition to this, we now have a weekly meeting to discuss cases, informal and formal where there are concerns relating to the medical workforce. Any queries in relation to the recruitment of doctors with declarations around fitness to practice would now be fully discussed at this group formed of the Chief Medical Officer, Chief People Officer, Responsible Officer and Medical HR Manager. If necessary, a Responsible Officer-to-Responsible Officer Transfer of Information form would be exchanged, to ensure that, if there is a decision made to recruit the applicant, that the Trust is in possession of the full facts to enable the right recruitment decision to be made.

Board Assessment

We believe we have made substantial progress in improving the quality of care of patients under the Cardiac Surgery Unit has improved as a result. The most recent NICOR data from both April 2015 to March 2018 and the period April 2016 to March 2019 (unpublished) shows the in-hospital mortality of the Cardiac Surgery Unit to be within the expected limits.

The monitoring of our improvement actions, the Care Quality Commission inspection reports and the recent NICOR data give us assurance that we have improved the quality of care and that we can assure the public that our service is safe. But we also know there is more to do to completely implement all the recommendations and to ensure services continue to sustainably improve.

The Independent Scrutiny Panel told us that by implementing the recommended remedial actions in full **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.

The publication of these reports offers the chance to reflect on the current practice with a view to redesigning services constructively – and radically – so that patients consistently receive the high quality of care they deserve. We must ensure services are integrated, safe, accessible, and provide excellent outcomes for the population. To build a sustainable system for the future, trusts and clinicians must now leverage their strengths collectively and collaboratively, rather than individually or competitively, and raise the bar of performance.

Moving Forward

We will:

- Work with staff across the cardiac surgical service to reflect on these reports, to ensure all the actions within St George's control are fully implemented and where appropriate reinforce training around new care protocols and ways of working. We will reduce the workload of the Unit over the coming weeks to create the space to do this;
- Continue our comprehensive plan to assure the implementation of each one of the recommended actions identified by the Independent External Mortality Review and the Independent Scrutiny Panel, including any new actions that may arise from the Coroner or others following publication of this report;
- Propose a set of metrics to NHSEI to monitor culture and behaviours in cardiac surgery and the data which could be used to form a balanced scorecard for future quality surveillance;
- Work to implement an integrated cardiac surgery service model across South London through our collaboration with King's College Hospital NHS Foundation Trust and Guy's and St Thomas' NHS Foundation Trust over the course of 2020/21.

A new model of service delivery: the provider collaboration

Since August 2019, the Trust has been working with the two other tertiary centres in south London – GSTT and KCH - to create a sustainable model for service delivery.

The three south London trusts will join forces into a provider collaboration to effectively provide an integrated cardiac surgery service model. This builds on the existing clinical relationships and the Cardiac Operational Delivery Network and will deliver comprehensive care for the region. It will include:

- A single unified process to review quality outcomes through the provider collaborative system;
- Stronger clinical governance through a joint cardiac surgery clinical lead and agreed pathways and models of care and joint MDT meetings;
- More robust operational processes with integrated referrals and waiting lists management; standardised data collection and performance monitoring;
- Appropriate corporate governance including financial oversight and contractual and legal arrangements.

This new integrated system of specialised clinical services will deliver benefits to:

- *Patients and their families:* who will receive consistently better outcomes and experience through a greater range of experts providing their care and decision making;
- *Clinicians:* who will share resources, learnings, and effectively serve as one team for south London, whilst simultaneously creating a stronger future workforce;
- *The hospital trusts*: which will receive clinical and operational efficiencies through standardised pathways, protocols, and processes, but more importantly, with the critical mass of clinicians and activity to sustainably deliver 24/7 sub specialist rotas and procedures;
- *The NHS system:* which, though this networked approach, will benefit from efficiencies in equipment, technology, human resources and estates, yet more importantly, will secure timely, consistent, safe and high-quality care, irrespective of when and where patients access these services.

This new network will run in shadow form from April 2020, to deliver an integrated service model with a commitment to on-going evaluation and review to ensure continuous improvement of the service for the benefits of patients.

APPENDIX 4

RECOMMENDATIONS OF EXTERNAL REVIEWS AND TRUST RESPONSES MARCH 2020

Recommendations of the External Independent Mortality Review

Ref	Recommendation	Trust response
1	The Trust should ensure the principles included in the GMC publication, "*Effective clinical governance for the medical profession: A handbook for organisations employing, contracting or overseeing the practice of doctors*" are implemented. This publication lays out a framework that requires that clinical teams are supported by their employing organisations and boards, in their pursuit of good governance.	The Trust has reviewed this GMC publication and the steps it takes to implement the appropriate steps to adhere to the principles described in it. The trust has established a weekly 'responding to concerns' meeting to identify and respond to concerns about doctors as they emerge. The Trust Board receives a regular update delivered by the Freedom to Speak Up Guardian and from the Guardian of Safe Working Hours, and the Trust receives an annual medical revalidation report from the Responsible Officer. The Trust identified clinical governance as a major area of focus at the end of 2018 and has commissioned a series of three external clinical governance reviews (the first two of which have been completed). From these reviews, the Trust has developed an action plan to support and strengthen departmental governance (particularly through Mortality and Morbidity Meetings and MDTs) and corporate clinical governance (through targeted strengthening of the capacity of the medical and nursing directorates). The third review which will begin in Quarter 4 2019/20 will look at the mechanisms for ensuring appropriate information flow and assurance from Ward to Board. The Trust has also appointed a Lead Medical Examiner, supported by a team of Medical Examiners and a properly resourced Medical Examiner Office, and the Chief Medical Officer now chairs the Mortality Monitoring Committee.
2	Each of the cardiac surgeons, the lead for cardiology, the lead for anaesthesia/ICU and the lead for perfusion should have an individualised feedback meeting with clinical representatives from the Independent Advisory and Mortality Review Panels. These should be confidential and formative. The purpose of these meetings is to allow for an explanation of the Panel findings, to allow for reflection	This recommendation will be followed, and these meetings will be arranged.

	and to form a platform for on-going mentoring and support. The Trust's Chief Medical Officer should also be present at these feedback meetings.	
3	A change of working relationships within and between cardiac surgery, cardiology and anaesthesia/intensive care teams should be fostered. This should include a mutually established "heads of agreement" document, outlining standards of interprofessional behaviour and mechanisms to ensure these values are maintained, with oversight from the Board. The document should enshrine the principles outlined in "*Duties of a Doctor*". New and locum consultants should have formal mentorship arrangements put in place to support their professional development.	A mediation exercise was undertaken in December 2017 and a heads of agreement signed following this process. The importance of maintaining good working relationships is being reinforced by working with an independent HR consultant. This work has already begun (the HR consultant has already met with the appropriate staff) and this work will continue once the report is published.
4	The cardiology department should attain full British Society of Echocardiography Departmental Accreditation.	The echocardiography department is committed to achieving BSE accreditation and has registered with the BSE. A new substantive Band 8A technical lead has been appointed and this person will lead on the accreditation process with support from clinicians. To gain accreditation the department will need to demonstrate a number of administrative processes are consistently working within the department for a period of 12 months. It is expected that this process of achieving accreditation will be completed over the next 18 months.
5	The Trust should develop sub-specialist teams, if appropriate in collaboration with other hospitals in the network, in mitral, aortovascular and revascularisation surgery. The aortovascular and mitral teams should have at least two consultant surgeons in each group and no surgeon should be in both of these teams. The revascularisation team should comprise all cardiac surgeons at the Trust. Each team should have designated interventional and imaging cardiology consultants alongside radiology and anaesthesia/intensive care consultant representation, where appropriate.	The Trust recognises the importance of sub-specialist teams treating patients with less common pathologies such as degenerative mitral valve disease and complex aortic pathologies. Sub-specialist teams were established following the appointment of Steve Livesey as Associate Medical Director for Cardiac Surgery in December 2018. The mitral team comprises of two consultant surgeons; no other surgeons operate on the mitral valve. All mitral cases are discussed at the Friday MDT with echocardiography input provided by two consultant cardiologists. Only one consultant surgeon (and occasionally the Associate Medical Director for Cardiac Surgery) do major aortic work. There is a monthly MDT dedicated to this work. The Cardiac Surgery Unit is not currently

		undertaking operations involving the aortic arch or descending thoracic work. All surgeons undertake myocardial revascularisation surgery; only one consultant surgeon performs cases requiring minimally invasive coronary surgery (MIDCAB).
6	All referrals for cardiac surgery should be discussed at the relevant sub-specialist MDT, which should ensure the availability of all necessary data before review of the clinical case. Subsequently the MDT should plan treatment (including an operative plan) and allocate a surgeon. The MDT should have a pre-defined minimal quorum, with full representation from sub-specialist cardiac surgery, interventional and non-interventional cardiology, and radiology. Anaesthetic advice should be available if required. Discussion, as well as decision, of the MDT should be recorded. If plans for treatment change after discussion at the MDT (either through patient choice or change in the clinical situation) then the patient should be re-discussed to ensure full MDT ratification and oversight of the adapted management plans. Any changes to the original plans should be documented clearly. The MDT should have the provision of the very best treatment for the patient as its aim; taking into consideration the full clinical picture. This will include a full review of the surgical, interventional and medical treatment options available.	Part of this recommendation is that all referrals for cardiac surgery should be referred to the relevant sub-specialty MDT. The South London Cardiac Surgery Network which will comprise Guy's and St Thomas' (GSTT), King's and St George's, is in the process of developing common and unified referral systems for all patients requiring cardiac surgery. All patients seen at St George's will be treated according the pathways and processes developed with Guy's and St Thomas' and King's College Hospital. The recommendation also describes the characteristics of a good MDT, and the Trust's current Cardiac Surgery MDTs do indeed have a pre-defined minimum quorum, with the recommended full multi-disciplinary representation. MDT discussions and decisions are contemporaneously electronically recorded, and patients are re-discussed when necessary.
7	Risk-scoring, using up to date risk scoring algorithms (for example EuroSCORE II) should be embedded in practice. The team must ensure all risk factors are considered and that data are sought to ensure an accurate risk prediction. This risk prediction must be recorded on the consent form as part of the discussion of the indications, risks and potential benefits of proposed treatments. On occasion, it is justified to include non-scored conditions (e.g. liver or haematological disease) to increase the quoted risk. Conversely, if the risk quoted is less than the calculated risk, then the reasons for this adjustment	All patients are risk assessed using the EuroSCORE II risk assessment algorithm. This has been embedded into daily practice and the risk according to EuroSCORE II is recorded on the consent form. If the risk of surgery is felt to be significantly different from that calculated by EuroSCORE II, then the reason for the variance is documented on IClip. The consent process for elective patients begins in the outpatient clinic when the consultant surgeon discusses the proposed procedure with the patient outlining the benefits and risks. The patient then has a further opportunity to discuss the proposed surgery when they are seen by the pre-

	should be clearly documented in the case record. Consent procedure should follow the guidance laid out in the Royal College of Surgeons England publication, "*Consent: Supported Decision-Making. A guide to good practice*".	assessment team. The consent form is finally signed on admission for surgery; this is when all the information is available to calculate the EuroSCORE and entered onto the consent form. Should the risk differ significantly from the risk perceived at the initial consultation when all of the information is available, this is discussed with the patient before admission. The whole process is overseen by the pre-assessment team who are in regular contact with the patient. For non-elective patients, which current make up a large proportion of our workload, the patient is seen initially be the consultant of the week for an initial discussion of the proposed procedure. When a surgeon is allocated they visit the patient to discuss the operation in detail. In addition, we have regular attendance at our MDT by the Professor of Respiratory Medicine and all patients with respiratory issues are reviewed by him; the risk is then amended as appropriate and we also have a Consultant Haematologist who has is engaged and joins the MDT when appropriate.
8	Standard referral templates for cardiac surgery should be developed across the London network. Cardiologists referring patients for surgery should include details of the symptomatic status of the patient, investigations (and their interpretation), comorbidity (and potential subsequent impact on proposed benefit(s) of surgery) and consideration of alternative interventional and medical therapies. For patients referred for revascularisation with intermediate angiographic stenoses, functional/ischaemia testing should be performed as part of the referral.	St George's supports this development. Standard referral protocols are being developed in conjunction with Guy's and St Thomas' and King's as part of the emerging South London Cardiac Surgery Network (the Report recommends that tests such as functional testing for ischaemia are done as part of the referral; the need for such tests often only becomes apparent after MDT discussion, and not all referring centres can offer these tests – where those tests are needed, the MDT will ensure that they are arranged).
9	The following guidelines/standard operating procedures (SOP) for patient care should be developed and implemented: 1. An SOP for the management of urgent inter-hospital transfers. This should include a clear description of joint care (cardiology and cardiac surgery) arrangements and responsibilities. It should delineate necessary	1. All inter-hospital transfers are managed by the Case Management Team working with the Consultant of the Week. A management plan is made and the patients are discussed at the following day's MDT to finalise the plan of care.

	investigations and the management of medications, in line with best practice guidelines (for example the GIRFT report).	
	2. A guideline for management of myocardial protection. All theatre team members should consider themselves responsible for myocardial protection and there should be establishment of a ”flat” theatre hierarchy to ensure that the heart remains well protected during surgery.	2. Myocardial protection strategies have been widely discussed at team meetings. The perfusionist reminds the cardiac surgeon after each 20 minute period of arrest time that another dose of cardioplegia is due. The use of warm retrograde cardioplegia has been discontinued. This has been discussed with the Society for Cardiothoracic Surgery (SCTS) and the SCTS is not aware of the use of such a protocol in any Cardiac Unit.
	3. A guideline for the management of operative and post-operative haemorrhage. This should include clear indications for when return to theatre is indicated.	3. A Standard Operating Procedure has been developed and agreed for the management of this scenario. The rate of re-sternotomy for haemorrhage is recorded and reported to the Cardiac Surgery Steering Group on a monthly basis; rates are within national norms. Individual cases are discussed at the Cardiac Surgery Morbidity and Mortality meetings.
	4. A multi-disciplinary guideline for post-operative ECG interpretation, particularly focusing on ischaemia. Clear indications for when emergency repeat coronary angiography, or return to theatre, are warranted, should be included.	4. This has now been developed with CTICU.
	5. A multi-disciplinary guideline for selection and management of patients requiring mechanical support, including Ventricular Assist Devices and ExtraCorporeal Membrane Oxygenation. This protocol should be developed with guidance from a transplant centre.	5. This is now embedded our MDT working and we refer patients who may need this type of support to Harefield. This is an uncommon problem and only two patients have been referred from the MDT in 2019.
	6. The Trust should develop a guideline for outreach services for patients who are not in intensive care environments. Rapid, 24/7 expert review should be available to allow timely escalation for patients in need.	6. All CTICU patients are seen on CTICU as part of a rehabilitation ward round, these currently happen twice weekly and are led by the CTICU consultant of the week and follow up team, they are multidisciplinary and attended by Physiotherapy, Dietetics, Speech and Language Therapy and Occupational Therapy come by invitation. The ward round would occasionally see patients discharged from CTICU on the wards if they had complex critical care needs. It is planned that the frequency of the rehabilitation ward rounds will

		increase to 3 times per week and routinely see patients on the wards that have been recently discharged from CTICU. The CCOT are currently training all wards on the track and trigger system (NEWS) and how to escalate patients they have concerns about appropriately, this includes the cardiothoracic wards. CTICU are working with Cerner to develop a system (which is currently used at Kingston Hospital) to effectively track all of the patients in the Trust that have a NEWS > 5 or are scoring 3 or more in one domain. This will be launched in April 2020 and is currently in testing. All patients that have been on CTICU will be offered follow up as from April 2020; they will be triaged initially with a telephone clinic and if further contact is required, invited to clinic.
10	The Trust should develop a robust, independent, multi-disciplinary review of mortality with appropriate governance oversight to ensure that lessons are learnt. The SJR structure of mortality review should be utilised. Panel phase of care and avoidability scores should be presented as part of the Mortality and Morbidity review of the case. Given the findings of the mortality review Panel, the SJR should also include assessments of whether the MDT operation plan was delivered and whether it was performed by the right person at the right time. Review of the case should include an appraisal of discussions made with the coroner. The Trust should ensure that it fulfils any responsibility it has under the duty of candour provision of the Health and Social Care Act 2008 (Regulated Activities) Regulations 2014 subsequent to this review and ensure a robust system is in place for patients who	All deaths following cardiac surgery at St George's are referred to the Serious Incident Decision Making Panel attended by the Chief Medical Officer and Chief Nurse. The panel is informed by a "Rapid Response Report" outlining the details of the case and by a Structured Judgement Review by which each phase of care is independently reviewed. The panel calls witnesses as appropriate. Any incidents in cardiac surgery that are declared as "Serious Incidents" are investigated according to the guidance set out in "Serious Incident Framework : Supporting learning to prevent recurrence" (NHS England March 2015); in addition the outcome of Serious Incident investigations in cardiac surgery patients are subsequently reviewed by an independent external expert. All cardiac surgery deaths are reviewed at the monthly, multi-disciplinary Integrated Cardiac Surgery Governance Meeting and the treatment is graded according to the NCEPOD Assessment of Care scale.[1]

[1] **NCEPOD Assessment of Care**

1. **Good practice**
   A standard that you would accept from yourself, your trainees and your institution.
2. **Room for improvement**
   Aspects of clinical care that could have been better.
3. **Room for improvement**
4. Aspects of organisational care that could have been better
5. **Room for improvement**
   Aspects of both clinical and organisational care that could have been better.
6. **Less than satisfactory**

	receive care in the Trust going forward.	
11	The Trust should adapt the coroner referral form. There should be only one signatory of the form, which should be that of the responsible consultant.	The Trust currently uses a form provided by HM Coroner. St George's has appointed an Internal Medical Examiner and this will be resolved by the IME working with HM Coroner. HM Coroner has been updated regularly on the progress of the External Mortality Review Panel and all the SJRs generated by the panel have been shared with her. The Chief Medical Officer and NHS England/NHS Improvement Medical Director for South London have met with HM Coroner to discuss any potential issues arising from the review.
12	The Panel recognise the substantial contributions that national audits (such as NICOR) and programmes (such as GIRFT) have made to patient outcomes. It is clear that these oversight and review mechanisms are essential in ensuring patient safety in the UK. Indeed, this review would not have come about without the NICOR alert warnings. The Panel recommend continued funding of these national initiatives. Early warning systems should be developed to allow rapid identification of issues within cardiac surgery units, as they arise. Publication of benchmark outcomes (such as the SCTS "Blue Book") should be centrally supported.	This is not a recommendation for the Trust.

Recommendations of the independent scrutiny panel for cardiac surgery services at St George's

Ref.	Recommendation	Trust response
1	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	Please see the Trust responses to recommendations 5, 6 and 8 of the independent mortality review.

Several aspects of clinical and/or organisational care that were well below that you would accept from yourself, your trainees and your institution

7. Insufficient data

Insufficient information in the case notes to assess the quality of care

Ref: Death following a first time, isolated coronary artery bypass graft. The Heart of the Matter
A Report of the National Confidential Enquiry into Patient Outcome and Death (2008)

	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	
2	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.	These actions have all been completed. Please see the Trust responses to recommendations 5 and 6 of the independent mortality review.
3	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. A suggested example is at Appendix Two, where daily MDTs are held to discuss referrals for urgent surgery.	Please see the Trust responses to the recommendation 9.1 of the independent mortality review. St George's supports this development. Standard referral protocols are being developed in conjunction with Guy's and St Thomas' and King's as part of the emerging South London Cardiac Surgery Network (the Report recommends that tests such as functional testing for ischaemia are done as part of the referral; the need for such tests often only becomes apparent after MDT discussion, and not all referring centres can offer these tests – where those tests are needed, the MDT will ensure that they are

		arranged).
4	The Trust should develop and use evidence-based peri-operative protocols for the management of routine care and frequent complications including bleeding.	Please see the Trust response to recommendation 9.3 of the independent mortality review.
5	The Trust should review the Cardiothoracic Surgery GIRFT report and the Cardiology GIRFT report when published in 2020 and implement their recommendations.	This action has been completed.
6	The Trust should appoint a Deputy Clinical Lead in cardiac surgery to support the existing Clinical Lead/Associate Medical Director.	This recommendation will be addressed in conjunction with the work currently being undertaken with GSTT and King's College Hospital to achieve closer working, particularly in the areas of safety and governance across the South London Cardiac Surgery Network.
7	The Trust should ensure the appointment of a substantive surgical team with the relevant sub-specialisations in line with national guidelines (see Appendix Three).	This recommendation will be addressed in conjunction with the work currently being undertaken with GSTT and King's College Hospital to achieve closer working, particularly in the areas of safety and governance across the South London Cardiac Surgery Network.
8	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.	Please see the Trust response to recommendation 2 of the independent mortality review.
9	The Trust should continue to implement and further strengthen safety and governance structures throughout the organisation.	This action has been addressed, and work remains on-going to continually strengthen the safety and governance structures in the organisation.
10	The Trust should continue to ensure robust consultant appraisal and job planning is in place for every consultant working in the Cardiac Surgical Unit.	This action is underway for the 2020/21 cycle of job planning and appraisals.
11	The Trust should ensure the effective and appropriate management of Freedom to Speak Up guidelines, with all disclosures fully investigated and a final report prepared with conclusions and what further action needs to be taken as a result. This includes giving feedback about the investigation to the person who raised the concern.	This action has been completed.

12	The Trust should undertake a formal review of HR recruitment practice to ensure it adheres to NHS Employers' Employment Checks.	This is being undertaken.
13	The Trust should complete its review of the "Maintaining High Professional Standards" (MHPS) investigations.	This is being undertaken.
14	The Trust should implement a formal mentoring system for all newly appointed and locum surgical staff.	The recommendation is accepted and this is being developed.
15	The Trust should continue its work to manage waiting lists efficiently and effectively in line with current NHS England and NHS Improvement guidelines.	This recommendation is being followed as described.
16	The Trust should continue its work in establishing a 'behaviour agreement/compact' in partnership with staff from the Cardiac Surgical Unit.	Please see the Trust responses to the recommendation 3 of the independent mortality review.
17	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.	This recommendation is accepted; please see the Trust responses to the recommendation 8 of the independent mortality review.
18	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.	This recommendation is accepted; please see the Trust responses to the recommendation 8 of the independent mortality review.
19	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.	This is an action for HEE; the recommended multi-professional review visit is scheduled to take place on 2 April 2020.

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St George's University Hospitals NHS Foundation Trust

3.1

Meeting Title:	**Trust Board**		
Date:	**26 March 2020**	**Agenda No**	**3.1**
Report Title:	**Coronavirus (Covid-19) Update Report**		
Lead Director/ Manager:	**Andrew Grimshaw, Deputy Chief Executive**		
Report Author:	**Andrew Grimshaw, Deputy Chief Executive**		
Freedom of Information Act (FOIA) Status:	**Public**		
Presented for:	Update		
Executive Summary:	This report provides the Board with an update on the Trust's current position in relation to Covid-19, key actions and governance framework.		
Recommendation:	Trust Board is asked to note the update.		
Supports			
Trust Strategic Objective:	• Treat the patient, treat the person • Right care, right place, right time • Champion Team St George's		
CQC Theme:	Well led		
Single Oversight Framework Theme:	Quality of Care, Leadership and Improvement Capability		
Implications			
Risk:	N/A		
Legal/Regulatory:	CQC Well Led Domain		
Resources:	N/A		
Previously Considered by:	N/A	**Date**	

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St George's University Hospitals NHS Foundation Trust

3.1

Coronavirus (Covid-19) Report

1 Introduction

This paper provides the Trust Board with a brief overview of the actions taken to date in response to the coronavirus pandemic. The situation is fast moving and we are responding to both events and requests from NHS Improvement. We are working closely with our partner NHS organisation sin SW London, with the wider London system, and in some areas with the NHS nationally.

2 Managing our response

We have established a governance structure to oversee our response to Covid-19. This is to ensure we can respond quickly to events as they unfold; co-ordinate actions and assess their impact; and ensure staff understand and have sight of the decisions we are making. The key groups are:

- **Responding to the Covid-19 surge in demand.** This is looking at the steps we need to take to address the large numbers of Covid-19 patients we expect to see. Led by Avey Bhatia (Chief Operating Officer) and Robert Bleasdale, (Chief Nursing Officer/Director of Infection, Prevention and Control), supported by Dr Jane Evans and Dr Rafik Bedair (Divisional Chairs).

- **Safely standing down other activity.** This is looking look at how we create space for Covid-19 patients (e.g. fast and rapid discharge); ensuring we only bring people into our hospitals if absolutely essential; and making sure all existing patients under our care remain safe. Led by James Friend (Chief Transformation Officer), supported by Mr Nick Hyde (Divisional Chair).

- **Workforce implications.** To rapidly assess and tackle the workforce implications of Covid-19, and new ways of working. Led by Harbhajan Brar (Chief People Officer), supported by Dr Ros Given-Wilson, Consultant Radiologist.

- **Ethical decision making and palliative care.** To ensure we support effective clinical decision making in response to Covid-19. Led by Dr Richard Jennings (Chief Medical Officer).

- **System co-ordination.** To ensure we are aware of – and actively engaged in - the actions taken by other organisations in south west London. Led by Suzanne Marsello (Chief Strategy Officer).

- **Support activities, including estates, IT and supplies (including maintaining PPE supplies).** Led by Tom Shearer (Acting Chief Financial Officer).

Andrew Grimshaw is co-ordinating this work in his role as Deputy Chief Executive, and we are grateful to the many, many staff involved in driving this work forward.

2.1 Key activities we have undertaken include:

- **Responding to the COVID surge.** Work is underway to increase the number of ventilated critical care beds available within the Trust. At the moment we have 74 critical care beds at St George's, and this is planned to increase to 109 by the weekend, and by even more in the coming days. We have also been asked to provide staff to support the new hospital being set up at the Excel Centre (the Nightingale Hospital), and thank all those staff who have already volunteered. We are looking at your applications as we need to balance the staffing needs of the new hospital with our own.

- **Safely standing down other activity. We are working to reduce the number of people coming onto our hospital sites; this is to both protect staff and patients, but also to free up space to help respond to the coronavirus. For example we are moving as many outpatient activities as we can to virtual appointments. Through this work we are ensuring that all patients who have their appointments postponed or cancelled that they remain safe.**

- **Workforce implications. Activities in this area includes working to ensure staff who are asked to undertake new or additional activities receive appropriate training, staff testing for coronavirus, confirming arrangements for when staff are off sick, staff welfare, remote working and developing rotas and plans for the new capacity we are opening in response to the coronavirus.**

- **Ethical decision making and palliative care.** This group is working to ensure all our staff have clear guidance for dealing with the impact of the coronavirus.

2.2 Other actions undertaken include:

- A separate Covid-19 on-call Gold command structure has been established to ensure there is 7 day senior clinical leadership on site.

- Resources from across corporate/support functions have been redeployed to support delivery of key workstream priorities.

- Daily/weekly workstreams meetings are in place to deliver key priorities and identify and address key interdependencies. They also inform key themes for communication.

- Executive directors and the Communications team meet daily to coordinate communications in response to national guidance, staff feedback and key developments within St George's. A daily communications bulletin is sent to all staff to ensure they are aware of developments and the actions the Trust is taking.

- A working group has been established to determine how make best use of the growing offers of help and support from individuals, charities, local groups, etc. This group is being led by Stephen Jones, Chief Corporate Affairs Officer, and actively supported by the St. Georges Hospital Charity. We are very grateful for all the donations and offers of help being made to the Trust.

3 Conclusion

Events are progressing fast in relation to the coronavirus, both locally and nationally. The Trust is working to ensure it develops and maintains a robust and effective response to support the population of SW London. Every effort is being made to ensure staff are communicated with so that they feel fully informed of the actions being taken, however, we recognise that due to the speed the situation is developing this is not always possible. The executive team are all trying to increase the amount of time they spend "out in the trust" in order to support these efforts.

At a time where national guidance and decision-making is being frequently updated our teams face the challenge of adapting with similar speed. We are seeing incredible levels of agility and collaboration across role, function and organisation boundaries. Teams are working long hours in service of current and future patients, not just those fighting Covid-19 and we yet we can also see just how tough the next few months may be.

The whole executive Team would like to thank everyone in the Trust for their dedication and commitment to helping build the strongest possible response to this challenge.

St George's University Hospitals NHS Foundation Trust

3.1

Meeting Title:	**Trust Board**		
Date:	26 March 2020	**Agenda No**	**3.1.1**
Report Title:	**Board and Committee arrangements during COVID-19 Pandemic**		
Lead Director	Gillian Norton, Chairman		
Report Author(s):	Stephen Jones, Chief Corporate Affairs Officer		
Presented for:	Approval		
Executive Summary	This paper sets out proposed arrangements for Board and Board Committee meetings in light of the operational pressures of COVID-19. It also sets out arrangements for the Council of Governors and membership engagement during this period. Due to the operational demands of COVID-19, it is essential that the Trust can focus fully on dealing with the pandemic and providing safe and effective care to our patients. The Board will continue to play an essential role during this period, both in terms of providing oversight of the Trust's response to COVID-19 and in providing support and challenge to the Executive team. At the same time, usual Board business during this period needs to be reconsidered to ensure that staff are freed up to deal with and respond to these pressures.		
Recommendation:	The Board is asked to: i. Approve the proposed arrangements for Board and Committee meetings during the period of intense operational pressure during the pandemic. ii. Note the arrangements put in place to ensure continued transparency and public accountability of the Board during this period. iii. Note the arrangements put in place regarding the Council of Governors and membership engagement. iv. Delegate authority to the Chairman, on the advice of the Chief Executive and in consultation with the Chairs of the relevant Board Committees, to approve temporary amendments to the Trust's Standing Orders and Standing Financial Instructions where these are required, in order that can respond rapidly and in an agile way to a rapidly changing situation.		
Supports			
Trust Strategic Objective:	All		
CQC Theme:	Well Led		
Single Oversight Framework:	Leadership and Improvement Capability		
Implications			
Risk:	As set out in the paper.		
Legal / Regulatory:	As set out in the paper.		

Resources:	As set out in the paper.		
Equality and Diversity:	N/A		
Previously Considered by:	N/A	**Date:**	N/A
Appendices:	N/A		

St George's University Hospitals NHS Foundation Trust

3.1

BOARD AND COMMITTEE MEETINGS DURING COVID-19 PANDEMIC

Trust Board, 26 March 2020

1.0 Purpose

1.1 This paper sets out proposed arrangements for Board and Board Committee meetings in light of the operational pressures of COVID-19. It also sets out arrangements for the Council of Governors and membership engagement during this period.

2.0 Background

2.1 Due to the operational demands of COVID-19, it is essential that the Trust can focus fully on dealing with the pandemic and providing safe and effective care to our patients. The Board will continue to play an essential role during this period, both in terms of providing oversight of the Trust's response to COVID-19 and in providing support and challenge to the Executive team. At the same time, usual Board business during this period needs to be reconsidered to ensure that staff are freed up to deal with and respond to these pressures.

3.0 Board meetings

3.1 The Board will continue to meet during the COVID-19 pandemic for both public and private Board meetings but it will do so virtually. The Board had been due to move to bi-monthly Board meetings from the start of the 2020/21 financial year. Bi-monthly Board meetings will be introduced later in 2020/21 but for the time being, the Board will meet monthly to provide support and oversight during this period and the Board will hold its next scheduled meeting on 30 April 2020.

3.2 Agendas for Board meetings will be streamlined to only the most urgent / critical business reflecting the heightened operational pressures on the Trust caused by COVID-19, and would typically comprise a COVID-19 update, business continuity, essential safety matters, money and staffing issues, and any urgent business that cannot wait.

3.3 Given the Government's public health advice regarding social distancing, although the Board will continue to hold public Board meetings, members of the public and the Trust's Governors will not be in attendance at either part of the Board. The Governors have already been briefed on this and a message regarding public attendance at our Board meetings has been posted to our website.

3.4 The Trust, however, takes seriously the importance of maintaining transparency and public accountability during this period. To help ensure this, all public Board papers will continue to be posted online prior to Board meetings so that members of the public can read the papers. Governors will also continue to receive both public and private Board papers. Members of the public and Governors will be able to ask questions to the Board by submitting questions 24 hours in advance. A summary of the key decisions and actions agreed by the Board will be prepared immediately following Board meetings and will be shared with Governors and posted on our website within 48 hours of each public Board meeting.

3.5 Board development activity will be suspended during this period, and the Board development day scheduled for 30 April 2020 will be rearranged for later in the year.

4.0 Committee meetings

4.1 Trusts across the country are adapting their sub-Board governance arrangements to respond to the operational pressures of COVID-19, and there is considerable variation in the models being adopted. What is set out below will be kept under review and where necessary this will be amended on the recommendation of the Chairman.

4.2 Board Committees will meet where necessary and will be held virtually by videoconference. Monthly meetings of the Finance and Investment and Quality and Safety Committees will be retained but the agendas for each will be streamlined. Meetings of the Finance and Investment Committee will typically last no longer than an hour. Meetings of the Quality and Safety Committee will take no longer than 90 minutes, with agendas focused on COVID-19 and consideration of any other essential quality and safety issues. In light of changes to the year-end accounts process and timetable announced by NHS England and NHS Improvement, the Audit Committee will meet virtually in April focused solely on year end matters – and an alternative date for the meeting will need to be found closer to the draft accounts submission deadline of 27 April. The meeting of the Workforce and Education Committee scheduled for 14 April is cancelled.

4.3 Committee Chairs should hold virtual monthly meetings with the lead executive director(s) to ensure any relevant matters are considered and there will be a concise minute of these meetings.

5.0 The Council of Governors, Council Committees and membership engagement

5.1 Meetings of the Council of Governors are suspended for the duration of the Government's public health advice regarding social distancing and social isolation of vulnerable groups. Council and Council Committee meetings between April and June have been cancelled. Meetings currently scheduled for July will be kept under consideration and reviewed by the end of April. All NHS Foundation Trusts have a statutory requirement to hold a minimum of four Council of Governors' meetings each financial year. In 2020/21, we had five Council meetings planned. In the event that further meetings need to cancelled, we will explore rescheduling them to later in the year. We also understand that NHS England and NHS Improvement will publish guidance on this shortly.

5.2 In the absence of Council of Governors meetings, the Council of Governors will be updated regularly via electronic briefing on the situation regarding COVID-19, decisions of the Board, and other relevant matters for the duration of the suspension of Council meetings. Governors are already receiving the daily staff bulletin, and will receive COVID-19 papers considered by the Board.

5.3 The meeting of the Governors' Nominations and Remuneration Committee on 28 April will take place as a teleconference and not in person. Dial in details will be provided closer to the time, along with papers. This is to complete the annual appraisals of the Chairman and NEDs.

5.4 All membership engagement activity is suspended. We will send updates to the Trust's membership via email, but all engagement events for the period April to June have been cancelled, including all Meet Your Governor Events and all Member Health Talks, and events planned from July will be kept under review in the coming weeks.

5.4 The Annual Members' Meeting will be kept under review as the situation develops. This is currently scheduled for 10 September, with marketing due to commence in June. We will keep this under review and postpone to later in the year if necessary. The Trust has a statutory requirement to hold the AMM within six months of the end of the previous financial year. This can be extended on the decision of the Board of Directors under special circumstances if required.

6.0 Standing Orders

6.1 During the extraordinary operational pressures of managing COVID-19, it may be necessary – at

short notice – to need to amend the Trust's Standing Orders. To ensure the Trust can respond rapidly and in an agile way to a rapidly changing situation, it is therefore proposed that the Board delegate to the Chairman authority – in discussion with the relevant Committee Chairs and on the advice and recommendation of the Chief Executive – to agree necessary changes to the Trust's Standing Orders and Standing Financial Instructions.

6.2 Given the Board and Committees will meet virtually in the coming months, for the avoidance of doubt the Board is asked to agree that members of the Board joining by videoconference or teleconference should count towards the quorum.

7.0 Recommendations

7.1 The Board is asked to:

i. Approve the proposed arrangements for Board and Committee meetings during the period of intense operational pressure during the pandemic.

ii. Note the arrangements put in place to ensure continued transparency and public accountability of the Board during this period.

iii. Note the arrangements put in place regarding the Council of Governors and membership engagement.

iv. Delegate authority to the Chairman, on the advice of the Chief Executive and in consultation with the Chairs of the relevant Board Committees, to approve temporary amendments to the Trust's Standing Orders and Standing Financial Instructions where these are required, in order that can respond rapidly and in an agile way to a rapidly changing situation.

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St George's University Hospitals NHS Foundation Trust

4.1

Meeting Title:	**Trust Board**		
Date:	**Thursday, 26 March 2020**	**Agenda No**	**4.1**
Report Title:	**Quality and Safety Committee Report**		
Lead Director/ Manager:	**Dame Prof. Parveen Kumar, Chairman of the Quality and Safety Committee**		
Report Author:	**Dame Prof. Parveen Kumar, Chairman of the Quality and Safety Committee**		
Presented for:	Assurance		
Executive Summary:	The report sets out the key issues discussed and agreed by the Committee at its meeting in February 2020.		
Recommendation:	The Board is asked to note this report.		
Supports			
Trust Strategic Objective:	All		
CQC Theme:	All CQC domains		
Single Oversight Framework Theme:	Quality of care, Operational Performance, Leadership and Improvement Capability		
Implications			
Risk:	Relevant risks considered.		
Legal/Regulatory:	CQC Regulatory Standards		
Resources:	N/A		
Previously Considered by:	N/A	**Date:**	N/A
Appendices:	N/A		

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Quality and Safety Committee Report

Matters for the Board's attention

The Quality and Safety Committee met on 19 March 2020 and agreed to bring the following matters to the Board's attention:

1. Novel Coronavirus (Covid-19)

The Committee received a comprehensive update on Covid-19, testing regimes for patients and staff, cohorting patients, communication, system plans and planning for the peak of cases. The Committee appreciated that the situation was evolving with daily changes in national guidance. The Committee were assured that, as the situation stood, the Trust had, the right senior leadership engagement internally and externally, had adopted robust plans to cohort inpatients and individuals coming into the emergency department and there were plans to address the forecast increase in the number of intensive treatment unit (ITU) beds and co-opting staff from other areas to provide support in ITU. However, there was much work still to be done and the Committee asked to be kept updated.

2. Deep Dive: Maternity Services Improvement Programme

This month, the Committee's deep dive focused on the improvement work being carried out in Maternity Services. A majority of the immediate operational actions have been closed and focus was now being given to the cultural workstream. The Board will be discussing this report in its part 2 meeting but the Committee would like to convey that it was encouraged by the positive signs that the team dynamics had changed, there was better cohesion and communication in the team, and there was a greater degree of triangulation of quality and soft workforce metrics. Key service improvements, in the past five months, include 31% of women who had given birth were on the 'Continuity of Care' pathway (this was above the national threshold), the number of induced labours had reduced and the number of instrumental deliveries had decreased. The Committee noted, however, that the improvement plan was in the early stages and warranted close and continuous scrutiny.

3. Integrated Quality and Performance Report (IQPR)

The Committee considered the key areas of quality performance at month 11. At month 11 the Trust had 45 clostridium difficile cases against a year-end threshold of below 48. Of the 42 reported in month 10 the number of cases attributable to lapses in care provided by the Trust was eight. The additional three cases reported in month 11 were now subject to root cause analysis and scrutiny by the local commissioners to identify any lapses in care. Unfortunately, the Trust also had an additional case of methicillin-resistant staphylococcus aureus (MRSA). The Committee welcomed the news that the Trust's venous thromboembolism (VTE) compliance had increased to 95% following a long period of being below 90%. The Committee were equally pleased that the Trust had completed the building and testing phase of the treatment escalation plan (TEP) on the electronic patient pathway management system, iClip. The Trust had escalated the electronic TEP to support care for patients in light of Covid-19.

4. Nurse Staffing Report (Planned vs. Actual)

The Committee considered the nurse staffing report for February 2020. The overall fill rate was 94.62%. Although lower than previous reporting periods, the fill rate was within the normal limits. Any exceptions were effectively managed to ensure that there were no

outstanding patient safety issues. The Trust did see an increase in the number of red flags which were attributed to staff taking annual leave, increased acuity of patients and the need to provide more '*specialling'* care to patients. These safe staffing red flags were effectively managed and mitigated with no harm to patients.

5. Cardiac Surgery Update

The Committee noted the monthly Cardiac Surgery Update. The Committee were apprised of the timeline for publishing the NHS Improvement mortality review report and how the Trust had been discharging duty of candour requirements in relation to report findings.

