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National Joint Registry Accountability and Transparency Model:

Alert and Alarm Surgeon Process Standard Operating Procedure v2.0

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Alert and Alarm Surgeon Process Standard Operating Procedure

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1 List of diagrams and tables used

2 About the National Joint Registry

The NJR for England, Wales, Northern Ireland and the Isle of Man collects information on joint replacement surgery and monitors the performance of joint replacement implants. It was set up in 2002 by the Department of Health and Welsh Government, Northern Ireland joined in 2013 and the Isle of Man in July 2015.

NJR has following six goals:

1. Monitor in real time the outcomes achieved by brand of prosthesis, hospital and Surgeon, and highlight where these fall below an expected performance in order to allow prompt investigation and to support follow-up action
2. Inform patients, clinicians, providers and healthcare commissioners, regulators and implant suppliers of the outcomes achieved in joint replacement surgery
3. Evidence variations in outcome achieved across surgical practice in order to inform best practice
4. Enhance patient awareness of joint replacement outcomes to better inform patient choice and patients' quality of experience through engagement with patients and patient organisations
5. Support evidence-based purchasing of joint replacement implants for healthcare providers to support quality and cost effectiveness
6. Support suppliers in the routine post-market surveillance of implants and provide information to clinicians, patients, hospital management and the regulatory authorities

3 Background

The NJR and British Orthopaedic Association (BOA) met with NHS England's Medical Director (MD) on the 10th Jan 2017 to present an NJR proposal for the provision of a robust, safe and rigorous process that would enhance monitoring, management and communication of Surgeon and Unit performance using NJR data that would support patient safety.

The principles of the NJR "Accountability and Transparency Model" were accepted by the NHS MD and it was agreed that work would progress around articulating the seven processes that underpin and enable delivery of the model.

A meeting has been organised to present further detail to the NHS MD on the 26th September 2017.

The seven processes outlined were the:

1. Alert and Alarm Surgeon Process
2. Alert and Alarm Unit Process
3. Outlier Management System (OMS) Process
4. NJR Appraisal Enhancement Process

5. Annual Clinical Report (ACR) Process
6. Implant Mismatch Notification Process
7. Implant Outlier Process

4 Governance

4.1 NJR governance structure

The NJR is hosted by the Healthcare Quality Improvement Partnership (HQIP) and govered by the NJR Steering Committee, an expert committee of NHS England.

The NJR Operational Management Team (OMT) supports the work of the NJR Steering Committee and all its Sub-Committees.

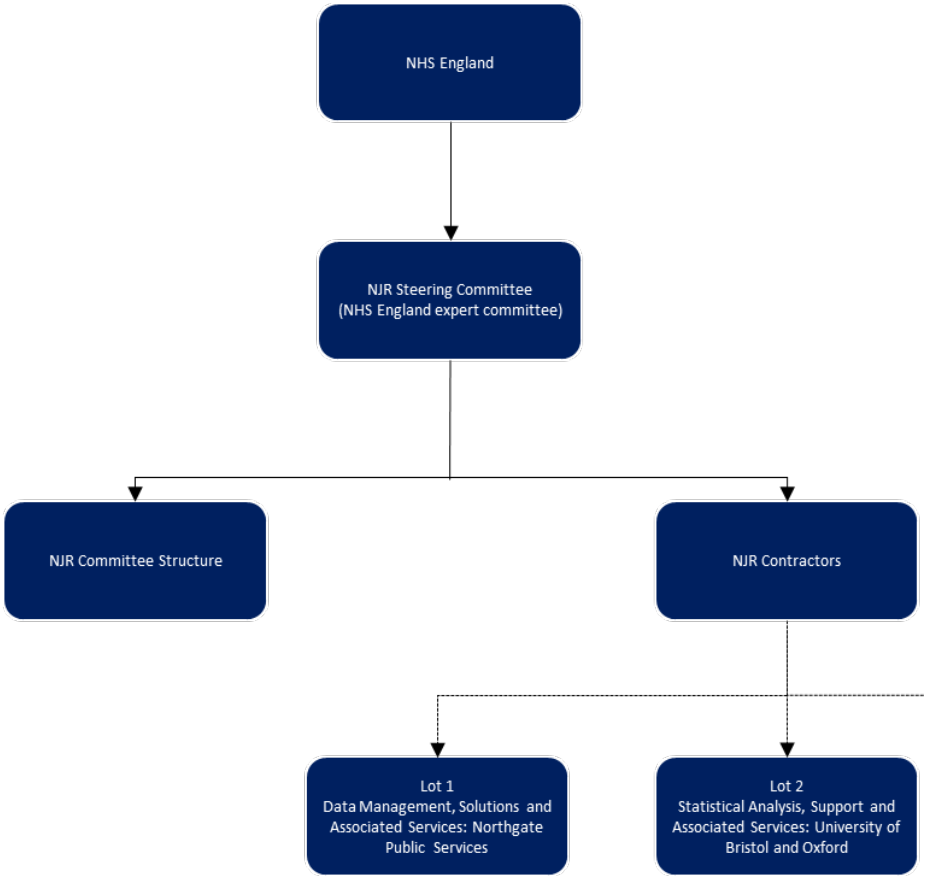


Diagram 1: NJR governance structure

4.2 NJR committee structure

The NJR Steering Committee is a NHS England Committee of experts and is responsible for the work and progress of the NJR.

The committee's responsibilities include:

- Setting the NJR's work programme and monitoring its progress
- Providing advice to orthopaedic Units, hospitals and implant suppliers where the information shows concerns about the performance of certain prostheses
- Setting the cost of the levy, based on the contractual costs of running the registry and the work programme agreed
- Providing an annual report to Ministers on the performance of the NJR and, following agreement, to make publicly available
- Establishing and monitoring codes of conduct for the contractor dealing with orthopaedic Units within NHS Trusts and independent healthcare providers, as well as the orthopaedic implant industry
- Facilitating, where appropriate, the use of the NJR data for research purposes

