



Managed Service Network For Neurosurgery

**Annual Report
2021 - 2022**

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1. Executive Summary

The annual report of the Managed Service Network for Neurosurgery (MSN) reflects progress in achieving objectives agreed for the financial year 2021/22.

The e-Referral system development was completed but whilst the system is now operational in QEUH, and is in the process of being implemented in the other Neurosurgery provider Boards, the MSN has been unable to progress implementation for referrals from other NHS Boards further. The MSN Board decided to pass responsibility for implementation and governance of the system to NHS Boards.

The Consultant Database was also completed, and has been ungraded to provide information about volume, average length of stay, readmissions and 30-day mortality over the period January 2017 to December 2021, this has been rolled out across Neurosurgery services and has been seen as a positive addition to the information available to Surgeons and Managers.

Last year we took the opportunity to review the work of the MSN. This resulted in a transition period involving a restructure of the MSN with the Board taking the lead from a governance point of view and operational issues being managed by the new Inter Regional Group (IRG). The IRG is now supported by staff groups, including Nurses and AHP's. The aim of this group is to develop common practices, procedures and standards across the four units. Though ongoing pressures on services caused us to postpone meetings for three months at the beginning of 2022, the groups are now operational.

We have also established a number of Work Groups to take forward work identified through IRG, these include:

- Review of Neurosurgical Standards
- VOICES
- Research Collaborative

One of the areas which continues to cause issues is staff recruitment and retention.

Last year the MSN agreed to fund 2 x 0.5 WTE posts clinical educator posts, with a remit to provide local Neurosurgery training to ward staff and additionally for the four clinical Educators to work together to develop Scotland-wide training programmes and competencies. The impact of the investment was reviewed, the two Boards affected felt that the positions were of value to the service, and they are now in the process of making these posts permanent. The MSN will continue to fund at 0.25% for a further 12 months.

The biggest risk facing neurosurgery relates to the ongoing COVID-19 pandemic with units running at about 60-70% of pre COVID volumes toward the end of winter "21-"22. Many neurosurgical conditions carry an immediate threat to life and limb (Priority 1 cases). These have been accommodated in all units within reasonable time frames, though at times, disruptive practices such as same day cancellations of Priority 2 cases have been required to ensure this access. Cases that require treatment within about a month (Priority 2 cases) have been accommodated but not always within time frames that clinicians felt they merited and often after being cancelled at short notice on one or more occasions. There has been little movement in Priority 3 and 4 cases (those that can wait up to three months and more than three months respectively). Some have deteriorated and been treated as emergencies, some have resolved without treatment. Most remain on a stagnant or growing waiting list and undoubtedly cases that could have waited safely for three months or a bit more have been disadvantaged, in some cases permanently by a wait of a year or even two years.

The MSN Executive were grateful for the opportunity to meet with the Deputy Chief Medical Officer as part of our annual programme of review to outline this position. Waiting times for all but the most urgent cases rose steeply throughout the year. The Clinical Director raised concerns regarding the pressures on the service. Though there are clearly issues in all specialties, the high proportion of life and limb threatening conditions in neurosurgical practice puts patients requiring this service in a very vulnerable position and she wanted to ensure that our advocacy for the service was strong enough to communicate this vulnerability at the highest level.

The largest unit in the network, Greater Glasgow and Clyde, had a number of challenges in the years prior to the pandemic and was in a poor position with respect to inpatient waiting times when the

pandemic struck. This Board's waiting times are an outlier among the neurosurgical units as a result. It is less clear whether or not it is also an outlier among GG&C surgical specialties.

Specialist skills and equipment for neurosurgery are difficult to duplicate on a general site and no capacity is available to the specialty on general waiting lists. There was assurance that the CMO's Office was aware of and sympathetic to the challenge. It was envisioned that additional capacity on the core neurosurgical sites would be easier to provide than additional capacity at the National Waiting List centre at the Golden Jubilee Hospital, for example. There is ongoing dialogue with the Centre for Sustainable Delivery to try to identify resource and strategy that can help recovery.

2. Introduction

As noted in the Executive Summary, this has been a challenging year for the MSN, as it has been across all services. Whilst things are moving forward the MSN has had to tailor its work to fit in with the ongoing service pressures. This has meant delaying meetings to enable people to participate. It is anticipated that the developments will continue and be embedded in the coming 12 months.