6. Serious Incident Reporting

The Committee noted that five serious incidents had been declared in February 2020 and two investigations closed. The Trust had also provided its response to the Coroner in relation the Prevention of Future Deaths order related to a patient fall.

7. Patient Safety & Quality Group (PSQG)Report

The Committee received and noted the report from the February 2020 meeting of the Patient Safety and Quality Group. The Committee welcomed the news that the Trust's Anaesthesia Clinical Services had retained its accreditation. The Committee had previously reported concerns about the backlog and lack of robustness of the process that the Trust had in place to complete assessments against new NICE guidelines. Accordingly, the Committee had been closely monitoring performance and was pleased to learn that since November 2019, 57 assessments had been completed. The Trust still needed to complete assessment of 34 NICE guidelines however none of these were older than August 2019. This was a significant step forward and the Committee commended the work of the team.

8. Board Assurance Framework & Corporate Risk Registers

The Committee received the Board Assurance Framework (BAF) and Corporate Risk Register which focussed on the four strategic risks (SR) which fall within its remit. The Committee heard that the risk related the seven-day services had been realised therefore the Trust would not be fully compliant by 01 April 2020. This should, however, be taken in the context of the current environment around Covid-19. The Committee also discussed the risk rating for Covid-19, noting that it should be reflective of the current situation, and also the risk rating should reflect that much of the current situation was outside the control of the Trust. The Committee also reflected that the Covid-19 risk was a Board level risk which needed to be adequately captured.

Dame Parveen Kumar
Committee Chair
March 2020

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4.2

Meeting Title:	**Trust Board**		
Date:	26 March 2020	**Agenda No**	**4.2**
Report Title:	**Integrated Quality and Performance Report**		
Lead Director/ Manager:	James Friend, Chief Transformation Officer		
Report Author:	Emma Hedges, Mable Wu, Kaye Glover		
Presented for:	Information and assurance about Quality and Performance for Month 11		
Executive Summary:	This report consolidates the latest management information and improvement actions across our productivity, quality, patient access and performance. **Our Finance & Productivity Perspective** Outpatient activity remains below plan; all other activity is on plan. There has been a lower level of Emergency Department attendances in the month of February reporting below plan by 2% however on target year to date. **Our Patient Perspective** The Trust had one Never Event reported in February and the serious incident investigation has commenced. Support will be provided to staff involved in this incident with emphasis on the importance of learning from this event. There was one MRSA infection and three Clostridium difficile (Cdiff) incidents. The Cdiff year to date position is 45 with 40 Hospital Acquired Infections and five Community Associated infections. The 2019/20 annual threshold for Cdiff is 48. The Trust's Friends & Family positive response rate for inpatient, community and maternity services exceed the target of 90%. In the month of February, 86.2% of patients attending the emergency department would recommend the service to family and friends. This is the highest performance the Trust has seen since December 2017. **Our Process Perspective** **Emergency Flow** – The Trust reported a monthly improvement against the Four Hour Standard in the month of February with a performance of 82.6%. The Trust's trajectory for February was 85.6%. Occupancy for the General and Acute wards has seen a further increase in February with the number of long length of stay patients remaining above the mean with the number of patients staying over 21 days averaging 127, this is a decrease compared to an average of 135 reported in January. In the reporting month 23 patients were reported as waiting in the Emergency Department over twelve hours following a decision to admit. **Cancer** – In the month of January three cancer standards were not met, this included two week rule standard, two week rule standard breast symptomatic and 62 day referral to treatment screening standard. Recovery actions are in place at both Trust level and for individual tumour groups. **Diagnostics** – The monthly diagnostic position in February showed some improvement however the standard of 1% was not achieved, reporting a position of 4.9%. Neurophysiology returned to a compliant position. Echocardiography performance remains challenged, a recovery plan and trajectory is in place to bring waits to within the 6 weeks by May 2020.		

	On the Day Cancellations – Compared to the same period last year the Trust has seen a reduction of 10% in the number of patients cancelled on the day of their operation for non-clinical reasons. Re-booking performance within 28 days of cancellation date remains within expected range with a reported decrease in performance compared to January. **Referral to Treatment** - The Trust reported ten 52 week breaches in January 2020 against a planned trajectory of zero. Monthly performance was reported at 82.2% against a trajectory of 87.2%. Targeted work continues with the aim of reducing the volume of patients on the patient tracking list (PTL), through both additional clinical activity and/or improved RTT coding. **Our People Perspective** The Trust's total agency cost in February was better than the target by £0.02m with a cost of £1.23m against a monthly target of £1.25m. Appraisal rates for clinical and non-clinical areas remain consistently below target of 90% with rates of 81.7% and 72.4% respectively.		
Recommendation:	The Board is asked to note the report.		
Supports			
Trust Strategic Objective:	Treat the Patient Treat the Person Right Care Right Place Right Time		
CQC Theme:	Safe, Caring, Responsive, Effective, Well Led		
Single Oversight Framework Theme:	Quality of Care Operational Performance		
Implications			
Risk:	NHS Constitutional Access Standards are not being consistently delivered and risk remains that planned improvement actions fail to have sustained impact		
Legal/Regulatory:	The trust remains in Quality Special Measures based on the assessment of the Regulator NHS Improvement		
Resources:	Clinical and operational resources are actively prioritised to maximise quality and performance		
Previously Considered by:	Trust Executive Finance and Investment Committee Quality and Safety Committee	**Date**	18/3/2020 19/3/2020 19/3/2020
Equality Impact Assessment:			
Appendices:			

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Integrated Quality and Performance Report

4.2

For Trust Board
Meeting Date – 26 March 2020

James Friend
Chief Transformation Officer

26 March 2020

Our Outcomes

How Are We Doing?

February 2020

Daycase and Elective Surgery operations

Actual: 4,920

Target: 5,083

AMU bed occupancy at 12 Noon

Actual: 93% Target: 85%

Four Hour Emergency Standard

Actual: 82.6%

Plan: 95%

Whole Trust Inpatient Friends and Family Test

Actual 96.6%

Target 95%

Outpatient First Attendance

Actual 14,769

Plan 16,996

January 2020

Referral to Treatment Standard - Incomplete pathways

Actual: 82.2%

Target: 92%

4.2

Balanced Scorecard Approach

OUR **OUTCOMES**	How are we doing?					
OUR **FINANCE** & **PRODUCTIVITY** PERSPECTIVE	Activity Summary	Outpatient Productivity	Theatre Productivity	Bed Productivity	Performance against Budget	CIP Delivery
OUR **PATIENT** PERSPECTIVE	Patient Safety (A)	Infection Control	Mortality	Readmissions	Maternity	Patient Voice
OUR **PROCESS** PERSPECTIVE	Emergency Flow	Cancer	Diagnostics	On the day cancellations	18 Week Referral to Treatment	
OUR **PEOPLE** PERSPECTIVE	Workforce	Agency Use (A)	Estates Health and Safety			

Key

Current Month

(A) Previous Month

Executive Summary – February 2020

Our Finance and Productivity Perspective

- Outpatient Activity at Trust level is 3.6% below SLA plan year to date and below monthly plan by 9.7%. Activity levels remained within normal process limits though the activity levels for first outpatients has been below the mean for the past seven months showing special cause variation.
- Outpatient Did Not Attend (DNA) rates continue for the second month to be below the lower process limit likely due to an increase in voice reminders two and seven days prior to patient appointments.
- Daycase and Elective activity is just below SLA plan year to date with the number of procedures per working day above the long term mean. The Trust's Elective activity is currently 6% ahead of the same year to date period last year. Theatre utilisation remains within the upper and lower control limits however average cases per session remains below the mean.
- There has been a lower level of Emergency Department attendances in the month of February, reporting below plan by 2% in month and 4% lower compared to the same month last year. The number of attendances against SLA plan year to date is on target.

Our Patient Perspective

- The percentage of low harm and no harm incidents was 96% however there was one Never Event in February.
- Safety thermometer metric, percentage of patients with harm free care, remains above the average; all other patient safety metrics show common cause variation.
- There was one MRSA infection and three Cdiff incidents. The Cdiff YTD position is 45 with 40 Hospital Acquired Infections and five Community Associated infections. The 2019/20 annual threshold for Cdiff is 48.
- The Trust Mortality rate is within the expected range and the readmission rate shows common cause variation
- In the month of February, 86.2% of patients attending the emergency department would recommend the service to family and friends. This is above the mean and the highest performance seen since December 2017.

Our Process Perspective

- The Trust's February four hour performance was 82.6% against a target of 95% which is an improvement from the January position of 81.7%. The number of patients waiting over 12 hours following a decision to admit has increased to 23 in the month of February.
- The Trust met four of the seven cancer standards in January. Standards that were not met were the 14 day standards at 88.6%, the 14 day Breast Symptomatic standard at 81.4% and the 62 day referral from Screening to Treatment at 82.7%.
- In February, the Trust did not achieve the six week diagnostic standard with an adverse performance of 4.9% against a National Threshold of 1% and London performance of 3.4%.
- In January, the Trust remained behind trajectory for incomplete Referral To Treatment (RTT) performance. The submitted performance was 82.2% against a trajectory of 87.2%.

Our People Perspective

- The Trust's total pay for February was £44.01m. This is £1.66m adverse to a plan of £42.34m.
- The total agency cost was better than the target by £0.02m with a cost of £1.23m against a monthly target of £1.25m

Balanced Scorecard Approach

4.2

Our Finance & Productivity Perspective

Activity against our Plan

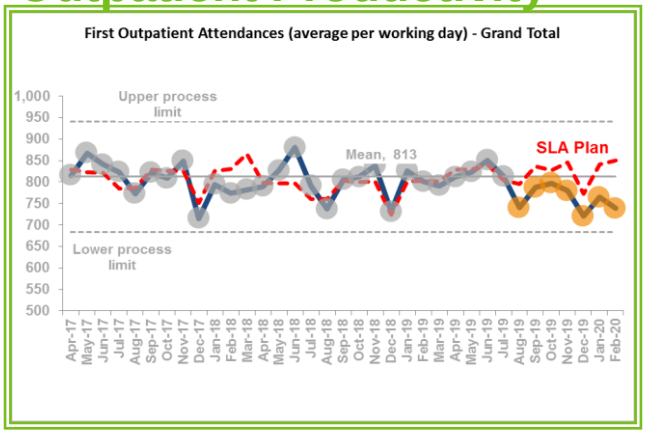
		Activity compared to previous year			Activity against plan for month		Activity compared to previous year			Activity against plan YTD	
		Feb-19	Feb-20	Variance	Plan Feb-20	Variance	YTD 18/19	YTD 19/20	Variance	Plan YTD	Variance
ED	ED Attendances	13,738	13,171	-4.13%	13,446	-2.05%	154,291	154,851	0.36%	155,338	-0.31%
Inpatient	Non Elective	3,608	4,156	15.19%	3,857	7.75%	43,623	44,407	1.80%	43,870	1.22%
	Elective & Daycase	4,926	4,920	-0.12%	5,083	-3.21%	53,340	56,549	6.02%	56,918	-0.65%
Outpatient	OP Attendances	53,711	50,726	-5.56%	56,197	-9.74%	614,755	609,921	-0.79%	632,864	-3.63%

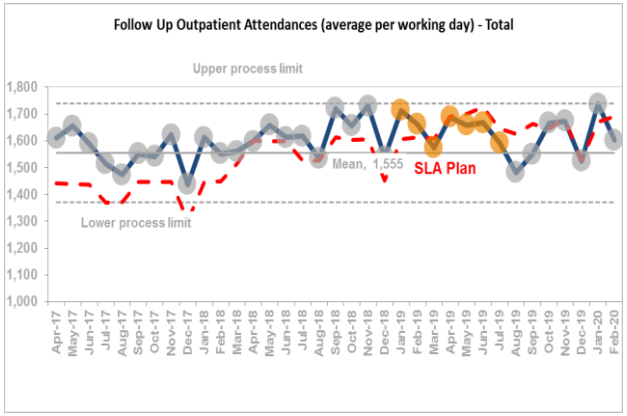
>= 2.5% and 5% (+ or -)
>= 5% (+ or -)

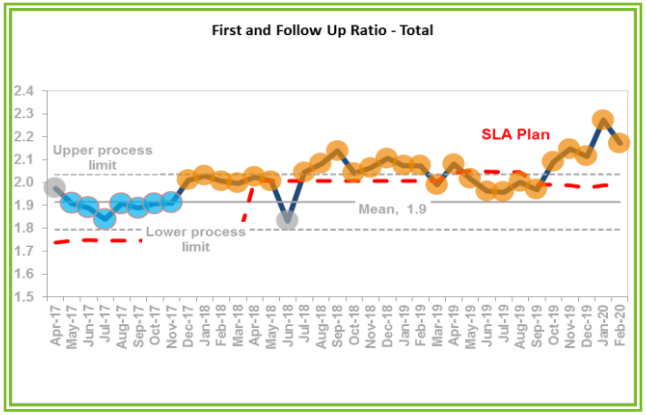
Note: Figures quoted are as at 09/03/2020, and do not include an estimate for activity not yet recorded (eg. un-cashed clinics). The expected performance vs. plan by Point of Delivery (POD) post catch up is:

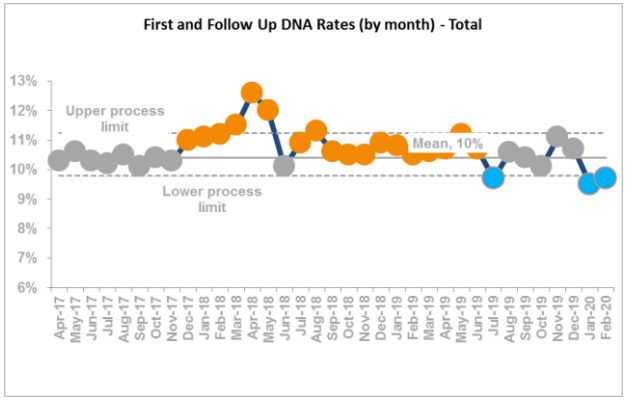
ED – No change
Elective and Daycase – On Plan
Outpatients – Underperformance against plan (c3%)

Outpatient Productivity









- Special cause variation - improving performance
- Common cause variation
- Special cause variation - deteriorating performance

What the information tells us

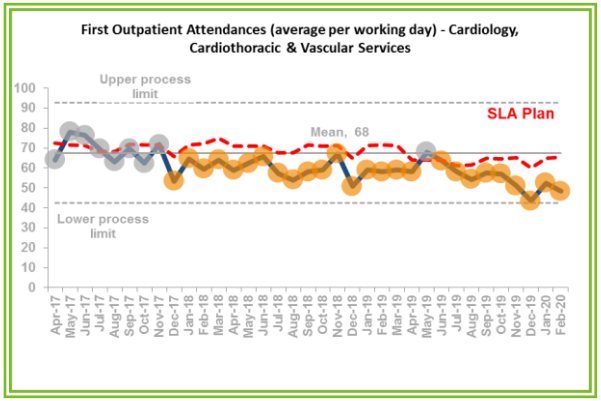
- Outpatient first activity continues to perform below the mean and also below SLA plan. Cardiology, Cardiothoracic and Vascular Services as well as Surgery first outpatients activity remains below the mean. Women's services has fallen below the lower control limit in February, however we expect this to return to within process control limits once coding has fully completed. All other services are within their control limits.
- At Trust level, follow-up activity remains within its process limits; both Cardiothoracic and Vascular services and Surgery are performing below the mean for a sustained period of time.
- As a result of the outpatient first activity being consistently below the mean and follow-up activity staying within control limits, the first to follow-up ratio remains above the upper control limit.
- Similar to January, the Trust DNA rate has fallen below the lower process limit in the month of February reporting 9.7% showing sustained improvements in six of specialties – Cardiothoracic & Vascular, Children's, Renal & Oncology, Surgery, Women's and Trauma & Orthopaedics.
- DNA rates within 'Other' continue to be above the upper control limit, this is largely driven by the number of patients not attending their first appointment within Therapies.

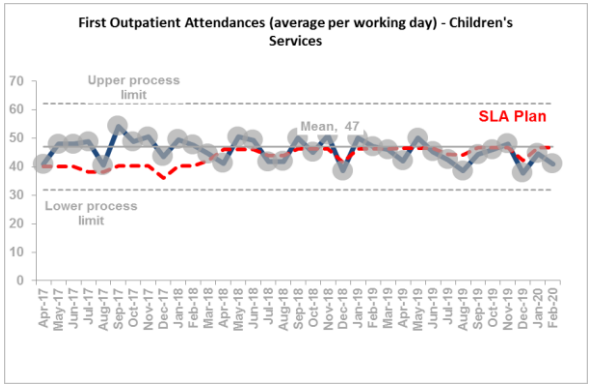
Actions and Quality Improvement Projects

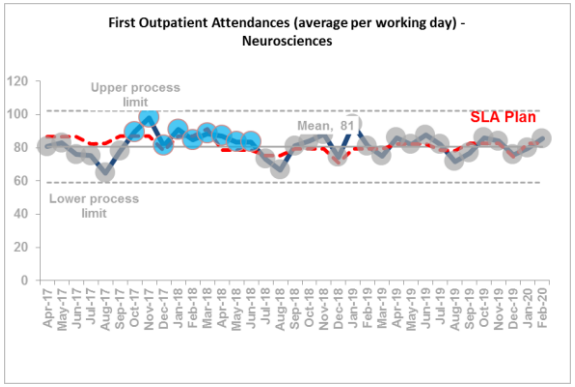
- Activity is tracked weekly to ensure all available slots are utilised. Previous gaps in Consultant workforce are now once again fully established within General Surgery and with a full management team for the first time since April 2019, the service can expect to see improved activity and performance going forward.
- Cardiology working with Care Group Lead and Consultants to paper triage referrals whilst current admin issues are resolved working towards a long term solution. Demand and Capacity analysis to be undertaken for the service.
- Vascular scans that have previously been coded as outpatient activity is now captured under the Patient Outcome Data (POD) of diagnostics. The service has also seen high cancellation rates , the service together with the Care Group Lead and Head of Nursing are reviewing to understand and address the current issues.
- Thoracic – although this is a small service there has been a reduction in the number of referrals received and clinics have not been fully utilised, service are currently investigating reasons as to why this would be.

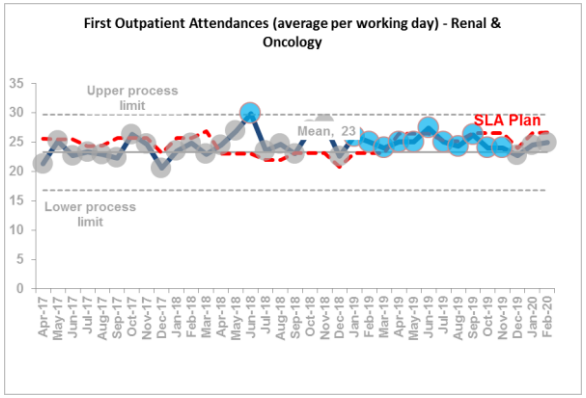
Number of First Outpatient attendances per Working Day

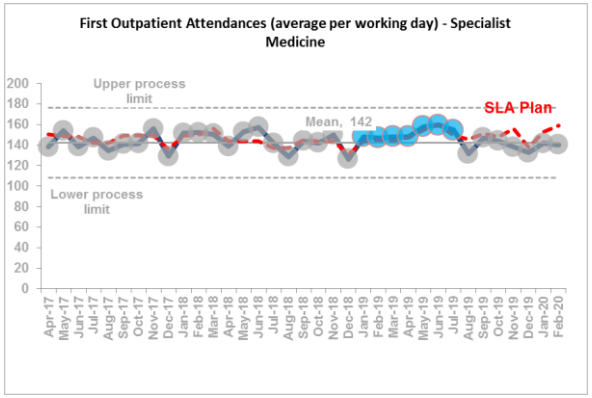
- Special cause variation - improving performance
- Common cause variation
- Special cause variation - deteriorating performance

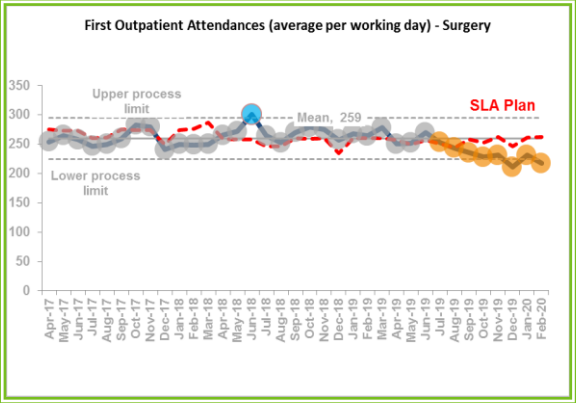


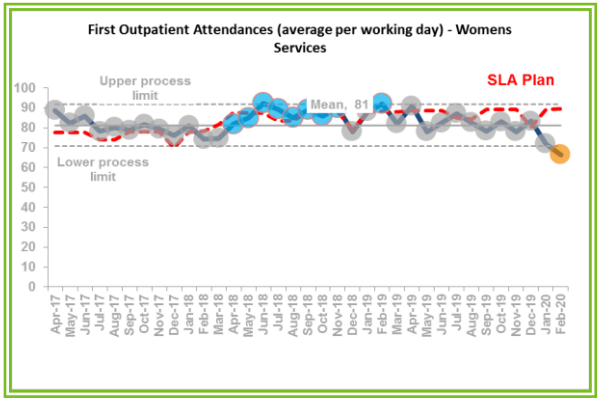


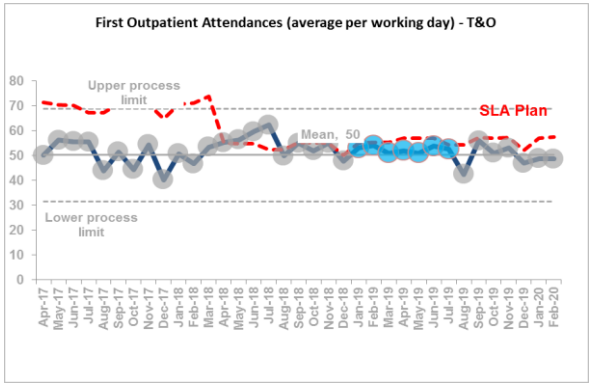






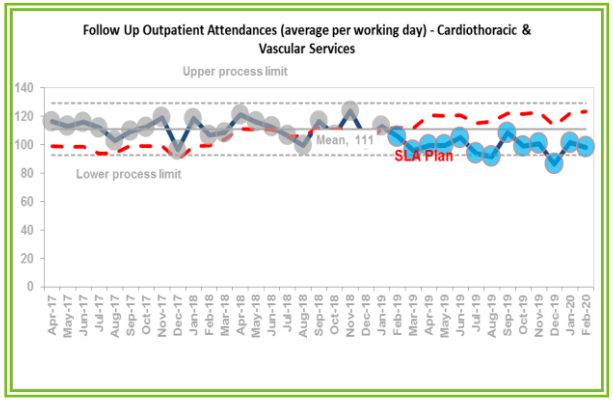


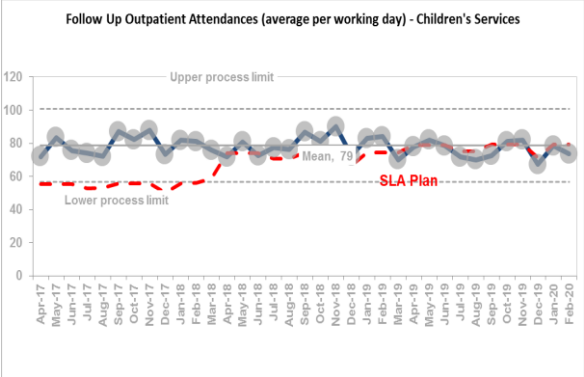


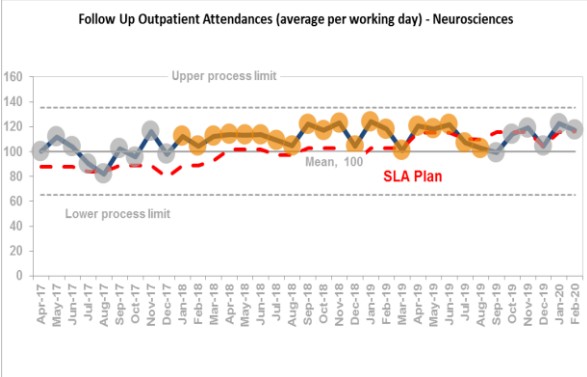


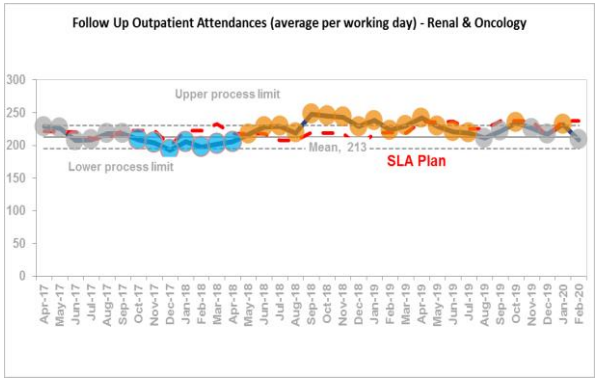
Number of Follow Up Outpatient attendances per Working Day

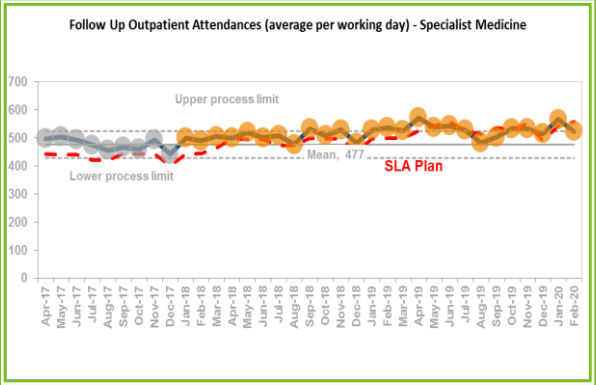
- Special cause variation - improving performance
- Common cause variation
- Special cause variation - deteriorating performance

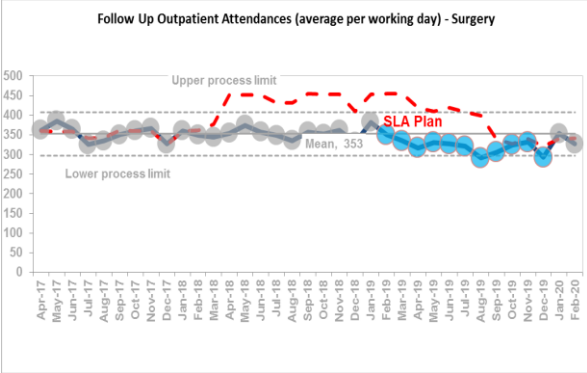


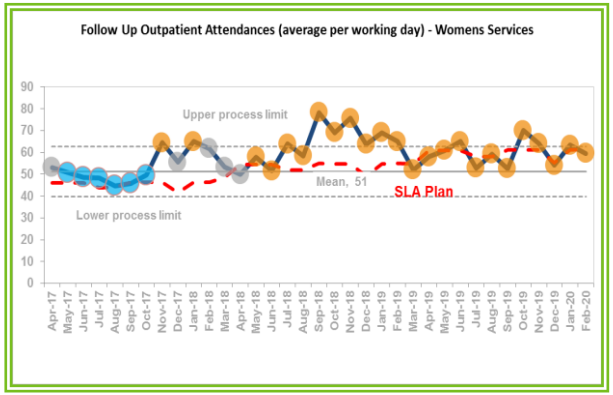


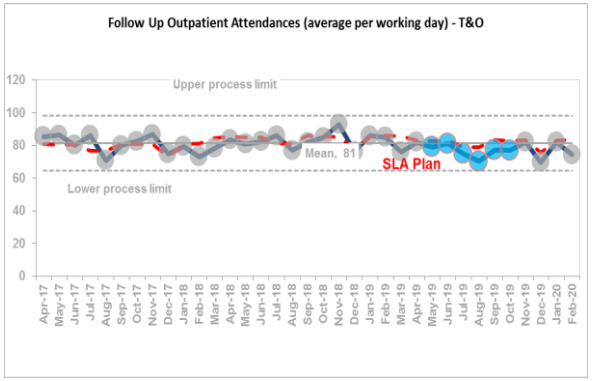






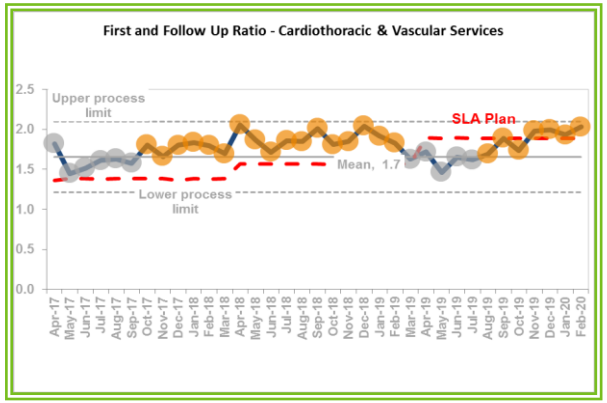


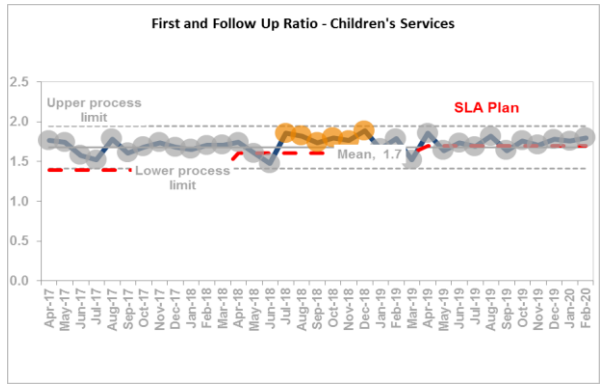


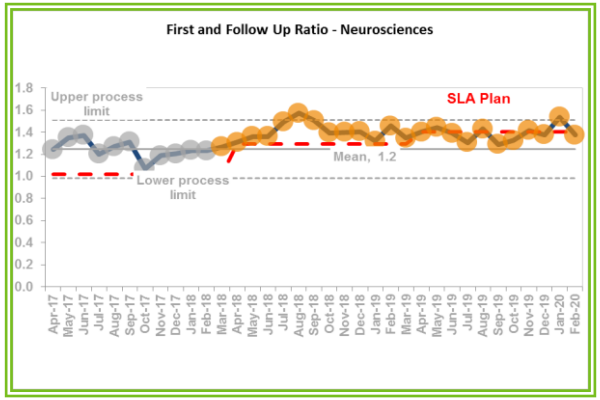


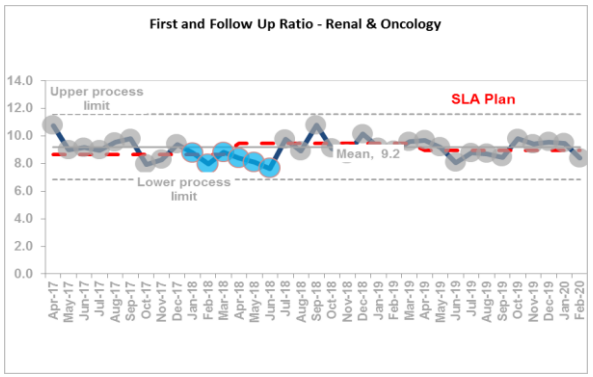
New to Follow Up Ratios

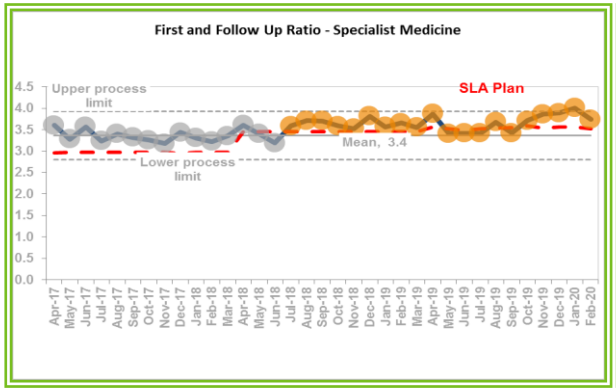
- Special cause variation - improving performance
- Common cause variation
- Special cause variation - deteriorating performance

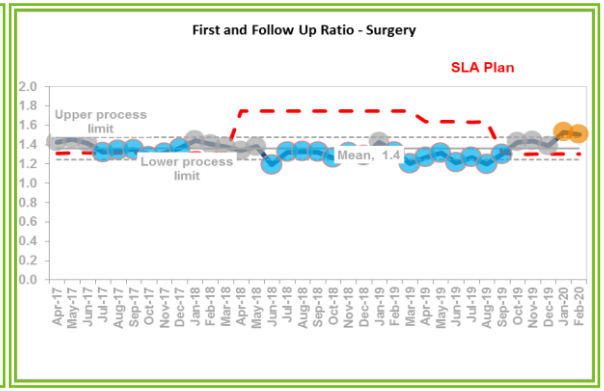


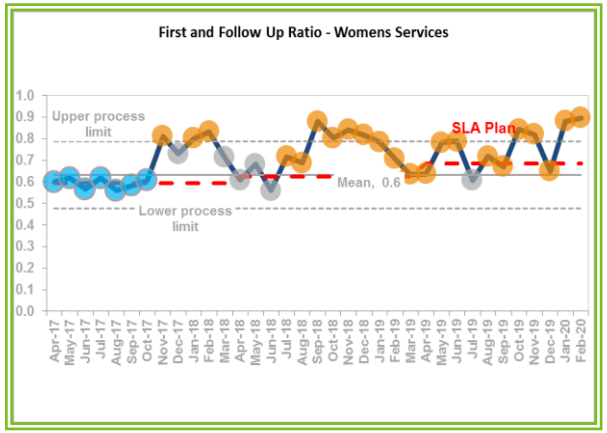


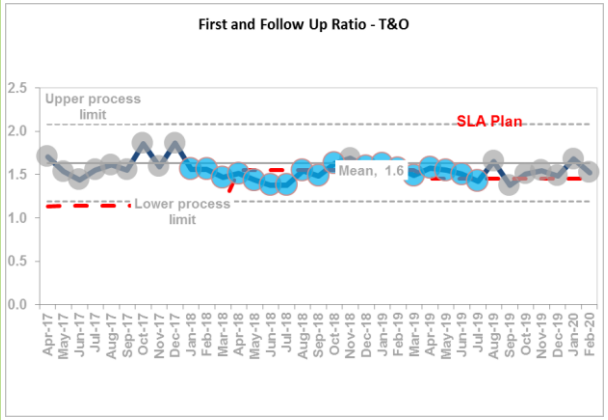










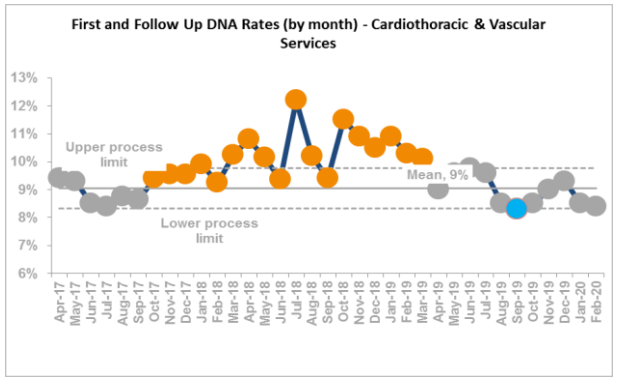


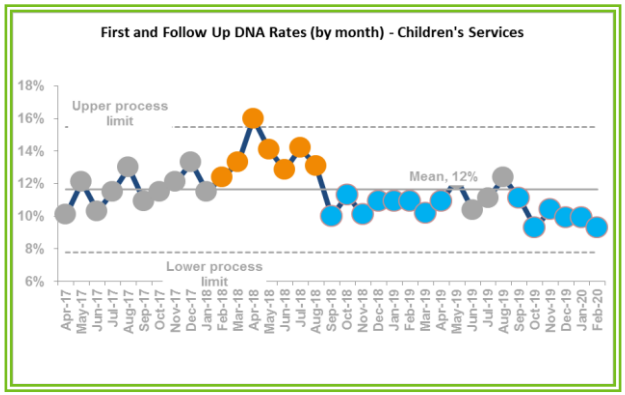
Our Finance & Productivity Perspective

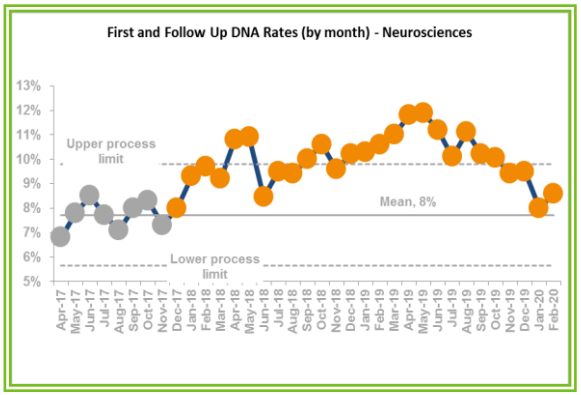
4.2

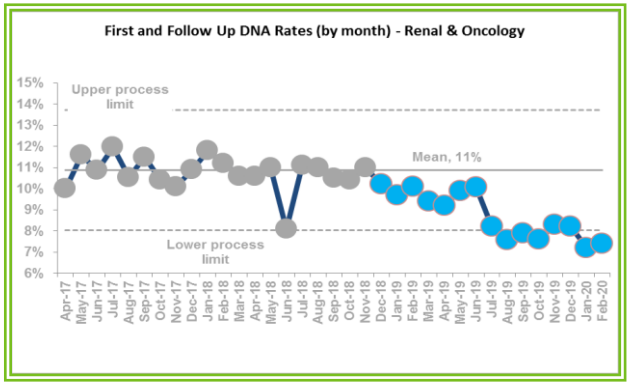
Number of Patients that did not attend

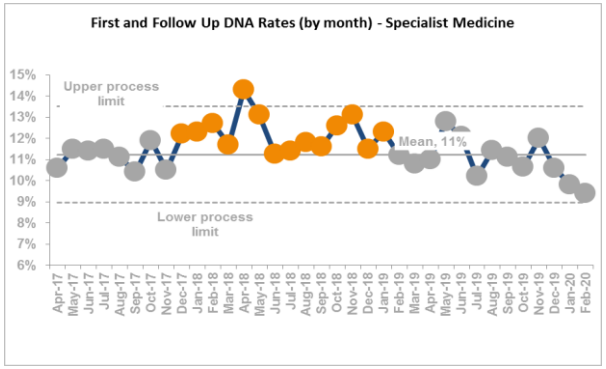
- Special cause variation - improving performance
- Common cause variation
- Special cause variation - deteriorating performance

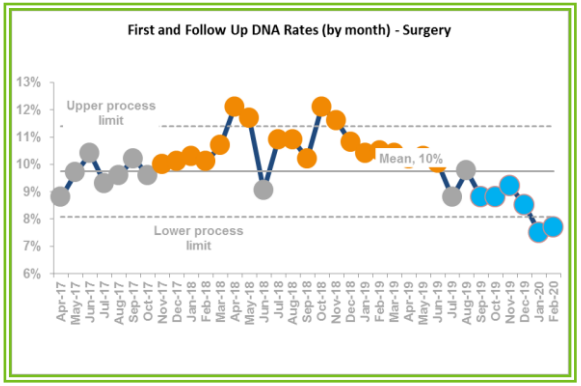


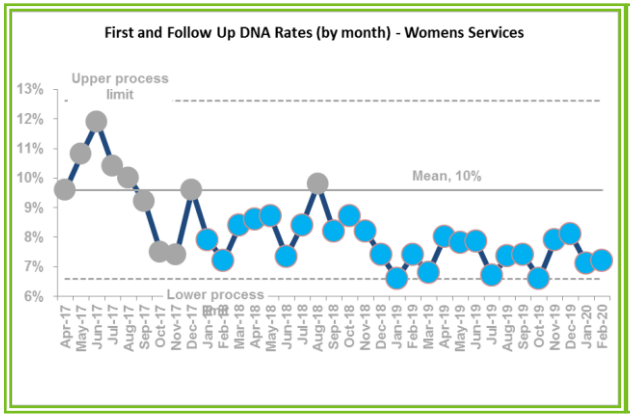


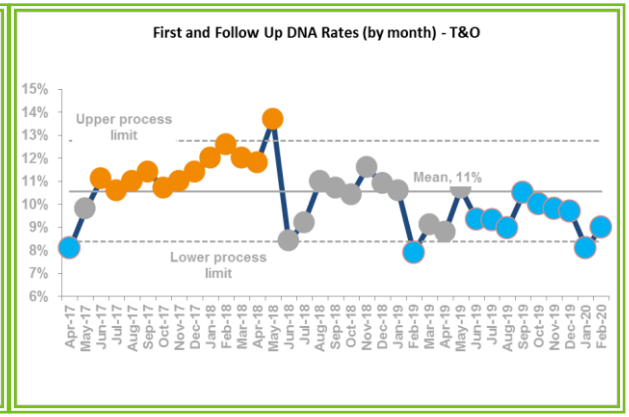


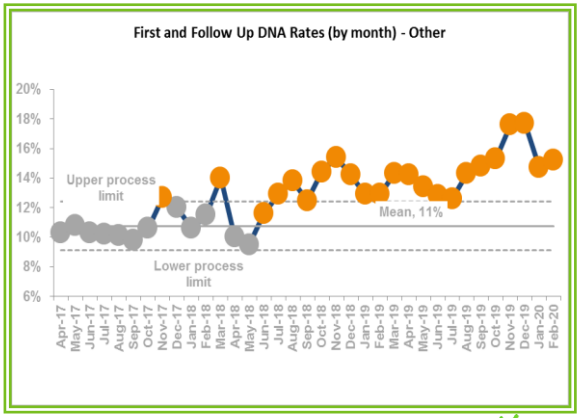








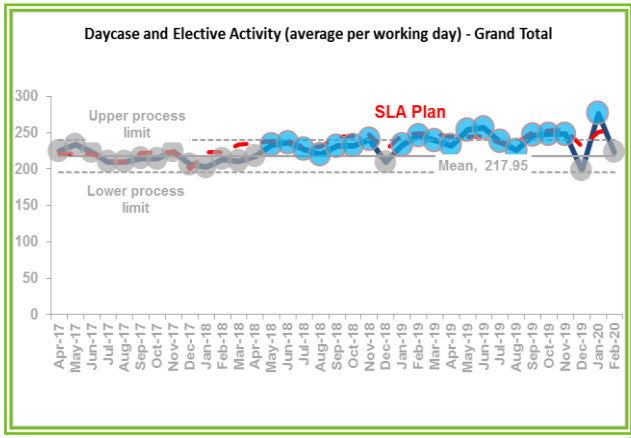


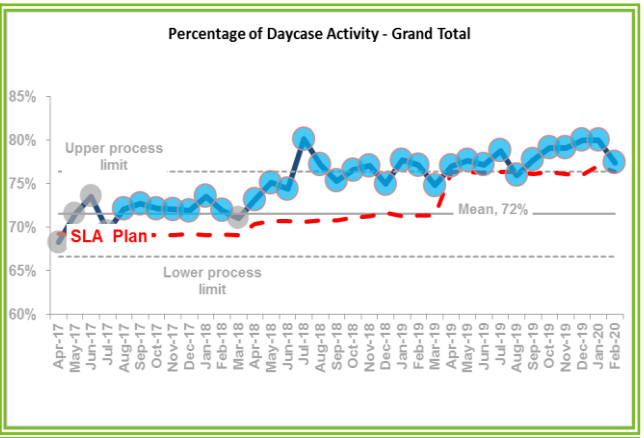


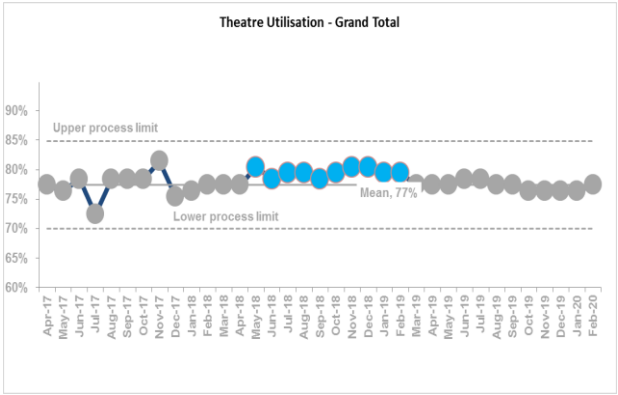
Our Finance & Productivity Perspective

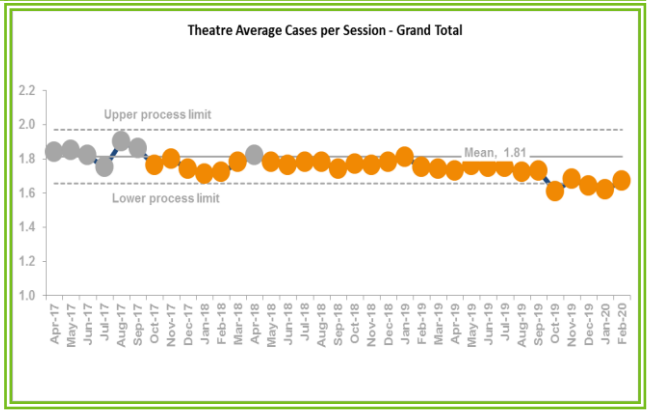
4.2

Theatre Productivity









Actions and Quality Improvement Projects

- Theatres are ensuring that there is focused work supporting a prompt start to all theatre sessions. This is linked to a weekly task and finish group.
- The Theatre Improvement Programme has been re-launched reviewing the entire admissions pathway, with a focus on patient and staff experience. The change management process is being led by staff in theatres and booking teams.
- The Theatre Improvement Programme has been re-launched reviewing at the entire admissions pathway, with a focus on patient and staff experience. The change management process is being led by staff in theatres and booking teams.