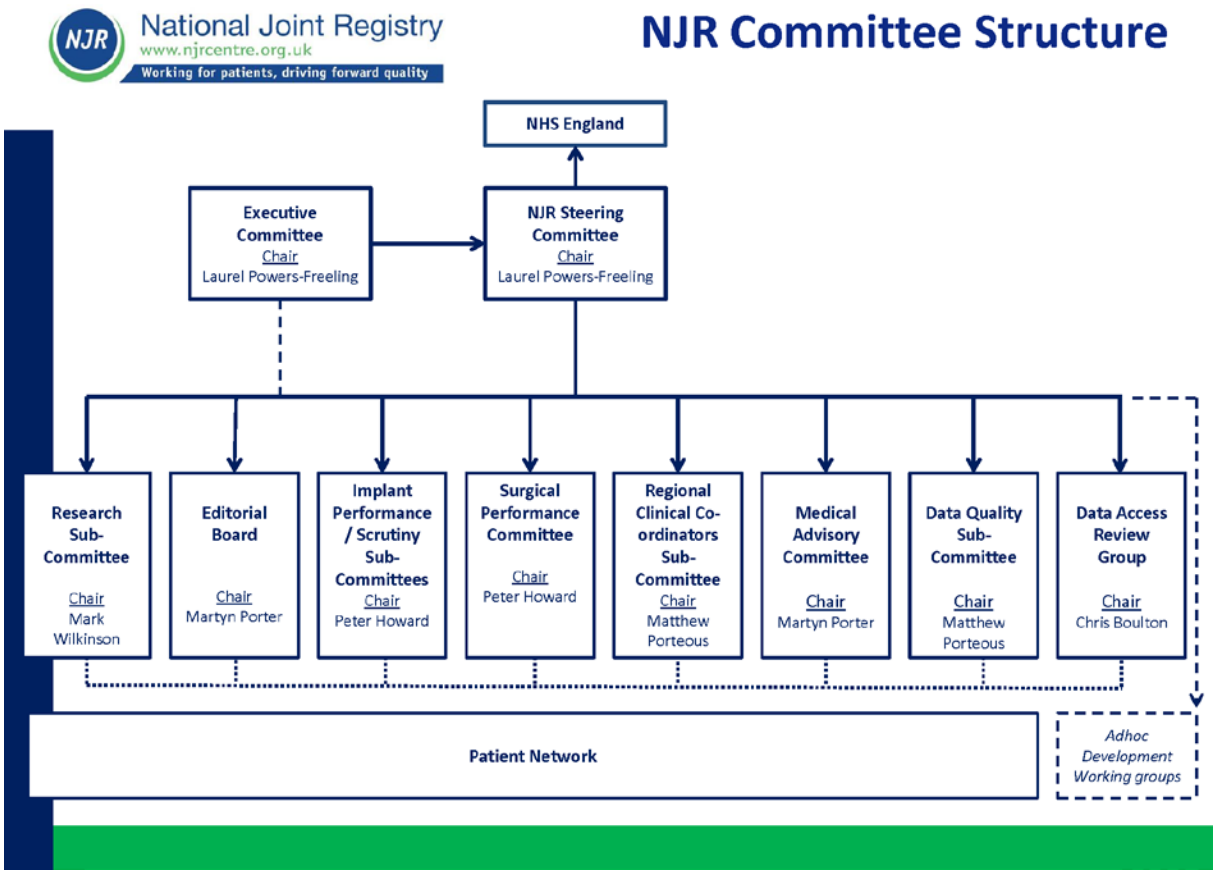


Diagram 2: NJR committee structure

4.3 Terms of Reference and membership

The NJR Steering Committee, the Executive Committee and each of the Sub-Committees have agreed Terms of Reference (ToR) which clearly detail:

- The scope of the Committee/Sub-Committee
- Agreed membership
- Meeting cycles

Committe ToR are published as an appendix to the NJR annual report.

5 Purpose

The purpose of the NJR Alert and Alarm Surgeon Process SOP is to provide clarity and confirmation on the process steps to be followed once a Surgeon with potential outlying performance has been identified. It lists out what action should be taken, who should take it, and when, in order to ensure replication and quality control.

6 Scope

6.1 Scope of the Alert and Alarm Surgeon Process

The Alert and Alarm Surgeon Process SOP currently applies to Consultant Surgeons who carry out hip and knee replacement surgery only. Other joints will be included when the NJR has at least three consecutive years of data. Inclusion will not be automatic, but will be based on a decision taken at the Surgeon Performance Committee (SPC), based on an assessment as to whether the data is sufficiently robust to be used for outlier monitoring.

The Alert and Alarm Surgeon Process currently applies to England and Wales. Northern Ireland may be included once there is sufficient data. Other geographical areas will be included when the NJR has at least three consecutive years of data and data is judged to be robust.

The inclusion of new datasets (joints or geographical areas) will be reviewed annually in January by the SPC. Any inclusions to the outlier review process will follow a recommendation to the NJR Steering Committee by the SPC Chair.

6.2 Trigger points for outlier notification

An **Alert [borderline outlier]** notification process is triggered for Surgeons when the revision rate for primary joint replacement, or the mortality rate, is higher than expected and lies between the 95% and 99.8% control limits (equates to approximately three standard deviations from the mean).

An **Alarm [potential outlier]** notification process is triggered for Surgeons when the revision rate for a primary joint replacement, or the mortality rate, is higher than expected and lies

above the 99.8% control limits (equates to approximately three standard deviations from the mean).

Alert notifications (95%-99.8%) and Alarm notifications (>99.8%) are triggered based on one dataset using three time periods as follows:

- All data submitted to the NJR from April 2003 onwards;
- Data for the last five years;
- Data at other time intervals determined by the SPC where a Surgeon is already being actively monitored because of previous concerns.

A Surgeon may become an outlier based on one or more of the time periods above. The NJR will review these time periods and may add to the list e.g. data for the last three years.

If a Surgeon is identified as a persistent outlier (has previously been identified as an outlier and produced an action plan, yet remains an outlier in data after five years) they will go straight to the escalation process and a conversation will occur at the SPC regarding further action.

6.3 Frequency of outlier notification

Outlier notifications are triggered every six months (March and August) after each data refresh. The timetable is set so data analysis can be fed into the NJR Annual Report and the Annual Clinical Reports (ACRs) (see Appendix 3), which are available to Units in October each year. Surgeons can access their own data based on the same March dataset using NJR Clinician Feedback which is available online in July each year.

7 Process maps

The following three process maps have been developed. These outline the core activities relating to the Alert and Alarm Surgeon Process which is brought together within the ACR.

These process maps should be used as a reference point and considered in relation to the purpose and scope outlined in this document.

Please refer to the Appendix number referenced in the table below to view the process map.

Reference	Name	Description	Appendix	Page
1.a	Alert (Potential Borderline) Surgeons Process	This process map sets out the steps by key stakeholder group for Alert Surgeons	2	17
1.b	Alarm (Potential Outlier) Surgeons Process	This process map sets out the steps by key stakeholder group for Alarm Surgeons	2	18

5	ACR Development Process	This process map sets out the process for developing and publishing the ACR	2	19

Table 1: Alert & Alarm Surgeon Process map descriptions

8 Annual cycles

Two annual cycles have been developed. They provide an overview of the key recurring activities that would take place in each period for the Alert and Alarm Surgeon Process and the ACR Development Process.