One of the main focuses for the MSN is COVID recovery. In August 2021, the MSN Board met with representatives from the Centre for Sustainable Delivery (CfSD). There was an opportunity to outline the challenges of COVID recovery in Neurosurgery as well as to hear presentations from CfSD. These helped the attendees to focus on what we need to do to recover from the impact of COVID and to agree aspects of the service which were not optimal prior to COVID. It was agreed that a Neurosurgery Recovery Plan would be developed and presented to CfSD and would include 'Quick wins' but also consider how to build for the medium and longer term. This work is complete. At the time of writing the MSN Board were awaiting a response from the CfSD.

The e-Referral system is being used successfully in QEUH for a number of services as well as Neurosurgery. NHS Lothian have developed a TRAK-based system that has similar functions to the e-Referral application, they are now in the process of implementing it following a successful trial. Whilst the MSN has carried out demonstrations and provided information for Boards, the roll out of the system across the whole NHS has stalled. The West of Scotland Trauma Networks are keen to use the e-Referral system as part of their processes and procedures, and are supporting implementation of the system across their member Boards. The MSN Board took the decision that the MSN have taken the implementation process as far as possible, and are unable to put any more pressure on NHS Boards to implement the system. We have therefore notified NHS Boards that implementation and governance of the system now sits with them.

There have been 5 neurosurgical cases referred to the Scottish Public Services Ombudsman (SPSO).

This annual report details the achievements of the MSN for Neurosurgery during 2021/22 and identifies objectives for 2022/23 and further.

3. Vision of the MSN for Neurosurgery

The 'vision' of the MSN for Neurosurgery is to continue to work towards a single neurosurgical service achieved through facilitated collaboration between the four centres in Scotland to ensure the delivery of a safe and sustainable national service for adults and children in Scotland.

4. Report against Main Objectives for 2021/22

All of the objectives for 21/22 were delayed due to COVID-19, however progress has been made against some of the objectives:

- **COVID-19 Recovery**

The MSN held a workshop with Board and IRG members to look at the issues which continue to cause pressures on Neurosurgery services. The meeting was attended by representatives from the Centre for Sustainable Delivery (CfSD), who presented on some of the issues being looked at nationally and how the CfSD could support Neurosurgery services. Following the event the attendees discussed the main issues affecting services and considered what Boards were doing locally,

Neurosurgical services across NHS Scotland are aware that all specialities are challenged at the moment, however the delayed treatment of patients with neurosurgical issues can lead to long term harm for these patients resulting in them requiring ongoing care, adding to societal burden.

The following are the areas which are causing most concern currently across the 4 Neurosurgical services:

- **Waiting Times** – Across the 4 centres, waiting times for both inpatient/day case (TTG) and new outpatient appointments are notably high, and well in excess of the specific 12 week access standards set by Scottish Government and exceeding 24 months in some cases. Although all Neurosurgery services have worked hard to reduce waiting lists, utilising both additional waiting list initiatives (WLI's) and private sector capacity where available, private sector capacity in neurosurgery is limited and only the simpler end of the spectrum of pathologies can be addressed out with specialised centres. In NHS GG&C in particular, waits for spinal surgery have increased from 1 to 2+ years during the period of pandemic measures. Across Scotland, outpatient appointment waits for new patients are also around 2 years in some Boards, for routine appointments. It is imperative that waits are reduced to improve access and reduce harm to patients. While all 4 Boards are looking at how these waits can be reduced, further assistance is required both to reduce the number of patients currently waiting and also to redesign services to improve longer term sustainability.

Some specific areas of focus are:

- In order to reduce waiting lists it is felt that support such as access to the Golden Jubilee National Hospital is required for this to progress nationally.
 - Utilise expertise developed in the roll out of Active Clinical Referral Triage (ACRT) across other specialties, and development of clear and agreed national triage criteria for Neurosurgery across Scotland.
 - Likewise, redesign access for follow up (return) patients by implementing the Patient Initiated Review (PIR) methodology across all centres.
 - Investigate feasibility of day or 23 hour surgery services for specific neurosurgical procedures, such as some spinal surgeries or nerve root blocks.
- **Maximising Theatre Capacity** - there are issues with maximising theatre capacity with lists being cancelled at short notice due to nursing and anaesthetist staffing issues across all centres. The bed capacity is also a limiting resource at this stage, in part because challenges with ward nurse staffing. These also have a further impact on theatres as theatre nurses in some cases have been utilised to backfill gaps in ward staffing.
 - The MSN would like to be included in any national recruitment drives being carried out by NHS Scotland.
 - In order to maximise local resources NHS Grampian are currently training existing theatre staff to become Band 4 Scrub Practitioners, the information relating to this has been shared with other Neurosurgery services. However, a clear national approach to this development is required across all Health Boards to develop this model for NHS Scotland.
 - Staffing is a problem which has been exacerbated by the cancellation of an ODP training course. It would be helpful if consideration could be given to increasing the number of ODP training sessions which would allow more staff to be trained.
 - There is a clear need for benchmarking and analysis of theatre utilisation across the 4 neurosurgical centres. The MSN for Neurosurgery will be looking at theatre turnaround times and best practice in this area.
 - As a MSN we are planning on looking at fallow theatre sessions within each host Board area, and how they can be utilised for neurosurgical cases. However, staffing these session would be an issue both from an anaesthetic and nursing perspective.
 - **Provision of Rehabilitation** - it is agreed that there are inequalities in access to Rehabilitation services, resulting in delayed discharge and patients receiving varying standards of rehabilitation. There are also a high number of vacancies in Rehabilitation services in some NHS Boards.
 - AHP staffing is an issue in Neurosciences and it is felt that there is a lack of opportunity for career progression for this staff group;

- AHP staffing was increased in some units during the pandemic, this resulted in a perceived reduction in length of stay, data to be reviewed
- Although there have been developments in Neurosurgery services there has been no change in overall AHP staffing levels.
- With funding being put into Scottish Trauma Network it has become apparent that there is a differential in AHP resource for Neurosurgery patients compared to patients admitted via the Trauma route. Trauma patients receive more rehabilitation sessions than Neurosurgical patients with similar needs.

As most Boards' rehabilitation services are not provided under the same management structure as Neurosurgery it is difficult to directly influence the service. With this in mind a decision has been taken that the MSN for Neurosurgery will work with teams to develop Rehabilitation Standards for Neurosurgery patients, these will then be shared with rehabilitation providers.

The three areas highlighted above are causes of concern, the MSN has asked for support and guidance from CfSD in progressing national strategies to make sustainable improvements in these areas, to date a response has not been received.

- **e-Referral**

NHS GG&C kindly hosted a national demonstration of the e-Referral system, which was attended by ED, E-Health and Trauma Network representatives from all NHS Boards. This is a real time emergency referral dialogue that is based on SCI store and integrates with existing electronic clinical records.

The e-Referral system is installed and is now being used in QEUH with some success, allowing on call staff to prioritise and manage referral more appropriately. It is mainly used for referrals from EDs within GG&C. There has been more recent uptake for orthopaedic referrals. It is being rolled out to other services across NHS GG&C. Some referring Boards are keen to use it and further rollout to these areas would be welcome.

NHS Lothian are in the process of implementing the system. Delays were caused by issues with the interface that have now been resolved. The TRAK based system was successfully tested in NHS Lothian and is now undergoing rollout.

NHS Grampian and Tayside continue to work with colleagues on implementing the system,

The West of Scotland Trauma Network are very keen to use the system within their NHS Boards; NHS GG&C, A&A, D&G, Lanarkshire.

At MSN Board in February 2021 discussion took place regarding the lack of uptake by other NHS Boards, it was agreed that the MSN had taken implementation as far as it could, and that the implementation and governance of the system should now sit with NHS Boards.

- **the Neurosurgical Research Collaborative and increase participation in neurosurgical research**

For a number of years it has been an objective of the MSN to establish a National Research Collaborative (NRC). It is through research and development that we improve patient care, and also make Scotland a desirable location for Neurosurgical trainees to work. As with everything over the last few years, Covid-19 has inhibited the development of this.