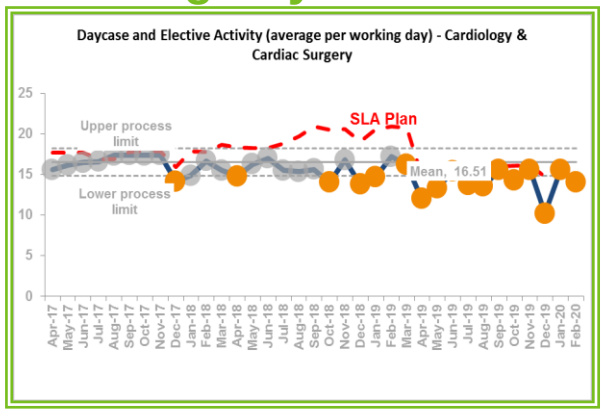
- Special cause variation - improving performance
- Common cause variation
- Special cause variation - deteriorating performance

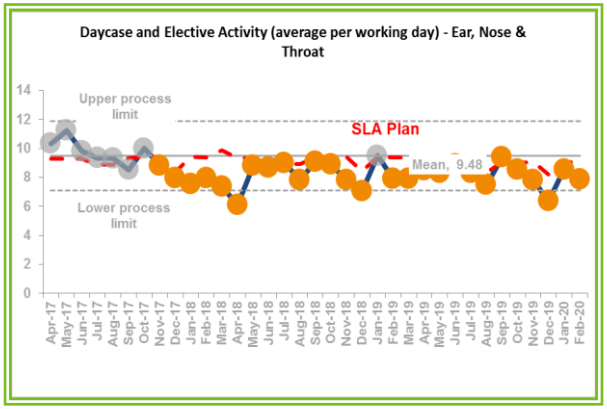
What the information tells us

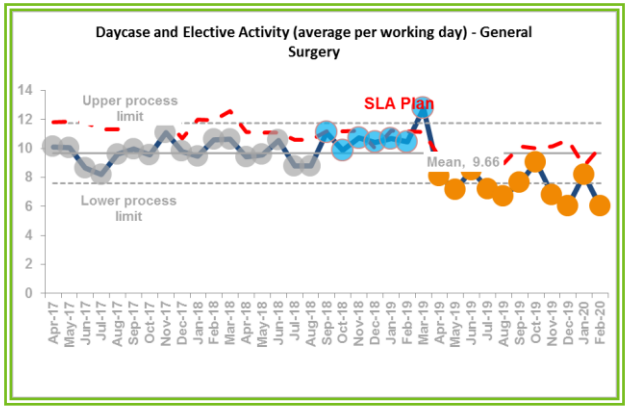
- Activity data for elective treatments for February is currently below plan year to date of less than 1%. There will be an element of data correction and catch up.
- Cardiology & Cardiac Surgery, General Surgery, Thoracic Surgery and Ear Nose &Throat specialties are showing special cause variation as these specialties are below their means for over six months. Vascular surgery and Trauma & Orthopaedics are also below it lower process limit in February. Plastic Surgery continues to perform consistently above its long term mean.
- The percentage of daycase activity is currently above the upper control limit at Trust level and performing above target. A number of specialties have seen activity levels consistently above the mean with Oncology, Paediatric Medicine, Plastic Surgery are above the upper control limit.
- The Trust's Cases per Session is consistently below its mean. General Surgery, Plastic Surgery, Trauma & Orthopaedics and Neurosurgery continue to see a trend below the mean for six months or more.
- The Trust's Theatre utilisation remains within its control limits. Ear Nose & Throat have consistently performed above the mean for the past seven months whereas General Surgery and Trauma & Orthopaedics have consistently performed below their means for the past seven month

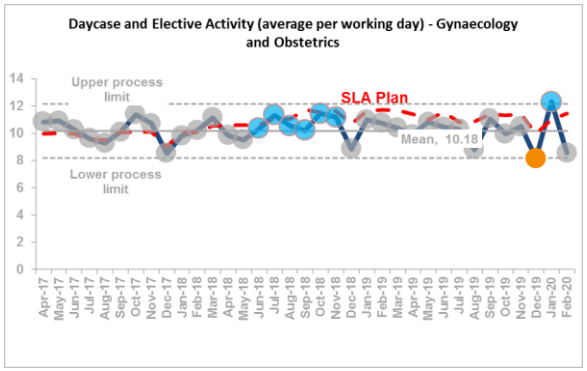
Number of Elective and Daycase Patients treated per Working Day

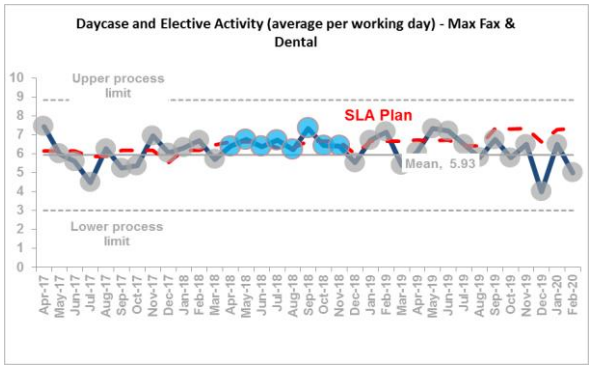
- Special cause variation - improving performance
- Common cause variation
- Special cause variation - deteriorating performance

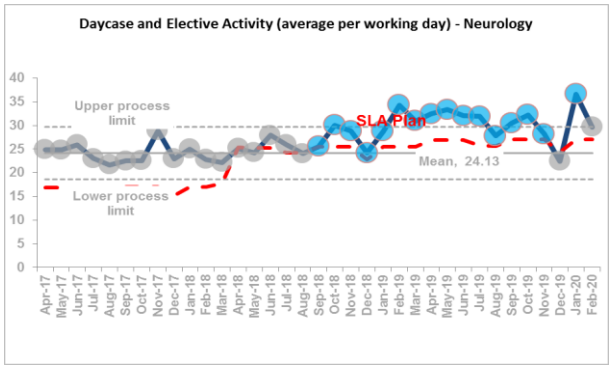


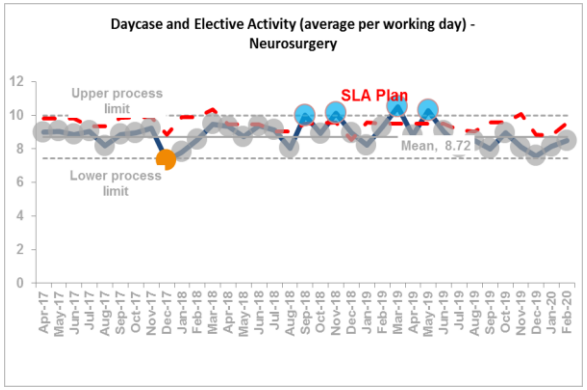


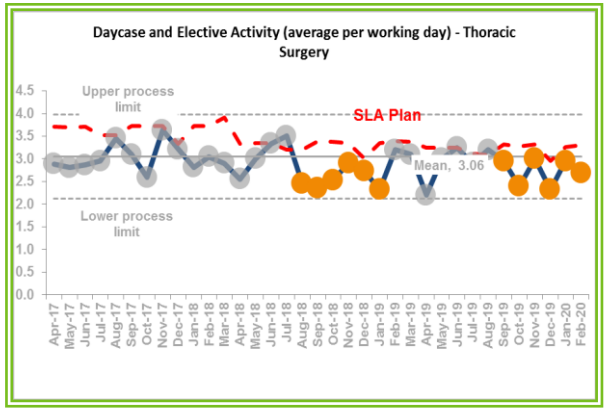


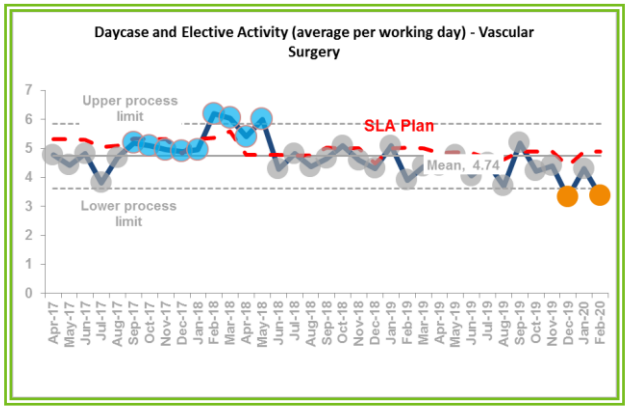






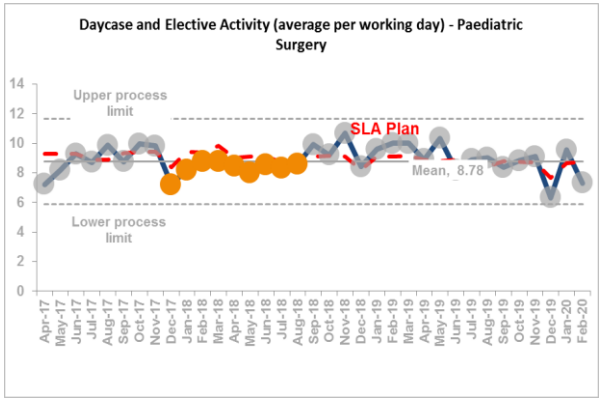


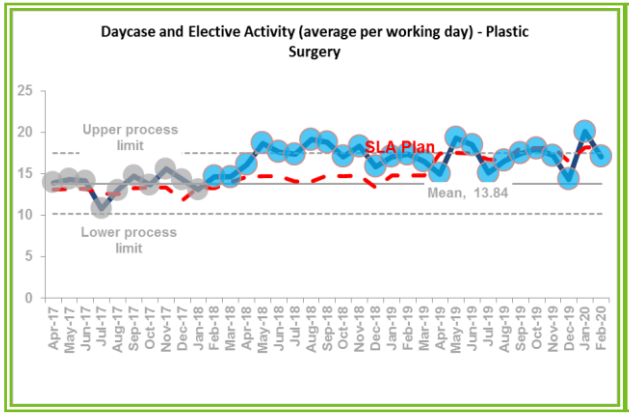


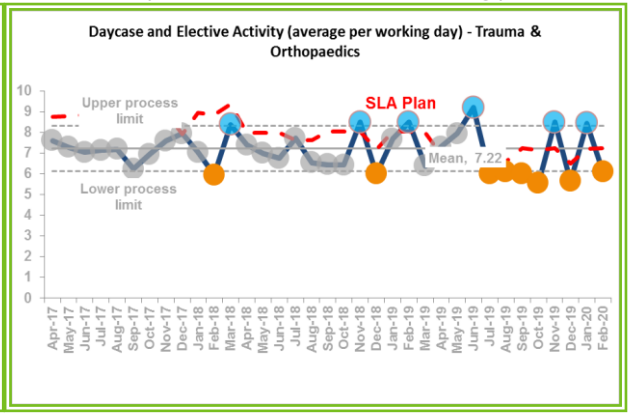


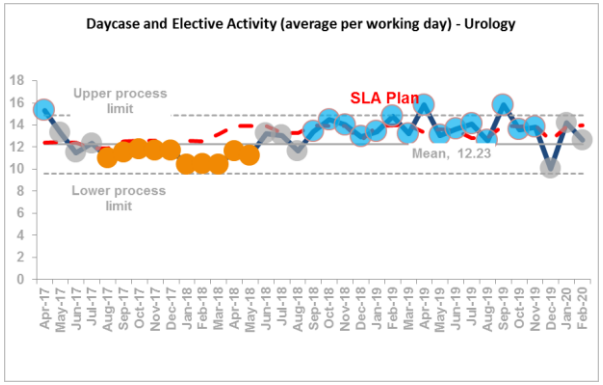
Number of Elective and Daycase Patients treated per Working Day

Special cause variation - improving performance
Common cause variation
Special cause variation - deteriorating performance







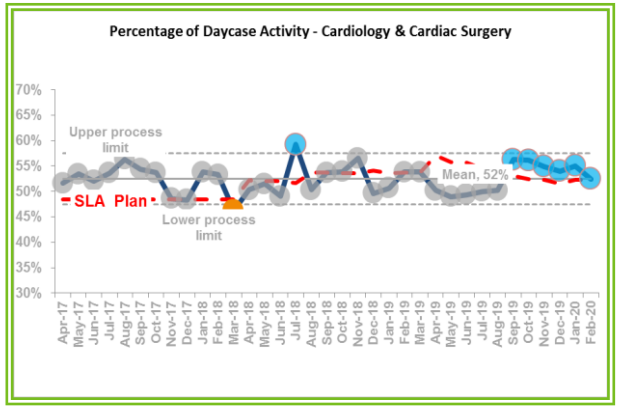


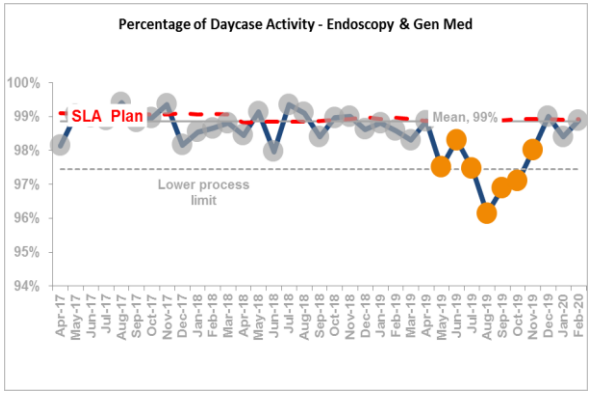
4.2

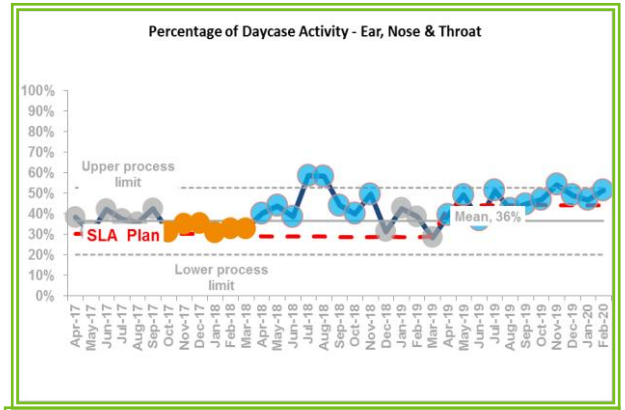
Our Finance & Productivity Perspective

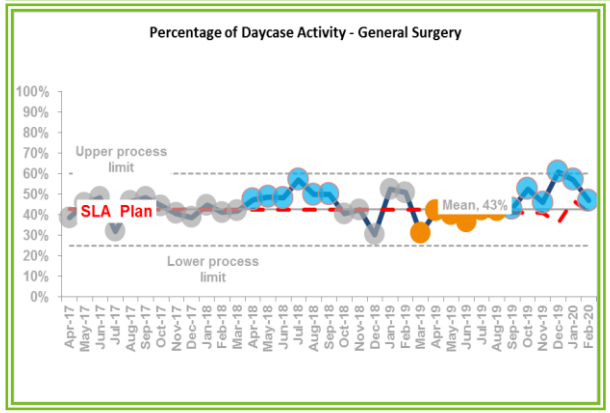
Percentage of daycase activity

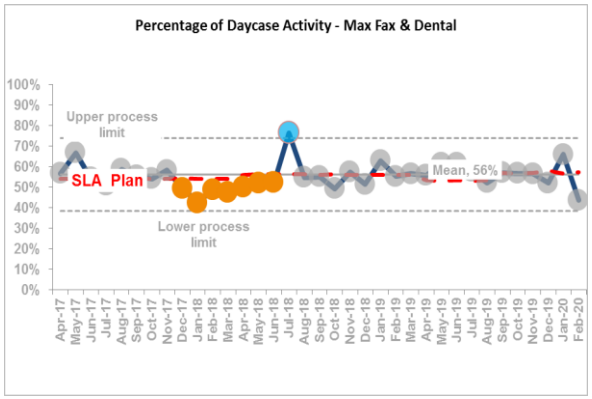
- Special cause variation - improving performance
- Common cause variation
- Special cause variation - deteriorating performance

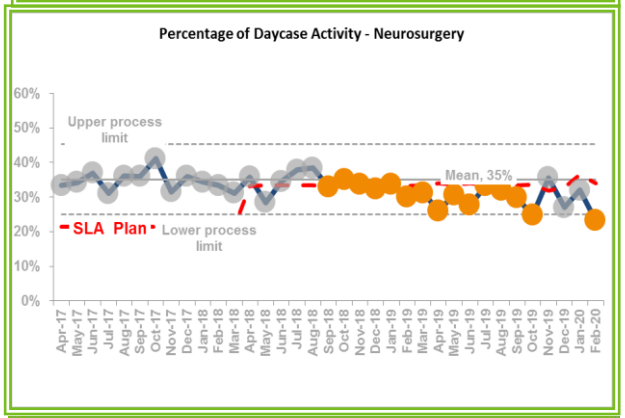


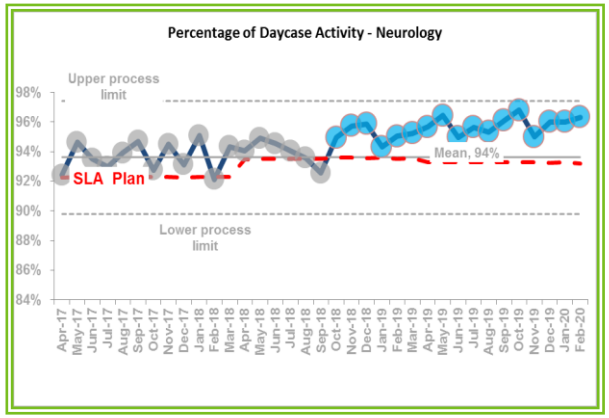


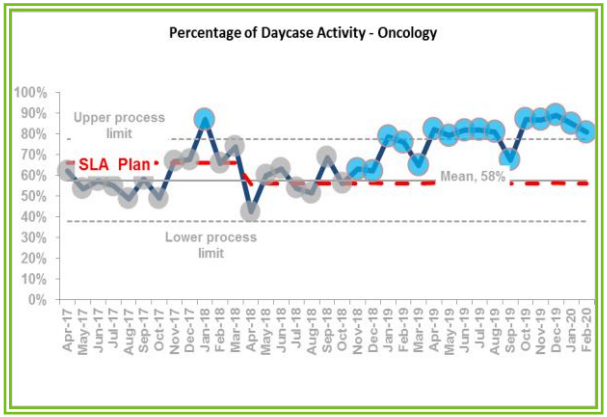


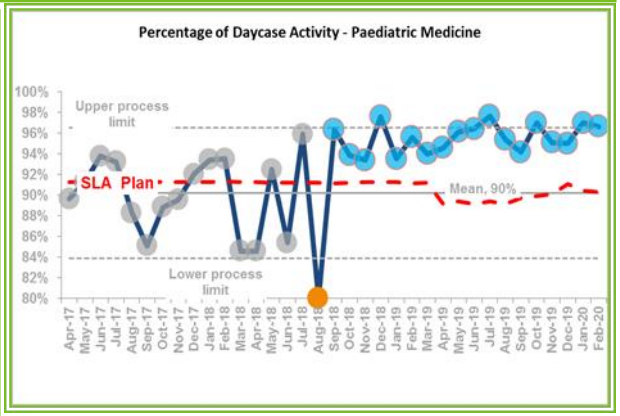






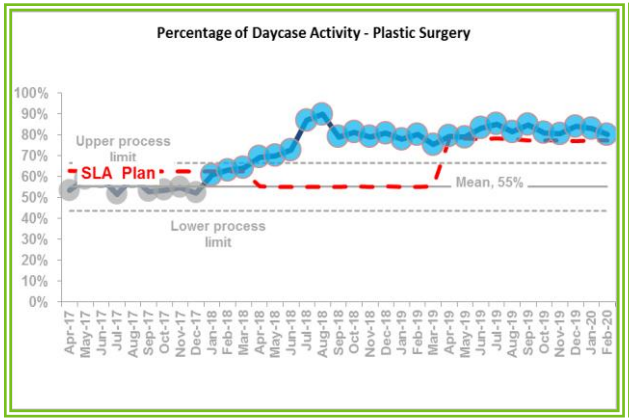


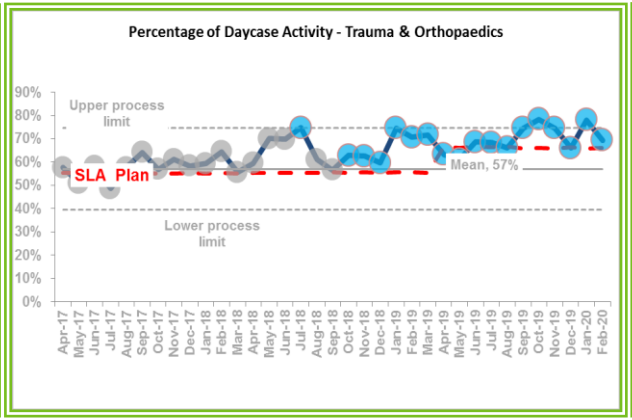


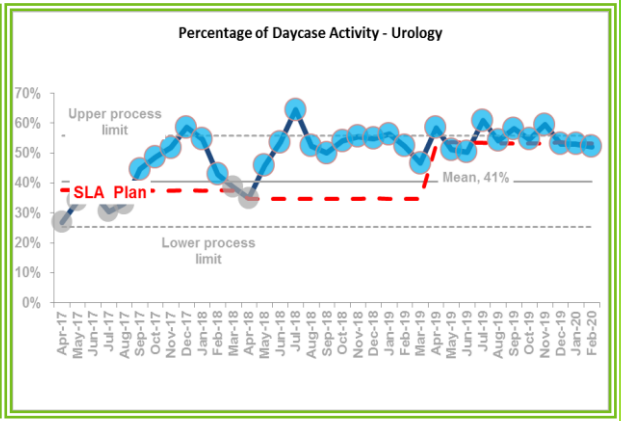


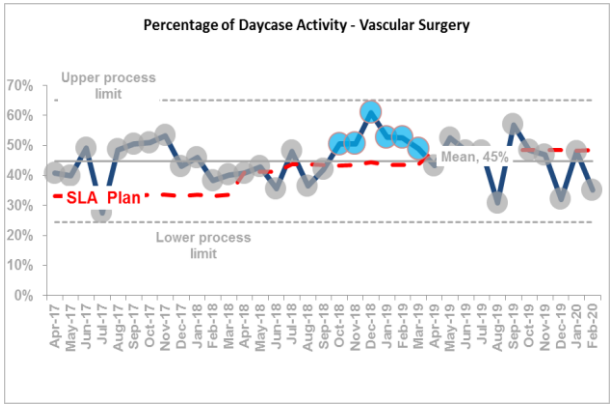
Percentage of daycase activity

- Special cause variation - improving performance
- Common cause variation
- Special cause variation - deteriorating performance



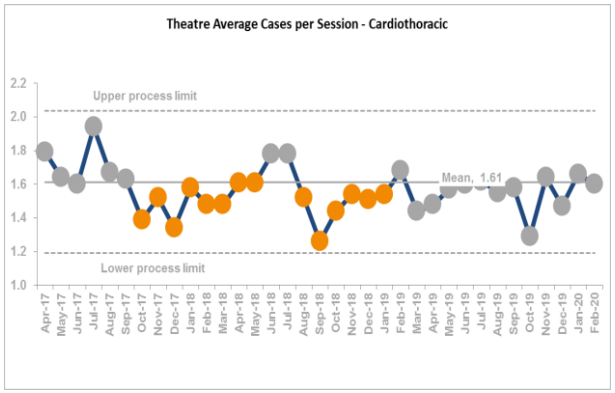


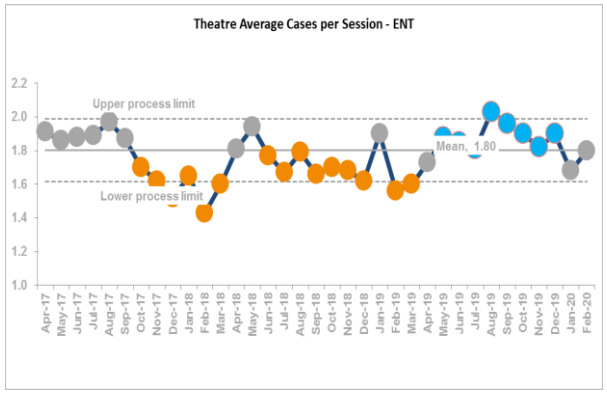


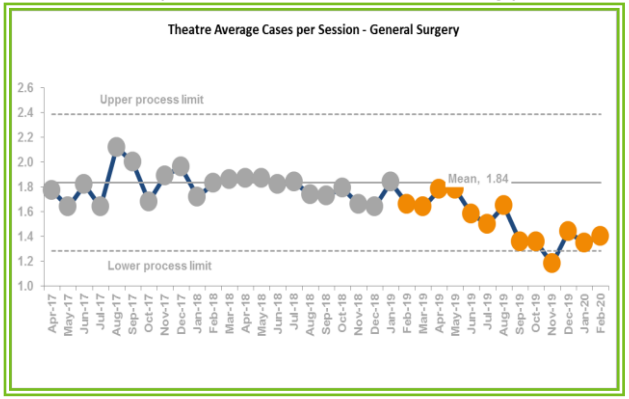


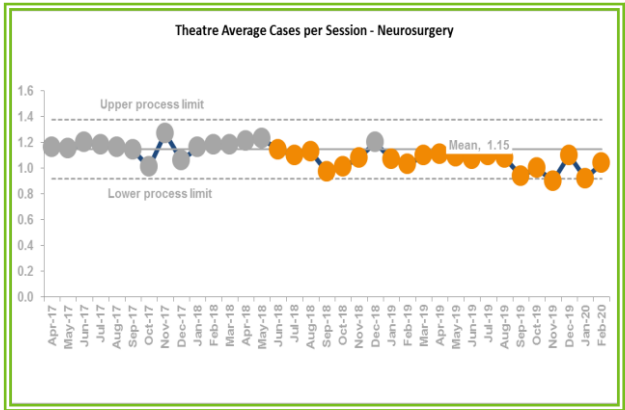
Theatre productivity – Cases per Session

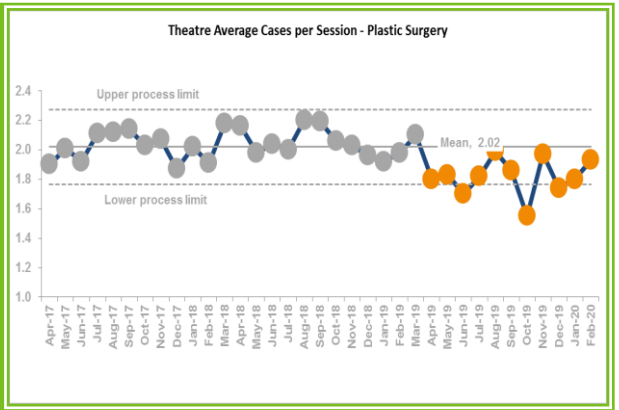
Special cause variation - improving performance
Common cause variation
Special cause variation - deteriorating performance

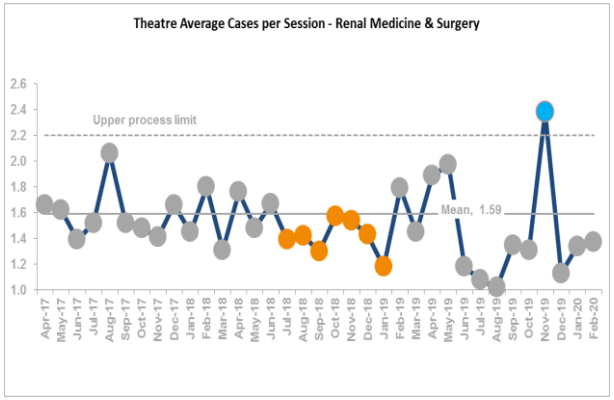


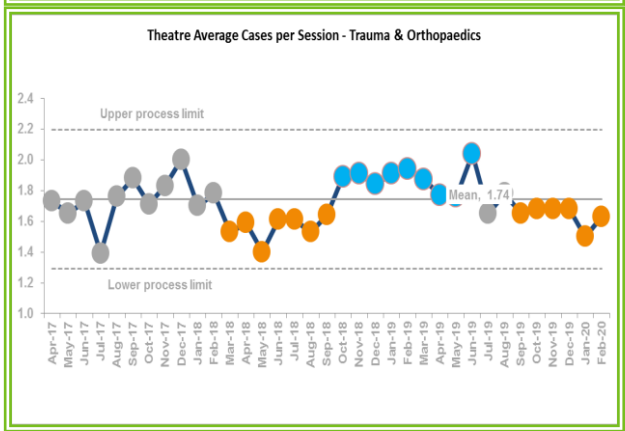


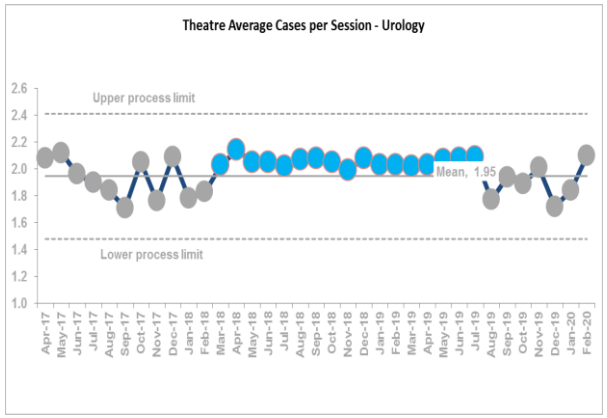


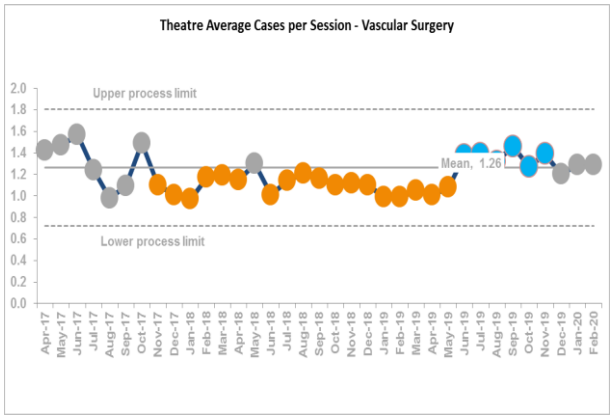










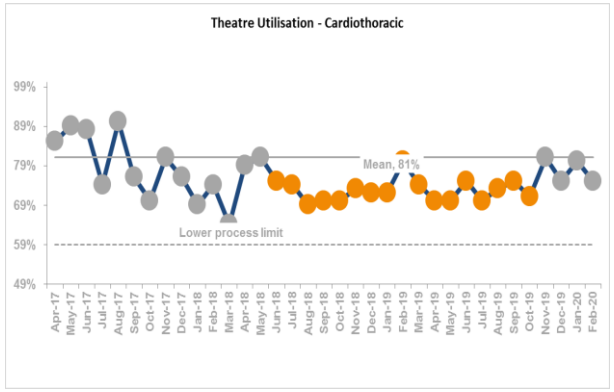


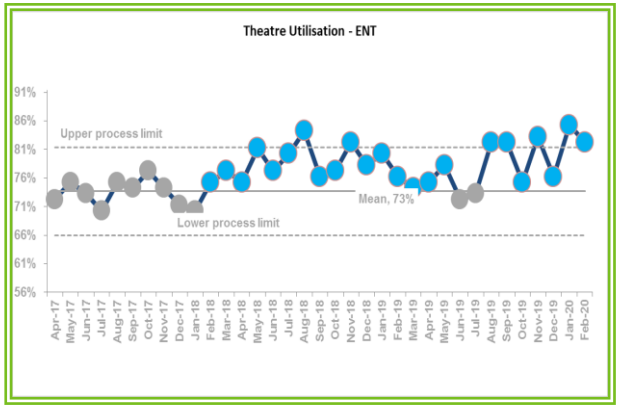
Our Finance & Productivity Perspective

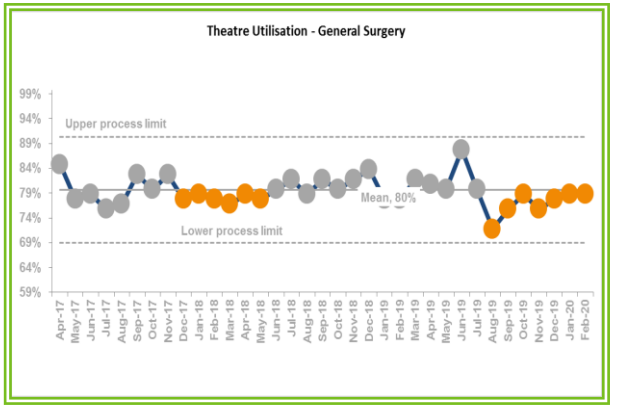
4.2

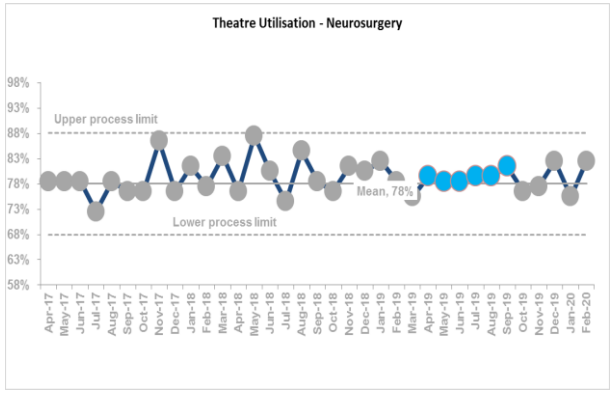
Theatre productivity – Utilisation

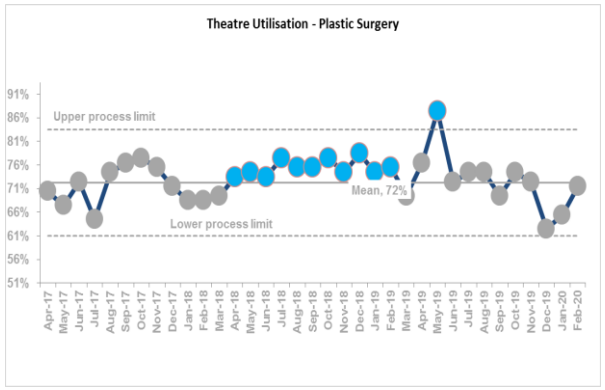
- Special cause variation - improving performance
- Common cause variation
- Special cause variation - deteriorating performance

