SCOTTISH NATIONAL OBSTETRIC BRACHIAL PLEXUS INJURY SERVICE

Annual Report 2023/24

NHS Greater Glasgow & Clyde

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Please refer to Guidance Notes for completion of the Annual Report prior to submission

The completed Annual Report should be sent electronically by 31 May to:
Email: nss.specialistservices@nhs.scot

Executive Summary

The Children's Brachial Plexus Injury Service is based at the Royal Hospital for Children (surgery and clinics) and the New Victoria Hospital (administration) within NHS Greater Glasgow & Clyde.

The Children's Service became a designated National Service for Scotland in April 2006.

The brachial plexus is a complicated network of nerves which controls the muscles in the shoulder, arm, elbow, wrist, hand and fingers as well as providing them with feeling.

In children brachial plexus injury usually occurs during birth. It can also occur as a result of traumatic brachial plexus injury (e.g. falls, road traffic accidents, sporting accidents) or tumours involving the brachial plexus.

Children are referred from throughout Scotland by maternity units, paediatricians, orthopaedic surgeons, or plastic surgeons who have carried out initial assessment. Referrals are also accepted from Northern Ireland and occasionally from the north of England.

The service provides assessment, intervention, treatment and outpatient follow-up care for patients through an integrated multidisciplinary service for obstetric brachial plexus injury, traumatic brachial plexus injury, and tumours involving the brachial plexus, including:-

- Diagnosis: clinical examination, MRI, ultrasound, neurophysiology.
- Surgery: early surgical exploration and nerve repair; secondary reconstruction for shoulder and other deformities.
- Physiotherapy.
- Occupational Therapy.
- Psychological support.

In 2023/24 the service undertook the following activity for patients from across Scotland:-

- 50 assessments.
- [redacted] primary operations such as nerve explorations and nerve reconstructions and 1 secondary operation such as tendon transfers).
- 166 follow-up appointments.

Tim Hems and Professor Andrew Hart continue to provide the medical and surgical part of the service supported by a dedicated therapy team. Staffing will be kept under review.

A review of activity levels since the service was designated in 2006 has shown a fall in the serious cases of obstetric brachial plexus injury causing long term deficit, particularly during the last 5 years. This change has implications for future provision of the service.

Further details can be found on the dedicated website at
https://www.brachialplexus.scot.nhs.uk

Contact Details

Lead Clinician:

Mr Timothy Hems, Consultant Hand & Orthopaedic Surgeon

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GLASGOW
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1. Service Delivery

The Obstetric Brachial Plexus Injury Service (OBPIS) provides integrated multidisciplinary management for obstetric brachial plexus injury, traumatic brachial plexus injury and tumours involving the brachial plexus including:-

- Diagnosis: clinical examination, MRI, ultrasound, neurophysiology.
- Surgery: early surgical exploration and nerve repair, secondary reconstruction for shoulder and other deformities.
- Physiotherapy.
- Occupational Therapy.
- Psychological support.

Target Patient Group

Children with obstetric brachial plexus injury are the main group managed by the service. Patients with traumatic brachial plexus injury or benign or malignant tumours involving or arising from the brachial plexus are also seen.

Patients are typically referred by neurologists, paediatricians, orthopaedic surgeons or plastic surgeons.

In the year 2023/24 a total of 46 children with suspected obstetric brachial plexus injury were referred to the service. [redacted] were referred with a traumatic brachial plexus injury. 49 were referred from within Scotland, with one patient referred from the north or England and none from Northern Ireland.

Referral Process

Referral forms are available on the service website and are emailed or posted to the administration office. Referral letters are accepted provided the referring health board includes sufficient background information on the injury. Patients can also be referred by their general practitioner via the electronic GP Gateway.

Patients are usually referred by paediatricians, orthopaedic surgeons or plastic surgeons who have carried out initial assessment after which the Obstetric Brachial Plexus Injury Service provides assessment, intervention or treatment and outpatient follow-up care for patients.

Description of Service/Care Pathway

Clinical Assessment

Along with their parents children with obstetric brachial plexus injury (OBPI) are assessed in the outpatient clinic by medical staff and therapists to confirm the diagnosis, exclude immediate complications (e.g. shoulder dislocation), counsel parents, ensure optimal parent-child bonding, address parental perceptions of the injury mechanism (and any related blame attribution) and to establish a likely prognosis. Some children are seen prior to this first clinical review by the specialist therapists and receive instruction on therapeutic exercises, and if there has been early recovery may be discharged at that stage.

Care Plan

A management plan is formulated that includes parental counselling, physiotherapy (initial passive stretching to mitigate shoulder deformity, later active range exercises, post-operative therapy as required), occupational therapy (safe positioning and optimal handling, age-specific sensorimotor developmental assessments, activity-based interventions, provision of aids, fit-for-schooling assessment, school visits and educational liaison role), psychological optimisation (screening assessment to arrange therapeutic intervention where appropriate, primarily addressed at the parents' needs during infancy, and the child's needs during later development), investigations when necessary (neurophysiology, imaging studies) and monitoring of progress (developmental milestones, school progression, body-image development, pain, psychosocial welfare, fit-for-life).

Clinical Psychology

A clinical psychologist was appointed to the service in summer of 2018 and is contributing to the above. The clinical psychologist undertakes screening assessment and therapeutic support both during clinics and out-with clinic times (either on an on-one basis or with telephone consultations) and can liaise with local services where capacity is available.

Surgical Intervention

Surgical decisions on nerve surgery and prophylactic shoulder interventions are made at around three months of age and on secondary surgery (shoulder procedures, hand reanimation, functional muscle transfers) as necessary during growth into adulthood.

Interventions are carried out by the surgical team to:

- Optimise recovery from nerve injury: in a small percentage of children (more severe lesions with inadequate motor recovery at 3 to 6 months of age) exploration and microsurgical reconstruction of the brachial plexus nerves may benefit recovery and enable prognostic stratification.
- Optimise growth trajectory: early nerve surgery may reduce growth disturbance in more severe nerve injuries (detailed above). In these, and in other children with early shoulder subluxation/instability, conservative interventions (e.g. casting, Botox injections) can forestall more severe shoulder abnormalities. Consideration is being given to late nerve transfer surgery to enhance shoulder function and growth.
- Correct functionally significant secondary deformity/functional impairment: joint releases, tendon transfers, bony procedures and free functional muscle transfers for upper limb deformities resulting from OBPI. These most commonly affect the shoulder.

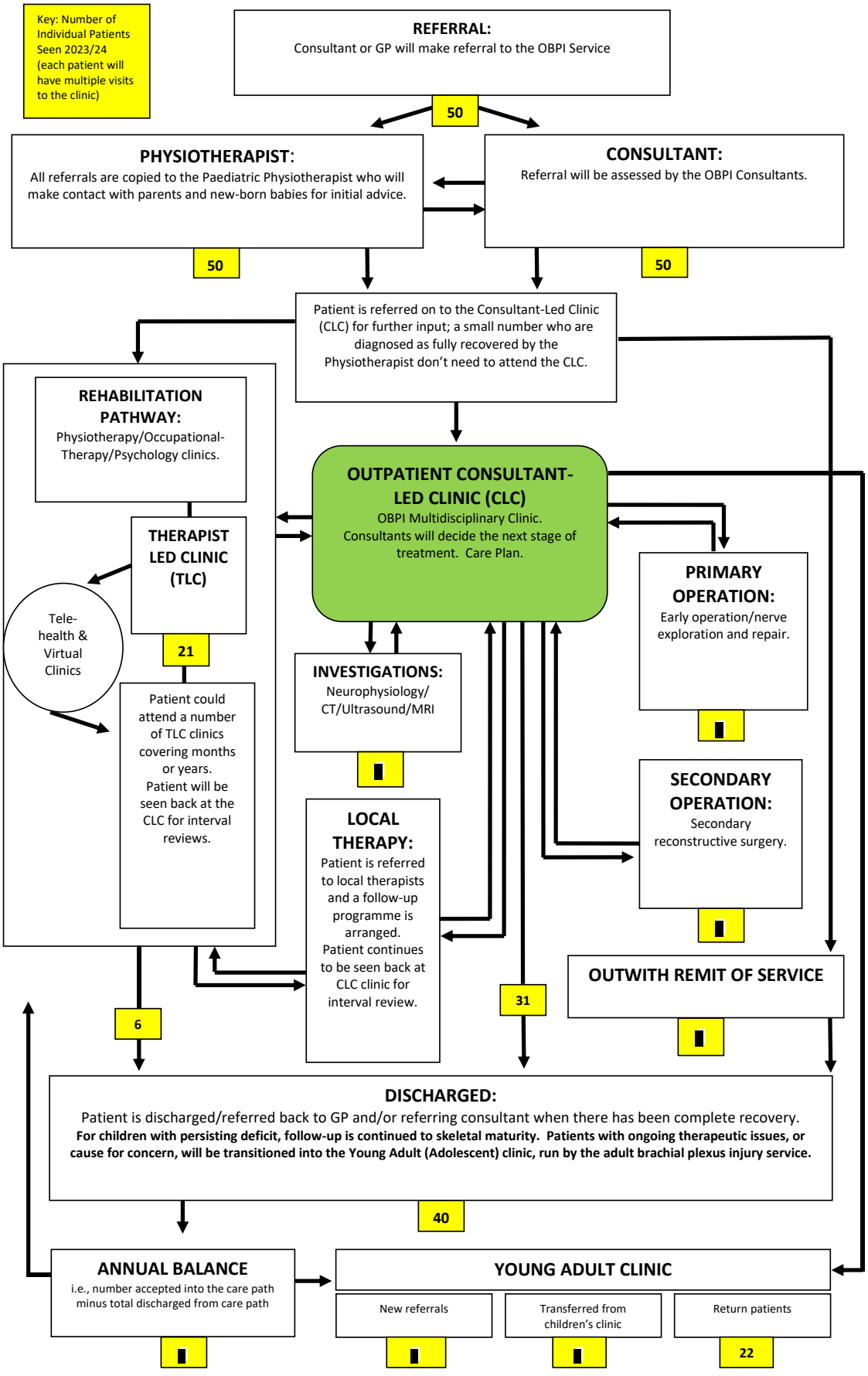
Continuation of Care

Children with persisting deficit are followed up in outpatients at least until skeletal maturity.

Review of patients who live in the north of Scotland and other remote areas is facilitated by the option of video appointment and some outreach clinics held at Woodend Hospital in Aberdeen.