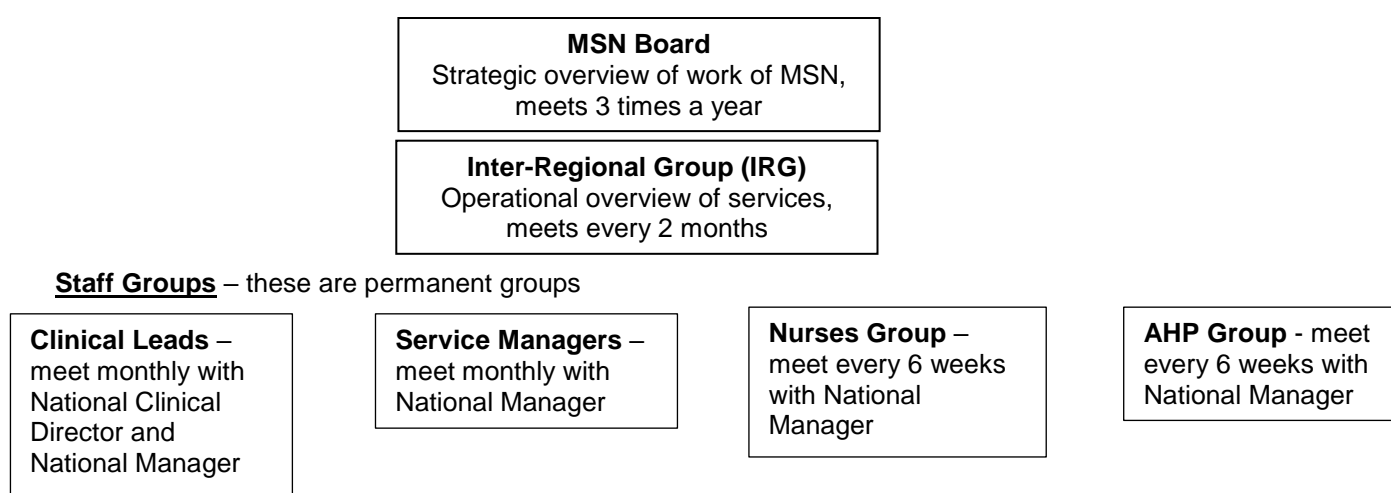
The NRC was relaunched this year and we are in the process of setting up our first research project. The MSN are supporting the proposal to examine frailty and neurosurgical outcomes through routinely collected data. Currently pre-operative assessment is the only measure of peri-operative medical needs. Measuring the degree of frailty prior to admission may be useful to identify patients requiring additional post-operative care. Frailty is associated with longer inpatient stays, post-operative complications and increased care requirements. Ownership of the study will remain with the clinician, however the MSN staff will support the project with data collection, validation and analysis as required.

The MSN are keen that all staff groups are involved in research projects, we are therefore aiming to recruit other staff groups as members of the NRC. The Clinical Co-ordinator will support the NRC, with the Audit Facilitators actively engaging in supporting research projects. Consideration will be given to any application for support, dependant on availability of resources.

- **Launch and report on the four pathways: SAH, TBI, Brain Tumour and Cauda Equina**
All pathways have been launched, the Audit Facilitators have audited against the Cauda Equina Pathway. The audit showed that the Pathway was not being followed appropriately by service users. The Pathway is being reviewed by IRG, and will be reissued following any amendments required, a further audit will be carried out in 6-12 months.
The remaining pathways will be audited once the E-Referral System is fully implemented.
- **Inter-Regional Group**
The IRG meets on a 3 monthly basis and takes forward issues arising including the following over 2021-22;
 - **Voices groups**
Work with the Audit Facilitators, Inter Regional Group and interested persons to develop a national *Voices* group, looking at specific issues such as rehabilitation services.
 - **Review of Neurosurgery Standards**
 - **Management of patients with tracheostomies**
- **Develop networks for staff groups**
As well as implementation of the Inter Regional Group, the following have also been established:
 - Nurses Group
 - AHP Group
 - Manager Group
 - Clinical Leads Group
 These groups look at specific issues and share knowledge with each other, the formation of these groups has led to more cross service working and has improved communication across the four Boards.