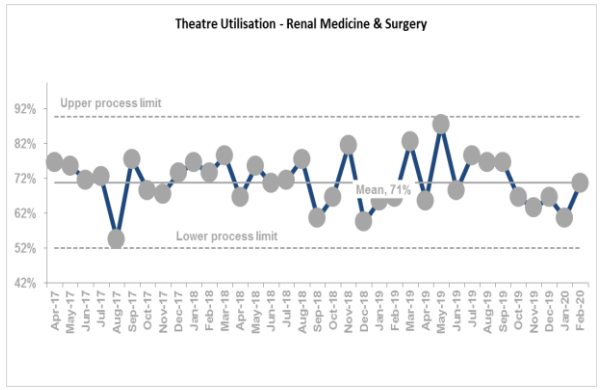


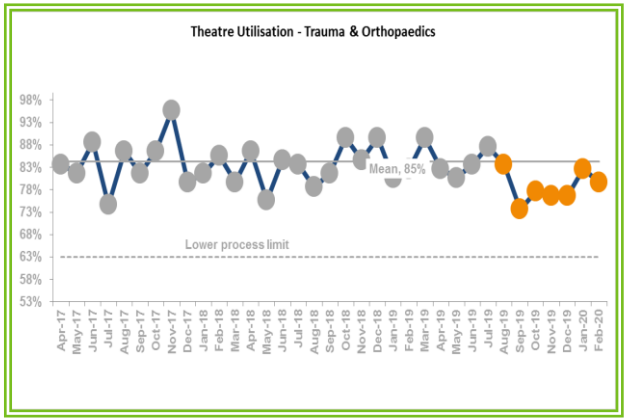


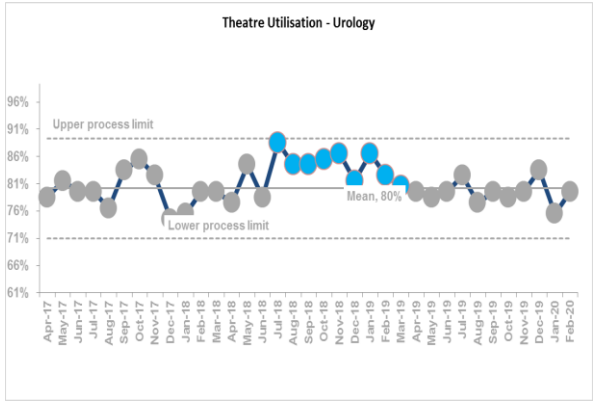


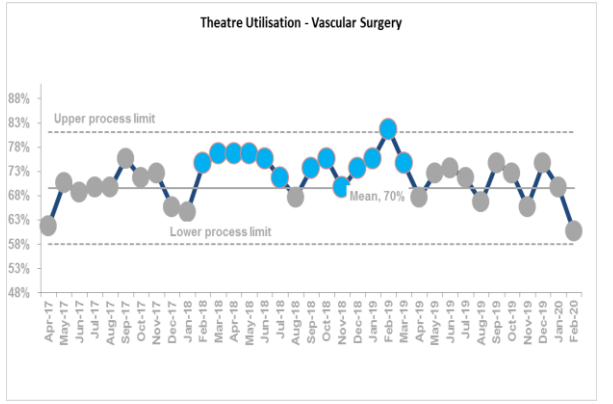








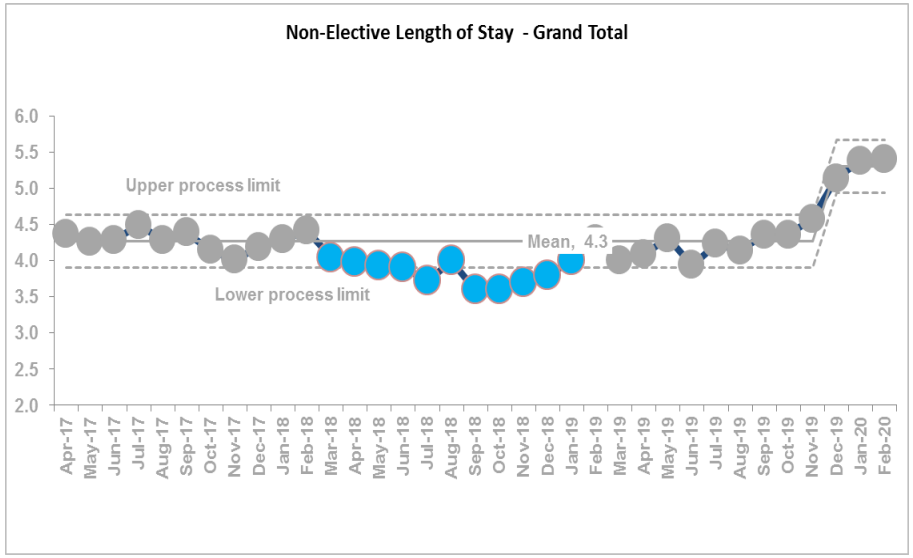


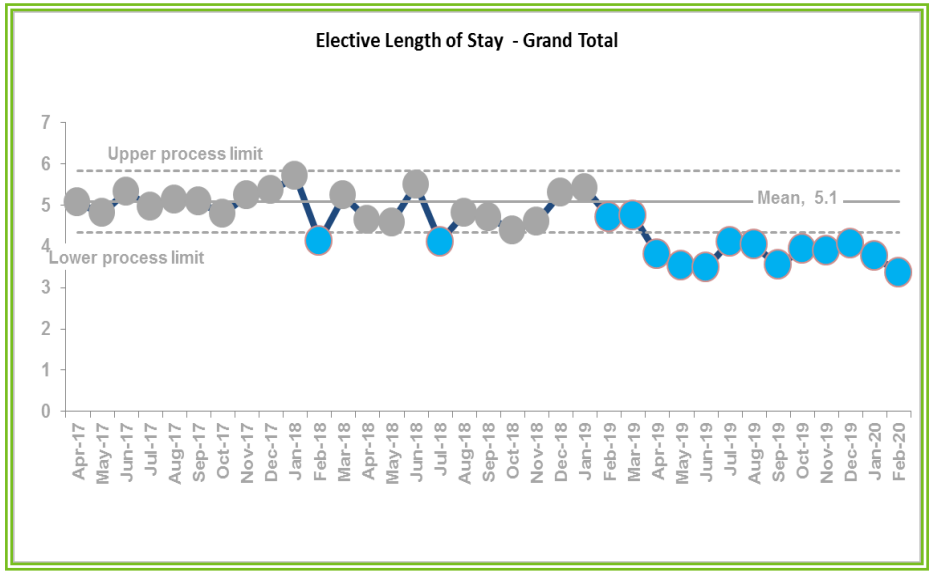


Our Finance & Productivity Perspective

4.2

Length of Stay





What the information tells us

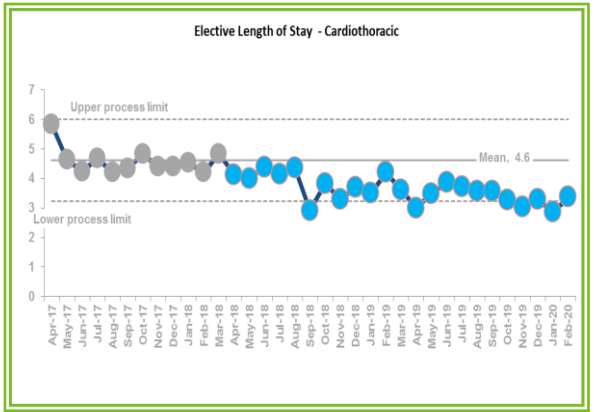
- There has been a reduction in the number of patients with a zero length of stay due to a change in pathway within the emergency department therefore affecting the number of patients admitted for short stay (change highlighted in the chart above with a break point added in December).
- As previously stated, the non-elective length of stay increase is primarily seen within Acute Medicine. There has been a reduction in the number of patients with a zero length of stay due to a change in pathway within the emergency department therefore affecting the number of patients admitted for short stay (change highlighted in the chart above with a break point added in December).
- Cardiothoracic's non-elective length of stay has shown special cause variation with six months above the mean however the length of stay has also decreased each month for the past five months.
- Senior Health's non-elective length of stay has returned to within process control limits for the month of February.
- The Trust's overall elective length of stay continues to perform below its lower control limit showing a sustainable improvement.

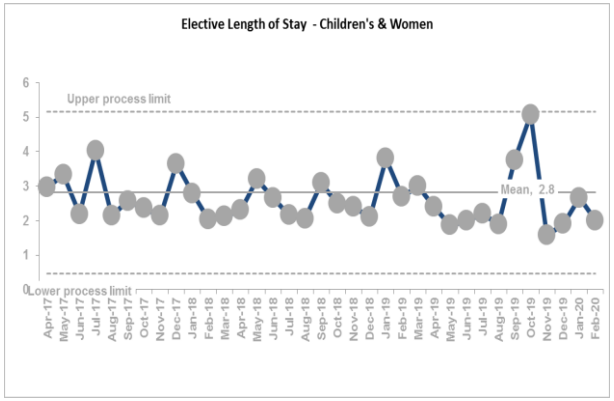
Actions and Quality Improvement Projects

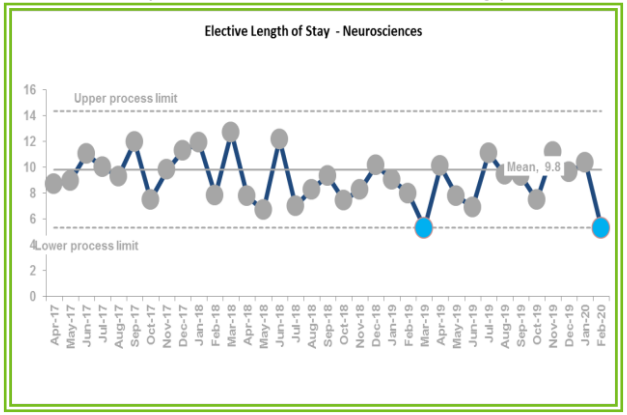
- Established long length of stay meetings to prioritise and manage appropriate system wide actions for each patient with on-going attendance by both Wandsworth and Merton Commissioning Groups
- Additional support, coaching, refining of processes, early identification of delays and escalation actions are actively being managed on a daily basis on seven key wards.
- Senior Managers from Acute Medicine and Senior Health wards continue to attend board rounds to support and take away internal delay actions.

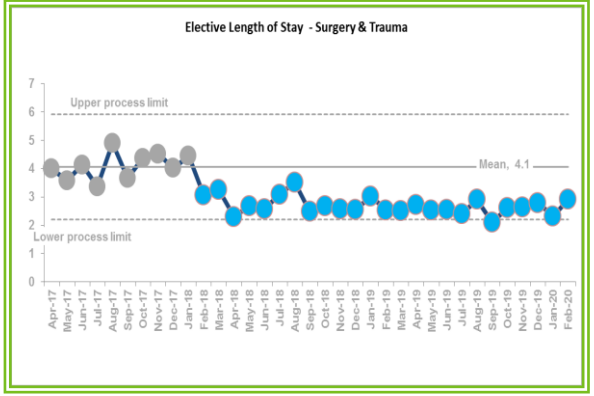
Elective Length of Stay (excluding daycase)

- Special cause variation - improving performance
- Common cause variation
- Special cause variation - deteriorating performance



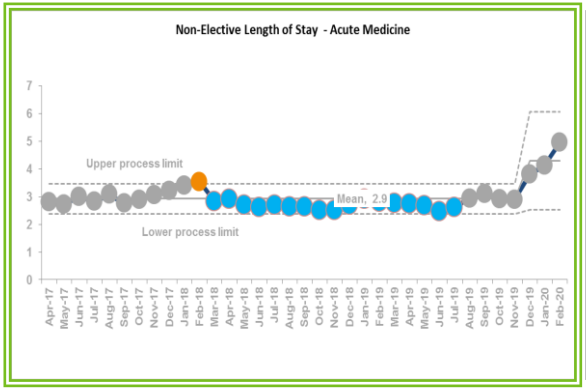


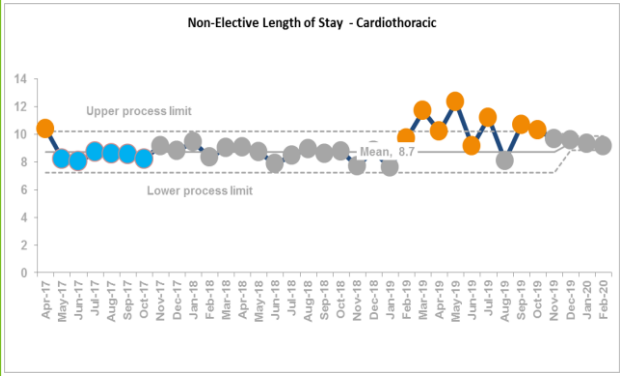


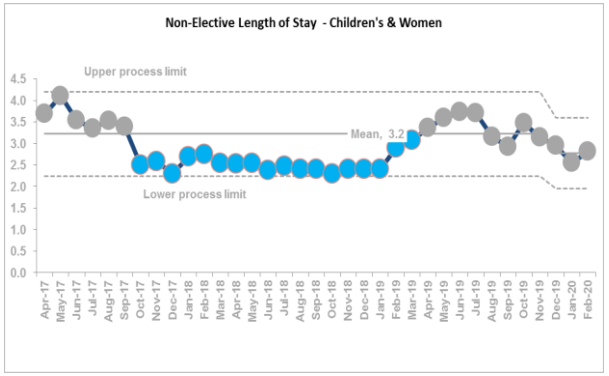


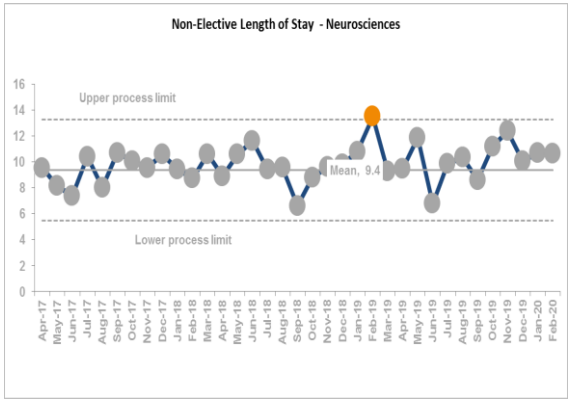
Non Elective Length of Stay

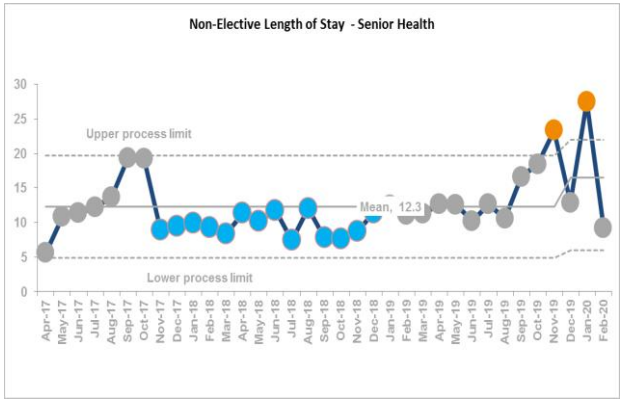
- Special cause variation - improving performance
- Common cause variation
- Special cause variation - deteriorating performance

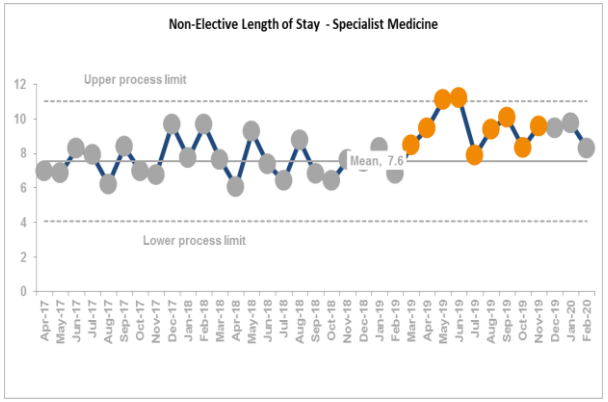


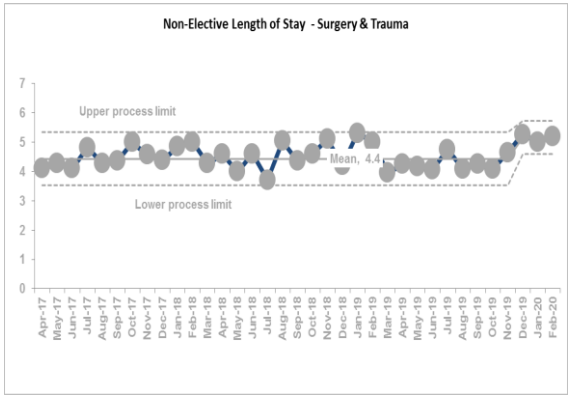


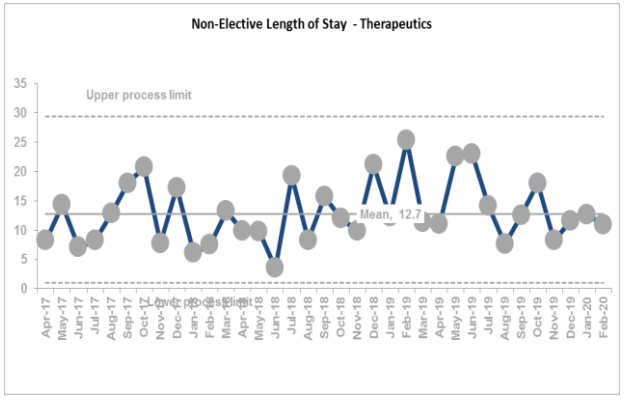










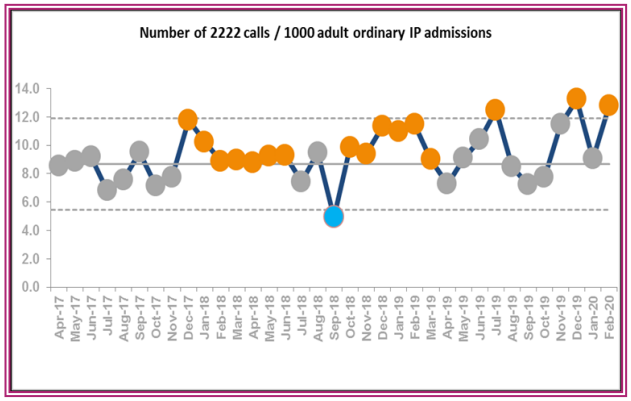


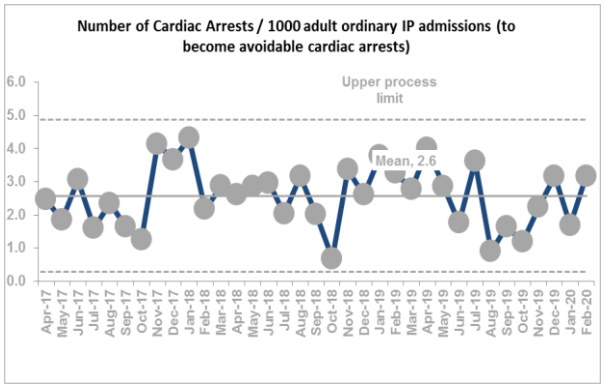
Balanced Scorecard Approach

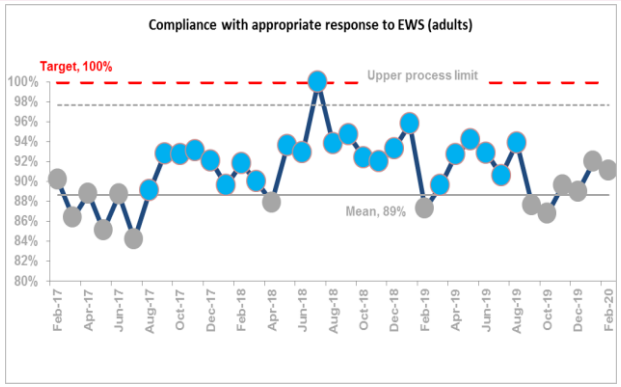
Our Patient Perspective

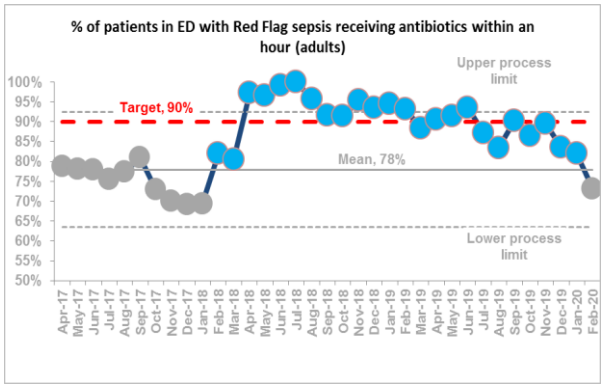
4.2

Quality Priorities – Treatment Escalation Plan









What the information tells us

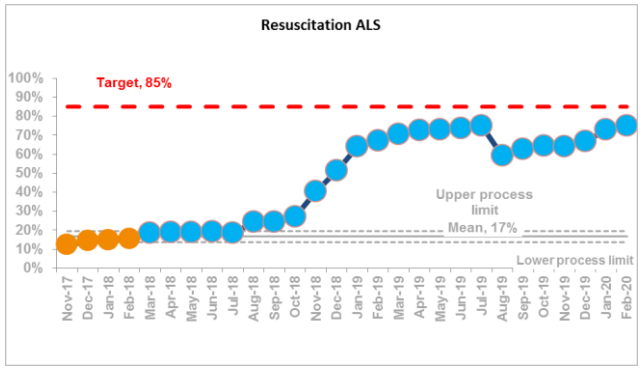
- The number of 2222 calls is above the upper process limit and the number of cardiac arrests continues to show common cause variation within the upper and lower process limits
- The Trust position of treating at least 90% of adult patients in Emergency Department with Red Flag Sepsis receiving antibiotics within an hour was 73.1% and is showing common cause variation within the upper and lower process limits. Performance has fallen below the mean for the first time in two years.
- Compliance with appropriate response to Early Warning Score (EWS) was 92% and continues to show common cause variation

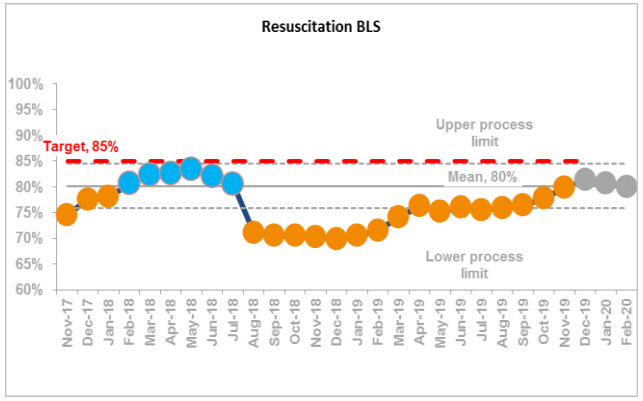
Special cause variation - improving performance
Common cause variation
Special cause variation - deteriorating performance

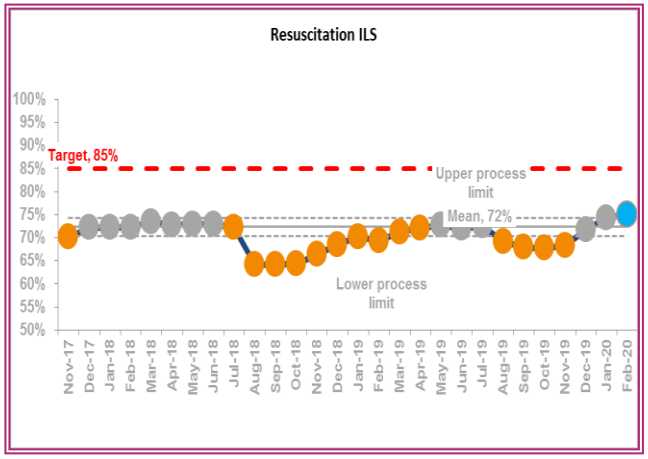
Actions and Quality Improvement Projects

- The matron for the Outreach Team has been recruited to post.
- The Outreach team is working with Information Technology Department (IT) to get a whole Trust view of patients with National Early Warning Scores (NEWS) scores greater than 5 which will enable the team to be more pro-active.

Quality Priorities – Deteriorating Patients







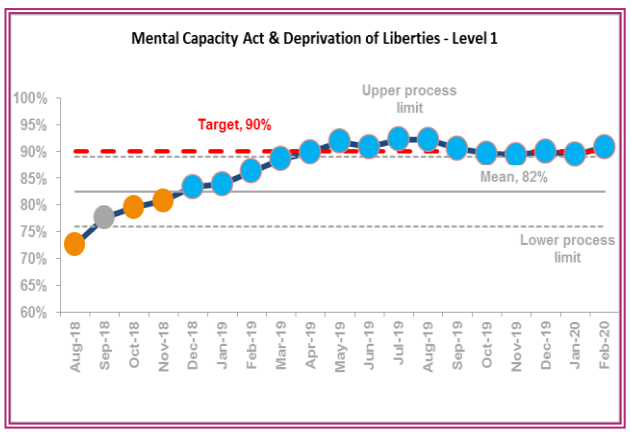
- ALS (Advanced Life Support) training performance shows improved performance but has not met the 85% performance target.
- BLS (Basic Life Support) training performance is within the process control limits. ILS (Intermediate Life Support) has increased and is now above the mean, both continue to underperform against the 85% target.

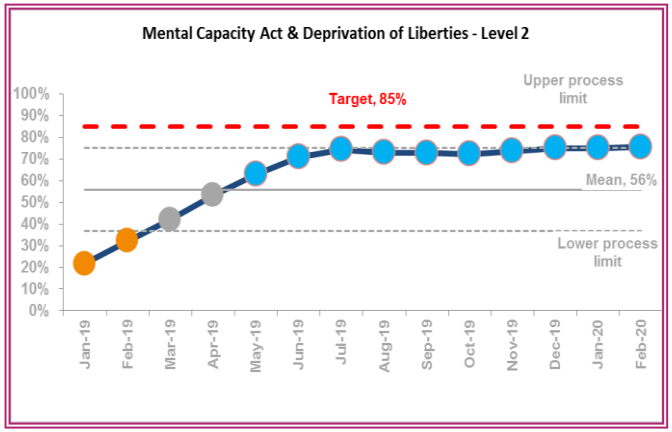
Special cause variation - improving performance
Common cause variation
Special cause variation - deteriorating performance

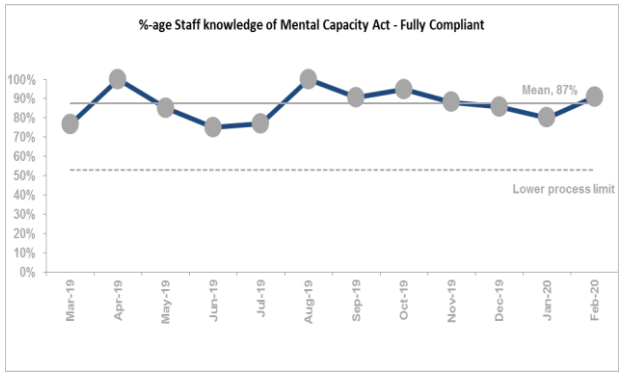
Actions and Quality Improvement Projects

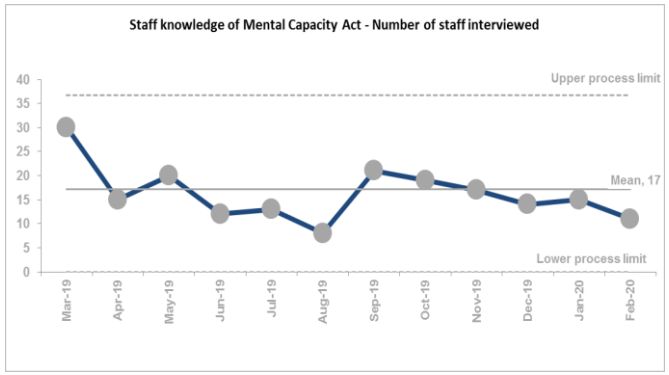
- Resus comcell in place to focus on monitoring current booking processes with a view to reducing on the day non attendance

Quality Priorities – Mental Capacity Act & Deprivation of Liberties









What the information tells us

- Mental Capacity Act and Deprivation of Liberties (MCA/DoLs) Training – Level 1 remains within target
- Level 2 training performance has plateaued
- Metrics taken from the ward accreditation system shows the number of staff interviewed and their level of knowledge. Of the 11 staff interviewed in February, 90.9% could fully answer the question on MCA/DoLs.

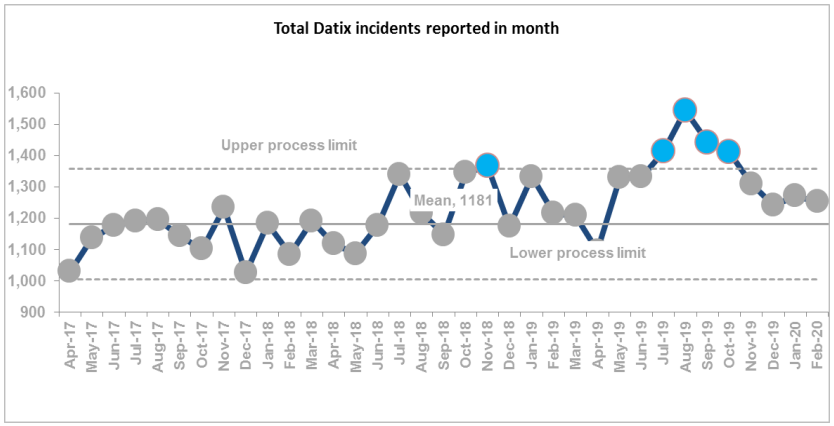
- Special cause variation - improving performance
- Common cause variation
- Special cause variation - deteriorating performance

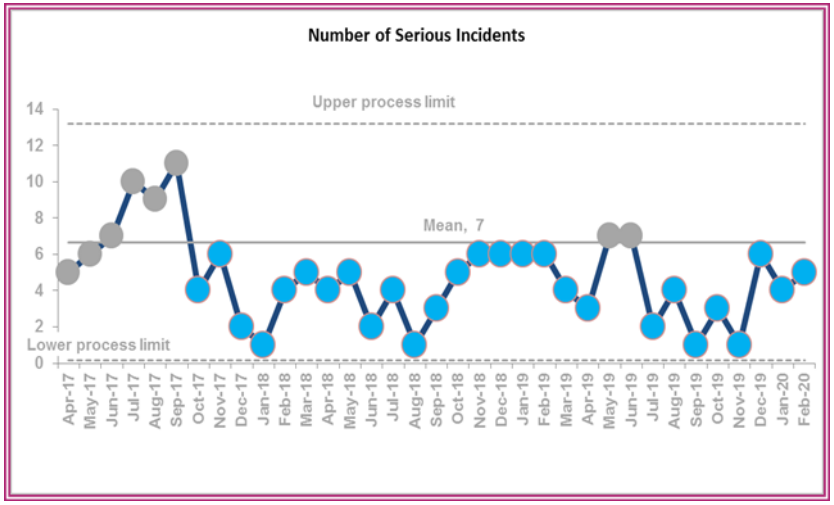
Actions and Quality Improvement Projects

- Mental Capacity Act & Deprivation of Liberties lead commenced in post on 17 February 2020.
- The team are awaiting IT implementation of required forms to standardise recording and enable efficient audit processes.
- The Trust launched a quarterly staff knowledge audit. This audit was developed in partnership with South West London partners and will enable the Trust to benchmark itself with local organisations.

Quality Priorities – Learning from Incidents

Indicator Description	Threshold/Target	Feb-19	Mar-19	Apr-19	May-19	Jun-19	Jul-19	Aug-19	Sep-19	Oct-19	Nov-19	Dec-19	Jan-20	Feb-20
Total Datix incidents reported in month		1,215	1,208	1,096	1,329	1,332	1,413	1,544	1,442	1,410	1,309	1,241	1,271	1,252
Monthly percentage of incidents of low and no harm				97%	97%	99%	97%	98%	97%	97%	96%	96%	96%	data one months in arrears
Open SI investigations >60 days	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Duty of Candour completed within 20 working days, for all incidents at moderate harm and above	100%			100%	92%	100%	97%	93%	97%	97%	98%	86%	data two months in arrears	





What the information tells us

- Serious Incident (SI) investigations are being completed in line with external deadlines, 60 working days.
- The number of reported adverse incidents remains constant, with 96% of those reported in January 2020 resulting in no / low harm
- There was one Never Event in February 2020.

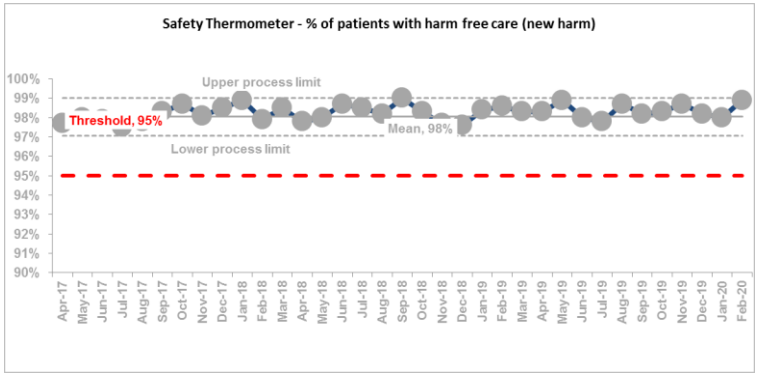
Special cause variation - improving performance
Common cause variation
Special cause variation - deteriorating performance

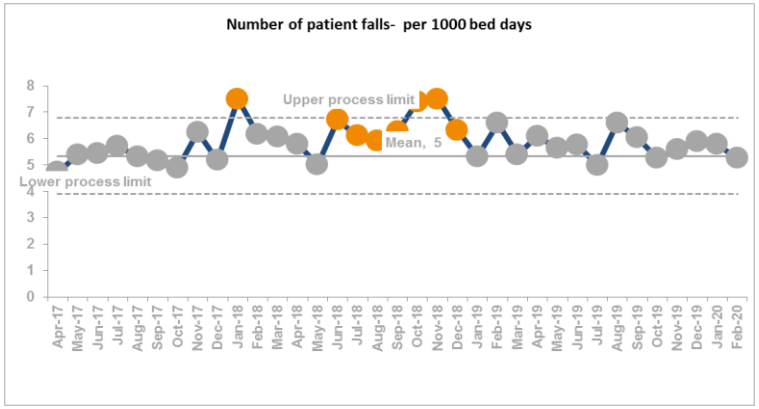
Actions and Quality Improvement Projects

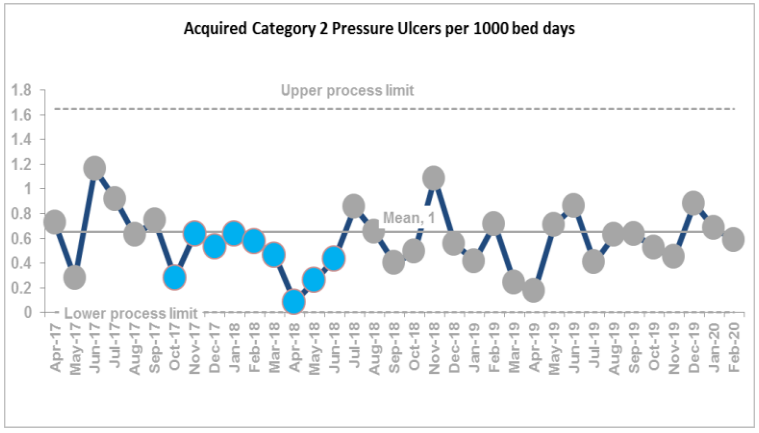
- Incidents – The monthly percentage of incidents of low and no harm is now being reported. This will allow for benchmarking against other Trusts and tracking of the harm profile.

- Never Event – The patient involved in this incident did not come to any harm. The following immediate actions were taken following the incident:
  - Chief Nursing Officer and Chief Medical Officer sent a communication to all clinical staff undertaking invasive procedures.
  - Support provide to staff involved in this incident as best as possible with emphasis on the importance of learning from this event.

Patient Safety







- Special cause variation - improving performance
- Common cause variation
- Special cause variation - deteriorating performance

What the information tells us

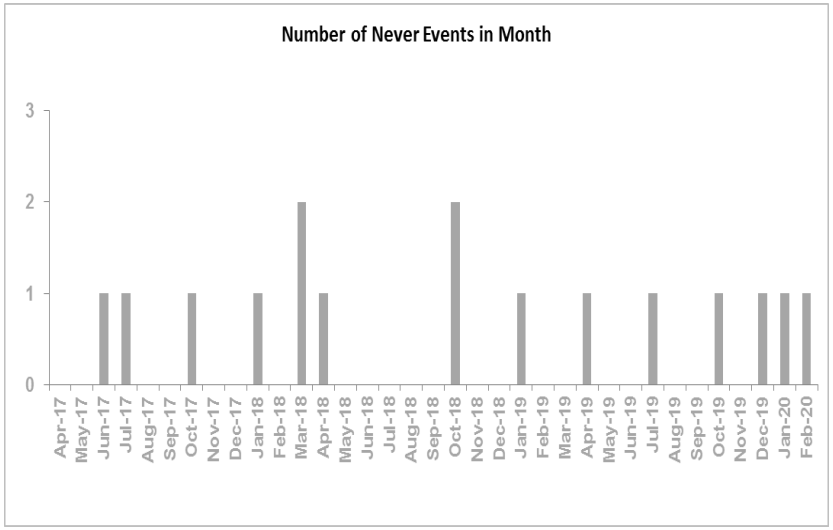
- The Trust is meeting its VTE standards and is above the upper process control limit. As outlined in the actions below, the patient cohort has been updated in line with NICE guidance.
- Safety thermometer – percentage of patients with harm free care remains above the average; all other metrics show common cause variation.

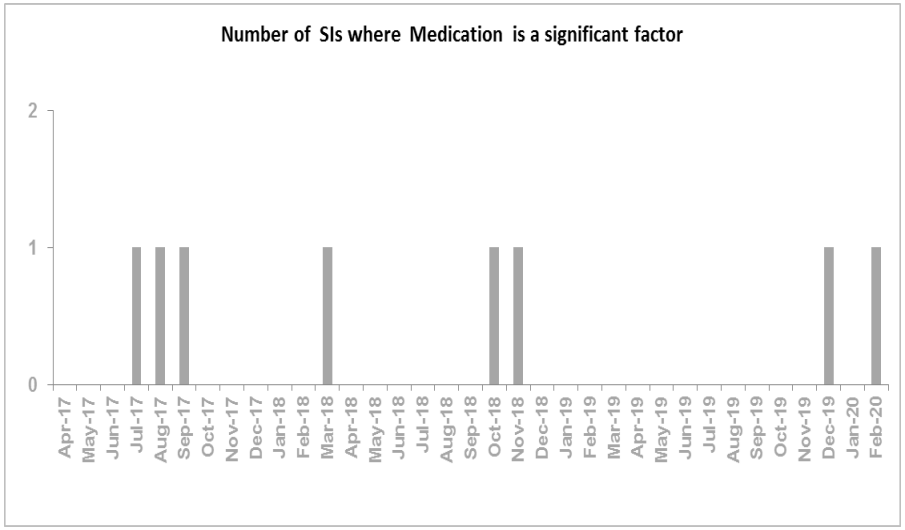
Actions and Quality Improvement Projects

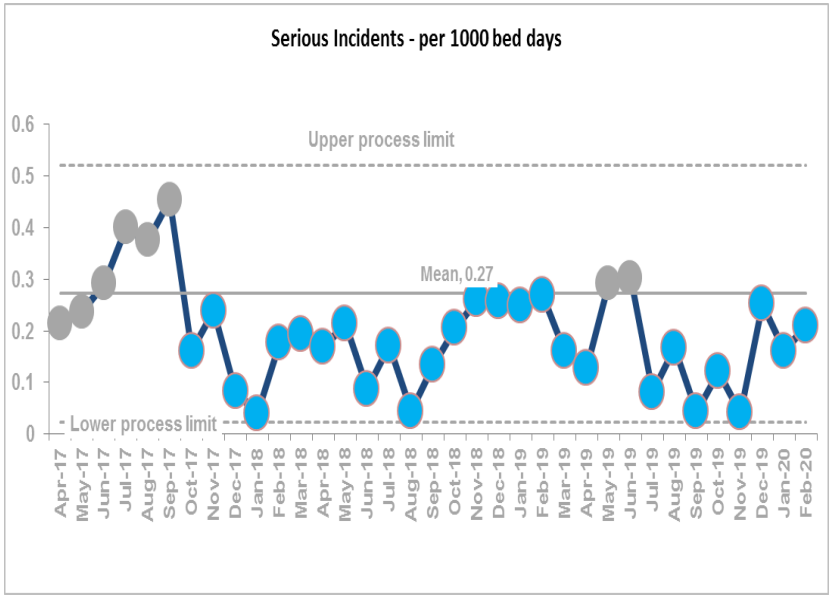
- All patients who have a length of stay less than 14 hours and all non-inpatient areas are now excluded from the VTE risk assessment compliance figures as per NICE guidelines.
- The Trust is working to deliver the Falls CQUIN, specifically focussing on lying and standing blood pressure for patients over 65 in line with NICE guidance.
- Category 3 and above pressure ulcers have undergone Root Cause Analysis (RCA) to identify any key learning and were discussed at a cross divisional meeting to identify the learning.
- Target work underway for staff in critical care areas to raise awareness of medical device associated pressure area damage.