Patients can be transitioned into the young adult clinic in Glasgow once they are deemed to have reached an appropriate level of physical and cognitive development, and if they have ongoing issues best addressed through adult services (s*ee flowchart on next page).*

Obstetric Brachial Plexus Injury (OBPI) - Patient Pathway



2. Activity Levels

Referrals and Interventions

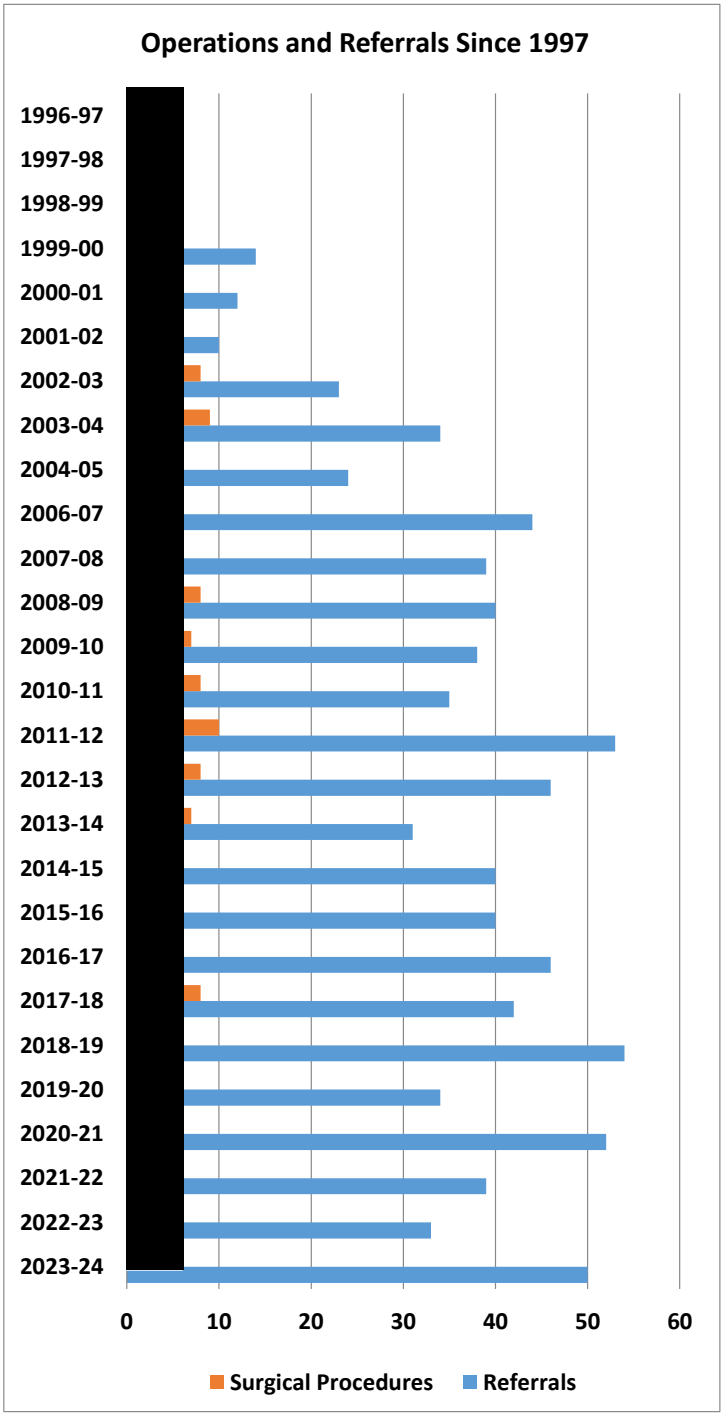
Referrals and Interventions				
	SA Level	**2023/24**	**2022/23**	**2021/22**
New patient referrals				
Referrals received		**50**	**33**	**39**
Referral does not meet criteria		**0**	**0**	**0**
Assessments				
Accepted for treatment by service	*40*	**50**	**33**	**39**
Did not attend (DNA)		[redacted]	**0**	[redacted]
Discharged following first assessment		**22**	**15**	**24**
Discharged from treatment		**40**	**26**	**35**
Number of patients retained for longterm care		**10**	**7**	[redacted]
Outpatient Follow-Up Appointments	*190*	**166**	**147**	**185**
Intervention /procedures				
Nerve		[redacted]	**0**	**0**
Other (shoulder/elbow)		[redacted]	[redacted]	[redacted]
Total Procedures:	*7*	[redacted]	[redacted]	[redacted]
Ward Bed Days				
HDU/ITU		**0**	**0**	**0**
Nerve Surgery		**7**	**0**	**0**
Other Surgery		[redacted]	**9**	[redacted]
Total Ward Bed Days		**12**	**9**	[redacted]
Day Cases		**0**	**0**	[redacted]
Average length of stay for inpatients (days)		[redacted]	[redacted]	[redacted]

The activity for return appointments should be representative of children who have ongoing problems resulting from OBPI.

Trends in Activity

Referrals and Operations

Operations and Referrals Since 1997		
Year	Referrals	Surgical Procedures
1996-97	6	[redacted]
1997-98	[redacted]	[redacted]
1998-99	[redacted]	0
1999-00	14	[redacted]
2000-01	12	[redacted]
2001-02	10	[redacted]
2002-03	23	8
2003-04	34	9
2004-05	24	[redacted]
2006-07	44	6
2007-08	39	[redacted]
2008-09	40	8
2009-10	38	7
2010-11	35	8
2011-12	53	10
2012-13	46	8
2013-14	31	7
2014-15	40	6
2015-16	40	6
2016-17	46	[redacted]
2017-18	42	8
2018-19	54	[redacted]
2019-20	34	[redacted]
2020-21	52	[redacted]
2021-22	39	[redacted]
2022-23	33	[redacted]
2023-24	50	[redacted]
Total:	887	137



During 2023/24: [redacted] patients were treated for traumatic brachial plexus injury.

After assessment: 6 patients were found not to have evidence of brachial plexus injury, although referral for assessment was considered appropriate.

Diagnostics

Neurology/Neurophysiology

A consultant neurologist at the Royal Hospital for Children provides clinical assessment for OBPI patients along with neurophysiology investigations, which is particularly useful for those who may require surgical intervention. The numbers of referrals to Neurology have decreased since 2019, with some patients being referred to local neurology centres out-with the GG&C area.

Location of Children's Neurology

The neurology clinics within GG&C are held in the outpatient department of the Royal Hospital for Children in Glasgow.

Neurophysiology Activity (within NHS GG&C)			
	2023/24	2022/23	2021/22
Assessments	[redacted]	[redacted]	[redacted]
Maximim Wait (Weeks)	7.1	0.0	3.0
Minimum Wait (Weeks)	0.0	0.0	1.9
Median Wait (Weeks)	3.6	0.0	2.4
Did not attend (DNA)	0	0	0

Note: 1 patient had tests carried out prior to referral to the brachial plexus service.

Neurophysiology Activity (carried out in other centres)			
	2023/24	2022/23	2021/22
Assessments	0	[redacted]	[redacted]
Maximim Wait (Weeks)	0.0	11.3	0.0
Minimum Wait (Weeks)	0.0	0.0	0.0
Median Wait (Weeks)	0.0	5.6	0.0
Did not attend (DNA)	0	0	0

Imaging/Radiology

X-Ray, CT, MRI and Ultrasound

In addition to radiographs, CTs and MRIs obtained at the children's hospital the brachial plexus consultants also have access to the hospital's ultrasound machines in order to facilitate imaging of shoulders in young patients under the age of one year.

Radiology Activity (within NHS GG&C)			
	2023/24	2022/23	2021/22
MRI	0	0	0
CT scan	0	0	[redacted]
Ultrasound	0	0	[redacted]
Total Imaging	0	0	[redacted]
Maximim Wait (Weeks)	0.0	0.0	10.9
Minimum Wait (Weeks)	0.0	0.0	0.0
Median (Weeks)	0.0	0.0	3.0
Did not attend (DNA)	0	0	0

Radiology Activity (carried out in other centres)			
	2023/24	2022/23	2021/22
MRI	[redacted]	[redacted]	[redacted]
CT scan	0	0	0
Ultrasound	[redacted]	0	0
Total Imaging	[redacted]	[redacted]	[redacted]
Maximim Wait (Weeks)	2.6	40.3	0.0
Minimum Wait (Weeks)	0.0	40.3	0.0
Median (Weeks)	2.1	40.3	0.0
Did not attend (DNA)	0	0	0

Note: [redacted] scans were arranged in Forth Valley, [redacted] scan arranged in Ayrshire & Arrange (prior to referral).

X-rays continue to be routinely provided at clinic when necessary and are out-with the scope of the above tables.

3. Performance and Clinical Outcomes

3.1 Equitable

NHS Board for Referrals

NHS Board for Referrals								
	2023/24	% of total	**2022/23**	% of total	**2021/22**	% of total	*% of Population of Scotland*	*Actual Population of Scotland**
Ayrshire and Arran							*6.7*	*367,990*
Borders	**0**	0	**0**	0	**0**	0	*2.1*	*115,240*
Dumfries and Galloway			**0**	0			*2.7*	*148,290*
Fife							*6.8*	*374,130*
Forth Valley							*5.6*	*305,930*
Grampian					**0**	0	*10.7*	*585,550*
GG&CHB	**21**	43	**18**	55	**19**	51	*21.7*	*1,185,240*
Highland							*5.9*	*320,860*
Lanarkshire	**8**	16			**7**	19	*12.1*	*661,960*
Lothian							*16.7*	*912,490*
Orkney	**0**	0	**0**	0	**0**	0	*0.4*	*22,400*
Shetland	**0**	0	**0**	0	**0**	0	*0.4*	*22,870*
Tayside			**0**	0	**0**	0	*7.6*	*416,550*
Western Isles	**0**	0	**0**	0	**0**	0	*0.5*	*26,500*
England			**0**				-	-
Northern Ireland	**0**		**0**				-	-
Total:	**50**	100	**33**	100	**39**	100	*100.0*	*5,466,000*

**Source: 2020 mid-year estimates, www.nrscotland.gov.uk. Patients from England and Northern Ireland normally receive primary treatment within their own health boards and are therefore not included in this population analysis.*

Distribution of Referrals

Referrals remain well distributed from around Scotland. The referrals from Greater Glasgow and Clyde were thought to be appropriate for the Obstetric Brachial Plexus Injury Service. New referrals from Northern Ireland have fallen.

Travelling to Clinics

Information on how to claim travel expenses is routinely issued to new patients with their first appointment letter and highlighted on the service website, to encourage patients from outlying areas to attend clinics in Glasgow without encountering prohibitive financial constraints.

Patients Born Outside the UK

Patients Referred Born Outside UK			
	2023/24	2022/23	2021/22
Born within UK	44	30	38
Born outside UK	6		
% Born outside UK	12%	%	%

The service is receiving an increased number of referrals of children from immigrant families who were born outside the UK (Mostly Africa and South Asia). They are older when referred and have ongoing impairment as a result of severe OBPI. Most have not had access to specialist treatment before coming to the UK and are usually above the age when nerve surgery can be effective. They will require long term follow-up and may need secondary surgical procedures, and hence will continue to represent a significant workload for the service.

NHS Board for Follow-up Appointments

NHS Board for Follow-up Appointments								
	2023/24	% of total	**2022/23**	% of total	**2021/22**	% of total	*% of Population of Scotland & N. Ireland*	*Actual Population of Scotland & N. Ireland*
Ayrshire and Arran	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	*5.0*	*367,990*
Borders	[redacted]	[redacted]	**0**	0	[redacted]	[redacted]	*1.6*	*115,240*
Dumfries and Galloway	[redacted]	[redacted]	**6**	4	[redacted]	[redacted]	*2.0*	*148,290*
England & Wales	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	-	-
Fife	**11**	7	**7**	5	[redacted]	3	*5.1*	*374,130*
Forth Valley	**11**	7	[redacted]	[redacted]	**7**	4	*4.2*	*305,930*
Grampian	**7**	4	**7**	5	**10**	5	*8.0*	*585,550*
GG&CHB	**42**	25	**44**	30	**65**	35	*16.1*	*1,185,240*
Highland	**13**	8	[redacted]	[redacted]	[redacted]	[redacted]	*4.4*	*320,860*
Lanarkshire	**11**	7	**12**	8	**19**	10	*9.0*	*661,960*
Lothian	**24**	14	**24**	16	**20**	11	*12.4*	*912,490*
Northern Ireland	**31**	19	**27**	18	**37**	20	*25.7*	*1,895,510*
Orkney	**0**	0	**0**	0	[redacted]	[redacted]	*0.3*	*22,400*
Shetland	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	*0.3*	*22,870*
Tayside	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	*5.7*	*416,550*
Western Isles	**0**	0	**0**	0	**0**	0	*0.4*	*26,500*
Total:	**166**	100	**147**	100	**185**	100	*100.0*	*7,361,510*

**Sources: 2020 mid-year estimates. www.nrscotland.gov.uk & www.nisra.gov.uk*

The above table represents the NHS Health Board local to the patient's home address at the time of their clinic appointment.