The annual cycles should be used as a reference point and considered in relation to the process maps outlined in this document.

Please refer to Appendix 3 to view the reporting cycle.

9 Organisational roles and responsibilities

The following table provides an overview of the main roles and responsibilities of key stakeholders in relation to the Alert and Alarm Surgeon Process.

The overview provided should be used as a reference point and considered in relation to the purpose, scope and process maps outlined in this document.

Note: This table provides an overview only and does not replace a Responsible, Accountable, Consulted and Informed (RACI) matrix. See Appendix 4 for the RACI matrix which has been developed and agreed by all stakeholders.

Organisation/stakeholder group	Role/responsibilities	Key contacts
University of Bristol (UoB), NJR Lot 2 contractor	• Analyses and provides surgical performance data in line with NJR requirements	Contract Manager
NJR Operational Management Team (NJR OMT)	• Shares information and if necessary escalates to other key stakeholders such as BOA and regulators when required • Manages the end to end outlier process and ensure accurate communications, follow up and escalation as required • Liaises with NJR contractors as the system and data host, requesting data needed to communicate to Surgeons • Responsible for supporting the SPC with the management of ongoing monitoring of Surgeon performance and action plans	NJR Director of Operations

	• Point of contact between the Surgeons and Units and the SPC • To highlight any concerns about the process in relation to individual outliers, particularly if it is felt the process cannot be followed for any particular reason	
Northgate Public Services (Northgate), NJR Lot 1 Contractor	• Responsible for producing data set at agreed time and providing it to the NJR Lot 2 contractor • Responsible for providing additional contact information when requested by NJR OMT • Responsible for producing and distributing the Consultant Level Reports (CLR) and Annual Clinical Report (ACR) • Responsible for producing funnel plots in ACR & CLR documents • Outlier Management System (OMS) host and support	Head of Health Solutions
Surgical Performance Committee	• Review and ensure data provided by UoB is perceived as an accurate and fair representation • Responsible for all decision relating to the performance of Surgeons and Units • Responsible for the management of ongoing monitoring of Surgeon performance and action plans	SPC Chairman and Committee members
Chairman, Surgical Performance Committee	• Responsible for oversight and sign off of the review and analysis of data provided by UoB. To ensure it is perceived as an accurate and fair representation • Responsible to the NJR Steering Committee (NJRSC) for the regular performance reporting of the outlier management process • To work with the NJR OMT to ensure that notification letters and follow up action is taken in accordance with the timescales set out in the process • To highlight to the NJR Director of Operations and MD any concerns about Surgeon outliers	SPC Chairman

	where it is felt the process is not resolving the issue	
Vice Chairman, Surgical Performance Committee	• To support the SPC Chair in their duties and deputise for the Chair in their absence	SPC Vice Chairman
NJR Medical Director	• To provide support to the SPC Chair and Vice Chair as necessary	NJR Medical Director
Surgeons	• Responsible for reviewing data, making corrections and confirming changes to NJR for follow up • Responsible for providing accurate data • Responsible for producing and implementing an action plan, when required	Individual Surgeons in question
BOA	• Supporting NJR with communication of messages and best practices to members	BOA President

Table 2: Organisational roles and responsibilities

10 Forms, Templates and Memorandums of Understanding/Service Level Agreements

The following table provides an overview of key documentation relating to the Surgeon Alert and Alarm Process.

The documentation listed should be used as a reference point. Any letters sent should be amended as required based on relevant discussions.

It may be necessary to produce letters on a case by case basis for the Alarm Surgeons Process, as the causes of Alarm status will differ between Surgeons.

Note letter templates are to be uploaded onto the OMS and will be reviewed at regular intervals. Memorandum of Understanding (MoUs) will also need to be developed.

Template type	Template name	Description
Surgeon Alert Letter & Funnel plots	1.a_Alert Surgeon - Letter W	Alert Letter to inform Surgeon of potential outlier status. Funnel plot appended
Surgeon follow up Alert Letter	1.a_Alert Surgeon_Follow up - Letter X	Alert follow up Letter to inform Surgeon of potential outlier status, if no response received from Letter W. Funnel plot appended
Further response	1.a_Alert Surgeon_Escalation - Letter Y	Extreme case Surgeon cannot be contacted over the phone to

Letter from SPC Chair, as required		acknowledge Alert status, having not responded to Letters W & X
Surgeon Alarm Letter	1.b_Alarm Surgeon - Letter A 1.b_Alarm Surgeon - Letter B 1.b_Alarm Surgeon - Letter C	Alarm Letter to inform Surgeon of potential outlier status, informing that Unit CEO and MD will be informed of their Alarm status in 6 weeks Letter A - Alarm based on all data Letter B - Alarm based on last 5 yrs data Letter C - Alarm based on all & last 5 yrs data
Surgeon Alarm Unit Notification Letter	1.b_Alarm Surgeon_Unit notification - Letter D 1.b_Alarm Surgeon_Unit notification - Letter R	Alarm Letter to inform Unit MD & CEO of potential Surgeon outlier status. (Letter R for thr retired Surgeon cases)
Surgeon Alarm follow up letter	1.b_Alarm Surgeon_Unit Follow up - Letter J	Alarm Letter Follow up to inform Surgeon of potential outlier status in the case of no response received from Letter A/B/C. Unit MD in copy
Surgeon Alarm Confirmation & action plan request Letter	1.b_Alarm Surgeon_Confirmation - Letter F	Alarm Letter to confirm Surgeon outlier status. Requesting an action plan response within 30 working days
Action plan response letter	1.b_Alarm Surgeon_Action Plan - Letter H	Confirmation to Surgeon informing their action plan is adequate and ongoing monitoring of performance to ensure future performance data is moving in the right direction. MD/CEO in copy
Escalation letter	1.b_Alarm Surgeon_Unit Escalation - Letter G	Escalation letter to Unit MD and CEO if no response to Letter F or action plan response received is deemed inadequate by SPC
MoUs/ Service Level Agreements (SLAs)	To be developed	To be developed

Table 3: Forms, Templates and MoUs/SLAs

SECTION B: AREAS FOR CONSIDERATION

11 Risk/issues and dependencies

The following table provides the key risk/issues/dependencies that will need to be managed and monitored when implementing the Alert and Alarm Surgeon Process.