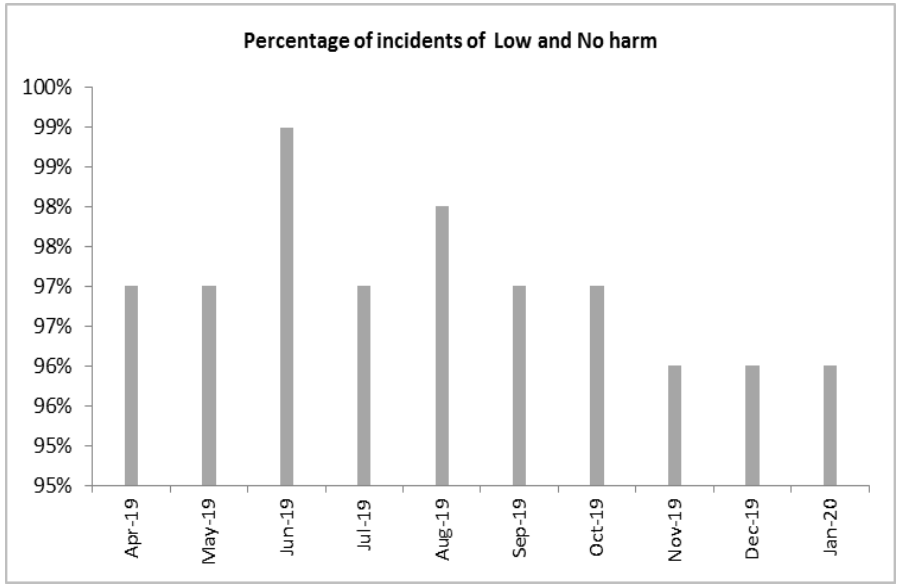
Quality Priorities – Learning from Incidents

Special cause variation - improving performance
Common cause variation
Special cause variation - deteriorating performance





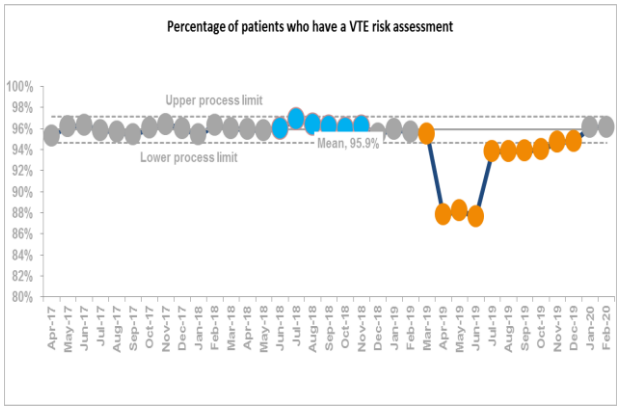


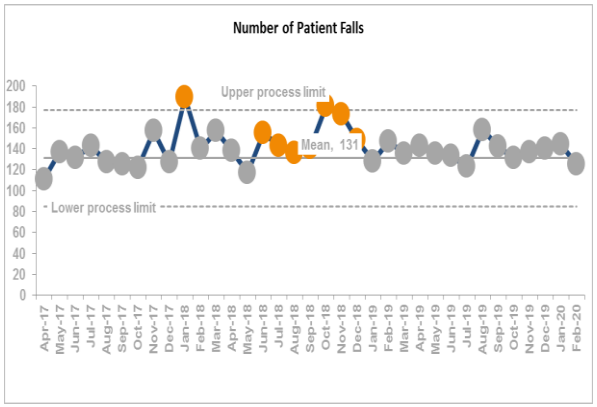


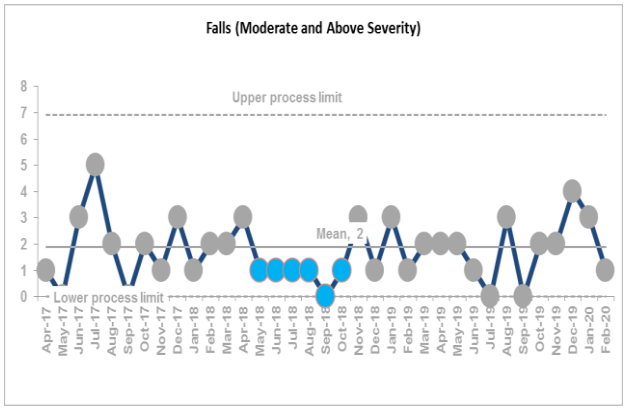
Data is 1 month in retrospect

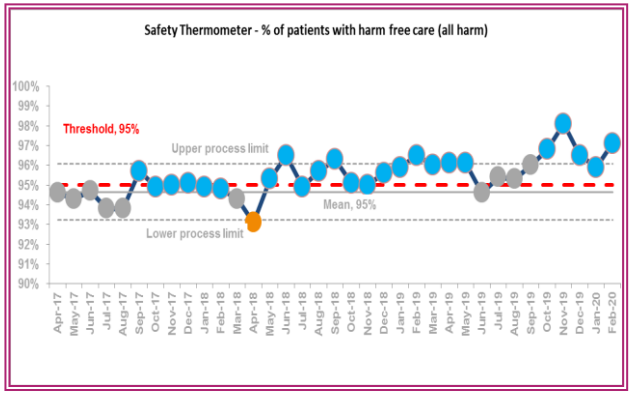
Patient Safety

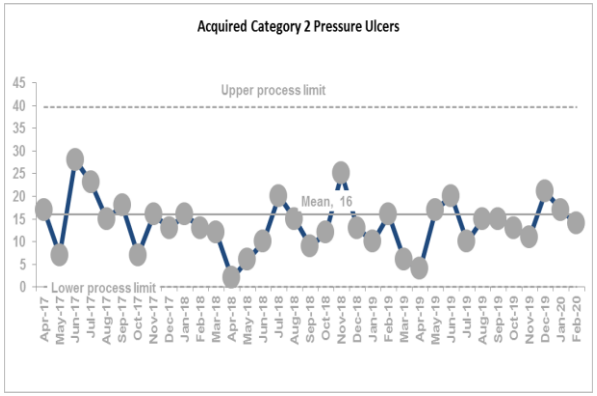
- Special cause variation - improving performance
- Common cause variation
- Special cause variation - deteriorating performance

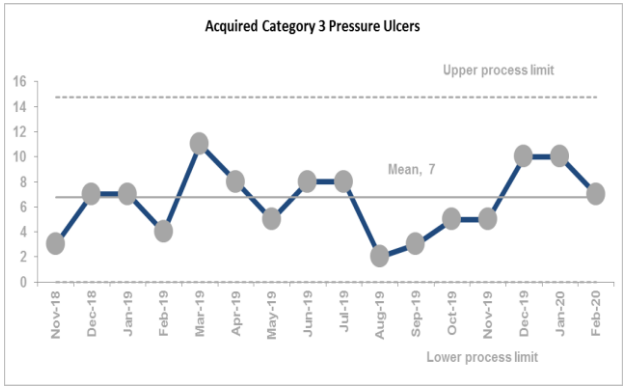


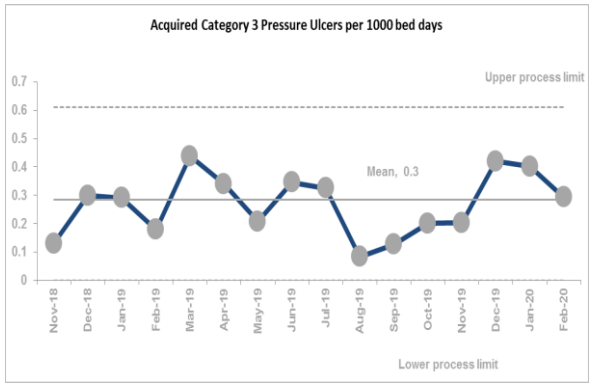












Infection Control

Indicator Description	Threshold	Feb-19	Mar-19	Apr-19	May-19	Jun-19	Jul-19	Aug-19	Sep-19	Oct-19	Nov-19	Dec-19	Jan-20	Feb-20	YTD Actual
MRSA Incidences (in month)	0	0	0	0	0	0	0	0	0	1	0	0	0	1	2
Cdiff Hospital acquired infections	48	1	3	4	4	3	4	4	6	3	2	2	5	3	45
Cdiff Community Associated infections				0	0	2	0	1	0	0	2	0	0	0	
MSSA	25	2	2	4	6	1	0	3	2	2	3	5	6	3	35
E-Coli	60	4	6	4	7	5	7	7	8	6	4	8	5	7	68

What the information tells us

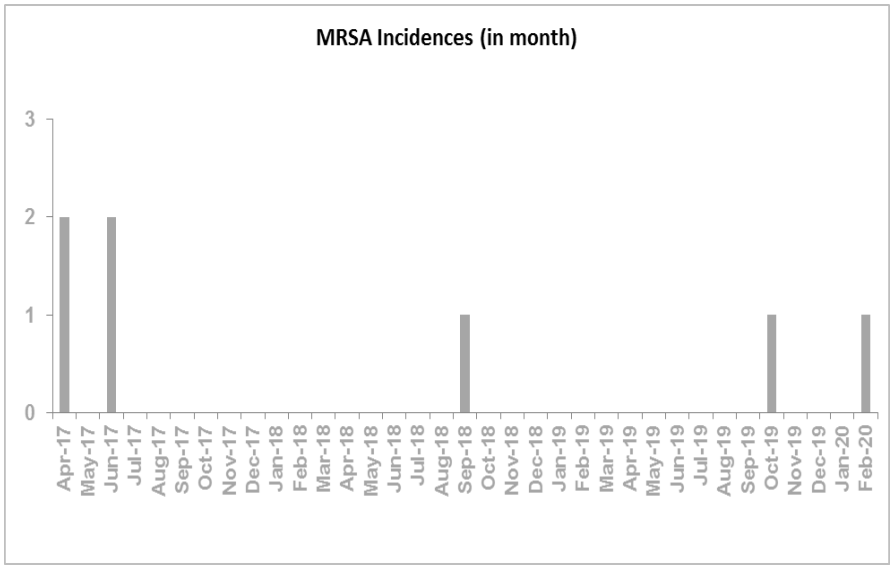
- The Trust has had one MRSA incident this month.
- This month there were three Cdiff incidents, all were Hospital Acquired. The Cdiff YTD position is 45 with 40 Hospital Acquired Infections and five Community Associated infections. This is close to our annual threshold of 48.
- The number of Ecoli and MSSA cases reported remains within control limits. The Trust has now exceeded the yearly threshold for both Ecoli and MSSA incidents.

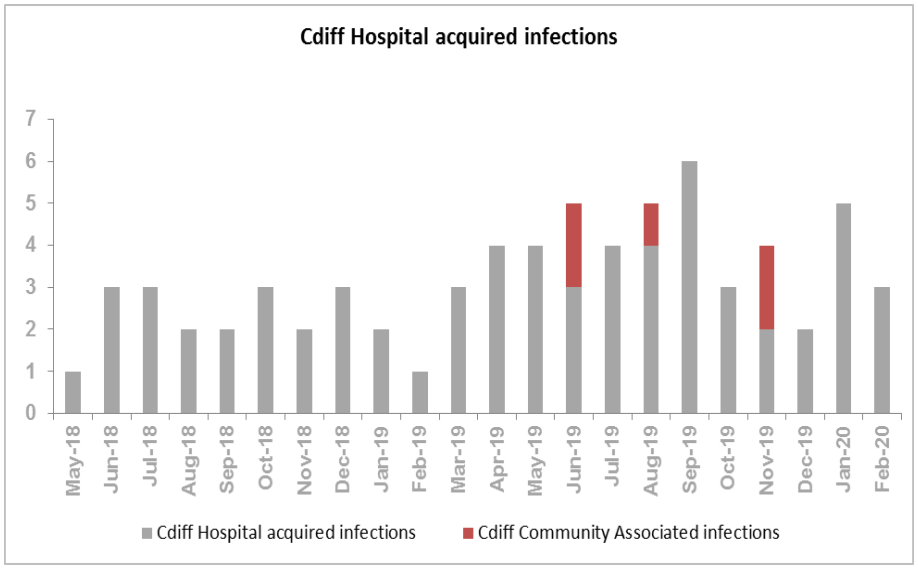
Actions and Quality Improvement Projects

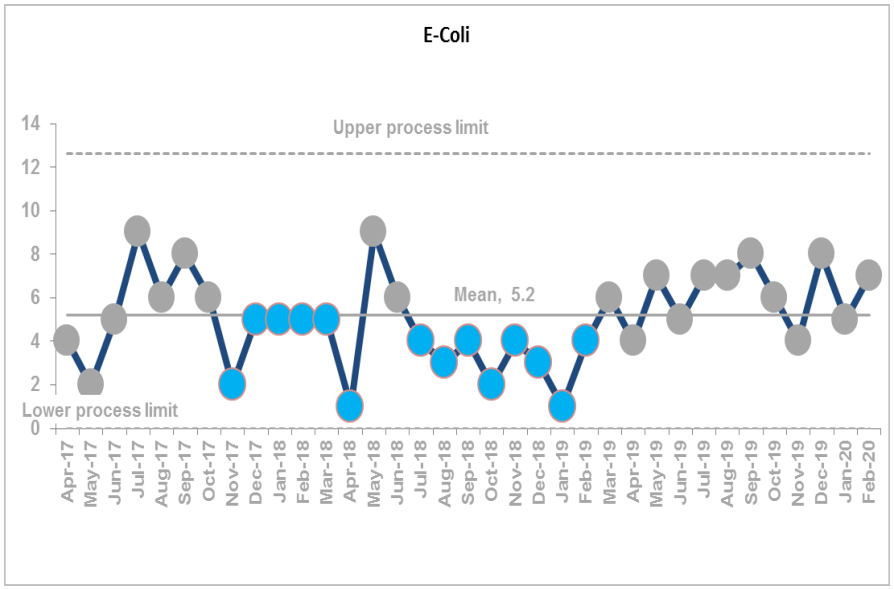
- The Trust continues with infection control measures including additional winter planning interventions.
- Infection control and cleaning standards are measured through the ward accreditation process.
- Areas where Hospital Acquired Infections have occurred are placed under a higher frequency surveillance and audit programme.

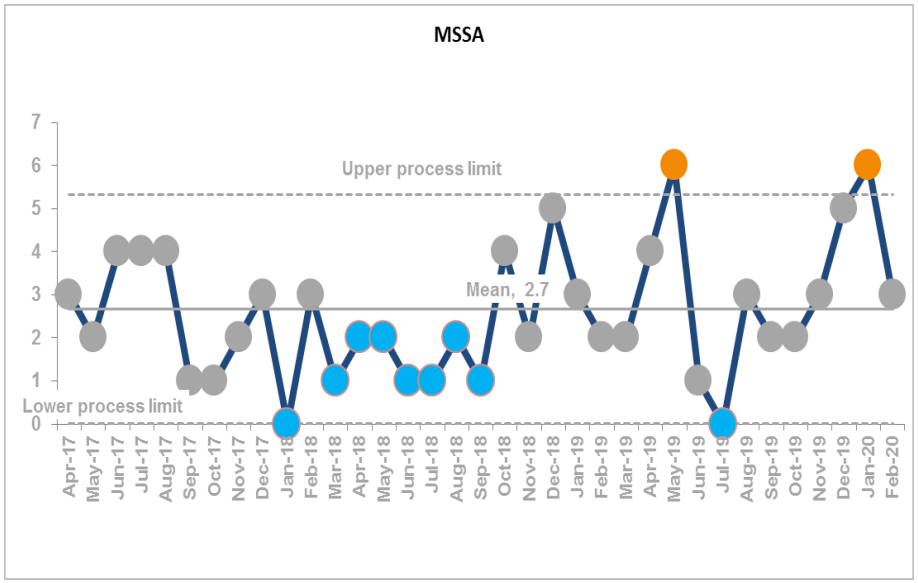
Infection Control

Special cause variation - improving performance
Common cause variation
Special cause variation - deteriorating performance









4.2

Our Patient Perspective

Mortality and Readmissions

- Special cause variation - improving performance
- Common cause variation
- Special cause variation - deteriorating performance

Indicator Description	Feb-19	Mar-19	Apr-19	May-19	Jun-19	Jul-19	Aug-19	Sep-19	Oct-19	Nov-19	Dec 2018 to Nov 2019
Hospital Standardised Mortality Ratio (HSMR)	79.4	79.4	91.9	89.5	105.5	87.9	92.1	88.5	95.0	101.6	91.8
Hospital Standardised Mortality Ratio Weekend Emergency	82.9	82.9	91.3	73.5	113	77.2	93.8	107.3	80.6	100.1	92
Hospital Standardised Mortality Ratio Weekday Emergency	76.3	76.3	91.5	92.5	100.4	90.8	96.2	80.4	102.9	102.9	91.3

Indicator Description	Mar18-Feb19	Apr18-Mar19	May18-Apr19	Jun18-May19	Jul18-June19	Aug18 to Jul19	Sep18-Aug19	Oct18-Sep19
Summary Hospital Mortality Indicator (SHMI)	0.81	0.82	0.82	0.81	0.83	0.83	0.83	0.85

Indicator Description	Jun-19	Jul-19	Aug-19	Sep-19	Oct-19	Nov-19	Dec-19	Jan-20
Emergency Readmissions within 30 days following non elective spell (reporting one month in arrears)	8.9%	8.9%	10.0%	9.5%	9.8%	9.6%	9.3%	10.6%

Note: HSMR data reflective of period Dec 2018 – Nov 2019 based on a monthly published position.
SHMI data is based on a rolling 12 month period and reflective of period October 2018 to September 2019 published (February 2020).
Readmission data excludes CDU, AAA and all ambulatory areas where there are design pathways.

What the information tells us

Both of the Trust-level mortality indicators (SHMI and HSMR) remain lower than expected. Caution should be taken in over-interpreting these signals, however as they mask a number of areas of over performance and also under performance.

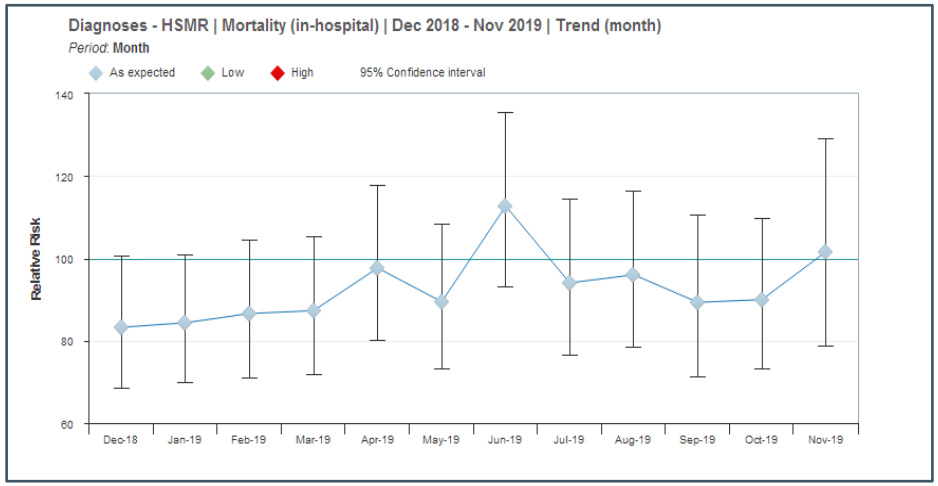
Actions and Quality Improvement Projects

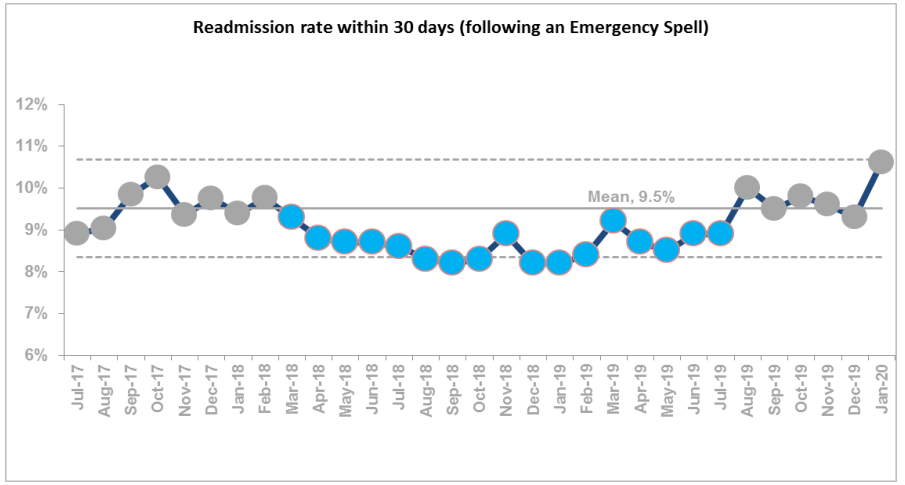
We continue to monitor and investigate mortality signals in discrete diagnostic and procedure codes from Dr Foster through the Mortality Monitoring Committee (MMC). This month the outcome of investigations in relation to two signals, Acute Myocardial Infarction and Coronary Angioplasty will be presented to the committee by the Head of Audit & Governance. We are currently carrying out investigations of two outlier alerts that have been raised to us from external organisations: procedure group 'Reduction of fracture of bone (upper/lower limb)' and diagnosis group 'Intracranial injury'.

Mortality and Readmissions (Hospital Standardized Mortality Rate)

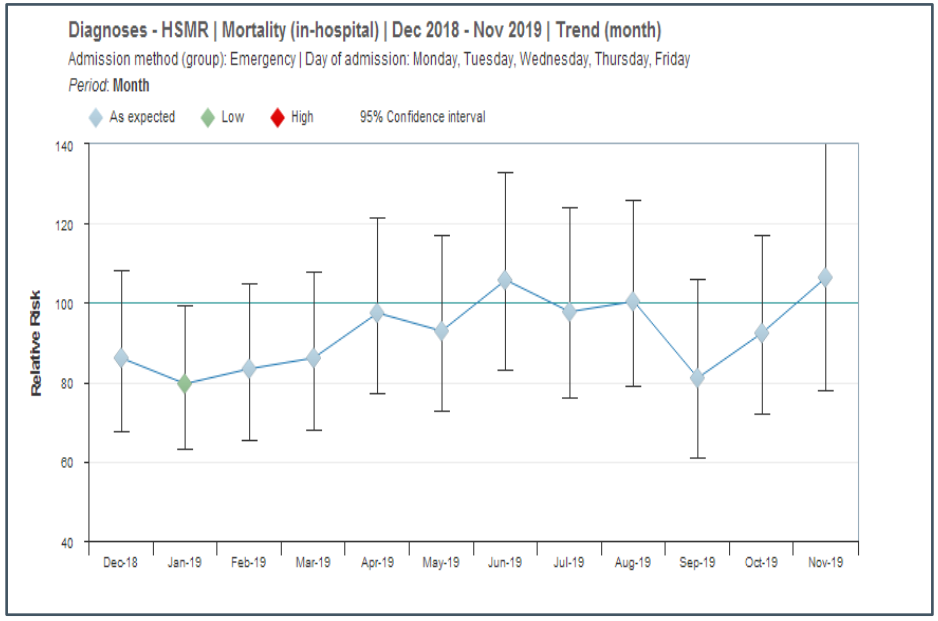
Special cause variation - improving performance
Common cause variation
Special cause variation - deteriorating performance

HSMR

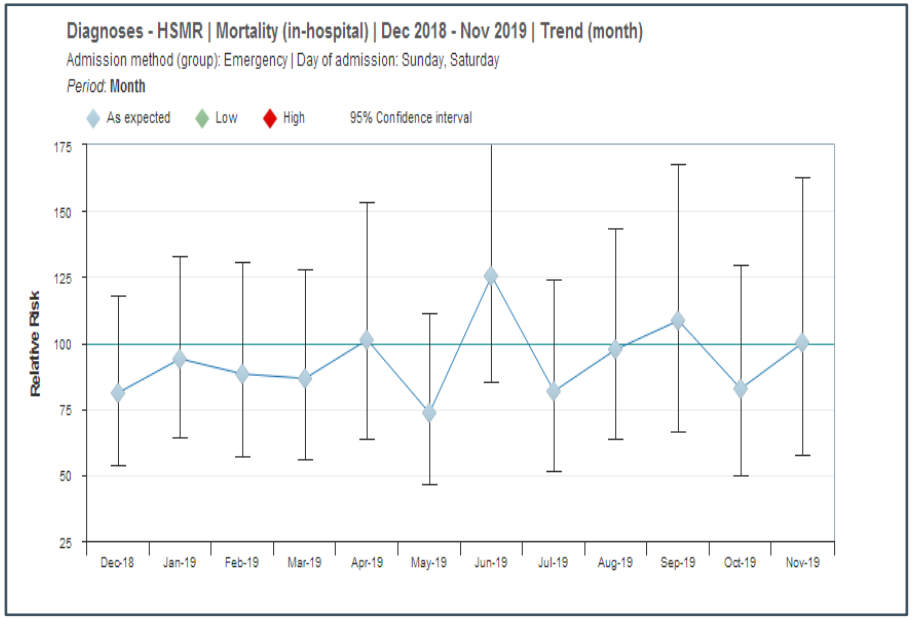




HSMR Weekday

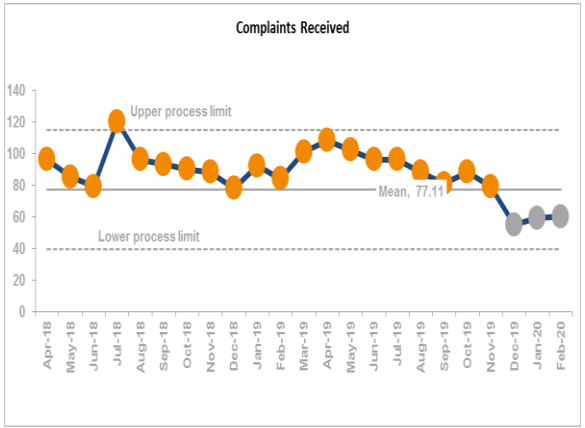


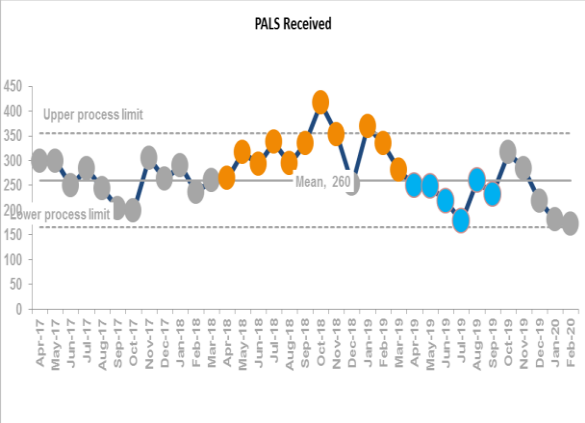
HSMR Weekend

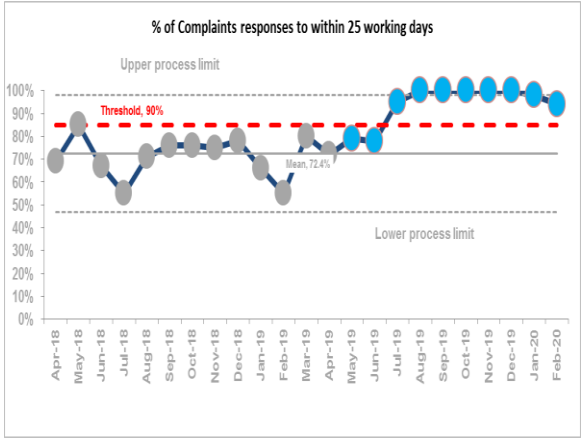


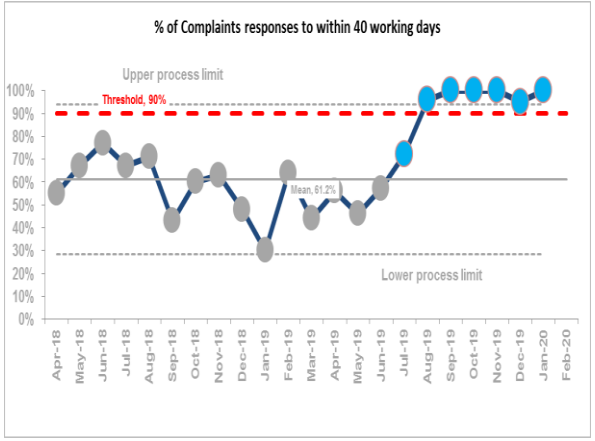
Complaints

Indicator Description	Target	Feb-19	Mar-19	Apr-19	May-19	Jun-19	Jul-19	Aug-19	Sep-19	Oct-19	Nov-19	Dec-19	Jan-20	Feb-20
Complaints Received		84	101	108	102	96	96	88	81	88	79	55	59	60
% of Complaints responses to within 25 working days	85%	55%	80%	72%	79%	78%	95%	100%	100%	100%	100%	100%	98%	94%
% of Complaints responses to within 40 working days	90%	64%	44%	56%	46%	57%	72%	96%	100%	100%	100%	95%	100.0%	
% of Complaints responses to within 60 working days	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%		
Number of Complaints breaching 6 months Response Time	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PALS Received		334	280	249	247	218	177	259	232	316	283	218	180	171









- Special cause variation - improving performance
- Common cause variation
- Special cause variation - deteriorating performance

What the information tells us

- Response compliance is above performance targets for all response categories
- The number of PALs enquiries has fallen for the fourth consecutive month. However, this is change is common cause variation and within upper and lower process limits

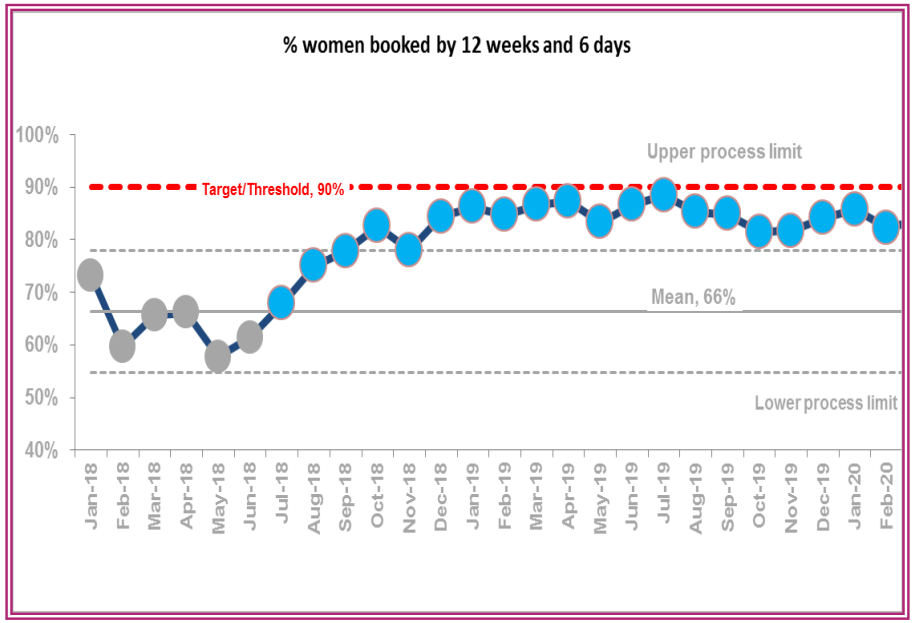
Actions and Quality Improvement Projects

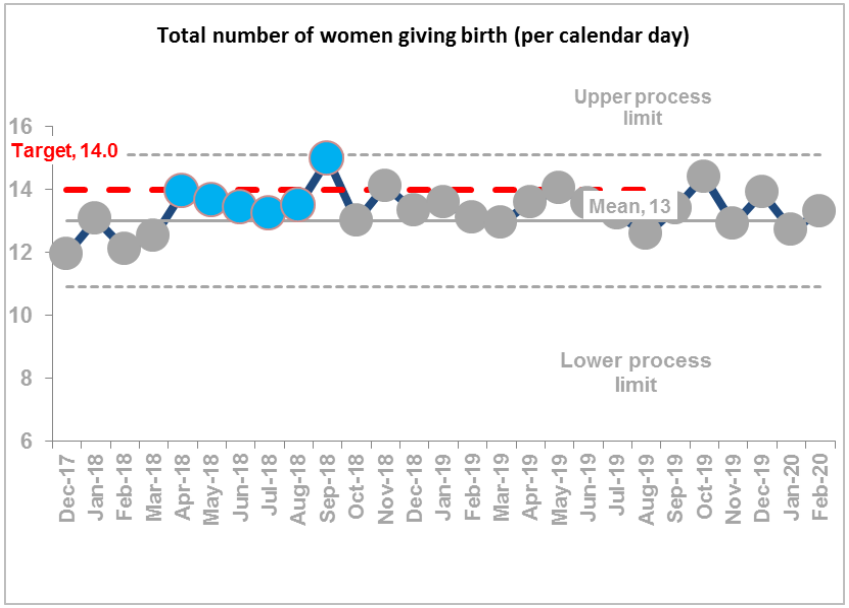
The daily complaints CommCell continues.

The change in process continues to have a positive impact on complaints performance showing sustained improvement for the last seven months

Maternity

Special cause variation - improving performance
Common cause variation
Special cause variation - deteriorating performance





What the information tells us

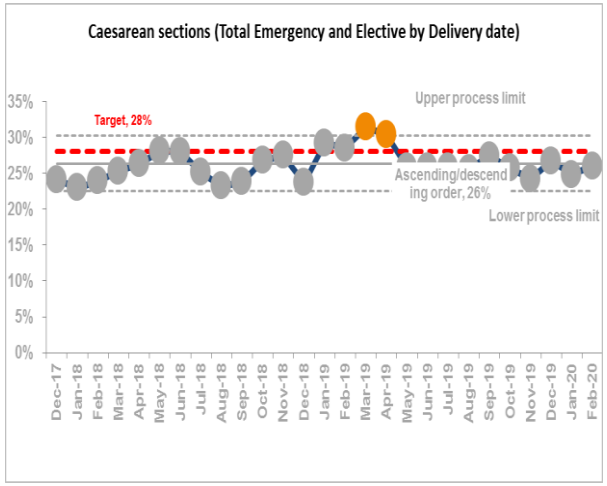
- The overall birth rate increased slightly in February and remains within common cause variation.
- The percentage booked within12 weeks plus 6 days of pregnancy was at 83.6%, above the upper control limits.
- The percentage of births by caesarean section, including emergency caesareans, remained stable.
- The number of women sustained a 3rd or 4th degree tear remains under 3% in February 2020.

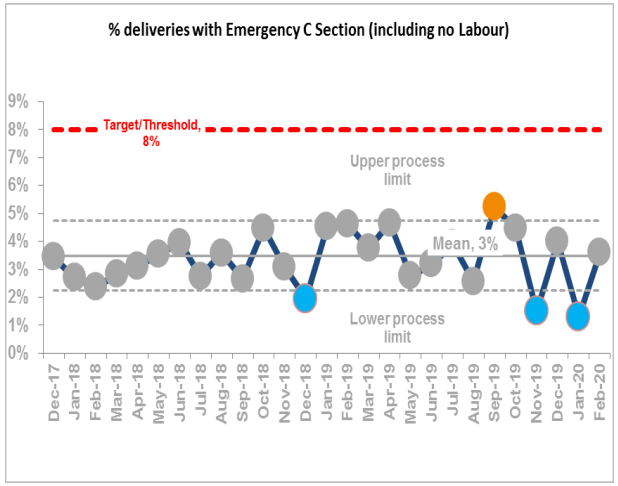
Actions and Quality Improvement Projects

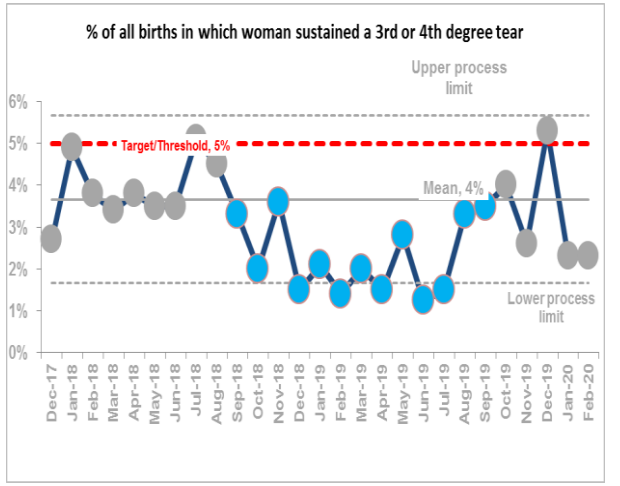
- The case notes of the women who sustained a 3rd or 4th degree tear in December are being reviewed to understand why the number exceeded the threshold limit in that month.
- The percentage of women being booked by nine weeks and six days gestation fell to under 50% in month and work is being undertaken with the teams to improve this position.