NHS Board for Inpatient Procedures

NHS Board for Inpatient Procedures								
	2023/24	% of total	**2022/23**	% of total	**2021/22**	% of total	*% of Population of Scotland*	*Actual Population of Scotland**
Ayrshire and Arran	[redacted]	[redacted]	**0**	0	**0**	0	*6.7*	*367,990*
Borders	**0**	0	**0**	0	**0**	0	*2.1*	*115,240*
Dumfries and Galloway	**0**	0	**0**	0	**0**	0	*2.7*	*148,290*
Fife	**0**	0	**0**	0	**0**	0	*6.8*	*374,130*
Forth Valley	[redacted]	[redacted]	**0**	0	**0**	0	*5.6*	*305,930*
Grampian	**0**	0	**0**	0	**0**	0	*10.7*	*585,550*
GG&CHB	**0**	0	**0**	0	[redacted]	[redacted]	*21.7*	*1,185,240*
Highland	**0**	0	[redacted]	[redacted]	**0**	0	*5.9*	*320,860*
Lanarkshire	**0**	0	**0**	0	**0**	0	*12.1*	*661,960*
Lothian	[redacted]	[redacted]	**0**	0	**0**	0	*16.7*	*912,490*
Orkney	**0**	0	**0**	0	**0**	0	*0.4*	*22,400*
Shetland	**0**	0	**0**	0	**0**	0	*0.4*	*22,870*
Tayside	**0**	0	**0**	0	**0**	0	*7.6*	*416,550*
Western Isles	**0**	0	**0**	0	**0**	0	*0.5*	*26,500*
England	**0**		**0**		**0**		-	-
Northern Ireland	**0**		[redacted]		**0**		-	-
Total:	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	*100.0*	*5,466,000*

**Source: 2020 mid-year estimates, www.nrscotland.gov.uk. Patients from England and Northern Ireland are not included in this population analysis.*

Outreach Clinics

Aberdeen

The Aberdeen outreach clinic was set up to improve assessment and follow-up for patients in the north of Scotland. Utilisation of these clinics is variable. Both children and adults are seen at these clinics. The need for outreach clinics is kept under review according to the numbers of patients in each area.

Follow suspension of this clinic during the Covid pandemic the Aberdeen outreach clinic was recommenced in October 2023 with 13 patients attending, including [redacted] children. [redacted] child was a new referral, all other patients were return reviews. The requirement for future clinics in Aberdeen will be kept under review.

3.2 Efficient

a) Actual v Planned Activity. *See Section 2: Activity Levels.*

b) Resource Use. *See other parts of the report.*

c) Finance & Workforce. *See Section 6: Financial report and workforce.*

d) Targets (Referral to appointment to treatment). *See Section 3.3: Timely.*

3.2.1 Cost efficiencies

Not applicable.

3.3 Timely

1. Time from referral to first clinic appointment being offered < 6 weeks.

The mean wait between referral and the first outpatient appointment was 4.0 weeks and the median was 3.9 weeks (range 0.0 to 10.1 weeks).

Time from Referral to Treatment			
	2023/24	2022/23	2021/22
% within target	78	61	69
Maximum Wait (weeks)	10.1	11.4	10.0
Minimum Wait (weeks)	0.0	0.0	0.0
Median Wait (weeks)	3.9	4.4	4.4

Note: 88% of patients were seen with 8 weeks of referral. Max wait = 10.1 weeks: one older child from Grampian, non-urgent, seen in the Aberdeen outreach clinic.

2. Clinic letters issued within 2 weeks.

All clinic letters and operation notes were typed and checked within a few days of dictation.

3. Assessment and stratification for nerve surgery benefit by 4 months; nerve surgery by 6 months.

No new-born patients required nerve surgery in 2023/24.

Nerve surgery cases were carried out for nerve injury resulting from trauma or tumour within an appropriate timescale.

Prompt theatre access remains difficult within RHC, although senior management support has been of critical assistance when needed, and is greatly appreciated.

3.4 Effectiveness

There is no new data this year.

3.5 Safe

Staff Vetting

All healthcare professionals funded within the structure of the Obstetric Brachial Plexus Injury Service meet Greater Glasgow & Clyde Trust requirements for vetting by Disclosure Scotland and registration with the Information Commissioner's Office.

Governance

Patients reviewed or treated at the RHC site fall under the hospital's own governance system, reinforced by internal audit within the Orthopaedic and the Plastic Surgery services. No significant governance issues have been identified through these mechanisms during 2023/24.

Compliance

The outpatient clinic has fully adopted recommendations on hand hygiene, dress code, and cleaning of equipment as recommended nationally. These measures are also in full implementation within the inpatient ward and theatre complex used. Regular monitoring of compliance within the hospital is performed by assessors independent to the SNBPIS. No peri-operative bacterial infections occurred during the period 2023/24.

Child Protection

Child protection level 1 LearnPro was completed by all staff.

Child Protection level 2, risk assessment, maltreatment in infants LearnPro was completed by Prof Hart & Mr Hems.

Safe Transfusion Practice for Paediatrics completed by Prof Hart.

3.6 Person centred

Patient Information

Parents are directed to the service website which contains information on obstetric brachial plexus injury.

Patient Satisfaction Survey

A patient satisfaction survey was carried out in 2023/24 *(see Section 4: Quality and Service Improvement)*.

An electronic version of the Satisfaction Survey form has been set up by the service administrator to allow for easier and ongoing feedback from patients, this is available on the service website and highlighted to patients in the clinics.

Young Adult Clinic

Patients seen in the children's obstetric brachial plexus clinic often require ongoing review upon reaching the age of sixteen. It was felt inappropriate to continue seeing these patients in the children's clinics, therefore a clinic for young adults was created, first held in April 2011. A robust pathway is therefore in place for patients to transition from child to adult care.

The young adult clinic is held twice per year at the New Victoria Hospital, Glasgow, which is the same location as the adult brachial plexus clinic. The clinical nurse specialist, occupational therapist and physiotherapist from the adult service are contributing. Many appointments are now carried out via video using the Near Me/Attend Anywhere system.

Adults with problems resulting from an OBPI are also referred to the service and are usually seen first at the young adult clinic.

4. Quality and service Improvement

Educational talks with referring specialties, care providers, and professional groups within and out-with NHS GG&C

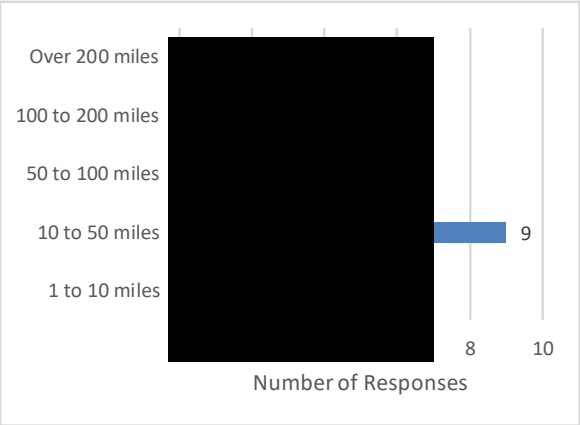
During the 2023/24 period brachial plexus injury (adult & obstetric) has been taught to medical students, occupational therapy students, general plastic and orthopaedic surgeons and neurophysiology trainees *(also see Appendices).*

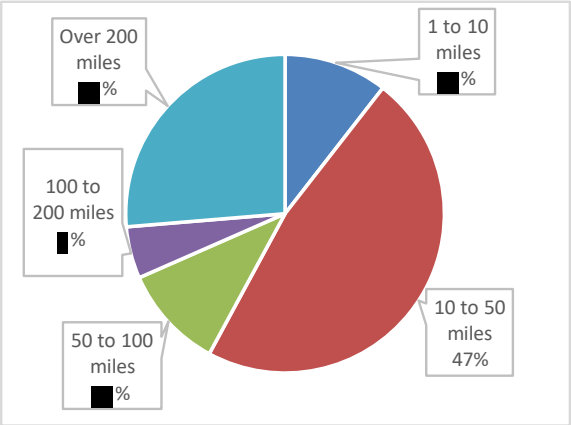
Patient Satisfaction Survey

OBPI Clinics

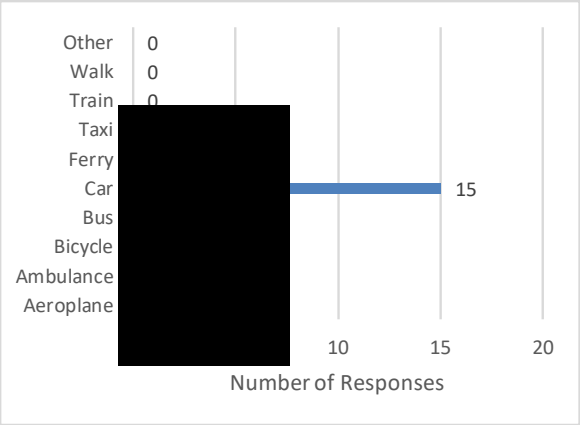
[Sample Group = 19]

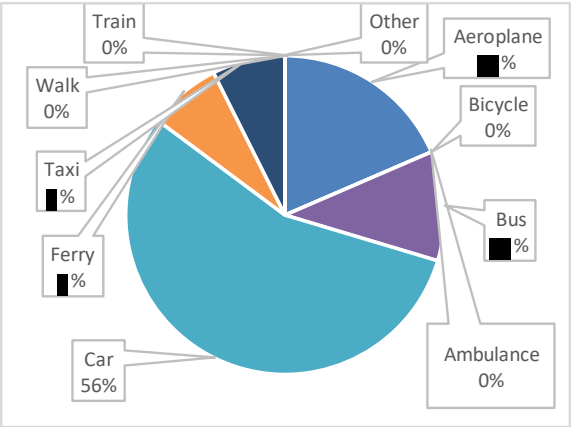
1. How far from the clinic in Glasgow do you live?