Key: ***1-2 - low impact/probability***
3-4 - medium impact/probability
5 - high impact/ probability

#	Risk/ issue	Description	Impact	Impact (I) (1-5) *pre-mitigation*	Probability (P) (1-5) *pre-mitigation*	Overall likelihood (IxP)	Proposed mitigation
1	Risk	There is a risk that stakeholders are unclear on their roles and responsibilities	The processes developed and agreed are not implemented in line with timescales agreed	5	1	5	Dedicate time to developing and implementing detailed strategy and MoU where necessary to ensure agreement from all parties
2	Risk	There is a risk these changes will not be effectively communicated to all Surgeons/ Units	There will be low compliance and outlier performance not addressed	4	1	4	Dedicated time to develop a communication strategy and implement ahead of next data cut
3	Risk	There is a risk that NJR may be perceived as policing and regulating poor performance	Resistance by the orthopaedic community to data sharing	3	2	6	Ensure all escalation and subsequent action is carried out by regulators such as CQC and NHSI
4	Risk	There is a risk that processes take longer than anticipated	Time scales slip as key stakeholders involved in the process cannot fulfil requirements in the set timescales	3	3	9	Undertake a lessons learnt workshop in Sept & undertake a high-level time in motion review to ensure actual time scales are captured and processes are amended as appropriate

Table 4: Key risks and issues

12 Other points to be aware of

This SOP is subject to change as the Alert and Alarm Surgeon Process is continuously refined.

Please contact the NJR lead noted in this document to ensure the latest version is referred to.

13 List of stakeholders engaged

The following key stakeholder groups have been involved in the development, review and sign off, of the Alert and Alarm Surgeon Process SOP.

Organisation/Stakeholder Group	Input
Northgate (NJR Lot 1 contractor)	Development
University of Bristol (NJR Lot 2 contractor)	Development
NJR Surgical Performance Committee (members of)	Development, review and sign off
NJR Operational Management Team (members of), including Members of the Model Development Working Group	Development, review and sign off
NJR Executive Committee (EC)	Development, review and sign off
NJR Medical Advisory Committee (MAC)	Development, review and sign off
NHSI	Review and sign off
CQC	Review and sign off
BOA	Review and sign off
HQIP	Review and sign off