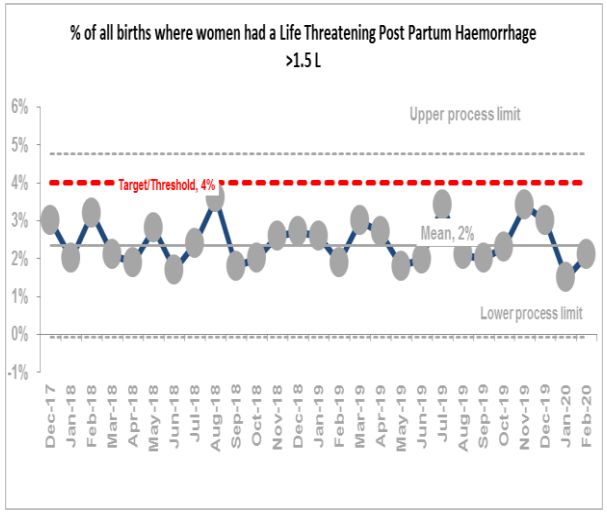
Maternity

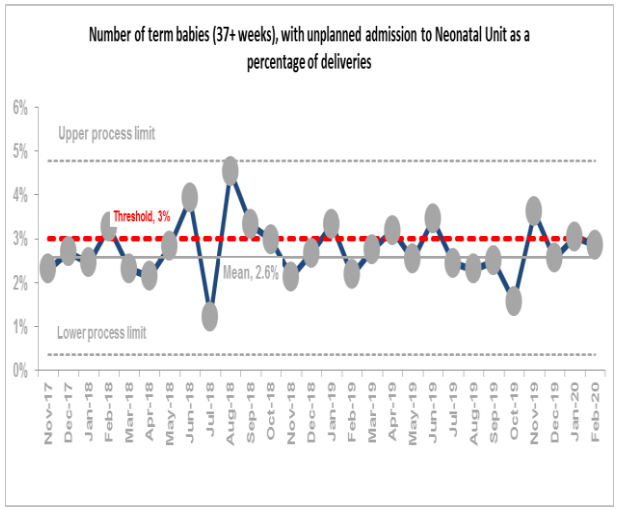
- Special cause variation - improving performance
- Common cause variation
- Special cause variation - deteriorating performance







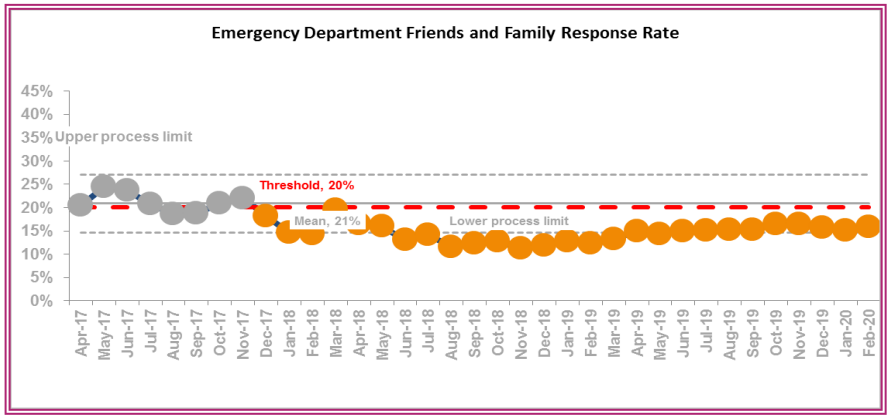


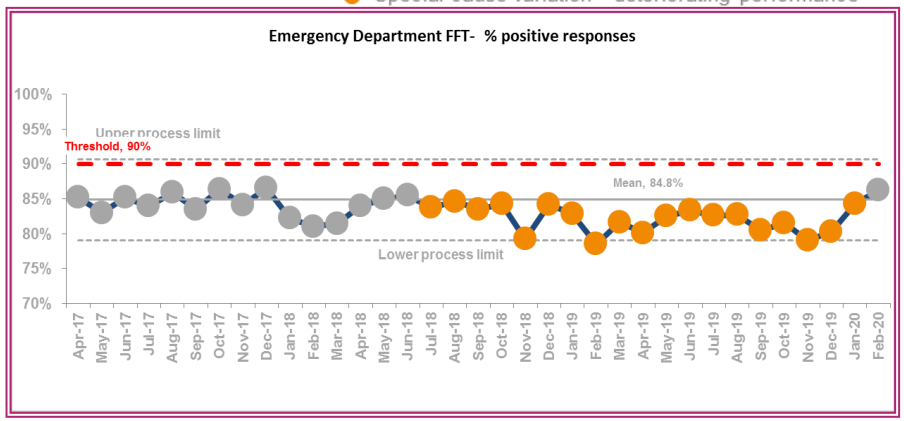


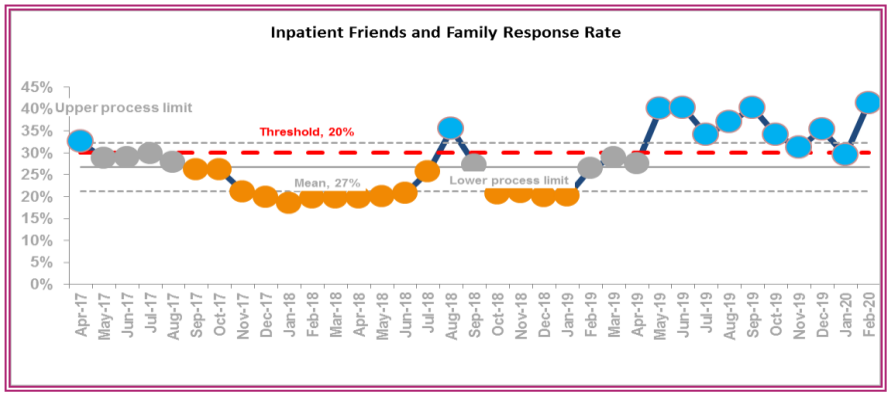
4.2

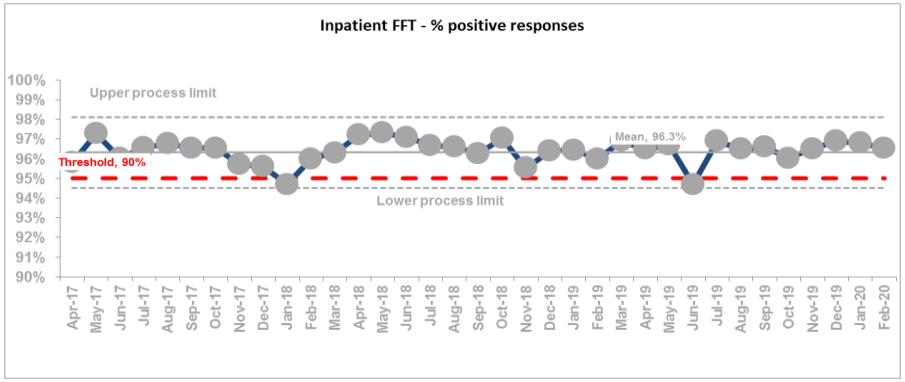
Friends and Family Test

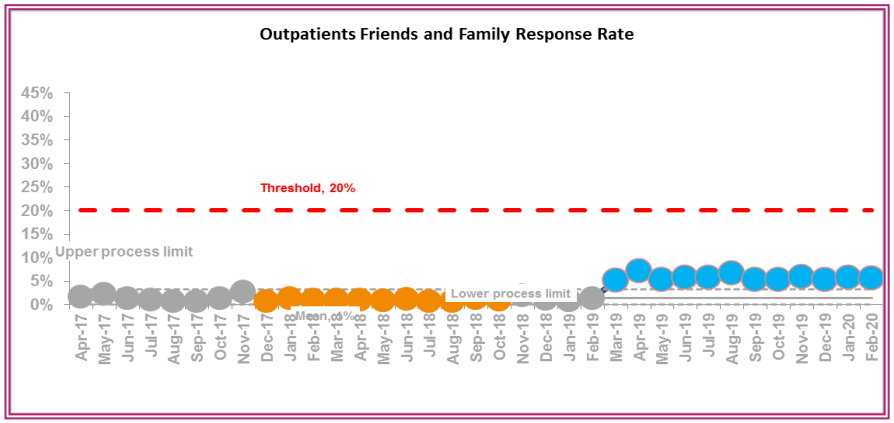
Special cause variation - improving performance
Common cause variation
Special cause variation - deteriorating performance

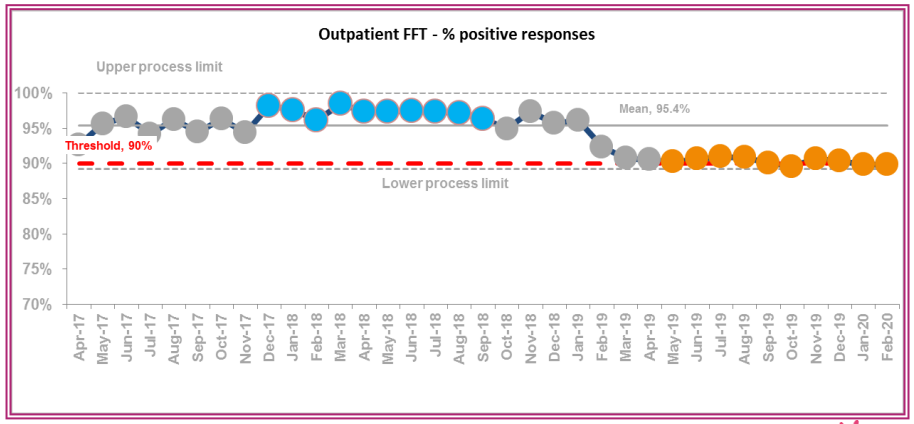










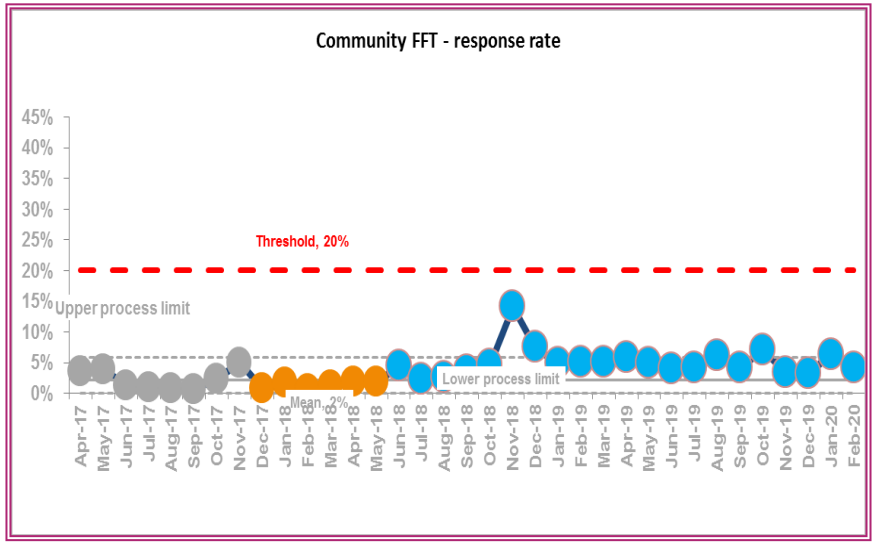


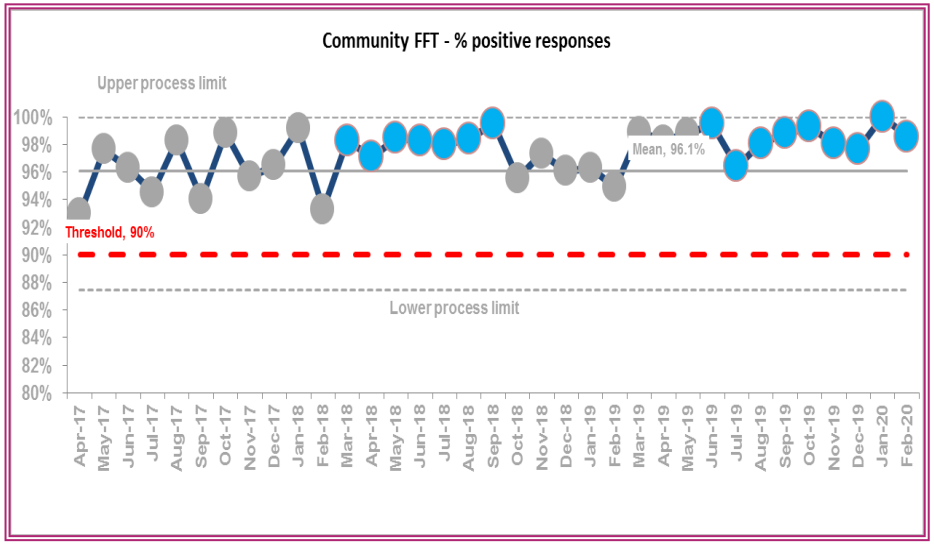
4.2

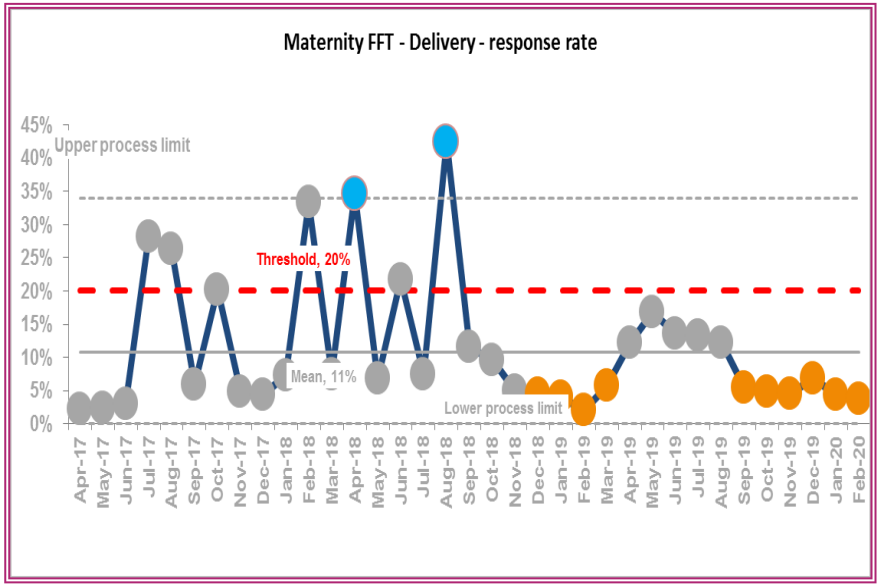
Our Patient Perspective

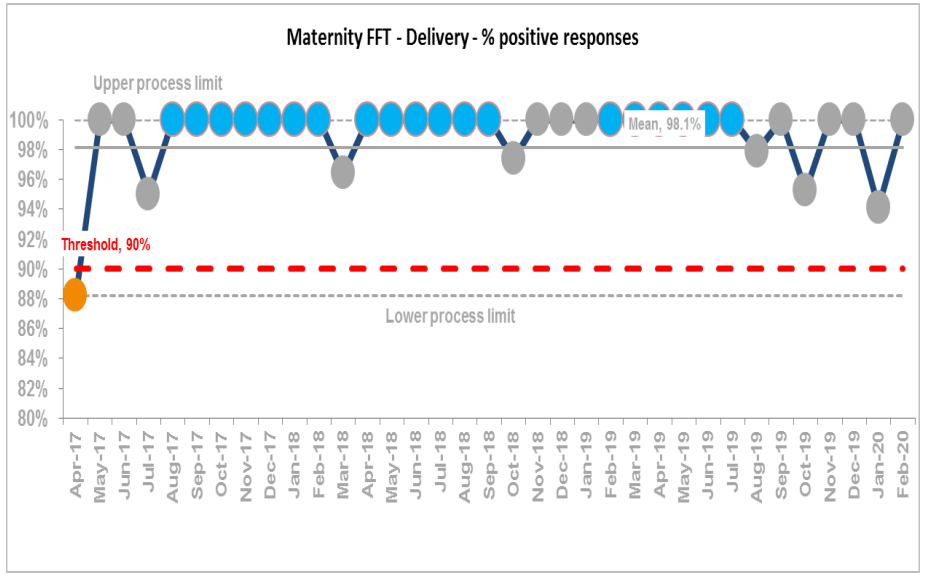
Friends and Family Test

Special cause variation - improving performance
Common cause variation
Special cause variation - deteriorating performance









Friends & Family Survey

Indicator Description	Target	Feb-19	Mar-19	Apr-19	May-19	Jun-19	Jul-19	Aug-19	Sep-19	Oct-19	Nov-19	Dec-19	Jan-20	Feb-20
Emergency Department FFT - % positive responses	90%	78.5%	81.6%	80.1%	82.5%	83.3%	82.6%	82.7%	80.5%	81.5%	79.0%	80.3%	84.2%	86.2%
Inpatient FFT - % positive responses	95%	96.0%	96.9%	96.5%	96.7%	94.7%	96.9%	96.5%	96.6%	96.0%	96.5%	96.9%	96.8%	96.6%
Maternity FFT - Antenatal - % positive responses	90%			100.0%	90.0%	85.7%	100.0%		100.0%			100.0%	100.0%	
Maternity FFT - Delivery - % positive responses	90%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	97.9%	100.0%	95.2%	100.0%	100.0%	94.1%	100.0%
Maternity FFT - Postnatal Ward - % positive responses	90%	95.7%	91.7%	96.4%	94.6%	98.0%	100.0%	98.3%	95.2%	100.0%	97.3%	88.0%	90.7%	96.9%
Maternity FFT - Postnatal Community Care - % positive responses	90%	100%	100%	100%	98%	100%	100%	100%	100%	100%	100%	100%	98%	90%
Community FFT - % positive responses	90%	94.9%	98.9%	98.3%	98.8%	99.5%	96.4%	98.1%	98.8%	99.3%	98.1%	97.7%	100.0%	98.6%
Outpatient FFT - % positive responses	90%	92.3%	90.7%	90.5%	90.2%	90.6%	90.9%	90.8%	90.1%	89.6%	90.7%	90.3%	89.9%	89.9%

What the information tells us

- The Emergency Department Friends and Family Test (FFT) – In the month of February, 86.2% of patients attending the emergency department would recommend the service to family and friends. This is now above the mean and the highest performance seen since December 2017
- Maternity and Community FFT are above local thresholds in February and work continues to ensure patient responses improves. The London average response rate for Community is 4.4% and England is 3.9%.
- Our Outpatient recommended rate in February was 89.8% against a target of 90%. The response rate remains below target at 5.5% but has been consistently above 5% since March 2019.

Actions and Quality Improvement Projects

- Changes in Friends and Family (FFT) guidance will be implemented in April 2020. The guidance encourages patients to provide feedback throughout their care episode. In preparation for this and in line with guidance, the wording of the questions and changes to the Trust systems are being developed for launch in April 2020

Balanced Scorecard Approach

OUR **OUTCOMES**	How are we doing?					
OUR **FINANCE & PRODUCTIVITY** PERSPECTIVE	Activity Summary	Outpatient Productivity	Theatre Productivity	Bed Productivity	Performance against Budget	CIP Delivery
OUR **PATIENT** PERSPECTIVE	Patient Safety (A)	Infection Control	Mortality	Readmissions	Maternity	Patient Voice
OUR **PROCESS** PERSPECTIVE	Emergency Flow	Cancer	Diagnostics	On the day cancellations	18 Week Referral to Treatment	
OUR **PEOPLE** PERSPECTIVE	Workforce		Agency Use (A)		Estates Health and Safety	

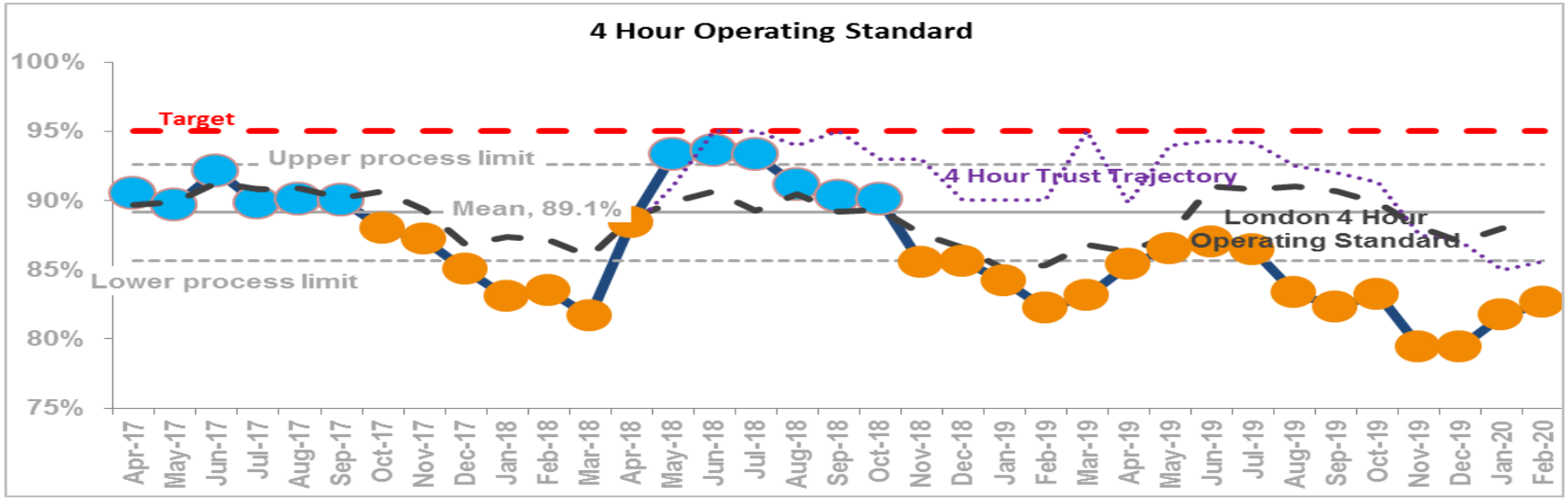
Our Process Perspective

Key

Current Month

(A) Previous Month

Emergency Flow



What the information tells us:

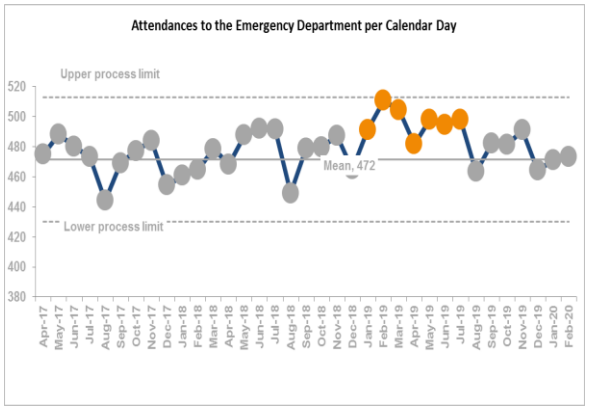
- The number of patients either discharged, admitted or transferred within four hours of arrival in the month of February was 82.6%, an improvement from January's position of 81.7%. Both admitted and non-admitted performance remains below the lower control limit.
- The daily attendances numbers have remained within the upper and lower control limits and the emergency department has also seen a reduction in ambulance arrivals with the numbers attending in February below the lower control limit signifying special cause variation similar to January.
- In February, the Trust reporting 23 patients waiting in the Emergency Department over twelve hours following a decision to admit.
- Bed occupancy for both Trust and AMU remains above the mean.
- The number of long length of stay patients has seen a step change in all 7, 14 and 21 days, reporting above the mean for the past eight months.
- London Ambulance Service (LAS) handover times performance remains below the lower control limit.

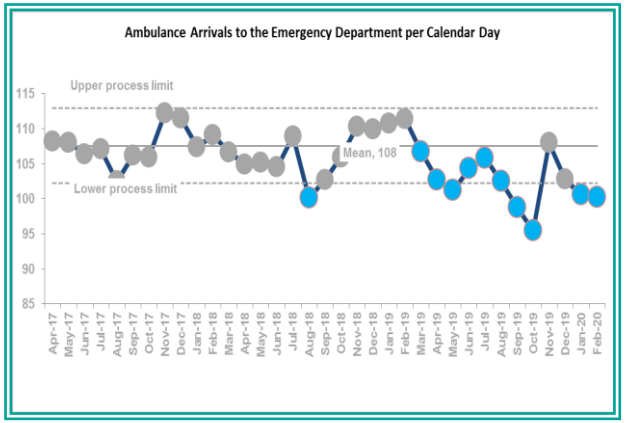
Actions and Quality Improvement Projects

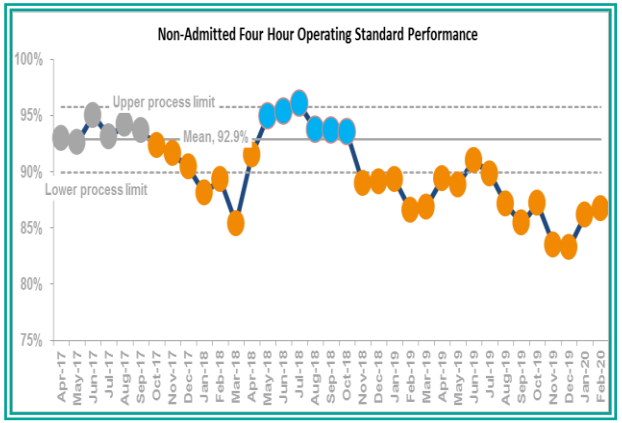
- **Emergency Care Processes**: Pathway to be drafted to improve early communication between consultants for patients requiring level two beds when limited capacity within the Trust
- **Urgent Care Centre Waits and Direct Access:** Direct Acute Gynaecology Unit (AGU) pathway has been reviewed and approved and SOP awaited with a go live date to be confirmed.
- **Mental Health:** First meeting for the frequent attenders was held on 13 February 2020 between the Trust, South West London & St. George's Mental Health Trust and London Ambulance Service. Agenda and Terms of Reference have been agreed. Record of patients discussed with actions for Coordinate My Care plans.
- **Inter Professional Standards (IPS):** Project will be re-launched week commencing 16 March 2020
- **Flow:** Emergency Care Intensive Support Team (ECIST) are working with the team to improve effectiveness of the Long Length of Stay (LLOS) meetings. Meeting scheduled between ECIST, the Trust, Social Care and Therapy leads for 18th March to review the LLOS meetings and agree different approaches. Red 2Green system went live on 4 March 2020

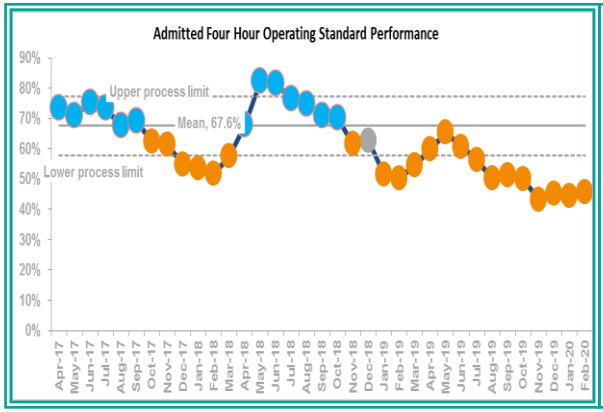
Emergency Flow

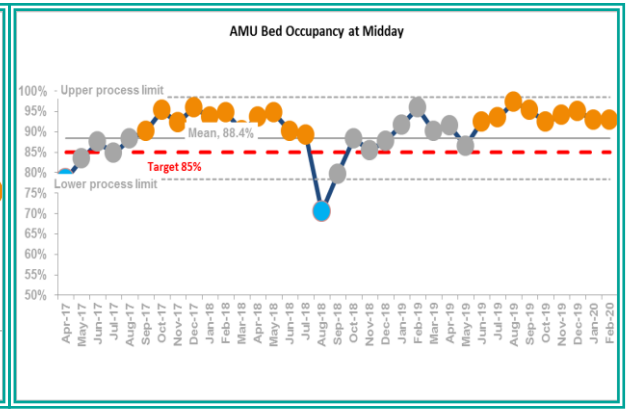
Special cause variation - improving performance
Common cause variation
Special cause variation - deteriorating performance

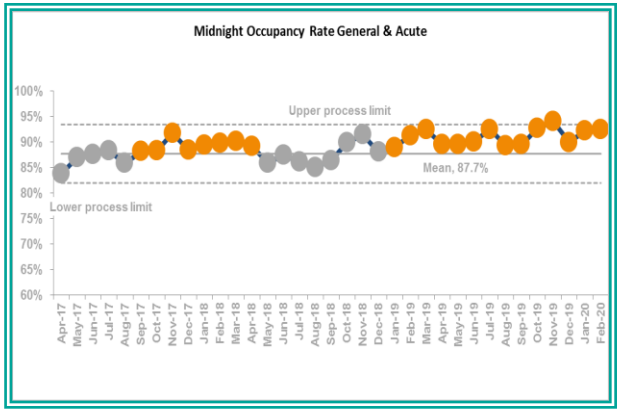


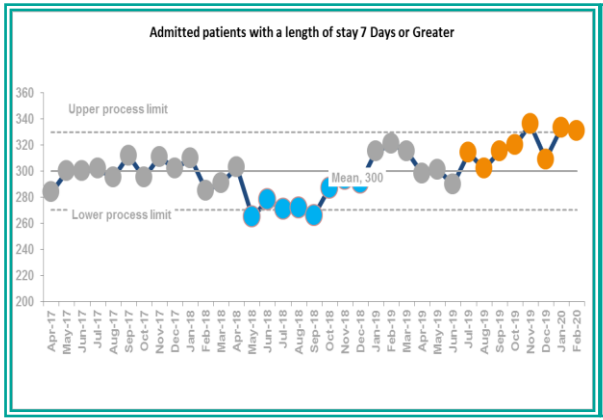


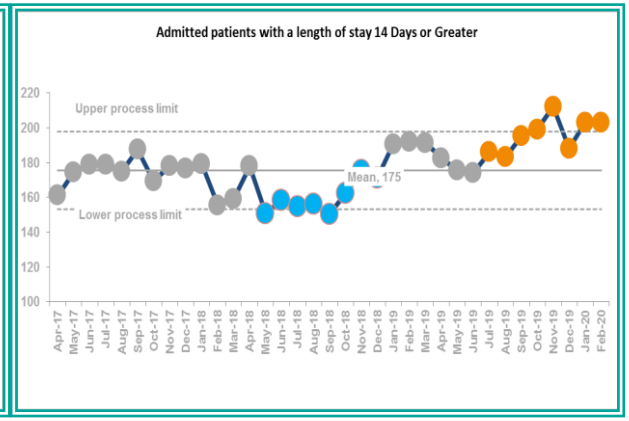


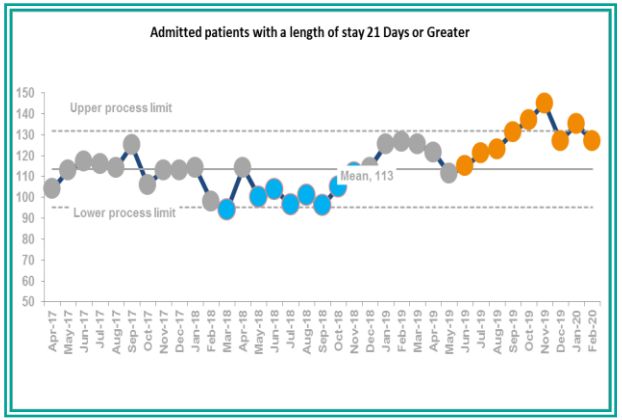










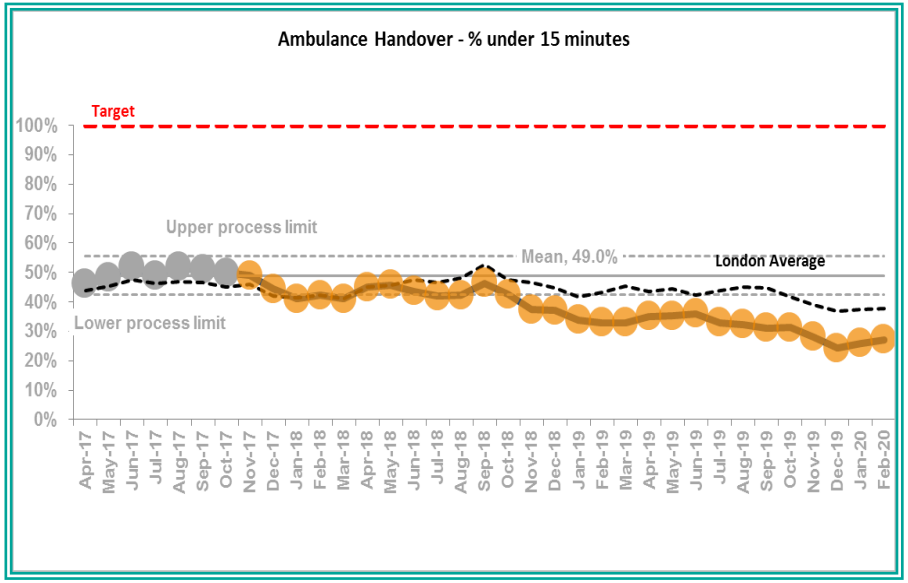


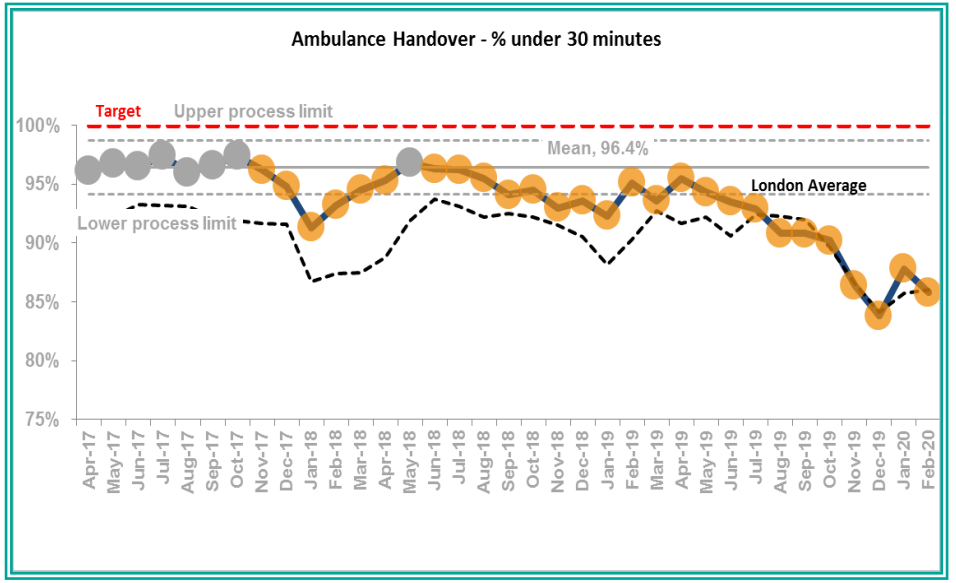
Our Process Perspective

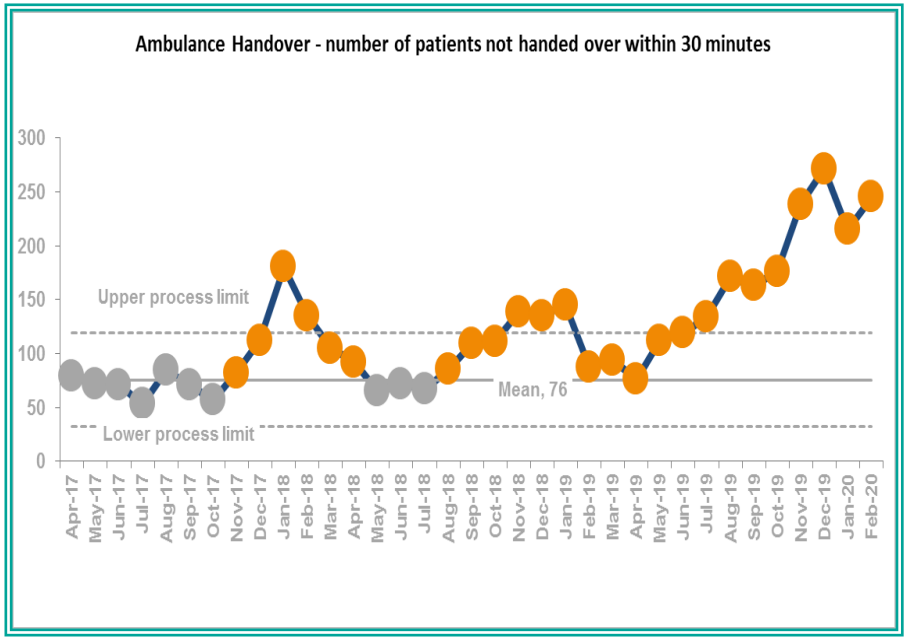
4.2

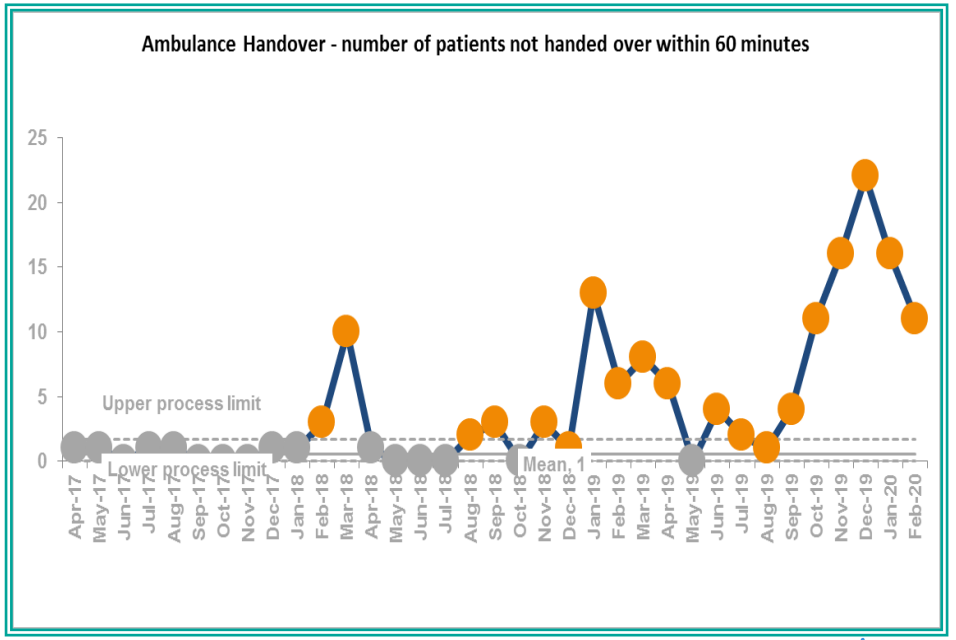
Emergency Flow

Special cause variation - improving performance
Common cause variation
Special cause variation - deteriorating performance

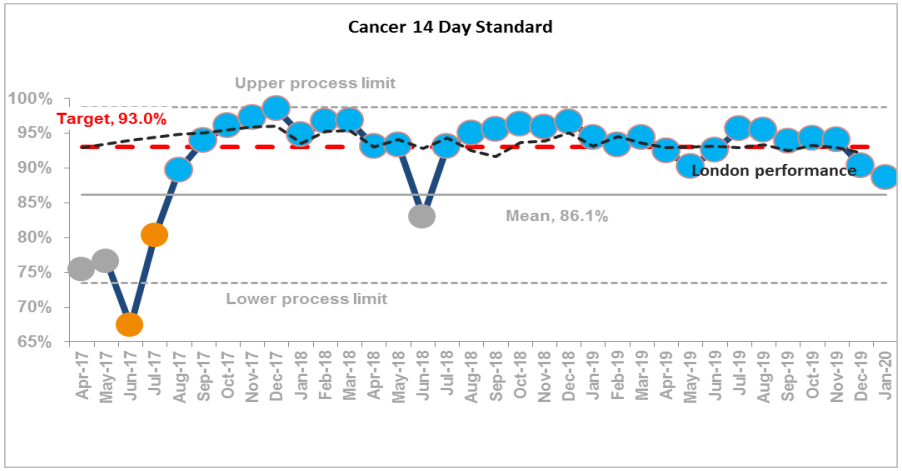


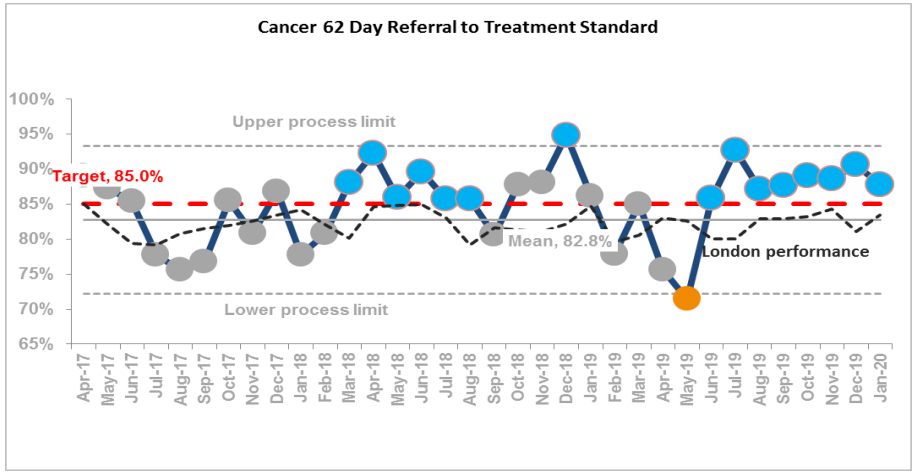






Cancer





What the information tells us

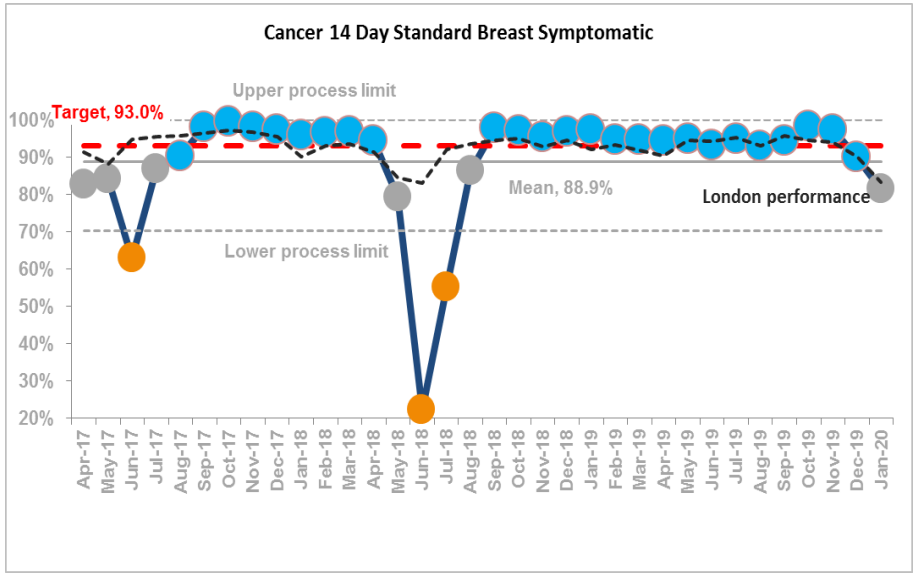
- The Trust met four of the seven cancer standards for the month of January, 14 day standard performance was under target reporting 88.6% and 62 Day standard remained compliant reporting 87.8%.
- Within the 14 Day Standard, five tumour groups were non-compliant against the 93% national target, these were Breast, Children's, Head & Neck, Lower Gastrointestinal, Lung, and Upper Gastrointestinal. Overall Trust performance remains within the upper and lower control limits and in line with London performance.
- Performance against 62 days - three tumour groups non-compliant (Gynaecology, Upper Gastrointestinal and Lower Gastrointestinal).
- In the month of January, the Trust did not achieve the Cancer 62 Day Referral to Treatment Screening target of 90% for the third consecutive month reporting 82.7%. This is the fourth consecutive drop though performance remains within the upper and lower control limit.