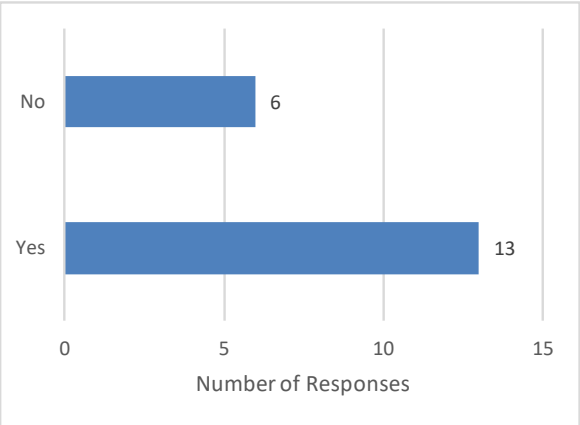


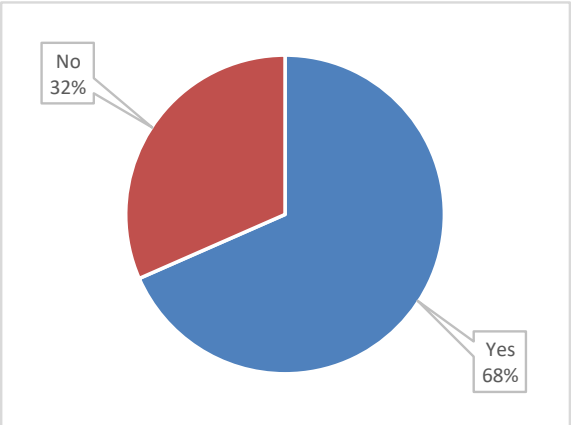
2. What mode(s) of transport would you normally use to come to the clinic? (choose as many as you like)



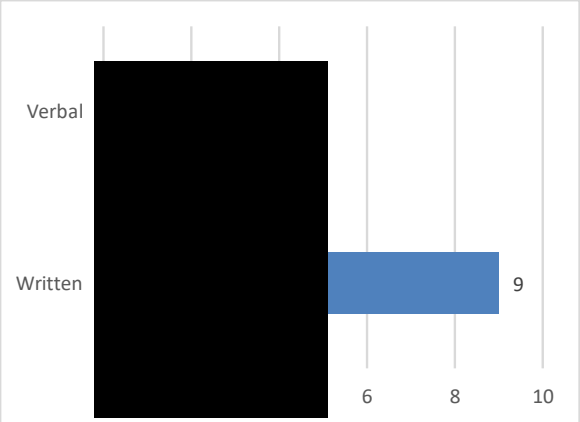


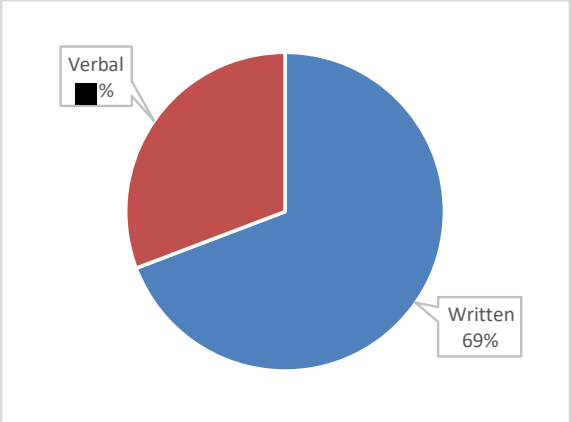
3. Were you provided with information on what would happen during the appointment?



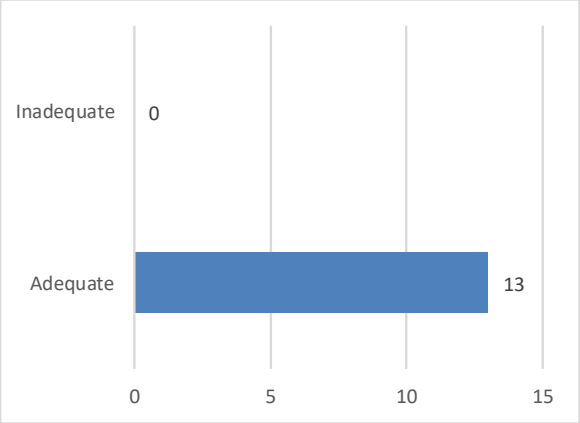


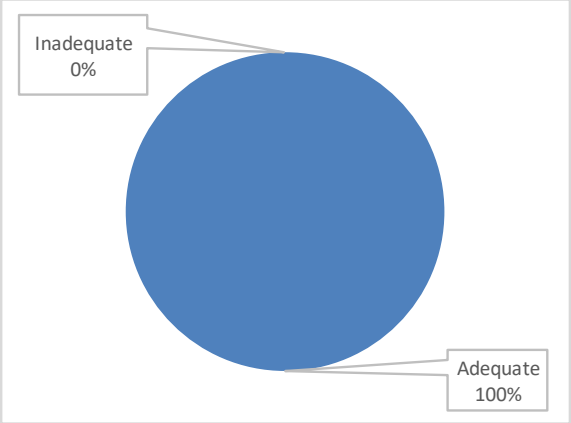
4. If you answered Yes to Question 3 was this information:



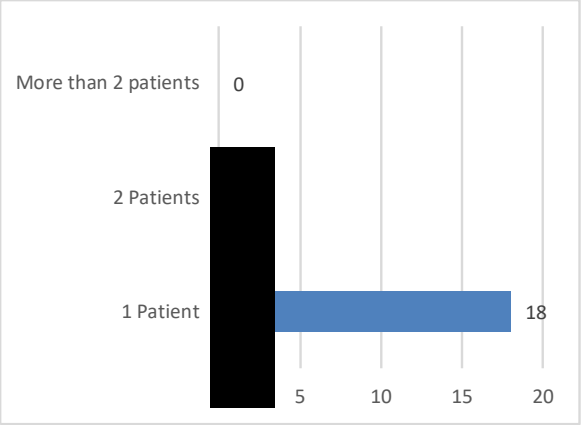


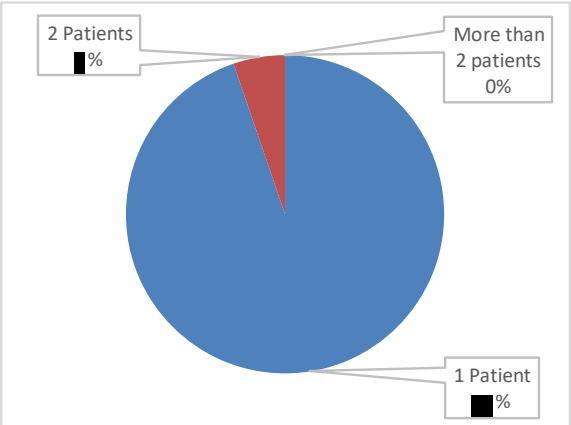
5. If you answered Yes to Question 3 was this information:



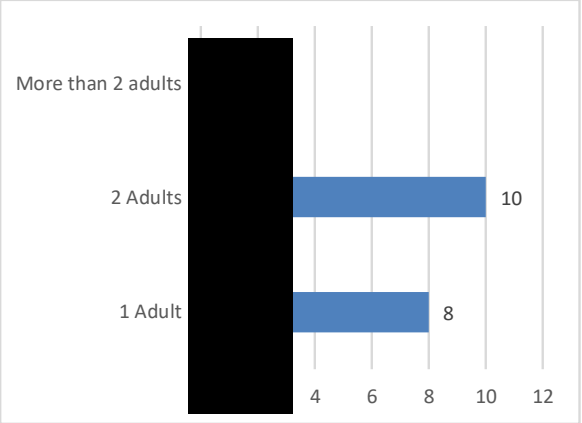


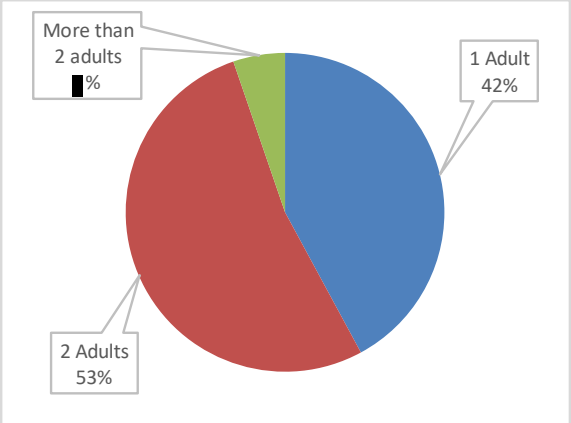
6. How many patients do you normally bring to the clinic?



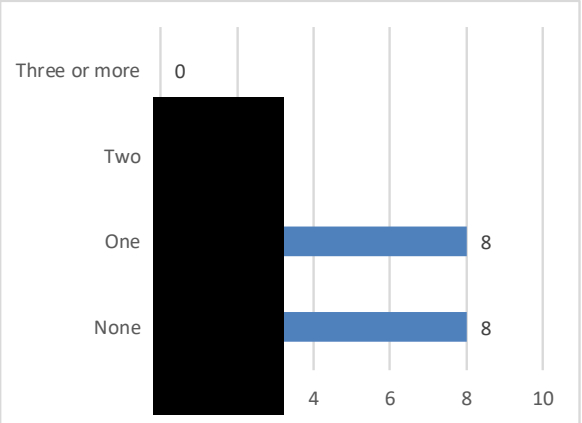


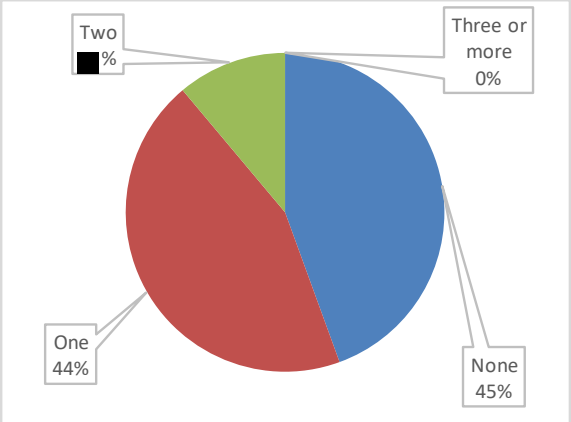
7. How many adults normally accompany the patient to the clinic?