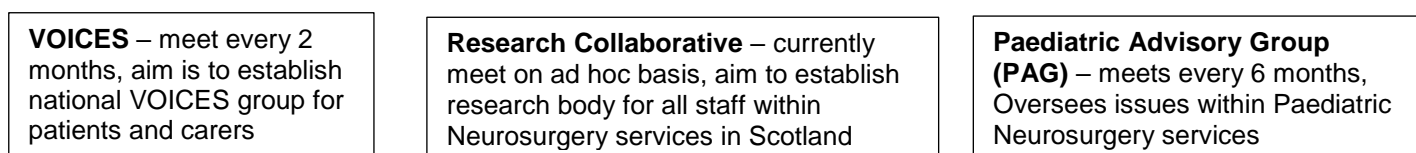
The following shows the current structure of the MSN for Neurosurgery

MSN NEUROSURGERY STRUCTURE



These groups have been formed as a result of issues raised through IRG, Board and the MSN work plan, some are permanent, others are time-limited, and more will be added as issues are raised through Board and IRG.

Permanent Groups



Time Limited Groups

Standards Core Group – aim is to review Neurosurgery standards and establish a suite of audits which will be reviewed on a 3 yearly cycle

- **Review current Standards for Neurosurgery**
A working group has been established and is reviewing standards, the outcome will be a suite of audits with which performance and quality of care can be measured.
- **Review/ develop rehabilitation services**
This work is under the remit of the Inter Regional Group, initially it will be looked at through the VOICES Group.

It has also been agreed that the MSN will support work to develop Rehabilitation Standards for Neurosurgery patients.

The MSN continues to fund 2 x 0.5 WTE Educators for NHS Grampian and Tayside. This has been seen as a valuable and successful initiative. The four clinical educators continue to work together to develop Scotland wide training, guidance and competences for Neurosurgery.

Including the objectives above, a rolling improvement plan will be developed in conjunction with the IRG and this will be implemented over the next 2-3 years, thus allowing adequate time for developments and for the objectives to be prioritised.

4.1 Building resources -

The MSN is now fully staffed, with a new Project Officer joining the team in May.

The Clinical Co-ordinator and Audit Facilitators will continue to support all clinical staff and managers with data collection and administrative duties, they will also develop a rolling programme of audits in line with the GIRFT standards which will be undertaken over a 3 year period.

The National Network Manager for the MSN for Neurosurgery is scheduled to retire in November 2022, recruitment to this post is ongoing, it is hoped the new Manager will be in place before November.

4.2 MSN Website

Between 1st April 2021 and 31st March 2022 there was a total of 13,882 page views of the MSN website. The top pages viewed continue to be the 'Physiotherapy after Lumbar Surgery' and 'Info for Patients' pages, which accounted for 12.79% and 8.57% of views respectively.

Hosting of the MSN website has moved from the Public Health Scotland team to Scottish Health on the Web (SHOW), this has meant that the MSN is now able to take responsibility for updating the site directly. The MSN team has reviewed the current website and agreed that it was not easy to navigate and information had become outdated. The team are in the progress of redesigning the website, aiming to make it more user friendly and to contain up to date, and relevant content.

5. Challenges

Each of the Boards faces a number of challenges although most of them are common across all Boards, they include;

- COVID-19 Recovery
 - Long waits

- Access to beds
- Staffing issues
- Reduced theatre capacity
- Rehabilitation Services
- Middle Grade and Junior Doctor rota

6. Work Plan for 2022– 2023

The MSN Board agreed that the following objectives will be carried forward to 2022/23:

- **COVID-19 Recovery**
 - Waiting Times
 - Maximising Theatre Capacity
 - Provision of Rehabilitation
- **Continue to develop the Neurosurgical Research Collaborative and increase participation in neurosurgical research**
- **Audit and report on the four pathways: SAH, TBI, Brain Tumour and Cauda Equina**
The pathways will be audited once the E-Referral System is fully implemented across the four Boards.
- **Inter-Regional Group**
The IRG will continue to meet on a 3 monthly basis and take forward issues arising including the following over 2021-22;
 - **Voices group**
 - **Review of Neurosurgery Standards**
 - **Management of patients with tracheostomies**

7 Network Governance

The governance of the MSN for Neurosurgery sits under the oversight of the National Planning Board.

- The MSN will continue to be subject to the three yearly review process when it will be asked to demonstrate that the MSN model remains fit for purpose, are delivering good outcomes for patients across Scotland, and to share evidence that clinically effective services benchmark well against UK comparators. The next review is due in 2022.
- The annual MSN work plan will be shared widely, including with National Planning Board at the start of each financial year. Written updates on progress against plan to be a standing agenda item at MSN Board meetings.
- The MSN will produce an annual report that includes an assessment of how it has delivered the annual work plan. The annual report will be shared with National Planning Board for comment. The annual report and subsequent comments will then be shared with the Chief Medical Officer who will meet with MSN Chair, Clinical Lead and Network Manager annually to discuss performance thus allowing for professional clinical assessment of progress.