Table 5: Key stakeholders engaged

SECTION C: SUPPORTING INFORMATION

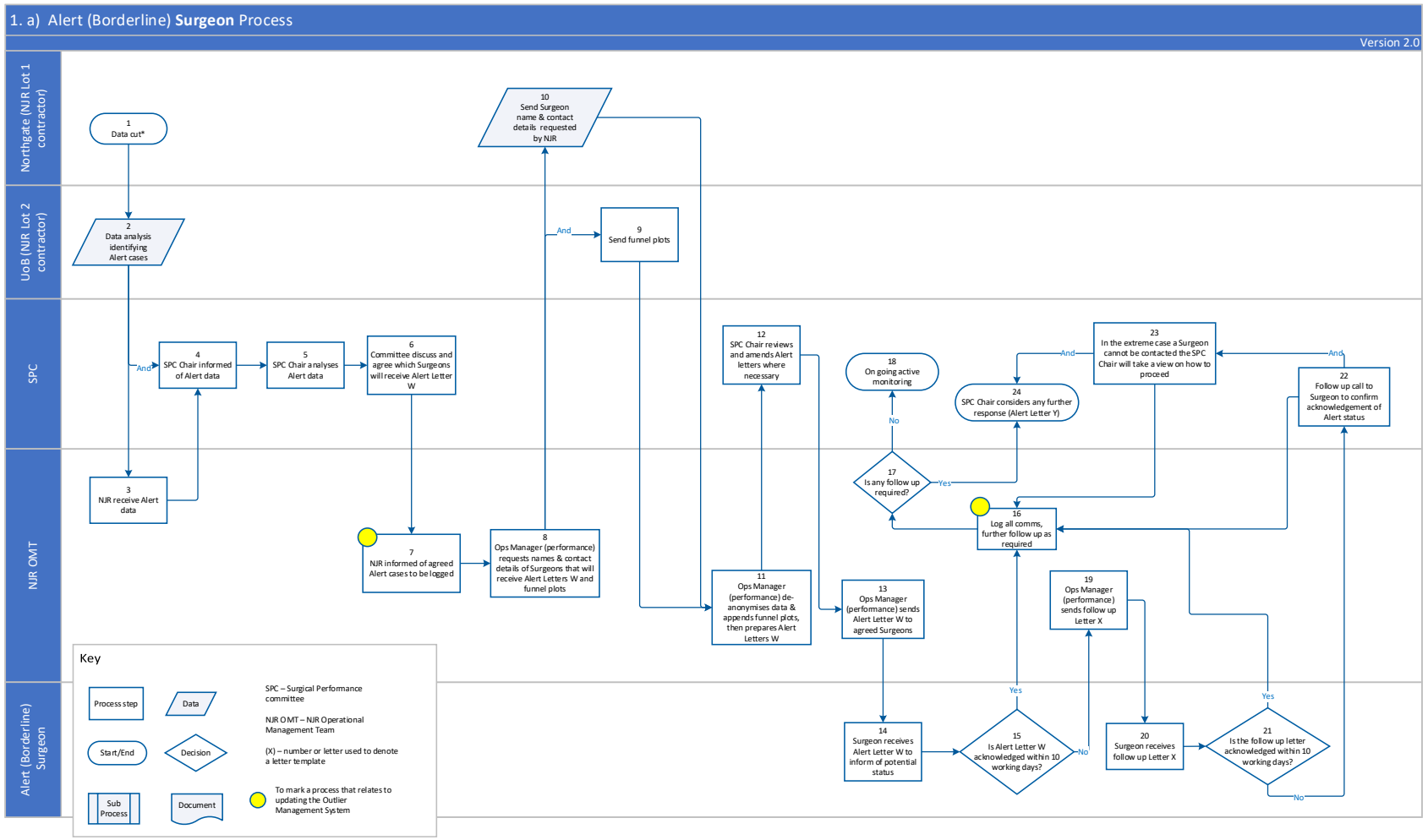
14 Appendix

14.1 Appendix 1: NJR Terms of Reference

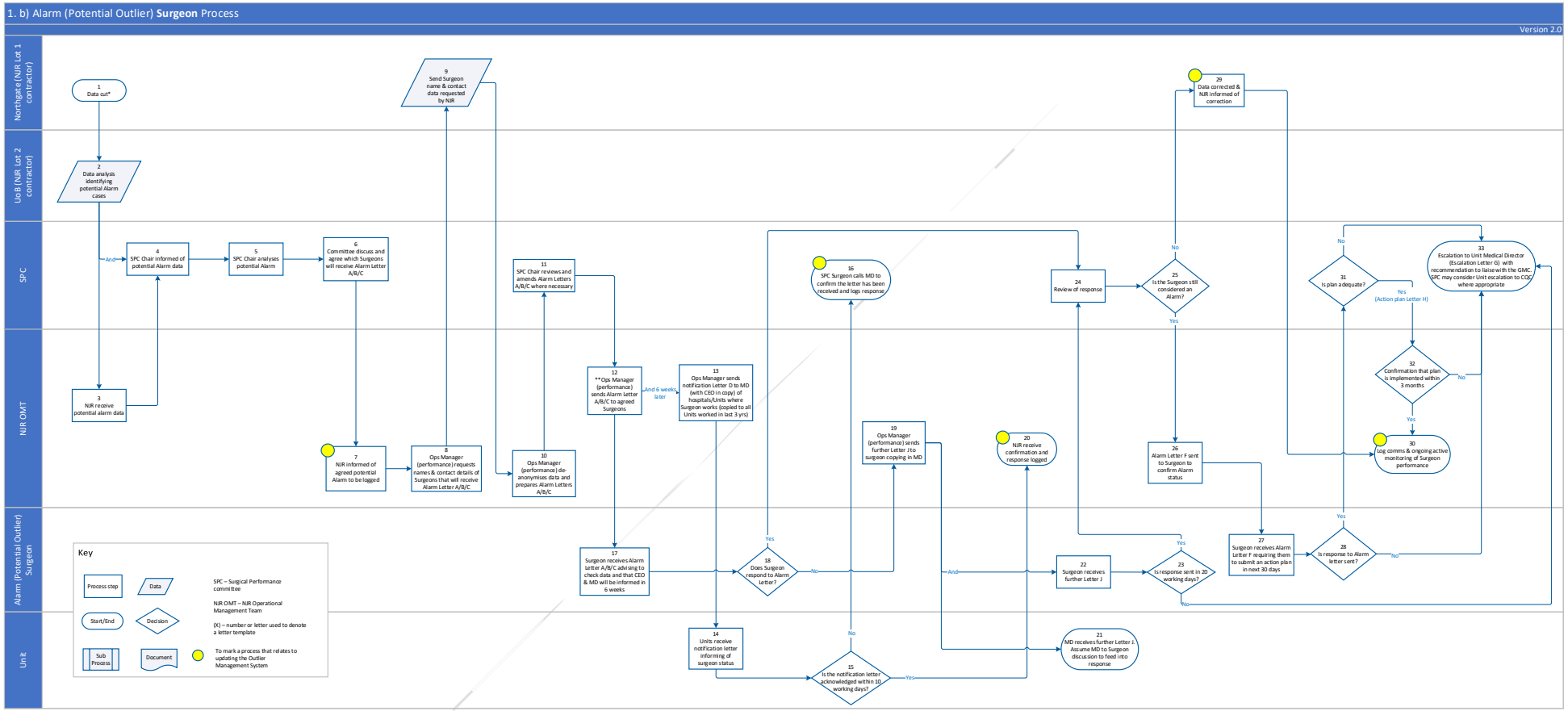
NJR Steering Committee and its Sub-Committees ToR can be found on http://www.njrcentre.org.uk/njrcentre/AbouttheNJR/SteeringCommittee/tabid/80/Default.aspx

14.2 Appendix 2: Process maps

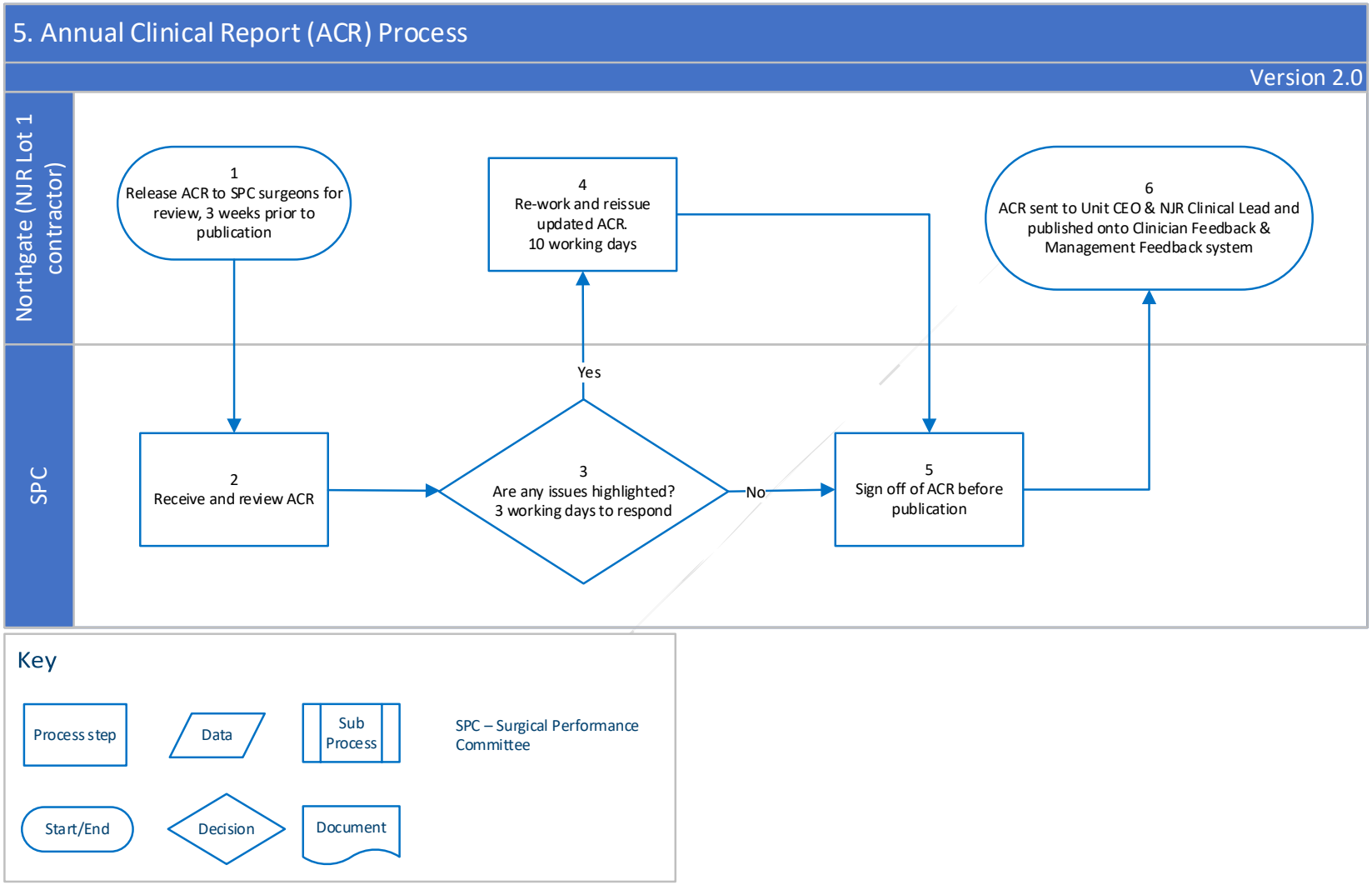
1. a) Alert (Borderline) Surgeon Process. This process map sets out the steps by key stakeholder groups for the Alert (Borderline) Surgeon Process