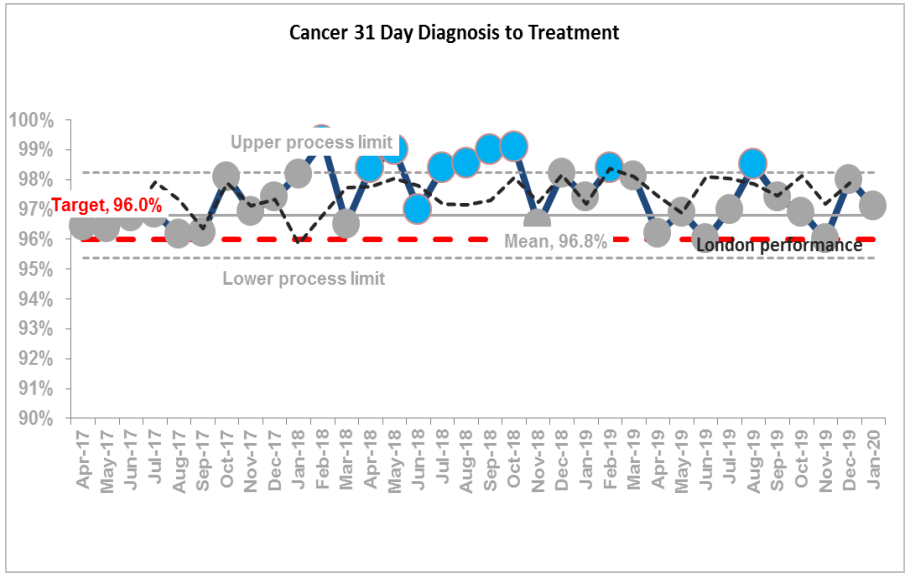
Actions and Quality Improvement Projects

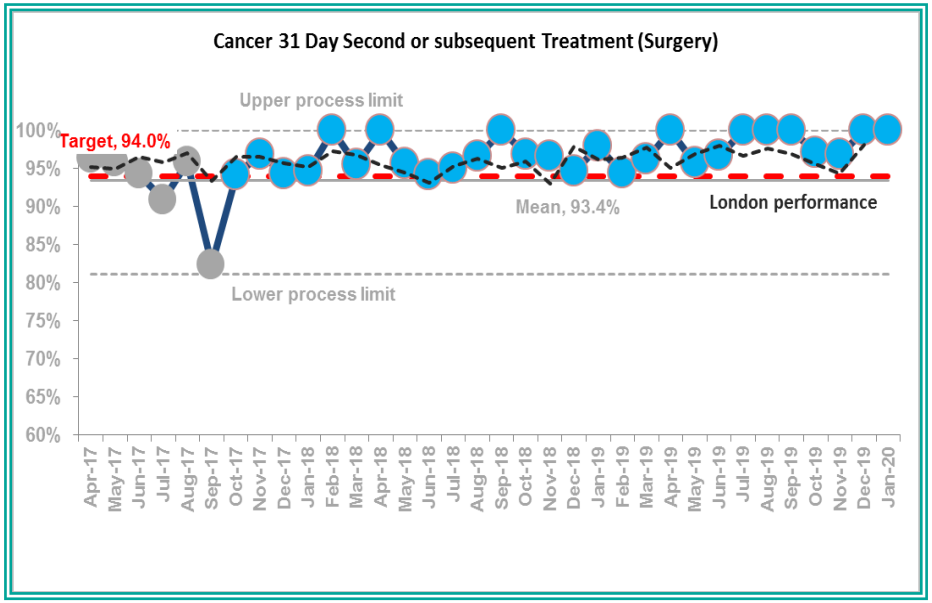
- Better visibility of patients on the Patient Tracking List (PTL) via registration of appointment slot issues (ASI) within 24 hours by the two week rule office and introduction of virtual triage slots as of 26 Feb 2020.
- Expand General Practitioner (GP) direct to endoscopy services with the implementation of electronic referrals due to go live in March 2020
- Royal Marsden Partners supported pathway redesign to increase straight to test (STT) in upper gastroenterology from April 2020
- A demand and capacity review is taking place within endoscopy services; however the service has provided assurance that there is sufficient two week rule (TWR) capacity in February for the expected number of referrals.
- Implementation of the Rapid Diagnostic Centre (RDC) pilot – the project will be in the set up phase in quarter one
- Royal Marsden Partners are supporting pathway redesign to increase straight to test. The current demand is for 70 slots with the plan that all slots will be opened to GPs as triage slots.
- As of 24 February, 20% of Lower Gastroenterology slots are now open to GP's with plans to expand this to the full 70 slots by the end of March.

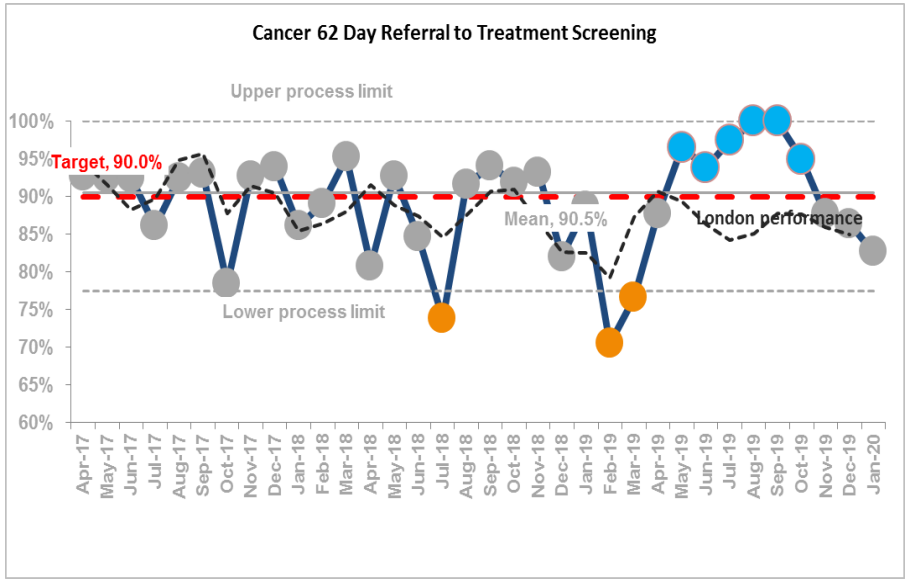
Cancer

Special cause variation - improving performance
Common cause variation
Special cause variation - deteriorating performance









4.2

Our Process Perspective

Cancer

14 Day Standard Performance by Tumour Site - Target 93%

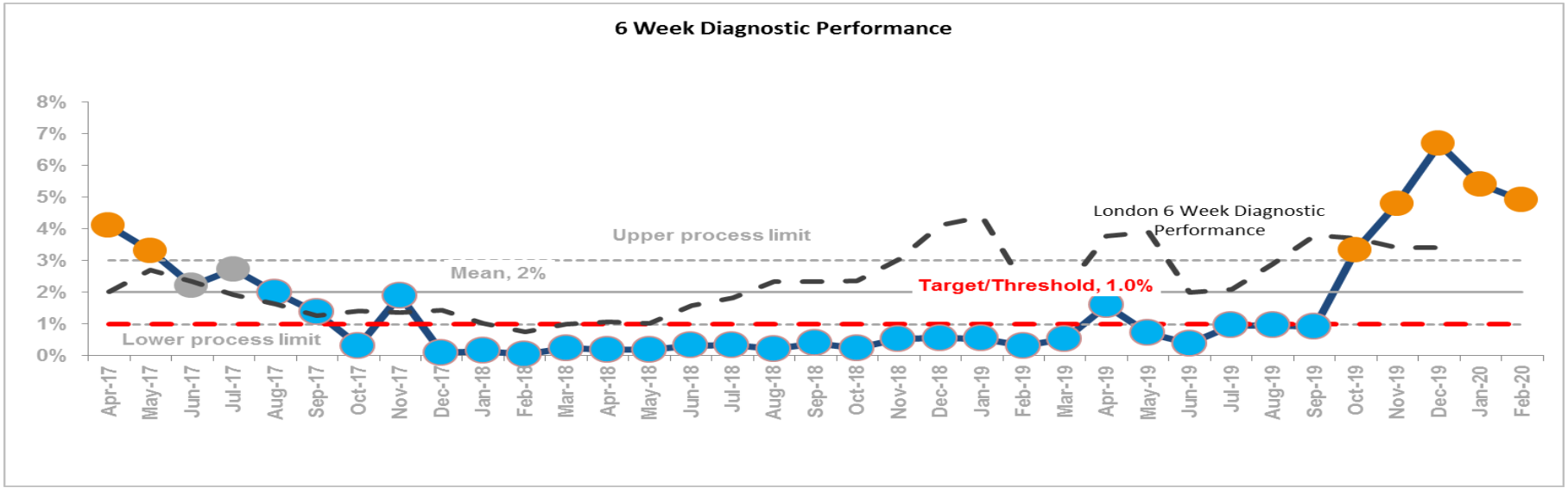
Tumour Site	Target	Jan-19	Feb-19	Mar-19	Apr-19	May-19	Jun-19	Jul-19	Aug-19	Sep-19	Oct-19	Nov-19	Dec-19	Jan-20	No of Patients
Brain	93%	100.0%	100.0%	-	100.0%	-	100.0%	-	100.0%	100.0%	-	-	-	100.0%	2
Breast	93%	97.4%	98.6%	97.9%	99.5%	96.3%	96.9%	95.4%	94.9%	95.9%	100.0%	97.0%	95.6%	84.7%	190
Children's	93%	100.0%	100.0%	100.0%	100.0%	100.0%	80.0%	100.0%	100.0%	100.0%	100.0%	100.0%	75.0%	85.7%	7
Gynaecology	93%	69.5%	65.3%	80.0%	75.0%	59.3%	78.0%	95.5%	97.2%	95.4%	97.6%	99.2%	99.0%	94.4%	89
Haematology	93%	100.0%	100.0%	100.0%	100.0%	100.0%	96.0%	100.0%	100.0%	86.7%	95.2%	100.0%	100.0%	100.0%	26
Head & Neck	93%	98.5%	100.0%	99.3%	98.0%	97.8%	100.0%	98.9%	96.4%	96.6%	99.0%	96.6%	89.4%	95.2%	166
Lower Gastrointestinal	93%	97.2%	92.1%	94.5%	85.6%	91.1%	87.9%	93.7%	93.1%	92.8%	89.7%	91.5%	80.3%	81.8%	269
Lung	93%	93.3%	100.0%	96.9%	100.0%	95.6%	96.8%	95.7%	100.0%	97.1%	97.7%	100.0%	84.1%	80.6%	36
Skin	93%	97.1%	95.9%	97.6%	96.9%	95.5%	94.8%	96.0%	98.0%	91.8%	95.9%	91.0%	94.8%	94.7%	262
Upper Gastrointestinal	93%	91.8%	90.9%	83.5%	87.9%	70.2%	90.9%	95.1%	88.9%	87.2%	82.5%	88.1%	82.7%	75.3%	81
Urology	93%	94.5%	94.2%	92.2%	90.1%	95.4%	92.1%	93.8%	93.0%	97.0%	88.4%	95.6%	92.9%	93.6%	94

62 Day Standard Performance by Tumour Site - Target 85%

Tumour Site	Target	Jan-19	Feb-19	Mar-19	Apr-19	May-19	Jun-19	Jul-19	Aug-19	Sep-19	Oct-19	Nov-19	Dec-19	Jan-20	No of Treatments
Brain	85%	-	-	-	-	-	-	-	-	-	-	-	-	-	0
Breast	85%	100.0%	82.4%	90.9%	83.3%	80.0%	87.5%	73.3%	88.6%	100.0%	100.0%	100.0%	100.0%	100.0%	10
Children's	85%	-	-	-	-	-	-	-	100.0%	-	-	-	-	100.0%	1
Gynaecology	85%	88.9%	50.0%	100.0%	66.7%	66.7%	100.0%	100.0%	100.0%	100.0%	60.0%	100.0%	80.0%	66.7%	3
Haematology	85%	100.0%	100.0%	100.0%	30.0%	33.3%	77.8%	100.0%	100.0%	100.0%	100.0%	100.0%	80.0%	85.7%	7
Head & Neck	85%	46.2%	85.7%	80.0%	77.8%	40.0%	28.6%	80.0%	80.0%	75.0%	76.5%	76.9%	68.2%	89.5%	9.5
Lower Gastrointestinal	85%	100.0%	81.8%	66.7%	41.7%	100.0%	69.2%	83.3%	63.6%	90.0%	100.0%	87.5%	83.3%	60.0%	2.5
Lung	85%	80.0%	75.0%	70.0%	71.4%	100.0%	100.0%	91.7%	89.5%	60.0%	100.0%	66.7%	100.0%	100.0%	7
Skin	85%	92.3%	100.0%	89.7%	100.0%	75.8%	95.7%	100.0%	100.0%	78.9%	100.0%	89.5%	100.0%	91.7%	12
Upper Gastrointestinal	85%	0.0%	50.0%	60.0%	100.0%	20.0%	75.0%	100.0%	53.8%	66.7%	80.0%	50.0%	100.0%	0.0%	1
Urology	85%	89.5%	71.1%	88.9%	83.0%	75.8%	93.9%	100.0%	94.4%	100.0%	83.8%	87.8%	100.0%	85.0%	20
Other	85%	0.0%	-	100.0%	-	-	100.0%	-	-	-	100.0%	-	100.0%	100.0%	1

Page 1

Diagnostics



What the information tells us

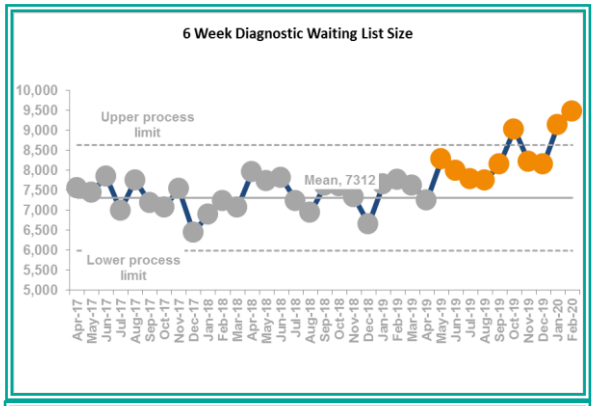
- In February, the Trust did not achieve the six week diagnostic standard with an adverse performance of 4.9% against a National Threshold of 1% and London performance of 3.4%. The total number of patients waiting greater than six weeks was 463, 6% less than the previous month.
- Compliance has not been achieved within five modalities, with Echocardiography continuing to be the most challenged and performing above the upper control limit. Current performance has not met the internal trajectory.
- Neurophysiology returned to compliance with zero patients waiting greater than six weeks, this follows a period of three months when performance was non-compliant due to staffing unavailability.
- Audiology are currently reporting ten patients waiting greater than six weeks with a performance of 9.6%.

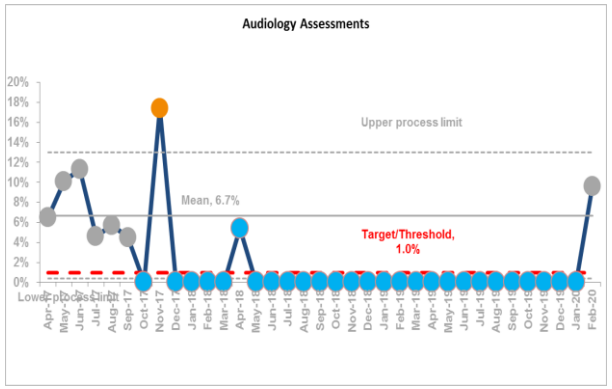
Actions and Quality Improvement Projects

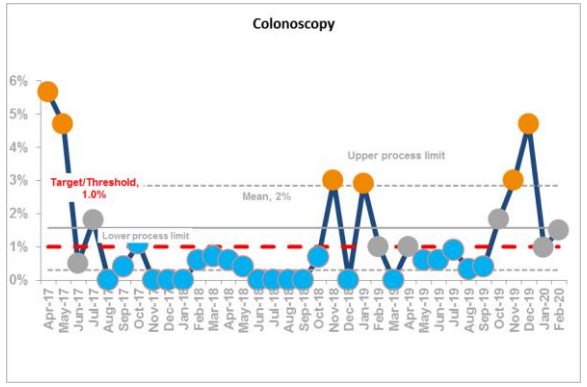
- **Echocardiography** - Performance trajectory for Echocardiography has been submitted to the Executive team with recommendations for long term impact and sustainability for the service including demand management projects. The patient waiting list continues to be reviewed and validated to ensure accurate reporting of planned and non planned patients. A service manager post will be dedicated to Diagnostics and RTT performance. Additional administrative resource has been requested to ensure that booking processes are robust and to ensure adequate capacity. A dedicated resource from transformation will lead on reviewing the current administrative and booking process. Insourcing has begun to bridge echocardiography capacity gap.
- **Audiology** – To resolve and confirm waiting list management and validation responsibility for Audiology patients treated on the Queen Mary's site.

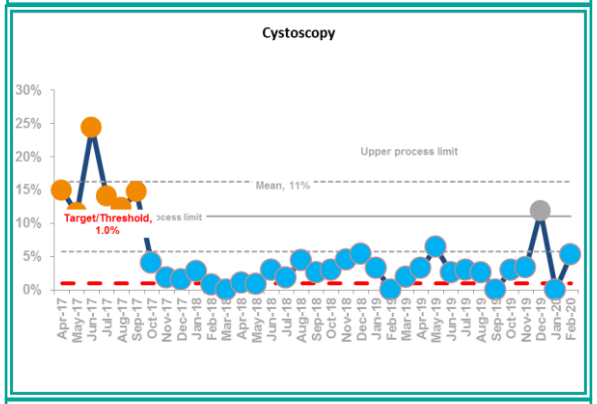
Diagnostics

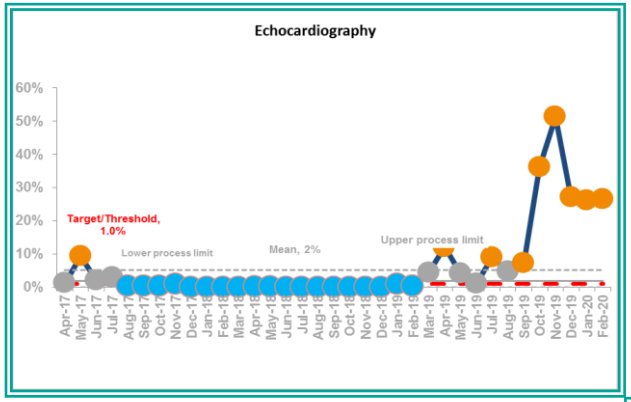
- Special cause variation - improving performance
- Common cause variation
- Special cause variation - deteriorating performance

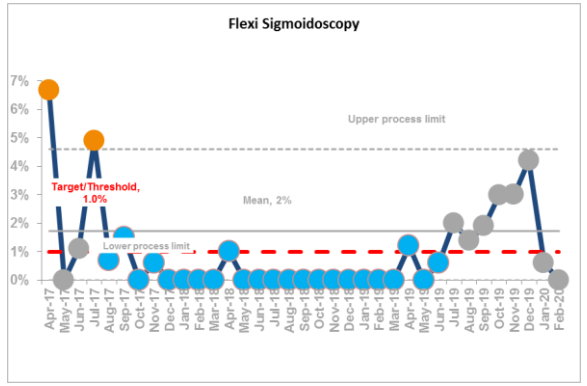


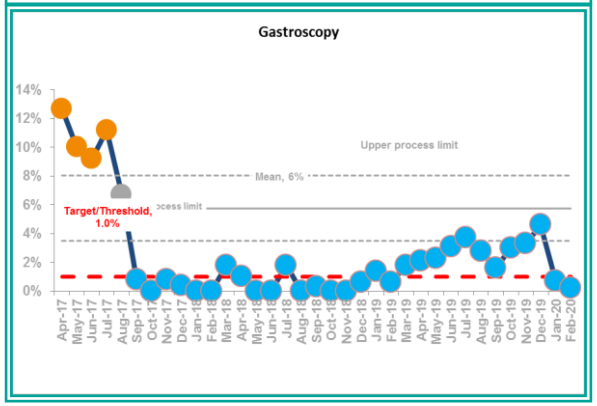


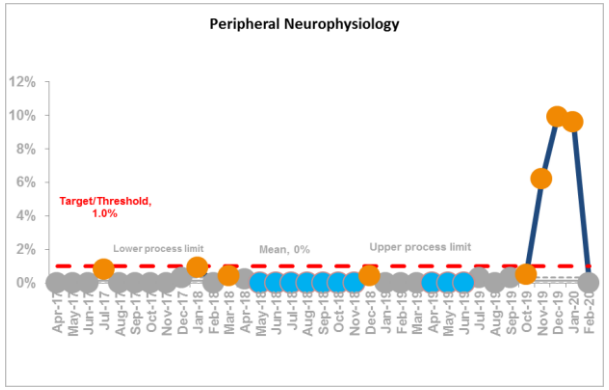


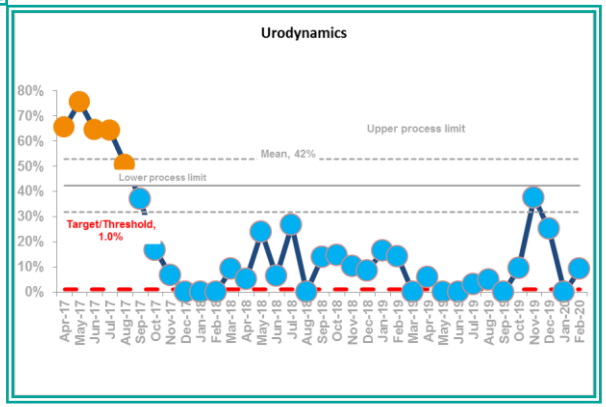




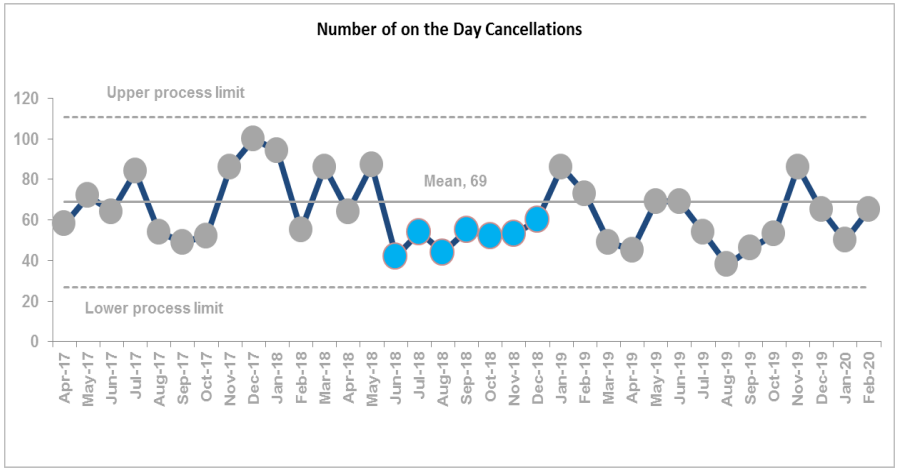


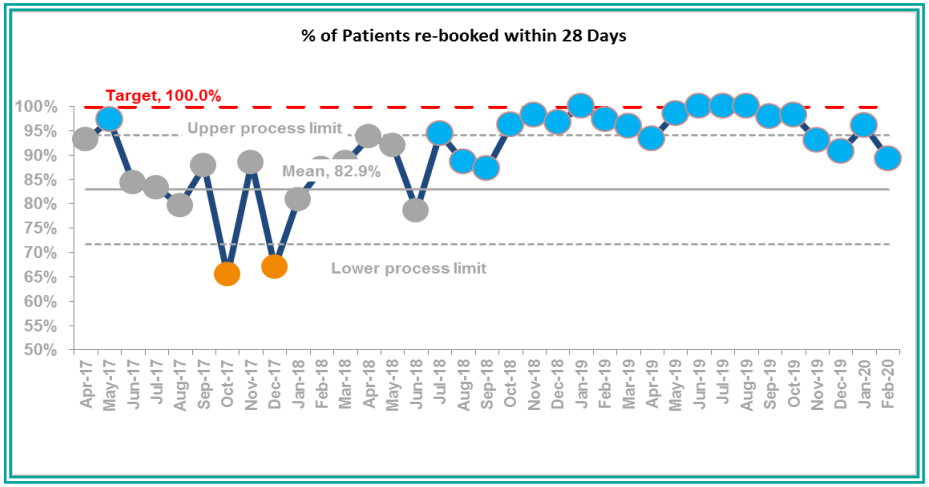






On the Day Cancellations for Non Clinical Reasons





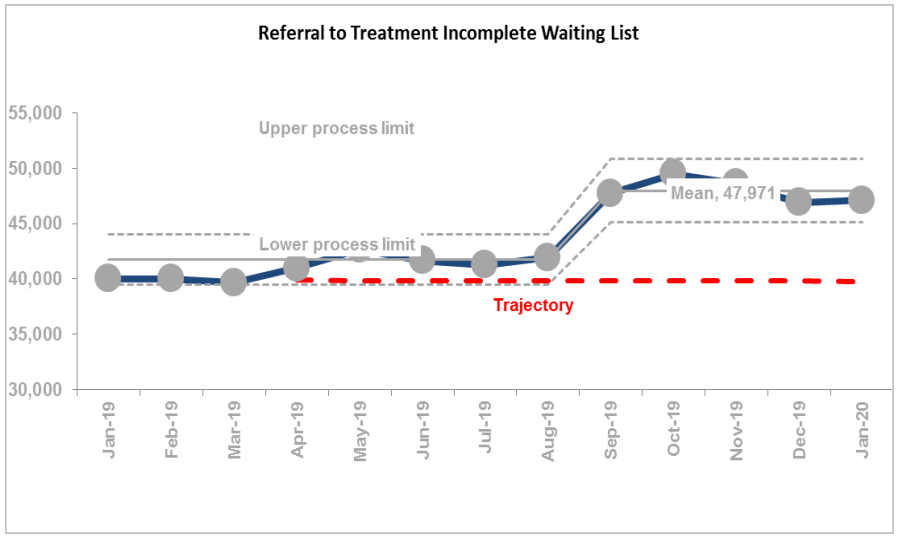
What the information tells us

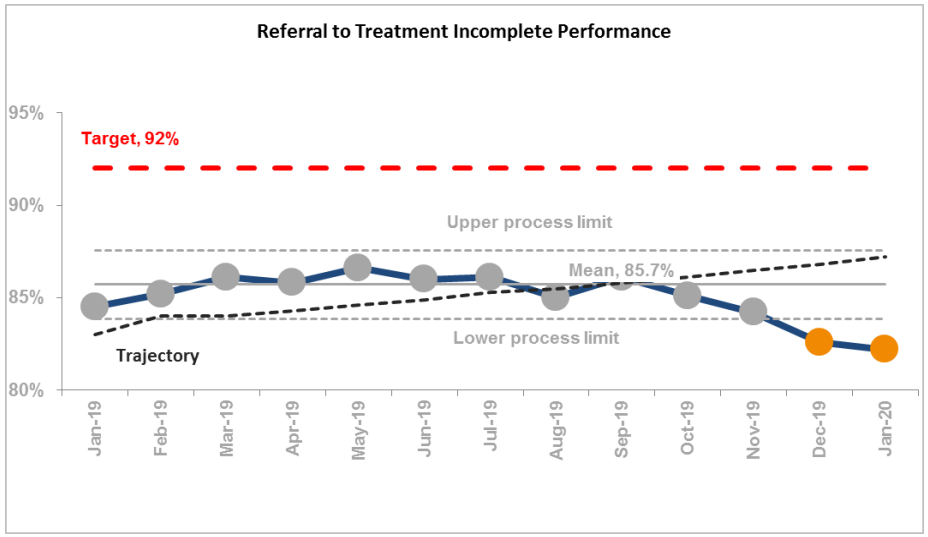
- Performance remains within expected levels reporting within the upper and lower control limits in both the number of on the day cancellations and the percentage of patients re-booked within 28 days.
- Plastic Surgery and Neurosurgery patients were most affected by on the day cancellations.
- In the month of February, seven patients were not re-booked within the 28 day time period due to capacity constraints.
- Compared to the same period last year the Trust has seen a reduction of 11% in the number of patients cancelled on the day of their operation for non-clinical reasons.
- The top three reasons for cancellations in the month of February were; Emergency cases took priority, Staffing unavailability and timing due to complications with previous cases.

Actions and Quality Improvement Projects

- Two way text reminders have been rolled out for Day Surgery Unit (DSU), this will also include a firmer message to encourage patients to attend
- The Trust Directory is being updated to ensure the correct numbers for the Patient Pathway Coordinators (PPC) are listed to support switchboard directing patients to the right person
- Partial Bookings are being sent out to all patients added to the inpatients (IP) and daycase waitlist, which asks patients if they are available at short notice (1 day, to 1 week before treatment date) so we have a pool of patients to pull from when other patients cancel at short notice (for DSU, 65% of our total cancellation are patients cancelling at short notice)
- Information is now being entered on Theatreman (IP scheduling system) which highlights if a patient is on a cancer pathway, including their breach date, to mitigate the risk of these patients being cancelled because of bed flow challenges
- The PPC team are designing a 'Friends and Family test' for scheduling which will help us understand why patients cancel, so we can put actions in place to stop DNA's/short notice cancellations.
- Non clinical on the day cancellations are discussed daily at the PPC huddle to ensure patients are dated within 28 days.

Referral to Treatment





What the information tells us

- The Trust remains behind the Trust trajectory for incomplete Referral To Treatment (RTT) performance in January 2020. The submitted performance was 82.2% against a trajectory of 87.2%.
- The Total Patient Tracking List (PTL) size reported in January 2020 was 47,089 (inclusive of Queen Mary Hospital pathways) against a trajectory of 39,800. The trajectory of PTL size was not adjusted to take into account the QMH patients migrated in September 2019. The QMH PTL size remains higher than planned.
- The Trust 52 week breach position deteriorated in January reporting ten patients waiting greater than 52 weeks (eight General Surgery, one Urology, one Cardiology).

Actions and Quality Improvement Projects

- Reviewing all un-booked patients on the continuing Patient Tracking List (PTL), over and under 18 weeks. This will result in a drop in performance from December 2019 however this will lead to longer term improvement and ensures our patients are appropriately being followed up.
- Revised RTT documentation circulated twice weekly to all operational teams.
- Revised access meeting structure from weekly to fortnightly offering more time to review report in detail.

Referral to Treatment

Indicator Description	Target	Jan-19	Feb-19	Mar-19	Apr-19	May-19	Jun-19	Jul-19	Aug-19	Sep-19	Oct-19	Nov-19	Dec-19	Jan-20
RTT Incomplete Performance	92%	84.5%	85.2%	86.1%	85.8%	86.6%	86.0%	86.1%	85.0%	86.1%	85.1%	84.2%	82.6%	82.2%
RTT Incomplete Trajectory		83%	84%	84%	84.3%	84.6%	84.9%	85.3%	85.5%	85.8%	86.1%	86.5%	86.8%	87.2%
RTT Total Incomplete Waiting Lize Size		40,016	40,037	39,674	41,013	42,671	41,658	41,259	41,945	47,714	49,495	48,640	46,918	47,089
RTT Total Incomplete Waiting Lize Size Trajectory					39,890	39,880	39,870	39,860	39,850	39,840	39,830	39,820	39,810	39,800
Total waits greater than 18 weeks (inc 52Wk waiters)		5,921	5,929	5,515	5,812	5,717	5,820	5,739	6,305	6,651	7,353	7,701	8,183	8,382
Total waits greater than 18 weeks Trajectory				6,400	6,263	6,142	6,020	5,859	5,779	5,657	5,536	5,376	5,255	5,095
Total waits greater than 52 weeks	0	118	116	27	22	16	7	5	6	6	1	7	9	10
Total waits greater than 52 weeks Trajectory				31	23	16	9	5	5	5	0	0	0	0
RTT Incomplete Performance - Admitted		65.5%	65.5%	66.6%	65.3%	68.8%	68.7%	66.3%	63.7%	65.9%	65.3%	63.7%	61.40%	60.50%
Total waits greater than 18 weeks - Admitted		1,563	1,563	1,428	1,511	1,459	1,494	1,523	1,655	1,643	1,686	1,719	1,876	1,950
Total waits greater than 52 weeks - Admitted	0	62	63	18	7	8	4	1	2	4	0	2	5	2
RTT Incomplete Performance -Non Admitted		87.7%	87.7%	88.5%	88.3%	88.8%	88.3%	88.5%	87.6%	88.3%	87.3%	86.4%	85.0%	84.7%
Total waits greater than 18 weeks - Non Admitted		4,358	4,366	4,087	4,301	4,258	4,326	4,216	4,650	5,008	5,667	5,982	6,107	6,432
Total waits greater than 52 weeks - Non Admitted	0	56	53	9	15	8	3	4	4	2	1	5	4	8

Referral to Treatment

Specialty	Admitted		Non Admitted		Incomplete Pathway					
	Total	% within 18 weeks	Total	% within 18 weeks	Within 18 weeks	Over 18 weeks	Total	% within 18 weeks	Over 42 weeks	Over 52 weeks
General Surgery	301	44.9%	920	79.6%	867	354	1,221	71.0%	36	4
Urology	272	41.2%	1,523	95.1%	1,561	234	1,795	87.0%	24	1
Trauma & Orthopaedics	138	44.2%	1,906	88.8%	1,754	290	2,044	85.8%	4	0
Ear, Nose & Throat (ENT)	569	33.9%	2,511	83.9%	2,299	781	3,080	74.6%	63	0
Ophthalmology	0	-	491	87.0%	427	64	491	87.0%	1	0
Oral Surgery	1	0.0%	342	67.5%	231	112	343	67.3%	2	0
Neurosurgery	176	65.3%	2,091	78.1%	1,749	518	2,267	77.2%	26	0
Plastic Surgery	504	39.9%	784	85.1%	868	420	1,288	67.4%	57	0
Cardiothoracic Surgery	0	-	10	100.0%	10	0	10	100.0%	0	0
General Medicine	0	-	44	95.5%	42	2	44	95.5%	0	0
Gastroenterology	747	90.9%	2,435	83.4%	2,709	473	3,182	85.1%	30	0
Cardiology	868	71.4%	3,095	83.7%	3,210	753	3,963	81.0%	22	1
Dermatology	4	75.0%	3,234	86.5%	2,801	437	3,238	86.5%	6	0
Respiratory Medicine	16	93.8%	1,693	85.4%	1,461	248	1,709	85.5%	2	0
Neurology	33	93.9%	2,641	85.1%	2,279	395	2,674	85.2%	3	0
Rheumatology	0	-	1,094	81.6%	893	201	1,094	81.6%	4	0
Geriatric Medicine	1	100.0%	90	96.7%	88	3	91	96.7%	0	0
Gynaecology	254	48.8%	2,261	88.0%	2,114	401	2,515	84.1%	9	0
Other	1,057	66.3%	14,983	84.4%	13,344	2,696	16,040	83.2%	138	4
Total	**4,941**	**60.5%**	**42,148**	**84.7%**	**38,707**	**8,382**	**47,089**	82.2%	**427**	**10**

- There are a number of specialties reported under speciality ‘Other’. This follows guidance set out in the documentation, “Recording and reporting referral to treatment (RTT) waiting times for consultant-led elective care” – produced by NHS England.

Balanced Scorecard Approach

Workforce

Indicator Description	Target	Feb-19	Mar-19	Apr-19	May-19	Jun-19	Jul-19	Aug-19	Sep-19	Oct-19	Nov-19	Dec-19	Jan-20	Feb-20
Trust Level Sickness Rate	3.2%	4.0%	3.4%	3.1%	3.5%	3.8%	3.8%	3.5%	3.4%	3.7%	3.8%	4.0%	3.9%	4.0%
Trust Vacancy Rate	10%	9.3%	9.6%	9.1%	10.3%	10.5%	11.9%	12.8%	12.8%	9.3%	9.9%	11.2%	10.8%	10.7%
Trust Turnover Rate* Excludes Junior Doctors	13%	17.1%	17.5%	17.1%	17.4%	17.4%	17.5%	17.7%	17.7%	17.8%	17.6%	17.6%	17.4%	17.3%
Total Funded Establishment		9,238	9,248	9,112	9,241	9,251	9,365	9,432	9,534	9,280	9,294	9,403	9,383	9,369
IPR Appraisal Rate - Medical Staff	90%	Data Unavailable			85.4%	84.5%	84.4%	85.7%	81.5%	83.9%	81.5%	83.6%	84.9%	81.7%
IPR Appraisal Rate - Non Medical Staff	90%	71.3%	70.4%	71.6%	72.5%	73.6%	73.3%	71.3%	70.4%	70.9%	72.3%	72.3%	72.0%	72.4%
Overall MAST Compliance %	85%	89.1%	89.4%	89.8%	90.6%	91.1%	91.2%	91.3%	90.6%	89.7%	89.7%	90.0%	89.7%	90.6%
Ward Staffing Unfilled Duty Hours	10%	6.7%	7.2%	5.7%	5.9%	6.1%	6.3%	5.4%	6.5%	6.1%	3.8%	5.3%	5.4%	6.2%

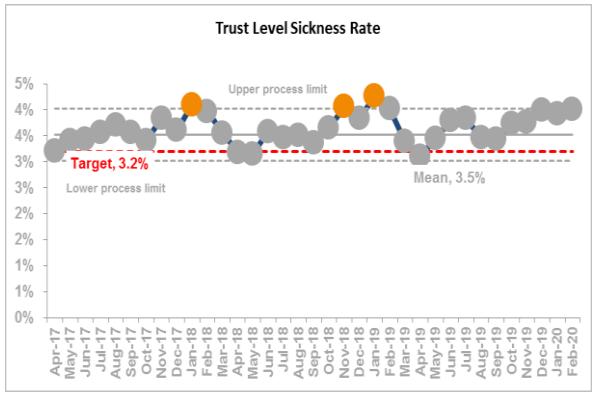
What the information tells us

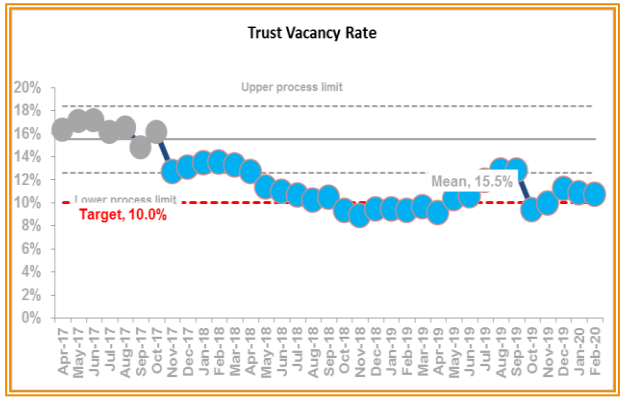
- Mandatory and Statutory Training figures was increased to 90.6% in February.
- Medical appraisal rates currently stands at 81.7% against a target of 90%.
- Non-medical appraisal performance remains similar to that of January at 72.4% against a 90% target and is below the lower control limits.
- The Trust's Total Funded Establishment and Trust Vacancy rate are both below the lower control limits.
- The Trust monthly agency performance was within target for February.

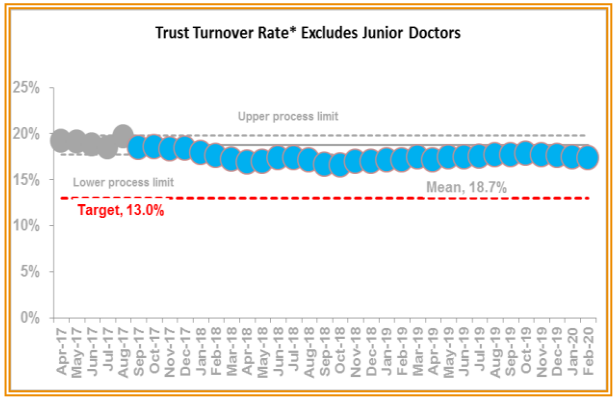
Actions and Quality Improvement Project
No update.