Appendix 1 Board membership 2022

Board membership was reviewed and updated in 2022 to reflect its Governance role

	Name	Title	Board
1	Mr Gary Jenkins	Chairman, MSN for Neurosurgery	NHS State Hospital
2	Miss Jennifer Brown	National Clinical Director	NHS GG&C
3	Ms Lynda McKie	National Network Manager, MSN	MSN Neurosurgery
4	Mr David Bennett	Consultant Neurosurgeon, IRG Chair	NHS Tayside
5	Vacant	Director of Regional Services	NHS GG&C
6	Mr David Hood	General Manager	NHS Lothian
7	Mr Cameron Matthew	Divisional General Manager	NHS Grampian
8	Ms Lynn Smith	Associate Director, Access and Assurance	NHS Tayside
9	Mr James Powell	Associate Medical Director Surgical Services RIE	NHS Lothian
10	Dr Thomas Gilbertson	Consultant Neurologist	NHS Tayside
11	Mr Andy Wynd	Chief Executive Officer, Spina Bifida Hydrocephalus Scotland	Third Sector
12	Ms Tanith Muller	Parliamentary and Campaigns Manager, Parkinson's UK	Third Sector
13	Dr David Gillespie	Consultant, Neuropsychology, National Representative	NHS Lothian
14	Mr Callan Mathieson	Scottish Training Programme Director	NHS GG&C
15	Mr Parameswaran Bhattathiri	Neurosurgery Specialty Advisor to CMO	NHS GG&C
16	Dr Graham Foster	Director of Public Health & Strategic Planning	NHS Forth Valley

Appendix 2 Finance

MSN Budget for 2022/23

Salaries and Wages	£
Network Manager (based on current)	59,466
Clinical Co-ordinator (0.8 WTE)	40,196
Project Support Officer (1.0 WTE band 4)	30,888
Clinical Director EPA	13,900
NHS Grampian Audit Facilitator (0.5 WTE band 5)	16,224
NHS Tayside Audit Facilitator (0.5 WTE band 5)	20,280
NHS Lothian Audit Facilitator (1.0 WTE band 5)	32,100
NHS GG&C Audit Facilitator (1.0 WTE band 5)	32,100
Neurosurgery Educator (2 x 0.5 WTE Band 7, 8 months and 12 months)	29,094
Salaries and EPA Sub-Total	274,248
Supplies and Services	
Payment to External Organisations	19,800
Travel & Subsistence (mileage/expenses/trains/ hotels)	4,000
Training	2,500
Printing & Stationary (includes Lothian re-charge)	1,000
Postage Carriage and Phones	200
Miscellaneous (includes national meeting venues)	3,000
General Services (includes catering)	1,000
Supplies and Services Sub-Total	31,500
Total	305,748