1. b) Alarm (Potential Outlier) Surgeon Process. This process map sets out the steps by key stakeholder groups for the Alarm (Potential Outlier) Surgeon Process

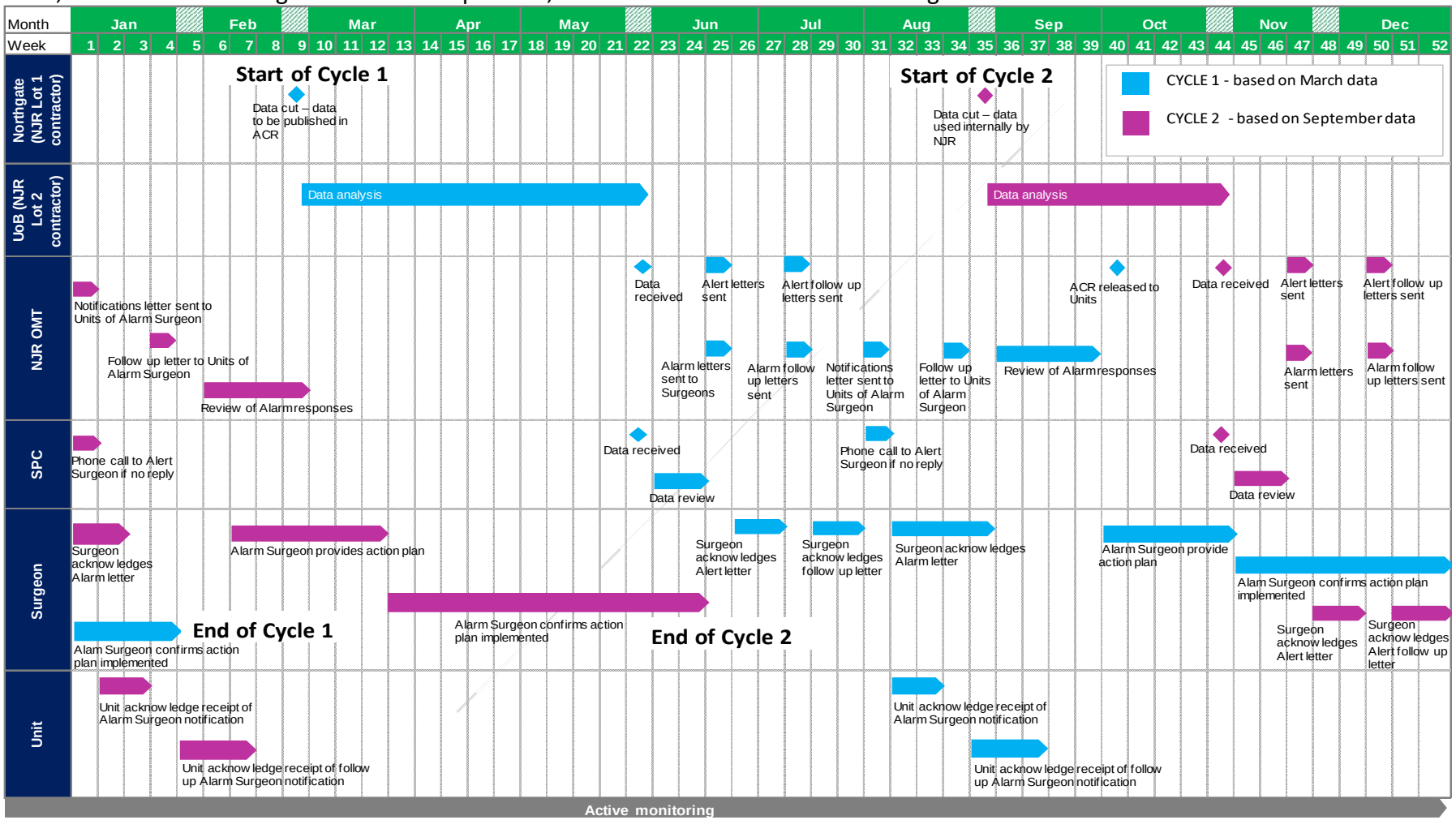


5. Annual Clinical Report (ACR) Process. This process map sets out the steps by key stakeholder groups for developing and publishing the ACR

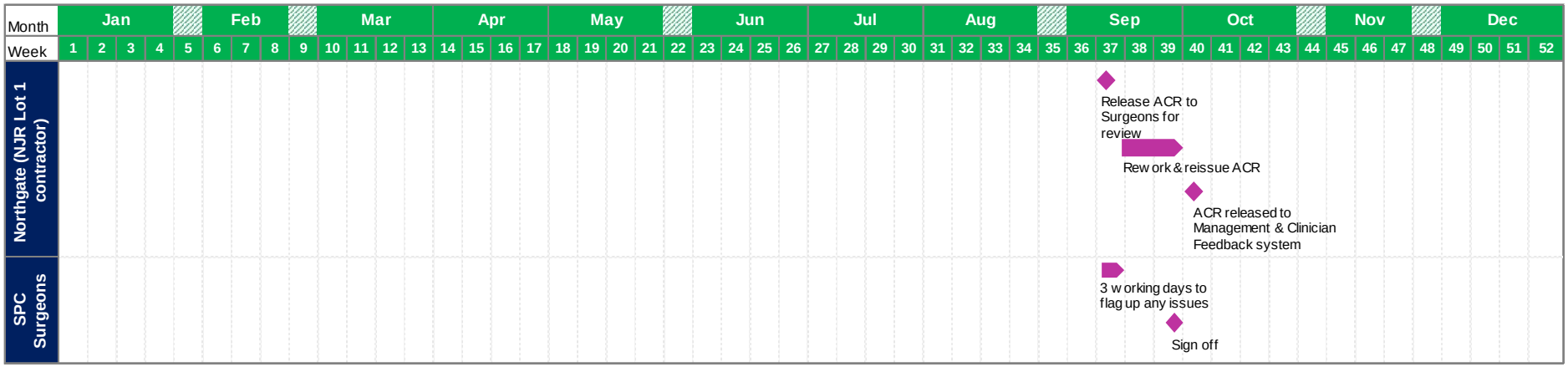


14.3 Appendix 3: Annual cycle

This annual cycle shows the scheduling of key activities to be undertaken throughout any given year by Northgate, University of Bristol, NJR OMT, the SPC and the Surgeons & Units in question, in relation to the Alert & Alarm Surgeon Process