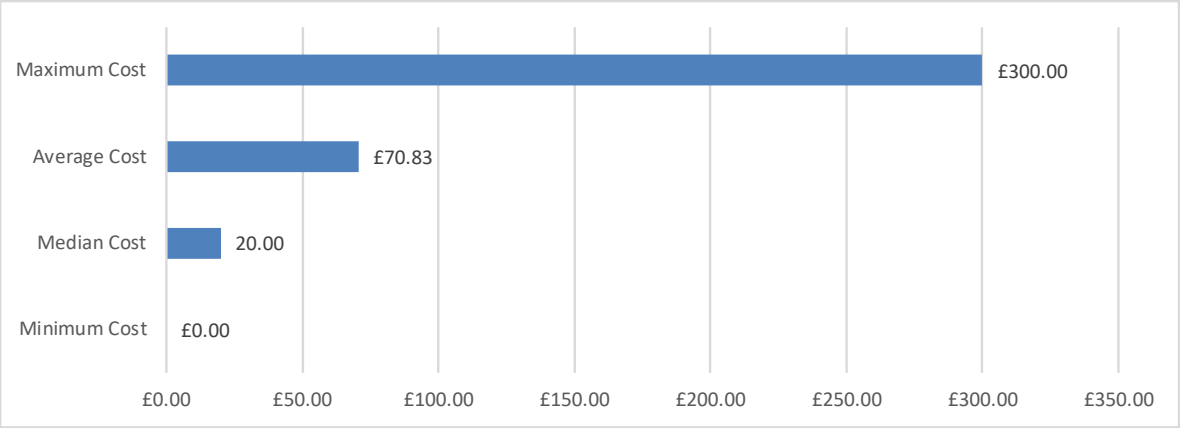


8. How many other children/siblings do you normally bring to the clinic?

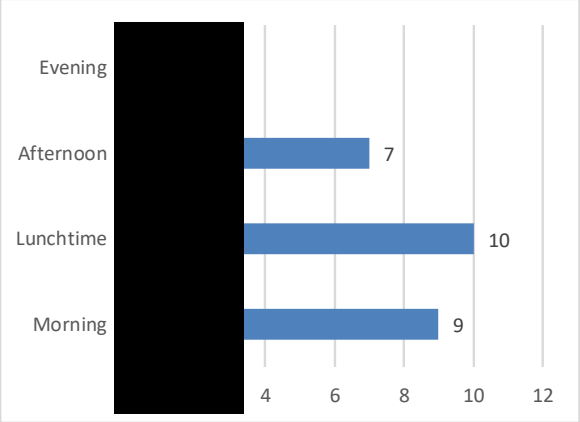


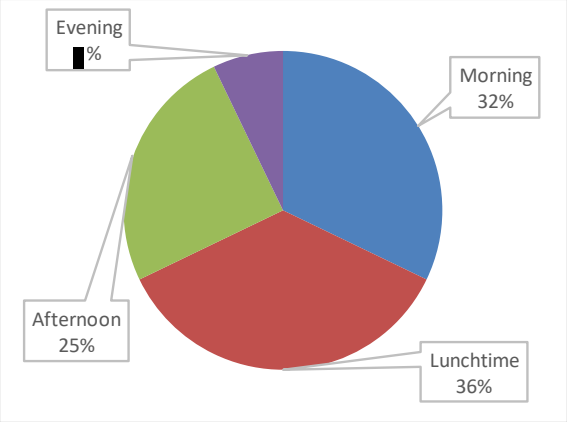


9. Approximately how much does it cost you to attend the clinic? (even if you claim expenses later)

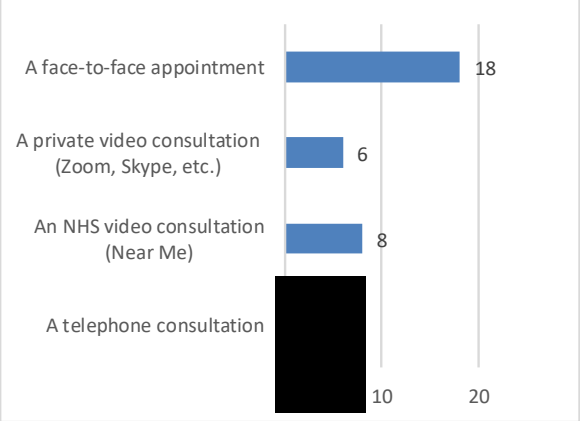


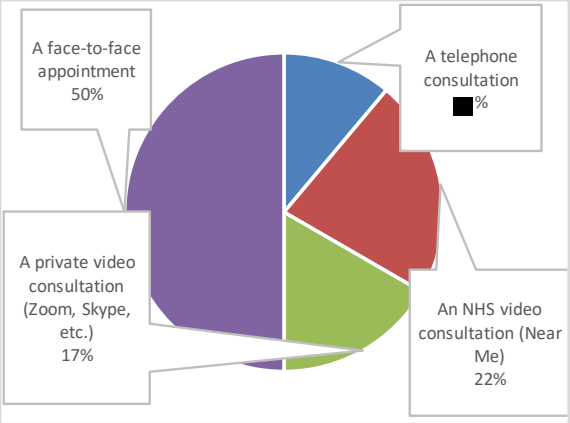
10. What time of day suits you best for the clinic? (choose as many as you like)



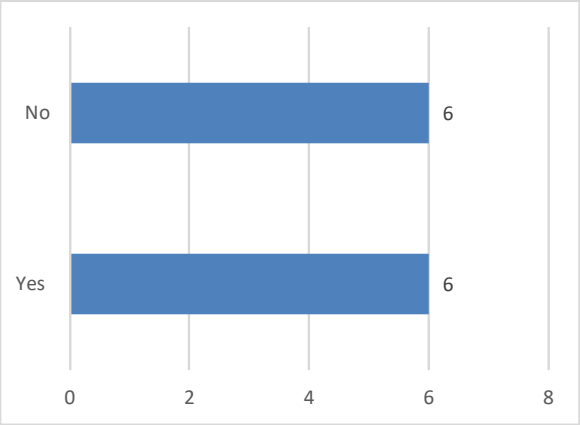


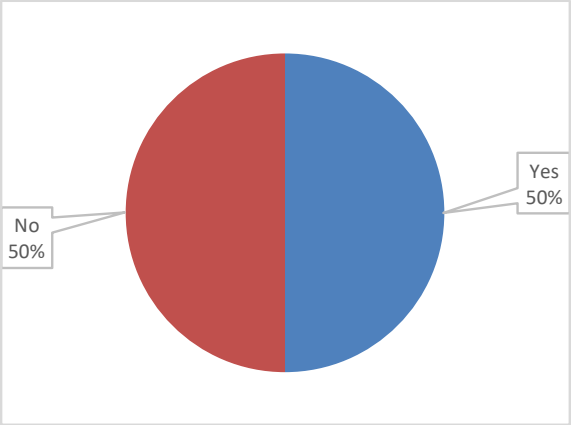
11. Which of these have been arranged for you? (choose as many as you like):



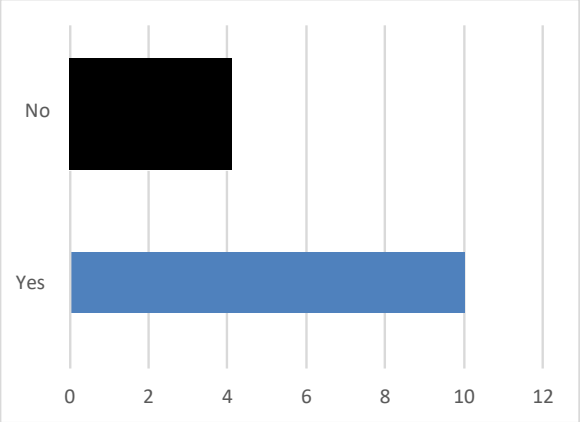


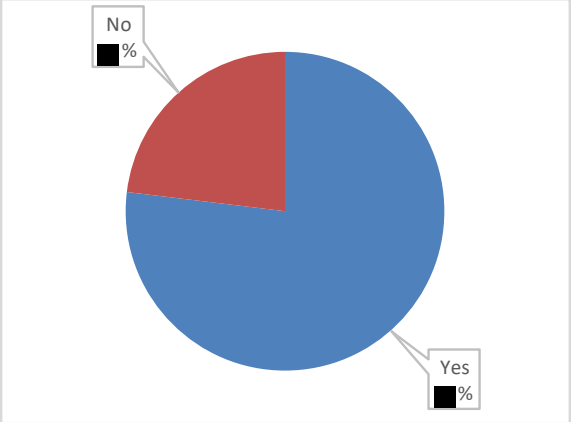
12. Did you find the telephone consultation useful?



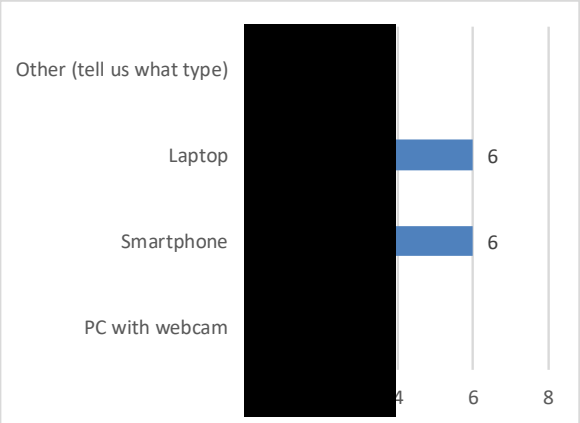


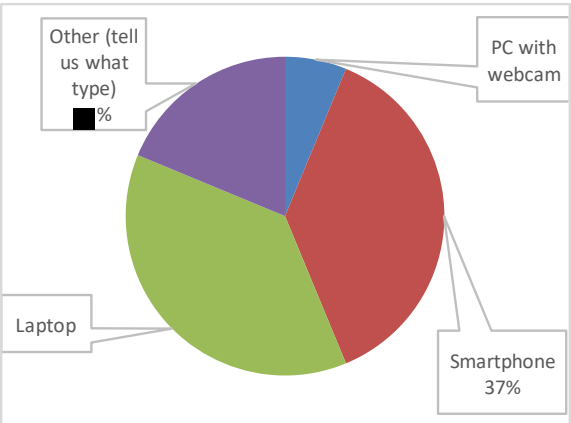
13. Did you receive written instructions on how to access the video consultation?





14. Which type of video device did you use? (choose as many as you like)

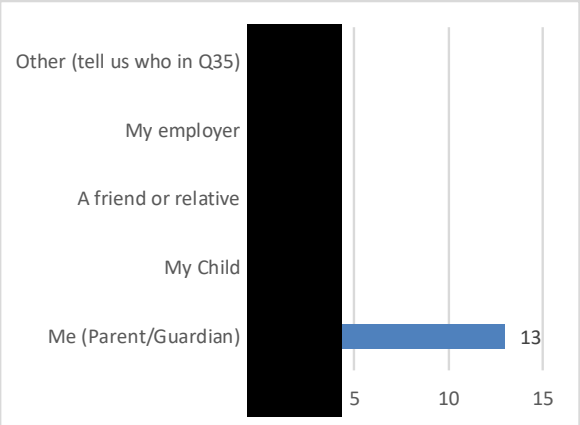


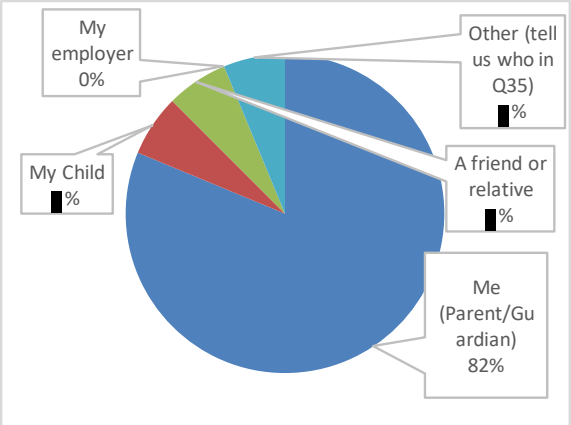


Note: Other (tell us what type):-

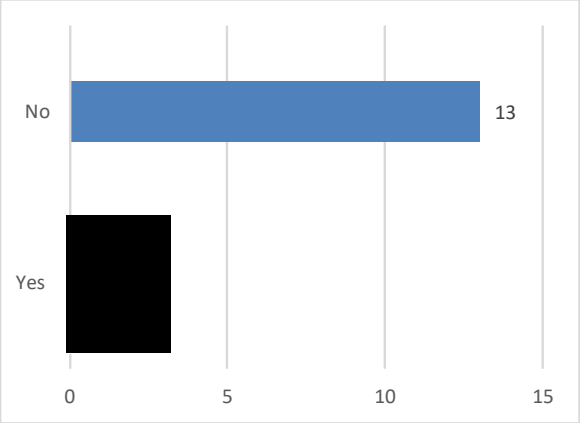
"iPad"

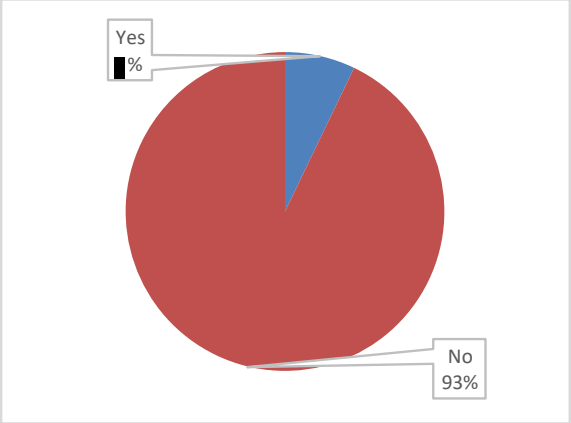
15. Who owns the video device you used?