MSN Budget for 2021/22

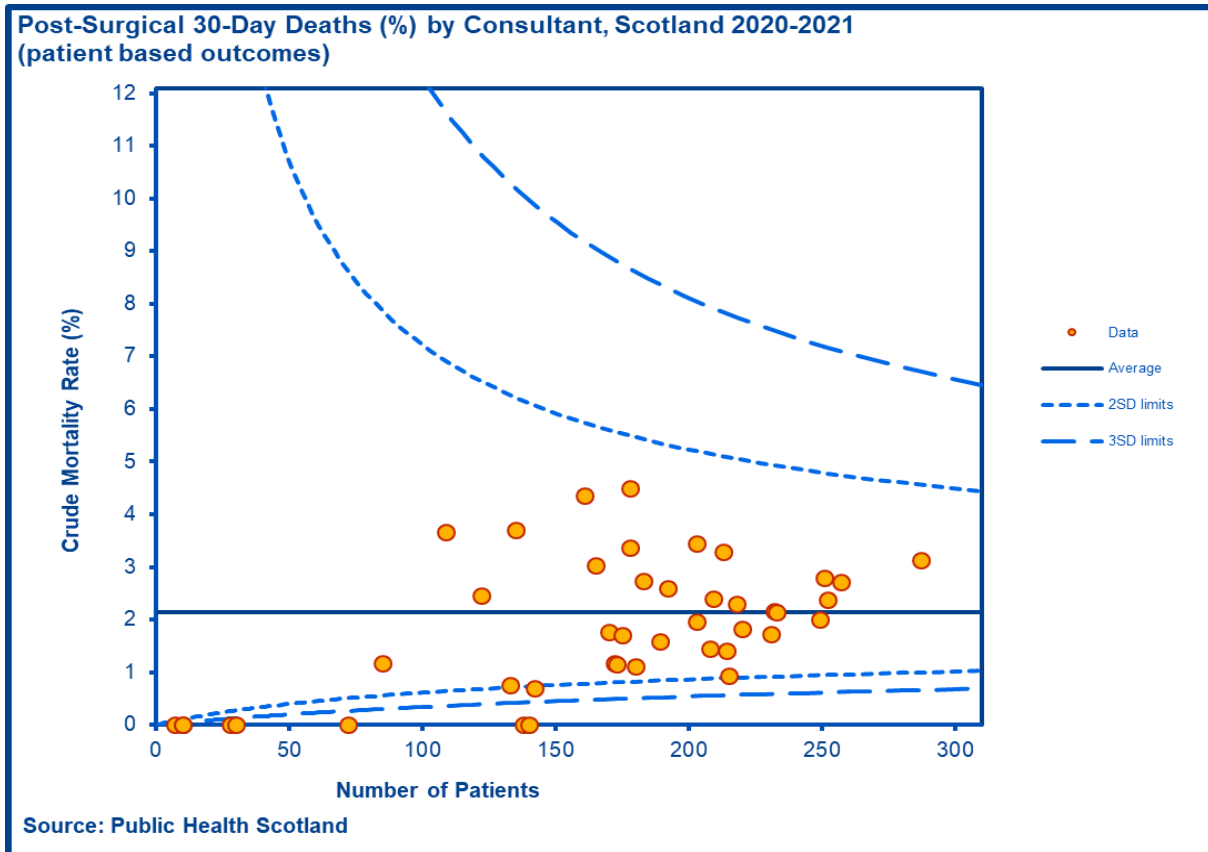
MSN Neurosurgery Month 12

	Budget Received	Actuals	Variance
Pays	86,177	86,179	-2
Non Pays	201,613	202,091	-478
Total Spend	287,790	288,270	-480

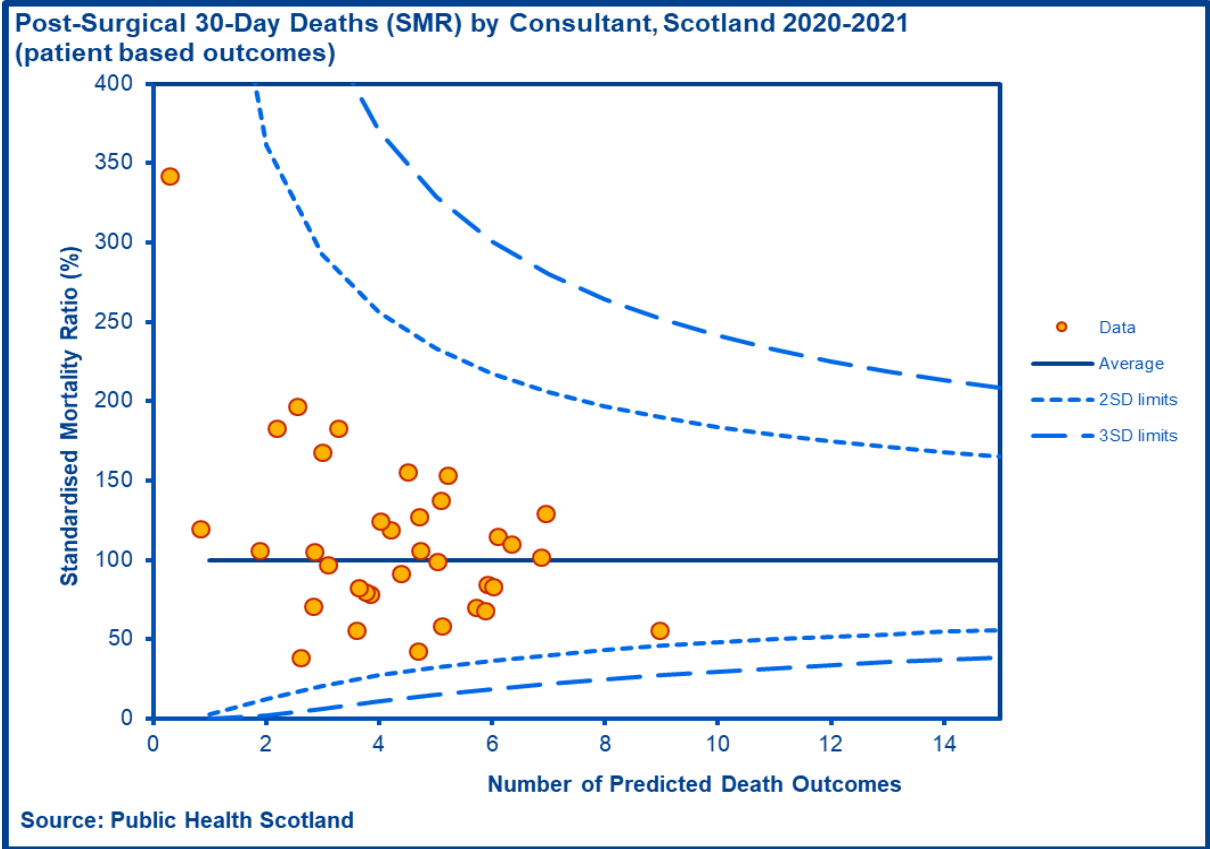
Appendix 3 Consultant Mortality Data Deaths Within 30-days of Last Procedure (2019-2020)