This annual cycle shows the scheduling of key activities to be undertaken throughout any given year by Northgate and the SPC Surgeons in relation to the development and publication of the ACR



14.4 Appendix 4: RACI Matrix

1. a) Alert (Borderline) Surgeon Process. This RACI matrix has been developed and agreed by all stakeholders, showing who is Responsible, Accountable, Consulted and Informed at each step of the process

				Data analytics	System host	NJR			Unit	Surgical Specialty Association	Regulators	
Step	**Swim Lane**	**Step Detail**	**Activity Step/ Decision/ Data**	**UoB (NJR Lot 2 contractor)**	**Northgate (NJR Lot 1 contractor)**	**NJR OMT**	**SPC**	**SPC Chairman**	**Surgeon**	**BOA**	**CQC**	**NHSI**
1	Northgate (NJR Lot 1 contractor)	Data cut	Start		RA	I	I*					
2	UoB (NJR Lot 2 contractor)	Data analysis identifying Alert cases	Data	RA		I	I*					
3	NJR Operational Management Team (OMT)	NJR receive Alert data	Activity Step	RA		I						
4	SPC	SPC Chair informed of Alert data	Activity Step			RA	I					
5	SPC	SPC Chair analyses Alert data	Activity Step					RA				
6	SPC	Committee discuss and agree which surgeons will receive Alert Letter W	Activity Step				RAC					
7	NJR OMT	NJR informed of agreed potential Alert cases to be logged	Activity Step			I	RA					
8	NJR OMT	Ops Manager (performance) requests names & contact details of Surgeons that will receive Alert Letter W and funnel plots	Activity Step		R	AI						
9	UoB (NJR Lot 2 contractor)	Send funnel plots	Activity Step	RA		I						
10	Northgate (NJR Lot 1 contractor)	Send Surgeon name & contact details requested by NJR	Data		RA	I						
11	NJR OMT	Ops Manager (performance) de-anonymises data & appends funnel plots, then prepares Alert Letters W	Activity Step			RA		I				
12	SPC	SPC Chair reviews and amends Alert letters where necessary	Activity Step			I		RA				
13	NJR OMT	Ops Manager (performance) sends Alert Letter W to agreed Surgeons	Activity Step			RA						
14	Alert (Potential Borderline) Surgeon	Surgeon receives Alert Letter W to inform of potential status	Activity Step			RA		I	I			
15	Alert (Potential Borderline) Surgeon	Is the Alert Letter W acknowledged within 10 working days?	Decision			I			RA			
16	NJR OMT	Log all comms, further follow up as required	Activity Step			RA						
17	NJR OMT	Is any follow up required	Decision			RI	A		I			
18	SPC	On going active monitoring	End			I	RA					
19	NJR OMT	Ops Manager (performance) sends follow up Letter X	Activity Step			RA			I			
20	Alert (Borderline) Surgeon	Surgeon receives follow up Letter X	Activity Step						RA			
21	Alert (Borderline) Surgeon	Is the follow up letter acknowledged within 10 working days?	Decision			I		I	RA			
22	SPC	Follow up call to Surgeon to confirm acknowledgement of Alert status	Activity Step			I	I	RA	I			
23	SPC	In the extreme case a Surgeon cannot be contacted the SPC Chair will take a view on how to proceed	Activity Step				C	RA	I			
24	SPC	SPC Chair considers any further response (Alert Letter Y)	End				C	RA	I			

* I by exception

1. b) Alarm (Potential Outlier) Surgeon Process. This RACI matrix has been developed and agreed by all stakeholders, showing who is Responsible, Accountable, Consulted and Informed at each step of the process

				Data analytics	System host	NJR			Unit		Surgical Specialty Association	Regulators	
Step	**Swim Lane**	**Step Detail**	**Activity Step/ Decision/ Data**	**UoB (NJR Lot 2 contractor)**	**Northgate (NJR Lot 1 contractor)**	**NJR OMT**	**SPC**	**SPC Chairman**	**Surgeon**	**Unit**	**BOA**	**CQC**	**NHSI**
1	Northgate (NJR Lot 1 contractor)	Data cut	Start		RA	I	I*						
2	UoB (NJR Lot 2 contractor)	Data analysis identifying potential Alarm cases	Data	RA		I	I*						
3	NJR Operational Management Team (OMT)	NJR receive potential Alarm data	Activity Step	RA		I							
4	SPC	SPC Chair informed of potential Alarm data	Activity Step			RA	I						
5	SPC	SPC Chair analyses potential Alarm data	Activity Step					RA					
6	SPC	Committee discuss and agree which Surgeons will receive Alarm Letter A/B/C	Activity Step				RAC						
7	NJR OMT	NJR informed of agreed potential Alarm cases to be logged	Activity Step			I	RA						
8	NJR OMT	Ops Manager (performance) requests names & contact details of Surgeons that will receive Alarm Letter A/B/C	Activity Step		R	AI							
9	Northgate (NJR Lot 1 contractor)	Send Surgeon name & contact data requested by NJR	Data		RA	I							
10	NJR OMT	Ops Manager (performance) de-anonymises data and prepares Alarm Letters A/B/C	Activity Step			RA							
11	SPC	SPC Chair reviews and amends Alarm Letters A/B/C where necessary	Activity Step			I		RA					
12	NJR OMT	**Ops Manager (performance) sends Alarm Letter A/B/C to agreed Surgeons	Activity Step			RA			I				
13	NJR OMT	Ops Manager sends notification Letter D to MD (with CEO in copy) of hospitals/Units where Surgeon works (copied to all Units worked in last 3 yrs)	Activity Step			RA				I			
14	Unit	Unit MD and CEO receive notification Letter D informing of Surgeon status	Activity Step						I	RA			
15	Unit	Is the notification letter acknowledged within 10 working days?	Decision			I				RA			
16	SPC	SPC Surgeon calls MD to confirm the letter has been received and logs response	End			I	R	RA		C			
17	Alarm (Potential Outlier) Surgeon	Surgeon receives Alarm Letter A/B/C advising to check data and that CEO & MD will be informed in 6 weeks	Activity Step						RA				
18	Alarm (Potential Outlier) Surgeon	Does Surgeon respond to Alarm Letter?	Decision			I			RA				
19	NJR OMT	Ops Manager (performance) sends further Letter J to Surgeon copying in MD	Activity Step			RA			I	I			
20	NJR OMT	NJR receive confirmation and response logged	End			I	I	I	I	RA			
21	Unit	MD receives further Letter J. Assume MD to Surgeon discussion to feed into response	End			I	I	I	RC	RAC			
22	Alarm (Potential Outlier) Surgeon	Surgeon receives further Letter J	Activity Step						RA				
23	Alarm (Potential Outlier) Surgeon	Is response sent in 20 working days?	Decision			I		I	RA				
24	SPC	Review of response	Activity Step				C	RA					
25	SPC	Is the Surgeon still considered an Alarm?	Decision			I	CI	RA					
26	NJR OMT	Alarm Letter F sent to Surgeon to confirm Alarm status	Activity Step			RA			I				
27	Alarm (Potential Outlier) Surgeon	Surgeon receives Alarm Letter F requiring them to submit an action plan in next 30 days	Activity Step						RA				
28	Alarm (Potential Outlier) Surgeon	Is response to Alarm letter sent?	Decision			I			RA				
29	Northgate (NJR Lot 1 contractor)	Data corrected & NJR informed of correction	Activity Step		I	I			R	RA			
30	NJR OMT	Log comms & ongoing active monitoring of Surgeon performance	End			RA	I						
31	SPC	Is plan adequate?	Decision			I	RAC		I	I			
32	NJR OMT	Confirmation that plan is implemented within 3 months	Decision			I	I		R	RA			
33	SPC	Escalation to Unit Medical Director (Escalation Letter G) with recommendation to liaise with the GMC. SPC may consider Unit escalation to CQC where appropriate	End				RA		I	CI		I	I