16. Was the video consultation disrupted?

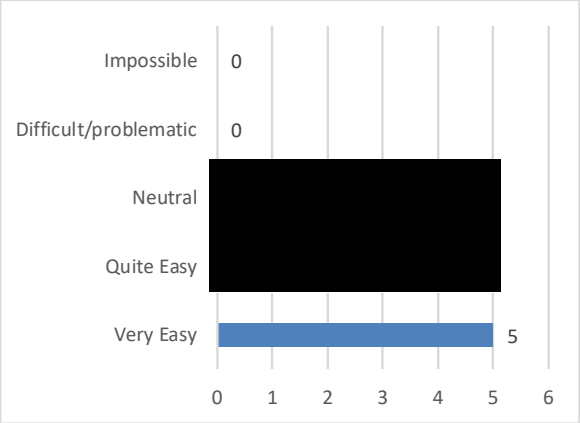


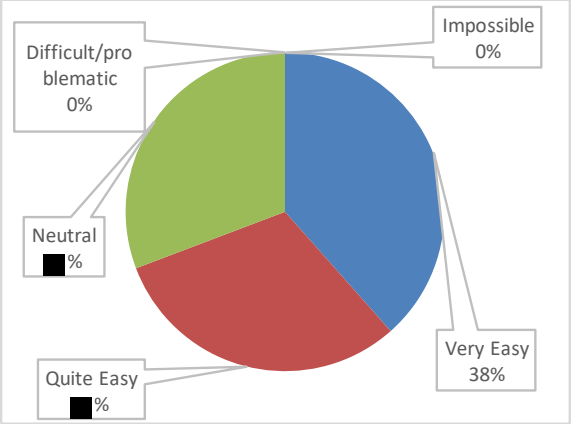


17. If you answered Yes to Q16 what happened?

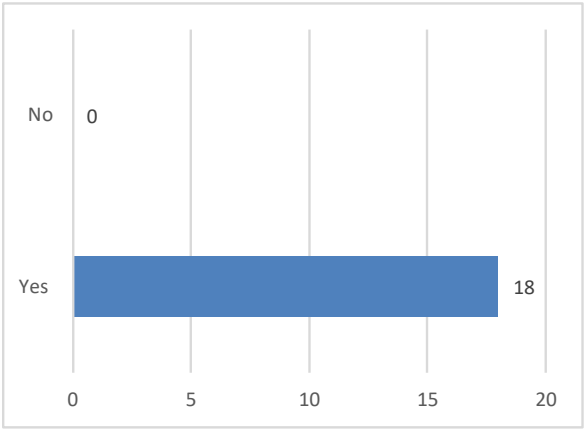
"Sound cut out a few times."

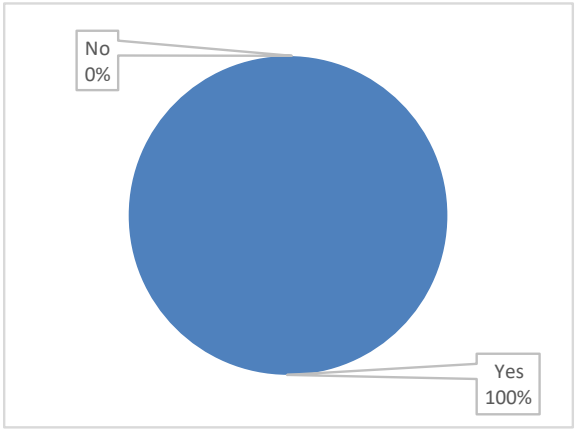
18. How easy did you find the video consultation?



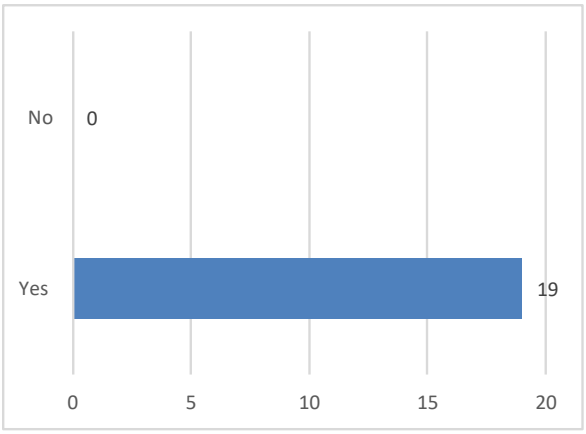


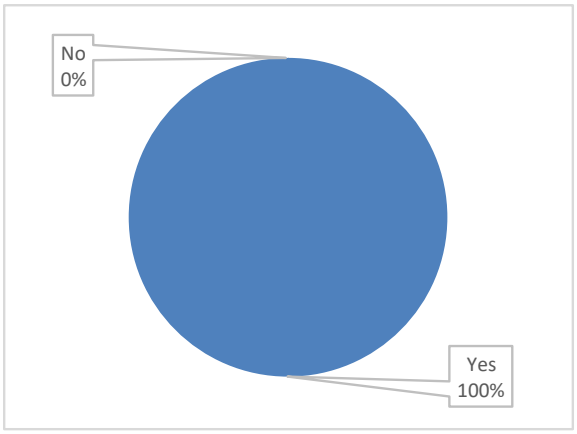
19. Do you feel that the Waiting Room was a suitable setting?



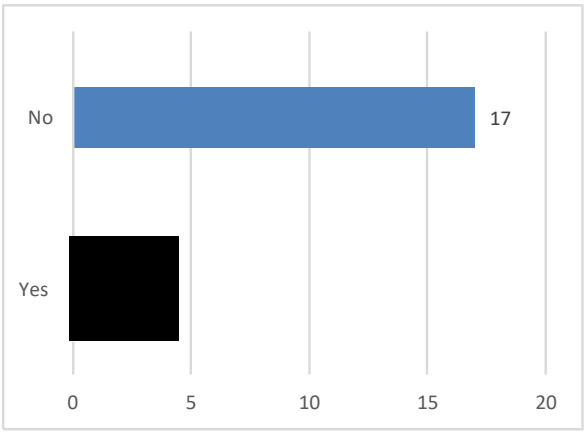


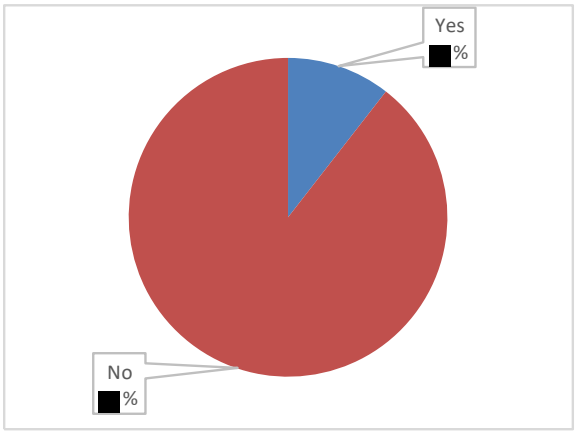
20. Were you introduced to the staff in your Clinic Room?



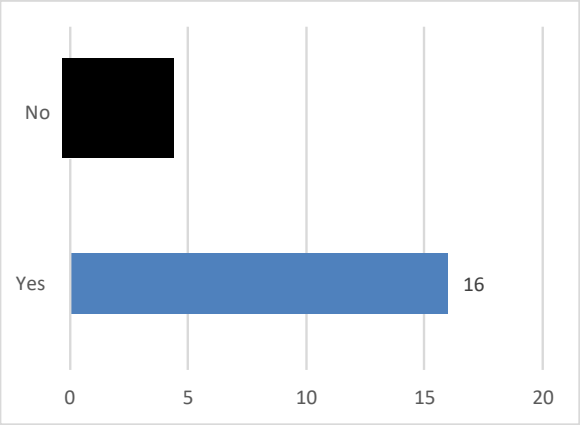


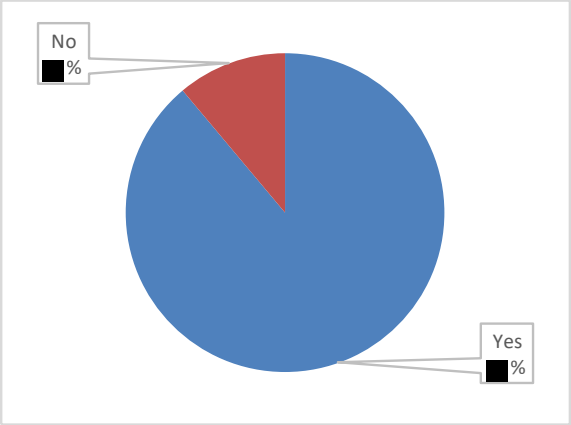
21. Were there too many individuals there at one time?



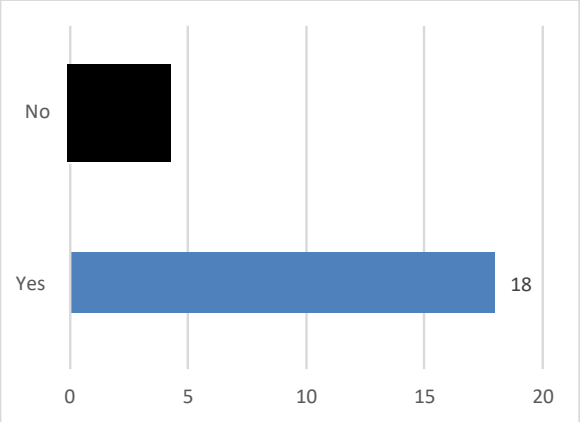


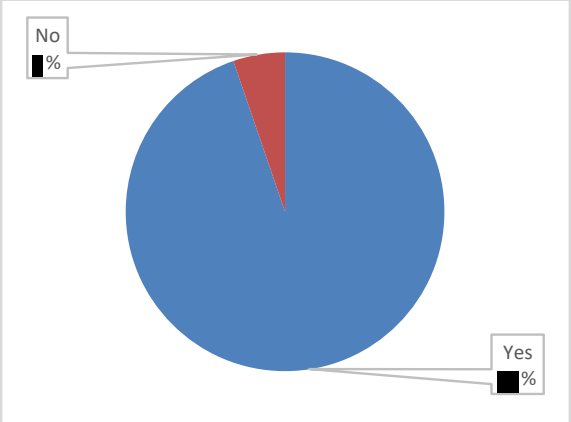
22. Did you feel that the Clinic Room was a suitable setting for the consultation and assessment of your child's



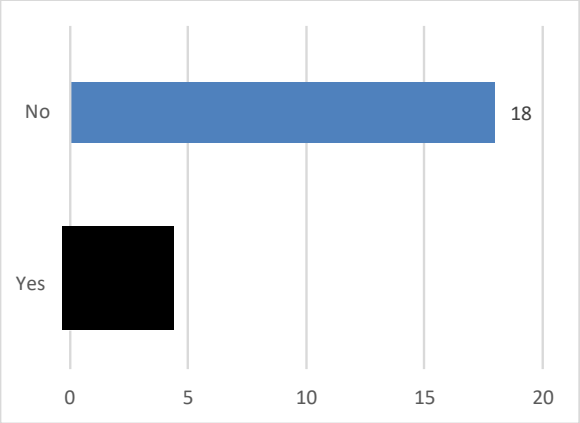


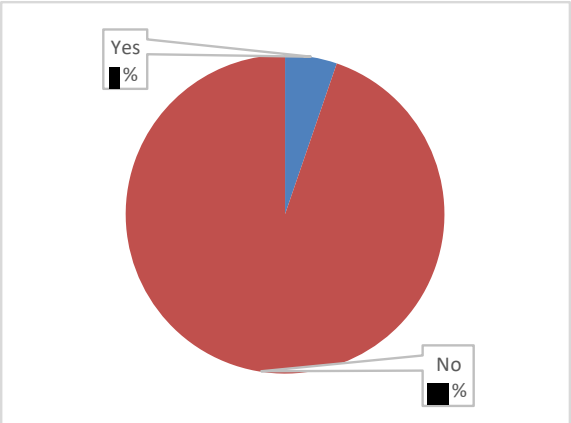
23. Did you have enough time to discuss your child's condition with the team members?