The rolling audit of consultant mortality ARCO is now well established and continues to reassure that no individual consultant is an outlier. The audit programme was designed to examine each consultant's mortality against the mortality predicted by the case mix in their practice. The four units vary somewhat in case mix and geography and this data set is not well suited to aggregation to compare mortality at unit level. It is envisaged that the new dashboard functionality will allow individual consultants and easy way to check mortality attributed to their practices prior to analysis and enhance confidence in the methodology.

Crude Mortality Rate (%)



Standardised Mortality Ratio (SMR) (2019-2020)



Appendix 4 CAPNA Data (Clinical Audit of Paediatric Neurosurgical Activity), All Centres 2021

Region	# Surgeries	Category 1	Category 2	Category 3	Transfers Out	In Patient Deaths
Tayside	8	8	0	0	7	0
Grampian	3	3	0	0	9	2
Lothian	129	59	15	55	1	2
GG&C	285	10	17	258	1	0

Appendix 5 Work Plan Summary 2022/23

	Objective	Status (RAG)	Actions	Timeline
1	COVID Recovery		<ul style="list-style-type: none"> • Waiting Times • Maximising Theatre Capacity • Provision of Rehabilitation 	No completion date, as continuously ongoing
2	Promote Research Collaborative		<ul style="list-style-type: none"> • Working Group established. • First research project identified • Staff being recruited to group 	No completion date, as continuously ongoing
3	Establish VOICES Group		<ul style="list-style-type: none"> • Working group established to take forward. • VOICES Group will be national • Identifying issues • Recruiting participants 	No completion date, as continuously ongoing
4	Develop of standards for Rehabilitation		<ul style="list-style-type: none"> • Working Group set up, progressing 	December 2022
5	CAPNA		<ul style="list-style-type: none"> • Format agreed 	No completion date, as continuously ongoing
	Objective	Status (RAG)	Actions	Timeline
6	Shunt Registry		<ul style="list-style-type: none"> • Progress being made. Consideration given to whether to establish Scottish Registry or use 	Complete by March 2023

			current National Registry	
7	Review Neurosurgery Standards		<ul style="list-style-type: none"> • Work has been delayed due to service pressures, but some progress has been made • SLWG has been established to review and agree standards for Neurosurgery in Scotland • Audits to be established to measure each standard • 3 yearly audit cycle to be established • Review at end of 3 years 	Complete by December 2022
8	Develop Staff Networks		<ul style="list-style-type: none"> • Nurses and AHP networks established • IRG established, subgroups will be developed on an ad hoc basis 	No completion date as continuously ongoing