* I by exception

15 Glossary

A list of terms and abbreviations used:

ACR – Annual Clinical Report
BK – Bruce Keogh
BOA – British Orthopaedic Association
CEO – Chief Executive Officer
CLR – Consultant Level Report
CQC – Care Quality Commission
EC – Executive Committee
GMC – General Medical Council
HDM – Hospital Data Manager
HQIP – Healthcare Quality Improvement Partnership
ISC – Implant Scrutiny Committee
KPI – Key Performance Indicator
MAC – Medical Advisory Committee
MHRA – Medicines and Healthcare products Regulatory Agency
MoU – Memorandum of Understanding
NCAPOP – National Clinical Audit & Patient Outcomes Programme
NHSE – NHS England
NHSI – NHS Improvement
NJR – National Joint Registry
NJRSC – National Joint Registry Steering Committee
NJR OMT – NJR Operational Management Team
OMS – Outlier Management System
PPC – Professional Practice Committee
PTIR – Patient Time Incidence Rate
RACI – Responsible, Accountable, Consulted & Informed
RCS – Royal College of Surgeons
SLA – Service Level Agreement
SOP – Standard Operating Procedure
SPC – Surgical Performance Committee
SRR – Standardised Revision Ratio
ToR – Terms of Reference
UoB – University of Bristol
UAT – User Acceptance Testing

16 Definitions

OMS Process case status definitions:

New case - A case which changes status from Clear to Alert or Alarm

Open case - Investigation underway (Alarm cases under investigation and Alert cases until letter confirmation received)

Actively monitored - All previously opened cases are followed up for a minimum of five years for Alarm cases and three years for Alert cases. The transition from active monitoring to closed is formally approved and recorded by the SPC

Closed case - Previously open case that has been actively monitored for a minimum of five years (Alarm) or three years (Alert) and whose recent performance is judged adequate by the SPC, or where the Surgeon has been confirmed as either dead or retired

Clear - A Surgeon or Unit that has never been through the Alert or Alarm Process (i.e. remained under the 95% line)

A list of definitions of terms used:

Model Development Working Group - The group of key individuals who supported the development of the NJR Accountability and Transparency Model, namely:
Elaine Young (NJR Director of Operations), Peter Howard (SPC Chairman), Martyn Porter (NJR Medical Director), Matthew Porteous (SPC Vice Chair), Carolina Arevalo (NJR Operations Manager).

Lead Surgeon - A Surgeon (usually a consultant) that is identified in an NJR submission as being the named Surgeon responsible for that joint replacement patient.

Active Monitoring - Any Lead Surgeon or Unit that has triggered an Alert or Alarm Process. These will be reviewed at each SPC meeting to ensure there is an improvement in their performance trajectory for a minimum period of five years (for an Alarm) or three years (for an Alert).

Historical Outlier - Any previously identified Alarm or Alert Lead Surgeon or Unit that is no longer deemed an Alarm or Alert after five years of active monitoring. (These cases will be passively monitored as part of the ongoing process).

Passive Monitoring - Continuous monitoring, on a six-monthly cycle, of any Lead Surgeon or Unit who has previously been through the Alert or Alarm Process.

Escalation - An open case in which final correspondence or submission deadlines have been breached or action plans are in the view of the SPC are insufficiently robust to resolve the

underlying issues, or an actively monitored case whose performance fails to improve after completion of an Alert process.

Persistent Outlier - A previous Alarm case (unusually being actively monitored) whose performance fails to improve after completion of an Alert process.

Data Cut - Refers to the reporting period the data relates to.

Note - For the three reports published, the data cut periods vary depending on the report and section of report:

Annual Clinical Report (ACR)
For the ACR, volumetrics are calculated based on the latest three financial years. Funnel plots are produced for the SRR life of registry and the latest five years (SMR is currently the same as the life of the registry, due to it turning five years old later in 2017).
The data cut is on 1st March for the production of funnel plots and the data for volumetric calculations is cut at the point of report (September/October 2017)

Clinician Level Report (CLR)
For the CLR, volumetrics are calculated based on the latest twelve-month and thirty-six-month financial year period. The data cut is made end June/beginning of July. Funnel plots are produced for the life of registry as well as the latest five year SRR.

NJR Annual Report (AR)
For the AR, part one is based on the latest financial year, part two and four are based on the latest calendar year and part three is based on the life of registry.
The data for parts two, three and four is cut on 1st March, whilst the data for part one is cut on 1st April.

Alert and Alarm Unit & Surgeon Process Data Analysis and Risk Adjustment
The following factors are used in calculating the rates of revision for both Units and Surgeons and for hip and knee:

Data is adjusted for age, gender and indication for original primary (Osteoarthritis versus other indications and specifically for hip trauma).
Repeat analyses are done for various subgroups that may change but currently include:

a. Exclusion of withdrawn implants, three years after withdrawal
b. Primaries within five years only (i.e. within five year interval prior to cut-point for data analysis)
c. Subgroups of hips, namely cemented, uncemented and hybrid stemmed, non-metal on metal hips, all metal on metal hips and all resurfacings
d. Subgroups of knees, namely cemented, uncemented/hybrid, unicondylar and patellofemoral