24. Have you ever decided not to attend an appointment?

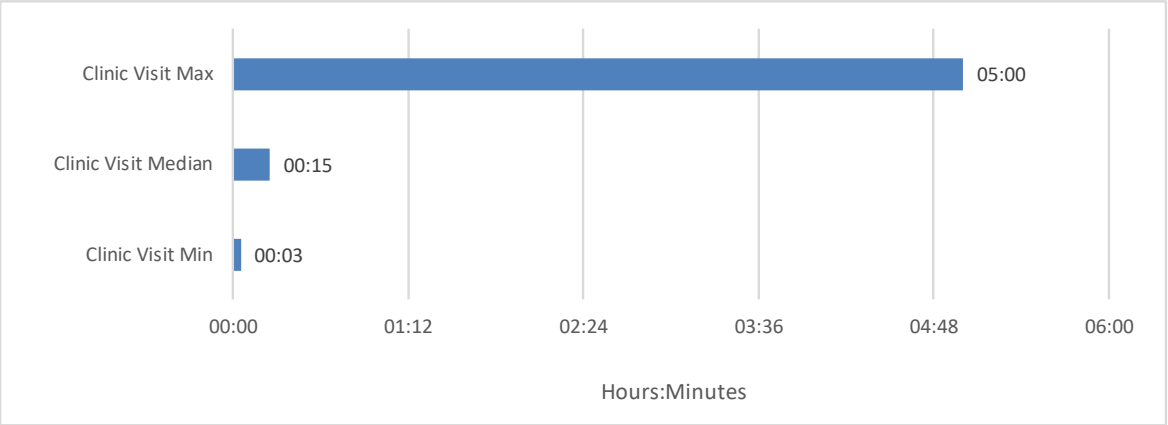




25. If you answered Yes to Q24 please tell us why:

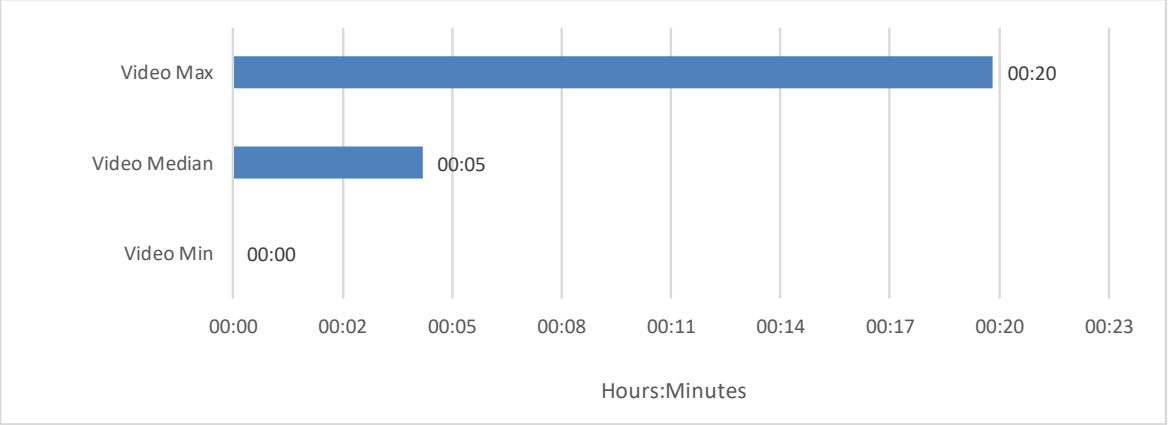
"Waste of time. The time and distance to travel through wasn't worth the 5 minute appointment"

26. When you arrived at the clinic, how long did you wait? (hours/minutes)

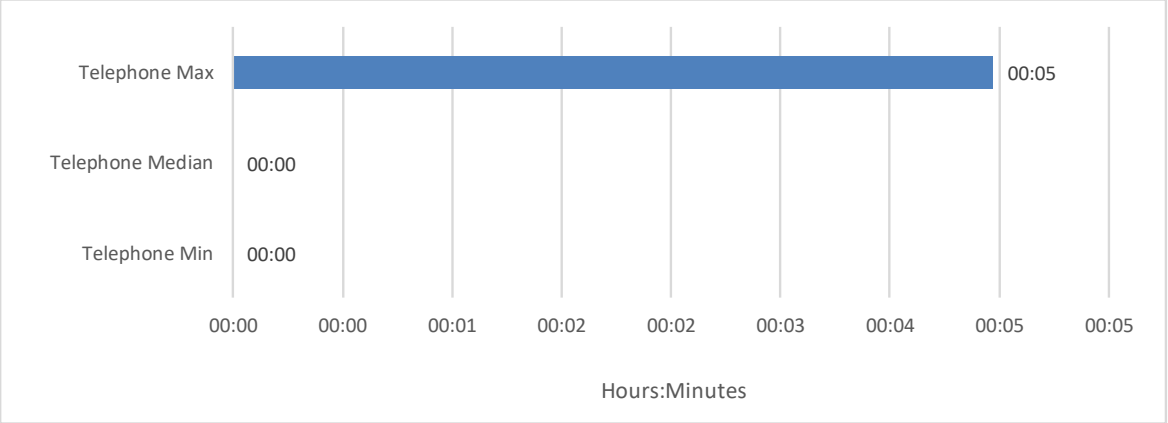


Note: Max time = 5 hours: see explanation in Q35.

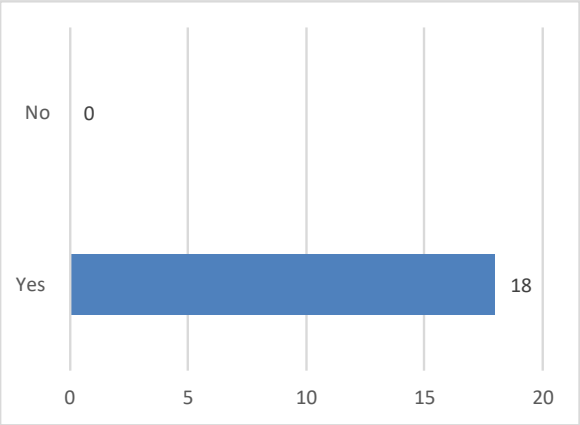
27. When logged in to a video call how long did you wait? (hours/minutes)

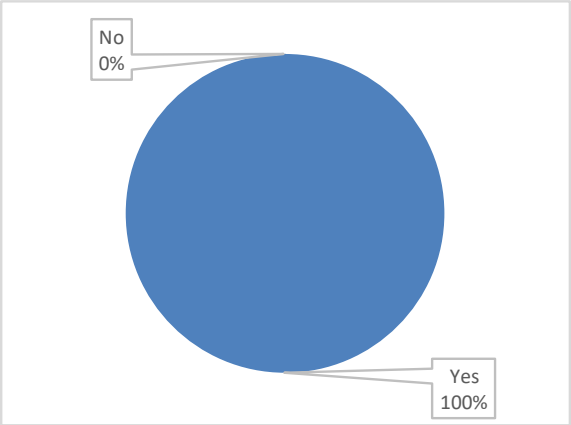


28. When you waited for a telephone consultation, how long did you wait? (hours/minutes)

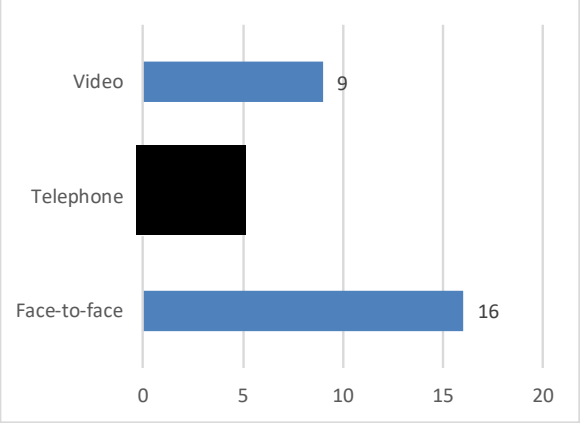


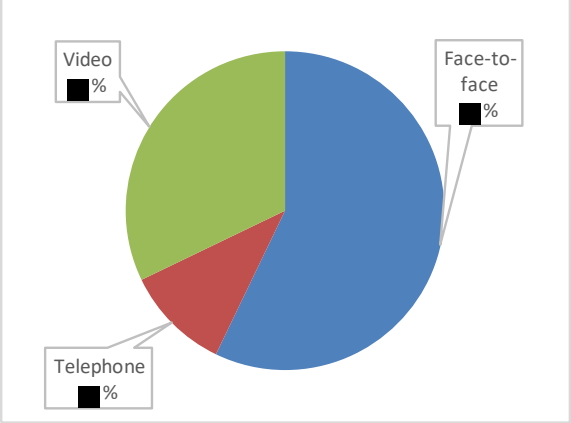
29. Did you have enough time to discuss your child's condition with the team members?