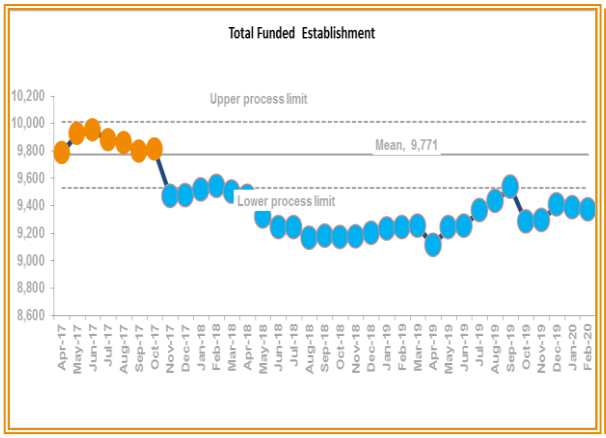
Workforce

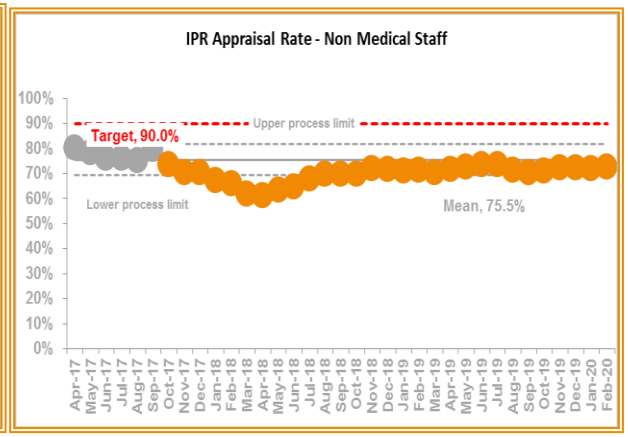
- Special cause variation - improving performance
- Common cause variation
- Special cause variation - deteriorating performance

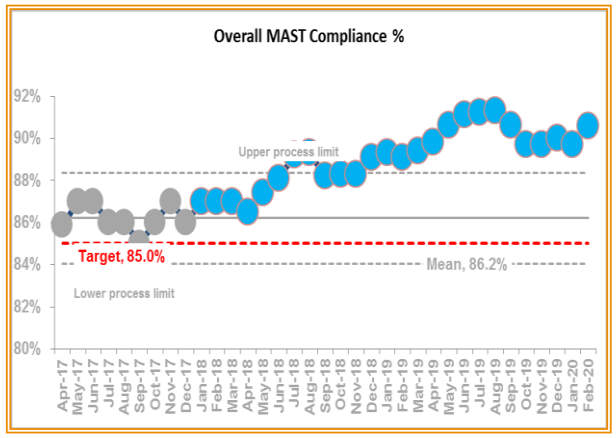


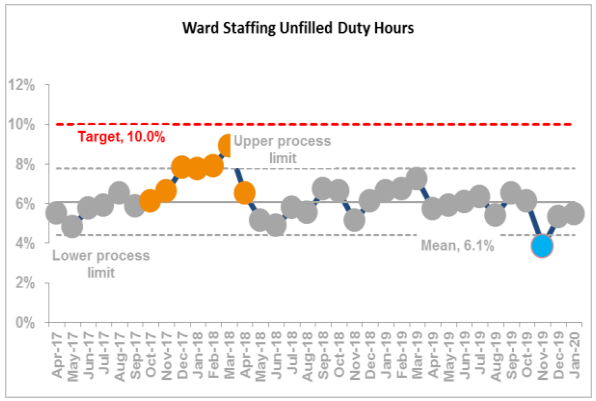








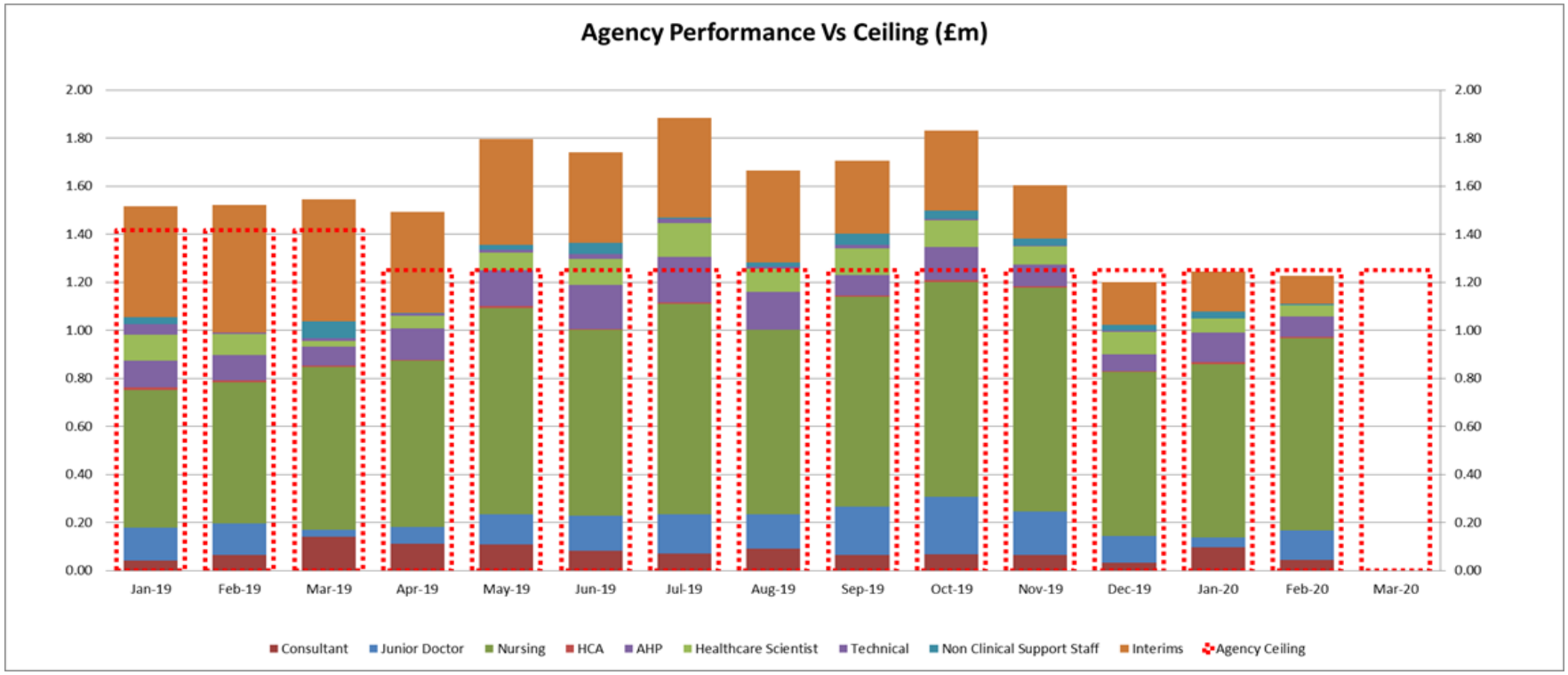




4.2

Our People Perspective

Agency use



- The Trust's total pay for February was £44.01m. This is £1.66m adverse to a plan of £42.34m.
- The Trust's 2019/20 annual agency spend target set by NHSI is £20.55m. There is an internal annual agency target of £15.00m.
- Agency cost in February was £1.23m or 2.7% of the total pay costs. For 2018/19, the average agency cost was 3.2% of total pay costs.
- For February, the monthly target set is £1.25m. The total agency cost is better than the target by £0.02m.
- Agency cost is £0.02m lower compared to January. There have been decreases mainly in Interims (£0.05m), Consultant (£0.05m) and AHP (£0.04m). This is partially offset by increases in Junior Doctor (£0.08m) and Nursing (£0.08m).
- The biggest areas of overspend were Nursing (£0.21m) and Junior Doctor (£0.06m). The biggest areas of underspend were Interims (£0.18m).

Agency use

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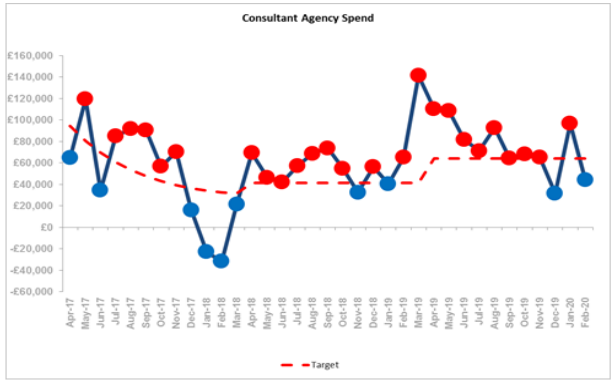
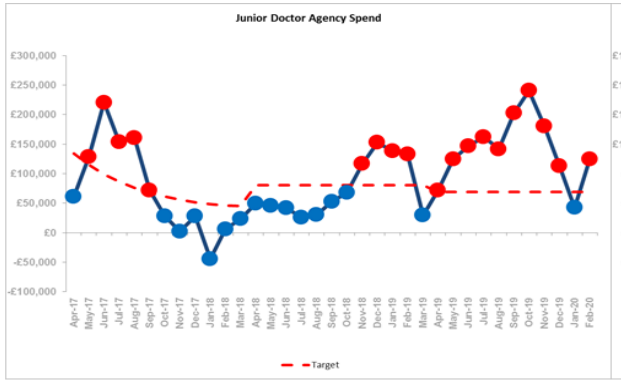
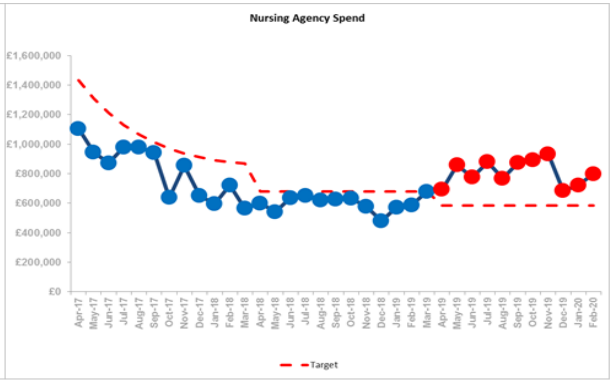
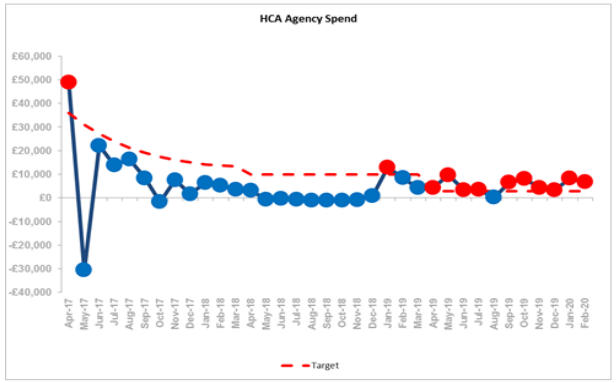
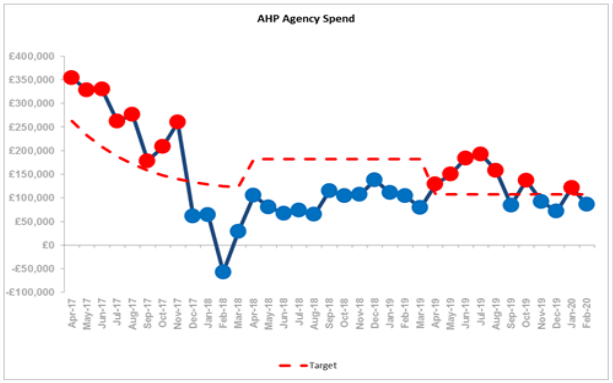
Above cap

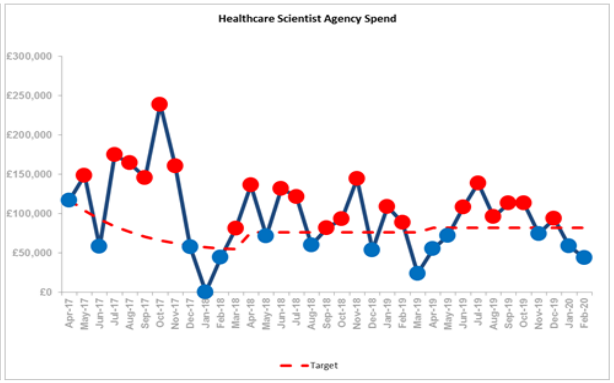


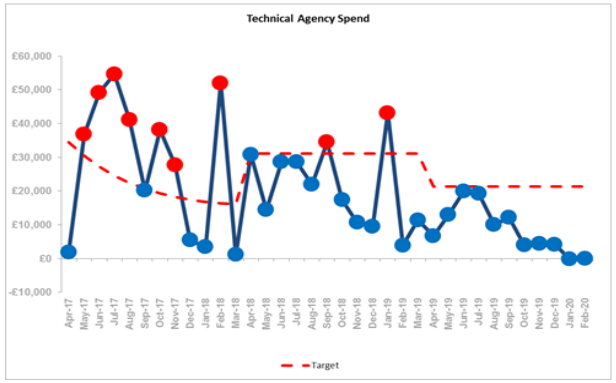


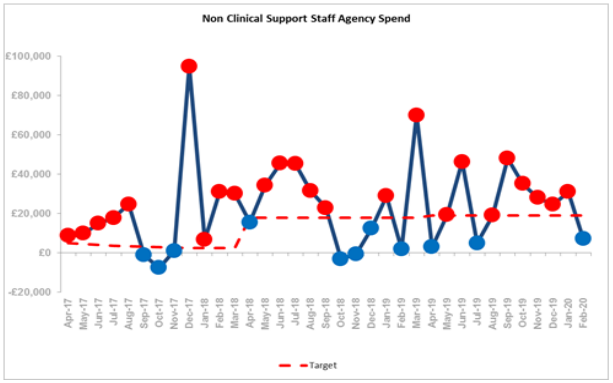


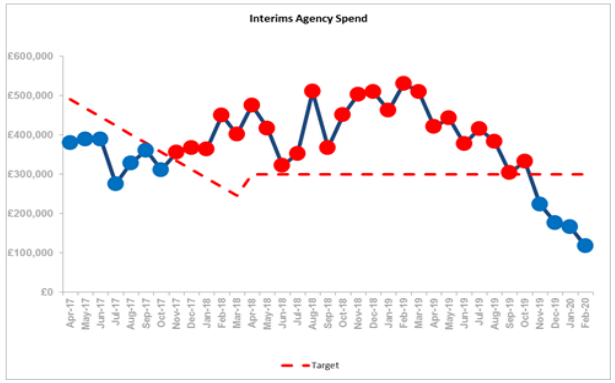










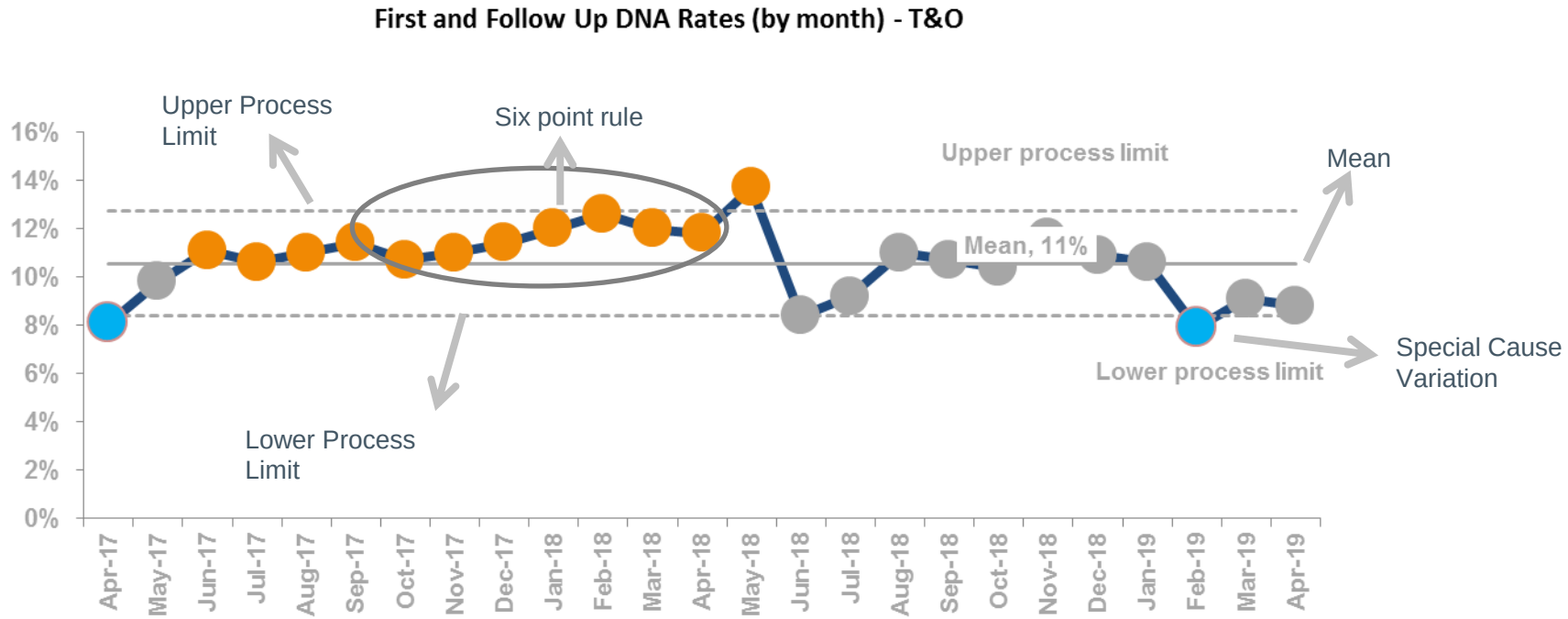


4.2

Our People Perspective

Appendix
Additional Information

Interpreting SPC (Statistical Process Control) Charts



SPC Chart – A time series graph to effectively monitor performance over time with three reference lines; Mean, Upper Process Limit and Lower Process Limit. The variance in the data determines the process limits. The charts can be used to identify unusual patterns in the data and special cause variation is the term used when a rule is triggered and advises the user how to react to different types of variation.

Special Cause Variation – A special cause variation in the chart will happen if;

- The performance falls above the upper control limit or below the lower control limit
- 6 or more consecutive points above or below the mean
- Any unusual trends within the control limits

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NHS
St George's University Hospitals
NHS Foundation Trust

Meeting Title:	**Trust Board**		
Date:	26 March 2020	**Agenda No**	**5.1**
Report Title:	**Finance and Investment Committee (Core) report**		
Lead Director/ Manager:	Ann Beasley, Chairman of the Finance and Investment Committee		
Report Author:	Ann Beasley, Chairman of the Finance and Investment Committee		
Presented for:	Assurance		
Executive Summary:	The report sets out the key issues discussed and agreed by the Committee at its meeting on the 19th March 2020.		
Recommendation:	The Board is requested to note the update.		
Supports			
Trust Strategic Objective:	Balance the books, invest in our future.		
CQC Theme:	Well Led.		
Single Oversight Framework Theme:	N/A		
Implications			
Risk:	N/A		
Legal/Regulatory:	N/A		
Resources:	N/A		
Previously Considered by:	N/A	**Date:**	N/A
Appendices:	N/A		

5.1

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Finance and Investment Committee (Core) – March 2020

The Committee met on 19 March and in addition to the regular items on strategic risks, operational performance and financial performance, it also considered papers on the 2020/21 Financial Plan, Commercial Strategy and Financial Policies.

Committee members discussed the BAF risks on finance and ICT in respect of the COVID-19 virus, although noting no change in risk scoring at present. The Committee noted performance in Diagnostics, Cancer, RTT and Emergency Flow as well as outlining recovery processes in each area. The Committee discussed current financial performance, cash management and capital expenditure, in view of the forecasted year end position, as well as the implications for the annual plan in 2020/21. **The Committee wishes to bring the following items to the Board's attention:**

1.1 Finance & ICT Risks – the Acting Chief Financial Officer (ACFO) and the Chief Information Officer (CIO) gave updates on their respective BAF risks. They noted no change in risk scoring although noting the emerging risk on COVID-19 would have financial and ICT implications.

1.2 Activity Update – the performance against activity targets was discussed, in particular reduced attendances in ED, lower than planned First Outpatient Appointments and reduced 'Did Not Attend' rates. The Committee also discussed theatre utilisation trends by Consultant being reviewed.

1.3 Referral to Treatment (RTT) Update – the performance against the RTT target was discussed, where performance in January of 82.2% was below the incomplete target trajectory of 87.2%, and the number of 52 week waits of 10 was more than the trajectory of 0. The size of the waiting list (including QMH patients) was 47,089 patients. The Chief Operations Officer (COO) noted performance in February, where 11 52 week waits had been observed. She noted that under the current situation with COVID-19, clinical urgency was changing the prioritisation of these patients. She also noted performance in February against the incomplete target (revised to 83.3%) of 82.3%, and a waiting list size of 48,061. The Committee discussed the importance of elective treatments at this unprecedented time and the need for system-wide working wherever possible.

1.4 Emergency Department (ED) Update – the performance of the Emergency Care Operating Standard was recorded at 82.6% in February, which is adverse to the Trust's trajectory in the month, although better than January's performance of 81.7%. The COO noted the current situation with respect to COVID-19, with the footprint of the department increased, and separate 'red' and 'green' areas for those with respiratory and non-respiratory symptoms respectively. The Committee discussed psychological and wellbeing support for staff, as well as ensuring staff that are able to cross cover in high demand areas are given training where appropriate. The Committee also discussed safeguarding and DBS checks as important considerations.

1.5 Cancer Performance – the COO noted that the Trust met 4 of the 7 Cancer performance targets in January, and that the Trust continues to prioritise Cancer treatment as much as possible in the current circumstances.

1.6 Diagnostics Performance – the COO observed the continued challenge in Diagnostics performance in February, where 4.9% of patients had a Diagnostic wait over 6 weeks compared with a target of 1% (and London performance of 3.4%). The Committee noted that demand in this area may reduce as the focus continues to be on COVID-19, and discussed the adequacy of laboratory capacity at this time.

1.7 Financial Performance – the ACFO noted performance to date at Month 11 was adverse to plan by £7.5m (which was in line with the £9m adverse forecast), showing a £46.4m Pre-PSF/FRF/MRET deficit. He noted that all divisions met their forecast in-month, and that cash remained well-managed based on current requirements of capital and revenue expenditure. He also noted the capital

expenditure position as the Trust approaches year end, with the impact of COVID-19 being factored in as well.

1.8 2020/21 Planning Update (COVID-19) – the ACFO introduced the Committee to the paper providing an update on the financial plan for 2020/21 following a letter received from Sir Simon Stevens (NHS CEO) and Amanda Prichard (NHS COO) on 17th March. He noted that the traditional operational planning round had been suspended and that block contract arrangements were being put in place for the first four months of the new financial year. The Committee agreed that in order to sign off annual budgets ahead of 1st April, a review would be required with selected non-executives before this date. This review would look to agree on a Trust budget for these first four months, as well as a plan for the remaining 8 months.

1.9 Commercial Strategy – the Director of Financial Planning (DFP) introduced a paper on the draft Commercial Strategy, which outlined some of the key considerations ahead of a final strategy document, requiring input by the committee. The Committee agreed that the proposed approach was appropriate.

1.10 Policies Update – the ACFO introduced 5 financial policies for approval following endorsements at the Financial Systems Monitoring Group (FSMG). These were the Financial Planning, Treasury Management, Credit Management, Asset Valuation and Transactions Management Policies. The Committee approved these policies.

2.0 Recommendation

2.1 The Board is recommended to receive the report from the Finance and Investment Committee (Core) for information and assurance.

Ann Beasley
Finance & Investment Committee Chair,
March 2020

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NHS
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Meeting Title:	**Trust Board**		
Date:	26 March 2020	**Agenda No**	**5.2**
Report Title:	**Finance and Investment Committee (Estates) Report**		
Lead Director/ Manager:	Tim Wright, Lead Non-Executive Director, Estates		
Report Author:	Tim Wright, Lead Non-Executive Director, Estates		
Presented for:	Assurance		
Executive Summary:	The report sets out the key issues discussed and agreed by the Committee at its meeting on the 19 March 2020.		
Recommendation:	The Board is requested to note the update.		
Supports			
Trust Strategic Objective:	Balance the books, invest in our future.		
CQC Theme:	Well Led.		
Single Oversight Framework Theme:	N/A		
Implications			
Risk:	N/A		
Legal/Regulatory:	N/A		
Resources:	N/A		
Previously Considered by:	N/A	**Date:**	N/A
Appendices:	N/A		

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Finance and Investment Committee (Estates) – March 2020

This Part 2 FIC meeting has been set up on a monthly basis to provide more comprehensive assurance on Estates risks in the Trust. Good progress continues to be made and the Committee agreed to subsume the current meeting into the regular 'core' agenda from next month. The Committee emphasised the importance of the Estates & Facilities area in the months ahead that should be maintained through regular structured review at FIC.

The March FIC E meeting was constructive and helpful, at which members received updates from the Deputy Director of Estates & Facilities (DDE&F) on the divisional overview, progress made in the management of the COVID-19 virus, responses to the HSE requirements and the latest on the Estates Strategy.

The Committee wishes to bring the following items to the Board's attention:

1.1 Divisional Overview Report – the DDE&F noted some of the key updates in the department, in particular in terms of recruitment of senior staff members and a recent connector valve break affecting St James's Wing which caused hot water to leak into the hospital. She noted that the London Fire Brigade were pleased with the efforts made by the department. The Committee also praised the work done in respect of the Lanesborough Wing generators, which is now complete.

1.2 Response to COVID-19 - the DDE&F highlighted key updates from the department's response to COVID-19. She noted that she is the department lead for this and her second in command is the Assistant Director- Health & Safety and Fire Safety (AD-HSFS). She noted the use of the Bence Jones portacabin as office space for commissioning staff in relation to the non-emergency patient transport (NEPT) service. The Committee also noted the plans for ward refurbishment may need to be postponed while bed capacity is more in demand, and the importance of the Trust Board being available to support frontline staff at this challenging time.

1.3 Estates Strategy - the Committee discussed the Estates strategy and the business cases currently being worked up with capital requirements. It was noted that these cases would be part of the update to the next committee meeting.

1.4 Responses to HSE requirements - the Committee noted the various HSE improvement notices and progress being made to address each one. The Committee praised the impact of the AD-HSFS for his efforts in this area, as well as the DDE&F.

2.0 Recommendation

2.1 The Board is recommended to receive the report from the Finance and Investment Committee (Estates) on 19 March 2020 for information and assurance.

Tim Wright
Lead Non-Executive Director, Estates
March 2020

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St George's University Hospitals
NHS Foundation Trust

5.3

Meeting Title:	**TRUST BOARD**		
Date:	**26 March 2020**	**Agenda No.**	**5.3**
Report Title:	**M11 Finance Report 2019/20**		
Lead Director/ Manager:	Tom Shearer, Deputy Chief Financial Officer		
Report Author:	Michael Armour, Head of Finance - Reporting		
Presented for:	Update		
Executive Summary:	The Trust has reported a deficit to date in M11 of £46.4m which is £7.5m adverse to the Pre-PSF/FRF/MRET plan. Within the position, income is favourable to plan by £5.6m, and expenditure is overspent by £13.1m. CIP performance to date is £38.1m which is £1.9m adverse to plan. The Trust has recognised £24.3m of PSF/FRF/MRET funding YTD to Month 11. This leaves £6.6m of PSF/FRF not achieved as the Trust did not deliver the M11 YTD Pre-PSF/MRET/FRF plan. The Trust is currently unsure on whether this income will be received at present, although discussions with NHS Improvement are positive. The Trust also recognised £0.5m of prior year PSF. The financial forecast submitted at M9 shows an expected £9.0m adverse variance to the Pre-PSF/FRF/MRET plan. The Trust is in line with forecast in all divisions in M11.		
Recommendation:	The Trust Board is asked to note the Trust's financial performance to M11.		
Supports			
Trust Strategic Objective:	Balance the books, invest in our future.		
CQC Theme:	Well-Led		
Single Oversight Framework Theme:	N/A		
Implications			
Risk:	N/A		
Legal/Regulatory:	N/A		
Resources:	N/A		
Previously Considered by:	N/A	Date	N/A
Appendices:	N/A		

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Financial Report Month 11 (February 2020)

5.3

Trust Board - Mar 20

Chief Finance Officer

26th March 2020

Executive Summary – Month 11 (February)

Area	Key issues	Current month (YTD)	Previous month (YTD)
Target deficit	**The Trust is reporting a Pre-PSF/MRET/FRF deficit of £46.4m** at the end of February, which is **£7.5m adverse to plan**. Within the position, income is favourable to plan by £5.6m, and expenditure is overspent by £13.1m. The Trust is in line with forecast in all divisions in M11. **M11 YTD PSF/MRET/FRF income of £24.3m** in the plan has **been achieved** in the Year-to-date position, which is £6.6m adverse to plan. **£6.1m of this is MRET which is expected to be received in all scenarios. The remaining £18.3m relates to the Q3 YTD portion of PSF/FRF, leaving £6.6m of PSF/FRF not achieved** as the Trust did not deliver the M11 YTD Pre-PSF/MRET/FRF plan. **£0.5m of Prior Year PSF** is included in the position following a re-allocation of the General PSF after finalisation of annual accounts.	£7.5m Adv to plan	£3.4m Adv to plan
Income	Income is reported at £5.6m favourable to plan year to date. SLA income is £2.3m over plan, mainly due to decreased Challenges and excluded Drugs and Devices which are offset in non-pay. Non-SLA income is £3.3m favourable to plan, which is mainly owing to Private Patients and R&D income.	£5.6m Fav to plan	£6.9m Fav to plan
Expenditure	Expenditure is £13.1m adverse to plan year to date in February. This is caused by Non-Pay adverse variance of £6.4m, related to pass-through income, and Pay adverse variance of £6.7m across Medical and Nursing staff groups.	£13.1m Adv to plan	£10.3m Adv to plan
CIP	The Trust planned to deliver £40.0m of CIPs by the end of February. To date, £38.1m of CIPs have been delivered; which is £1.9m adverse to plan. Income actions of £9.4m and Expenditure reductions of £28.7m have impacted on the position. A £3.0m gap remains in Green schemes identified against the £45.8m target.	£1.9m Adv to plan	On plan
Capital	Capital expenditure of £47.9m has been incurred year to date. This is to plan. The current month YTD position is £47.9m and the previous month YTD position is £35.7m.	£47.9m To plan	£35.7m To plan
Cash	At the end of Month 11, the Trust's cash balance was £3.7m. Cash resources are tightly managed at the month end to meet the £3.0m minimum cash target.	On plan	£0.7m Fav to plan
Use of Resources (UOR)	At the end of February, the Trust's UOR score was 4 as per plan.	UOR score 4	UOR score 4

Financial Report Month 11 (February 2020)
St George's University Hospitals NHS Foundation Trust

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Outstanding care every time

Contents

Outstanding care every time

1. Month 11 Financial Performance

			Full Year Budget (£m)	M11 Budget (£m)	M11 Actual (£m)	M11 Variance (£m)	M11 Variance %	YTD Budget (£m)	YTD Actual (£m)	YTD Variance (£m)	YTD Variance %
Pre-PSF/FRF/MRET	**Income**	SLA Income	676.7	55.0	52.4	(2.6)	(4.8%)	617.7	620.0	2.3	0.4%
		Other Income	160.6	13.5	14.8	1.4	10.2%	147.5	150.8	3.3	2.2%
	Income Total		**837.3**	**68.5**	**67.2**	**(1.3)**	**(1.9%)**	**765.2**	**770.8**	**5.6**	**0.7%**
	Expenditure	Pay	(532.6)	(42.3)	(44.0)	(1.7)	(3.9%)	(489.6)	(496.3)	(6.7)	(1.4%)
		Non Pay	(306.6)	(25.6)	(26.9)	(1.3)	(5.0%)	(281.7)	(288.5)	(6.9)	(2.4%)
	Expenditure Total		**(839.2)**	**(68.0)**	**(70.9)**	**(2.9)**	**(4.3%)**	**(771.2)**	**(784.8)**	**(13.6)**	**(1.8%)**
	Post Ebitda		(35.8)	(3.0)	(2.8)	0.1	4.4%	(32.8)	(32.4)	0.5	1.4%
Pre-PSF/FRF/MRET Total			**(37.7)**	**(2.5)**	**(6.6)**	**(4.1)**	**(164.8%)**	**(38.9)**	**(46.4)**	**(7.5)**	**(19.2%)**
PSF/FRF/MRET			34.7	3.8	0.6	(3.3)	(85.6%)	30.9	24.3	(6.6)	21.2%
Total			**(3.0)**	**1.3**	**(6.0)**	**(7.4)**	**546.8%**	**(8.0)**	**(22.0)**	**(14.0)**	**(175.3%)**
Prior Year PSF			0.0	0.0	0.0	0.0	0.0 %	0.0	0.5	0.5	0.0 %
Grand Total			**(3.0)**	**1.3**	**(6.0)**	**(7.4)**	**546.8%**	**(8.0)**	**(21.5)**	**(13.5)**	**(169.0%)**

Trust Overview

- Overall the Trust is reporting a Pre-PSF deficit of £46.4m at the end of Month 11, which is £7.5m adverse to plan.
- **SLA Income** is £2.3m ahead of plan, after adjustment for block contract values. There remains a large level of estimation within the M11 income position due to delays in coding in some specialties.
- **Other income** is £3.3m over plan, which is owing to Private Patient and R&D income.
- **Pay** is £6.7m overspent across Medical and Nursing staff groups.
- **Non-pay** is £6.4m overspent, mainly related to pass-through income.
- **PSF/FRF/MRET Income** is adverse to plan by £6.6m at M11 YTD, at £24.3m. The Trust has not met the pre-PSF/FRF/MRET control total target of a £38.9m deficit and so has not received the Q4 portion of PSF/FRF.
- **Prior Year PSF** of £0.5m is included in the position. This is the trust's element of the Post Accounts PSF adjustment for 2018/19.
- **CIP delivery** of £38.1m is £1.9m adverse to plan. Delivery to plan is:
  - Non-pay £1.3m favourable
  - Income £1.3m favourable
  - Pay £4.5m adverse

Financial Report Month 11 (February 2020)
St George's University Hospitals NHS Foundation Trust

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2. Month 11 YTD Analysis of Cash Movement

	M11 YTD Plan £m	M11 YTD Actual £m	YTD Variance £m
Opening Cash balance	**3.2**	**3.2**	**(0.0)**
Income and expenditure deficit	(8.4)	(22.0)	(13.6)
Depreciation	22.5	22.5	0.0
Interest payable	10.0	10.9	0.9
PDC dividend	0.0	0.0	0.0
Other non-cash items	(0.2)	(0.2)	0.0
Operating surplus/(deficit)	**23.9**	**11.2**	**(12.7)**
Change in stock	1.3	(1.0)	(2.3)
Change in debtors	16.5	23.5	7.0
Change in creditors	(53.5)	(33.0)	20.5
Change in provisions	(0.8)	(0.8)	(0.0)
Net change in working capital	**(35.7)**	**(11.3)**	**25.2**
Capital spend (excl leases)	(22.5)	(22.5)	0.0
Interest paid	(8.0)	(9.2)	(1.2)
PDC dividend paid/refund	0.0	0.0	0.0
Interest Received	0.2	0.2	0.0
Investing activities	**(30.3)**	**(31.5)**	**(1.2)**
PDC Capital	0.0	0.3	0.3
WCF Loan received	23.0	24.5	1.5
WCF Loan repaid	(1.0)	(10.6)	(9.6)
Capital Loan received	25.2	25.2	0.0
Capital Loan repaid	(2.3)	(2.3)	0.0
Other Loans/ PFI /finance lease repay	(4.0)	(5.1)	(1.1)
Financing activities	**40.9**	**32.0**	**(8.9)**
Cash balance 29.02.2020	**3.0**	**3.7**	**0.7**

M01-M11 YTD cash movement

- The cumulative M11 I&E deficit is £22m, a £13.6m underperformance to the plan. (*NB this includes the impact of donated grants and depreciation which is excluded from the NHSI performance total).
- Within the I&E deficit of £22m, depreciation (£22.5m) does not impact cash. The charges for interest payable (£10.9m) are added back and the amounts actually paid for these expenses shown lower down for presentational purposes. This generates a YTD cash "operating surplus" of £11.2m.
- The operating surplus variance from plan is £12.7m.
- Working capital is better than plan by £25.3m. This favourable variance comprises of £7.0m higher on debtors and £20.6m lower on creditors. The change of stock level is £2.3m worse than the plan.
- The Trust has borrowed £24.5m to fund the YTD deficit and repaid £10.6m.
- The Trust has received £25.2 for capital loan. The working capital borrowing is £1.5 higher than the YTD plan. The Trust has requested a drawdown of capital loan in March of £1.9m with an interest rate of 1.55%. The Trust also repaid capital loan of £2.3m during the year.

February cash position

- The Trust achieved a cash balance of £3.7m on 29th February 2020, £0.7m higher than the £3m minimum cash balance required by NHSI and in line with the forecast 13 week cash flow submitted last month.

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3. Balance Sheet as at Month 11

Balance Sheet	Mar-19 Audited Account (£m)	M11 YTD Revised Plan (£m)	M11 YTD Actual (£m)	M11 YTD Variance to Plan (£m)
Fixed assets	**390.5**	**406.2**	**407.2**	**1.0**
Stock	**7.8**	6.5	8.8	2.3
Debtors	**101.9**	85.7	78.7	(7.0)
Cash	**3.2**	3.0	3.7	0.7
Creditors	**(126.7)**	(88.0)	(107.9)	(19.9)
PDC div creditor	**0.0**	0.0	0.0	0.0
Int payable creditor	**(1.2)**	(2.3)	(2.9)	(0.6)
Provisions< 1 year	**(0.5)**	(0.4)	(0.4)	0.0
Borrowings< 1 year	**(57.6)**	0.1	(9.5)	(9.6)
Net current assets/-liabilities	**(73.1)**	**4.6**	**(29.5)**	**(34.1)**
Provisions> 1 year	**(1.0)**	(0.4)	(0.4)	0.0
Borrowings> 1 year	**(284.3)**	(386.7)	(367.0)	19.7
Long-term liabilities	**(285.3)**	**(387.1)**	**(367.4)**	**19.7**
Net assets	**32.1**	**23.7**	**10.3**	**(13.4)**
Taxpayer's equity				
Public Dividend Capital	**133.4**	133.4	133.7	0.3
Retained Earnings	**(213.4)**	(221.8)	(235.4)	(13.6)
Revaluation Reserve	**110.9**	110.9	110.9	0.0
Other reserves	**1.2**	1.2	1.2	0.0
Total taxpayer's equity	**32.1**	**23.7**	**10.3**	**(13.3)**

M11 YTD Balance Sheet

- Fixed assets are £1.0m higher than the plan. This includes depreciation charges and capital spend to month 11.
- Stock is £2.3m higher than plan, mainly due to an increase in pharmacy area.
- Debtors is £7.0m better than plan in month and has reduced by £23.2m from March 2019. Target reduction of £18m by year end is being actively pursued.
- The cash position is £0.7m higher than planned. Cash resources are tightly managed at the month end to meet the £3.0m minimum cash target.
- Creditors are £20.6m higher than plan in month 11, this includes interest payable creditors. However have been reduced by £17.1m since March 2019.
- £25.2m of capital loan was received as at January subject to an interest rate of 1.55%. The Trust has requested drawdown of capital loan in March of £1.9m with the same interest rate as in February.
- Loan repayment of £183.2m has been postponed to 2021/2022 and the Trust also repaid £9.6m in 2019/20
- The Trust requested and received working capital loan of £24.5m to fund the current year deficit.
- The deficit financing borrowings are subject to an interest rate 3.5%

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4. Capital programme 2019/20 – M11 update

COMMENTARY

- The bid that the Trust submitted for £27.2m capital funding to NHSI has been approved for investment to address a number of critical risks in the IT and estate infrastructure.
- In addition to this capital bid the Trust has Internal capital of £15.1m and a total capital spend of £55.124m for 2019/20.
- The Trust has spent £39.053m YTD as at M11, which is to plan and includes a £9.4m accrual for commitments to date.
- Trust continues to exert tight control over capital expenditure, approving requisitions for all projects included in the bid.
- The Trust received additional funds of £158k for HSLI in month 6.
- The Trust received additional funds of £168k for Imaging and £75k for Vascular Ambulatory in month 10.
- The Trust received an additional Emergency Loan funding of £5.4m in month 10.
- The Trust will receive additional funding in Month 12 for Cyber Security £439k, LHCRE Funding £1,030k and HSLI Referral Management £497k.
- Budgets have been allocated to cost centres with reviews continuing each month of the actual spend against the forecast.