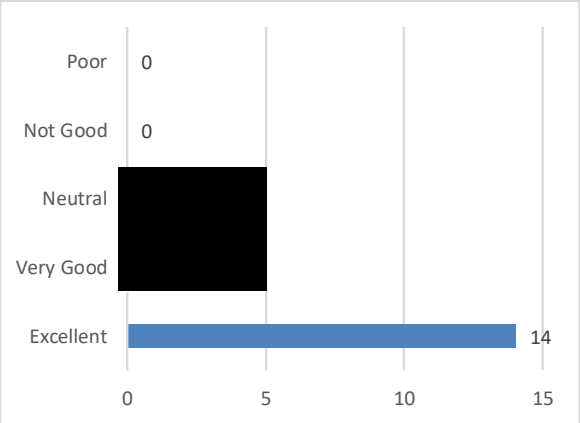


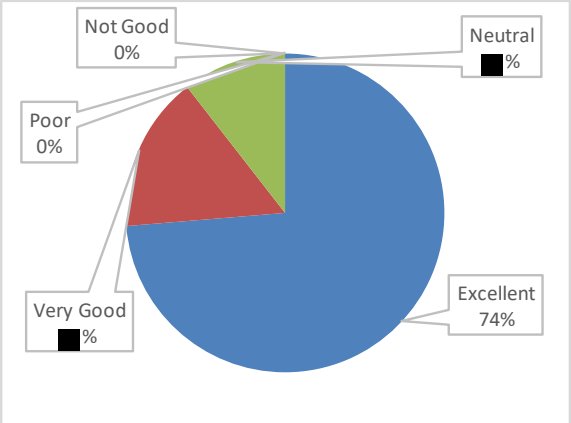
30. Which would you prefer for follow up in the future? (choose as many as you like)



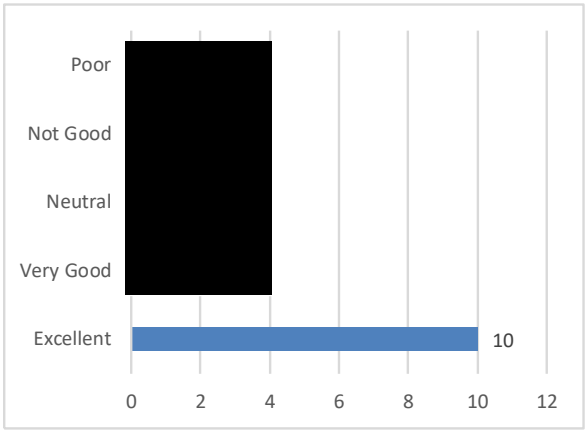


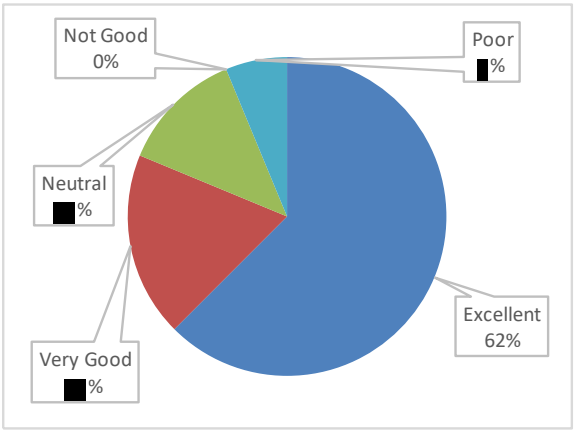
31. Overall how would you rate your care at the clinic?



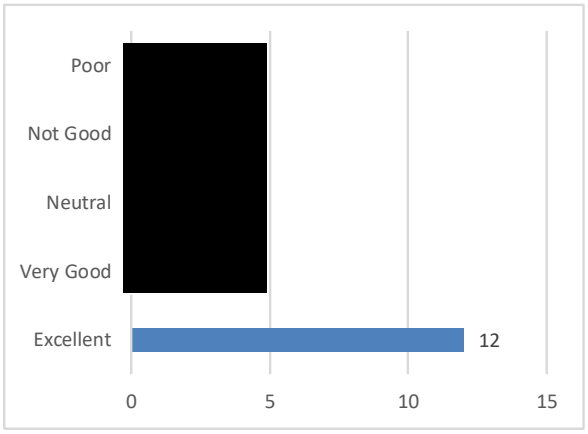


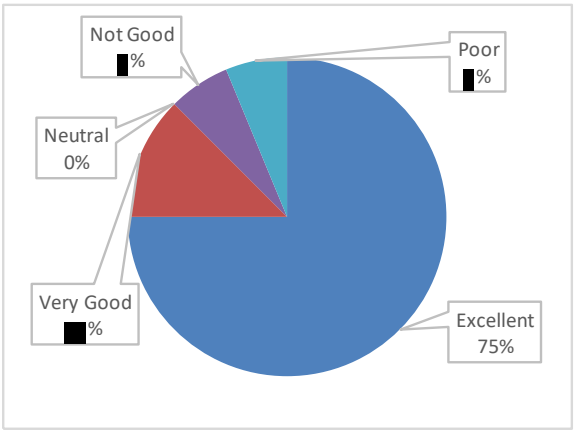
32. Overall how would you rate your child's care by Physiotherapy?



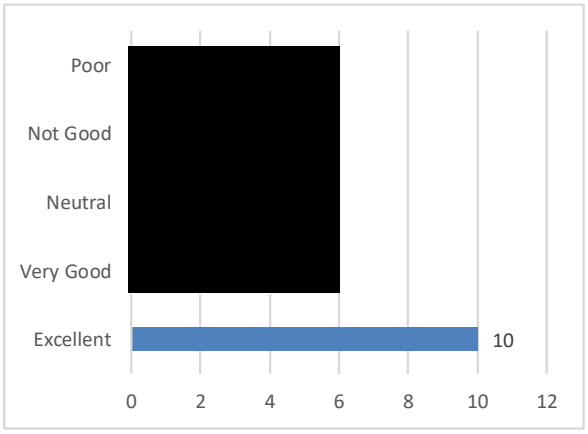


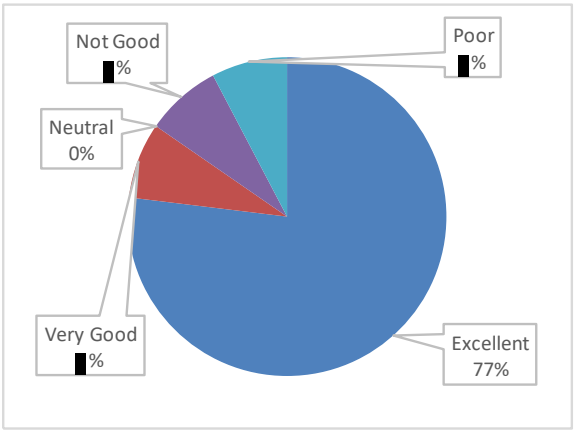
33. Overall how would you rate your child's care by Occupational Therapy?





34. Overall how would you rate your child's care by Psychology?





Note: one patient gave a consistently negative review across most questions, the rest were overwhelmingly positive.

35. Please add anything else you would like to tell us:

"I have a problem with booking a flight. It is 7 in the morning and my appointment is 1:30 in the afternoon. I wait for 5 to 6 hours, and my daughter is very distracted. After the appointment, I wait 3 hours for the taxi to pick me up, and at the airport sometimes 3 hours, very tiring."

"My child enjoys coming to the clinic. Although we travel from NI, she sees it as a bit of an adventure. The staff are all so good, and have the child at the centre of their care. Child appropriate descriptors are used for my child, and follow up reports are always sent in the post. I could not fault any of the team, from John in Booking to the consultants. Always a pleasure to visit and never feel rushed. Appointments are always made to suit us travelling a distance."

"The support we have received from all members of the team has been incredible. We are very grateful that they are always open to us contacting them if queries arise between appointments. It is also a huge benefit that multiple types of assessment and support (surgical, phyiso, OT, psychological) are provided at the one appointment, especially as we travel by plane to the appointments. My child also regularly comments after appointments that she appreciates that all members of the team speak directly to her, explain things clearly to her and ask if she has any questions."

Paediatric Physiotherapy

Role of Physiotherapy

- Attend consultant and therapy led clinics.
- Assess new babies/children referred to Physiotherapy with concerns of OBPP.
- Liaise with physiotherapists across Scotland and Northern Ireland regarding children with OBPP to feedback on clinic appointments and offer advice to local therapy teams. The paediatric specialist physiotherapist regularly receives and responds to emails from other paediatric physiotherapists regarding the management of children with brachial plexus injuries.
- Receive some new referrals to the brachial plexus service from other physiotherapists and ensure they are passed on to the other team members for vetting and appointing.
- Promoting early intervention of babies born with OBPP by ensuring early referral to Physiotherapy from the maternity hospitals. This is also coordinated through the service administrator who ensures all new referrals are also emailed to Physiotherapy.
- Ensure new referrals to the service are either appointed in Physiotherapy at RHC Glasgow or emailed to local paediatric physiotherapy services.
- Continue to educate physiotherapy staff and students in the role of physiotherapy in OBPP.

Susan Leiper, highly specialist paediatric physiotherapist, continued to work in conjunction with Heather Farish, Team Lead Paediatric Physiotherapist at the paediatric brachial plexus clinics up until she started her maternity leave in Feb 2024. Susan was able to staff these clinics independently to cover annual leave which was a great benefit to the service, ensuring physiotherapy cover at every clinic. This aims to ensure all clinics can be covered by a physiotherapist with the relevant skills and allows for succession planning. Since Susan has started her maternity leave, Heather now has Helen Taylor, specialist paediatric physiotherapist working alongside her at clinics, ensuring knowledge of obstetric brachial plexus injuries continues to be passed on to other members of the physiotherapy team.

Patient Numbers

The following table shows the patient numbers seen by physiotherapy during the year 2023/2024 either in the consultant lead clinic, at independent physiotherapy appointment, or at the therapy lead clinic:-

	Consultant clinic	Physiotherapy	Therapy clinic
New	8	9	0
Return	27	[redacted]	21
Health Board	11 GGC 6 Lanarkshire [redacted] Tayside 6 Lothian 6 Northern Ireland [redacted] Forth Valley [redacted] Ayrshire [redacted] Highland	All GGC	9 GGC [redacted] D&G [redacted] Grampian [redacted] Lanarkshire [redacted] Lothian [redacted] England & Wales [redacted] Northern Ireland

The physiotherapy patients are from GGC as this is the health board the paediatric physiotherapy service at RHC covers. Brachial plexus patients in other health boards will usually be seen within that health board's paediatric physiotherapy service, but advice is available from the specialist physiotherapists in Glasgow. Patients from all health boards

can access specialist physiotherapy at the consultant and therapy led brachial plexus clinics.

Comparative Data

Numbers of Patients Seen by Physiotherapy				
		2023/24	2022/23	2021/22
Consultant Clinic	New	8	12	14
	Return	27	32	54
Physiotherapy	New	9	9	12
	Return	[redacted]	16	10
Therapy Clinic	New	0	0	0
	Return	21	25	31

Therapy Led Clinic

The therapy led clinic continues to run well. This clinic allows longer appointment times for additional assessment/management strategies to be discussed with families. Outcome measures of the child's range of movement are completed by Physiotherapy at this clinic and comparisons made between previous clinics, therefore allowing a discussion to take place around increasing their therapy or organising a sooner appointment at the consultant clinic. It also allows joint working between Physiotherapy, Occupational Therapy and Psychology ensuring that families can access all services within the one appointment.

Paediatric Occupational Therapy

Occupational Therapy Report for the OBPI service

Nicola Hart (Clinical Specialist Occupational Therapist) has continued to perform the requirements of the Obstetric Brachial Plexus Injury specialist post.

Role of Occupational Therapist

- Accept referrals of appropriate new cases of OBPI, undertake assessment, initiate therapy, and advise parents and local services on initial management.
- To forward details to surgical staff in a timely and appropriate manner, and to highlight severe cases for early review.
- To interact with patients and their parents in order to optimise stretching exercises, play, positioning, moving and handling.
- To promote sensory input, and functional incorporation of the affected upper limb in the first years of life, then to assess for functional milestones and provide aids and interventions as required to optimise the use of established limb and hand functions.
- To monitor and review the patients' progress and their supportive care as provided by parents and local therapy services, including range of movement and functional assessments.
- To liaise with local therapy services involved in patient care, and with schools where appropriate.

Therapy led Clinic

The therapy-led clinic (TLC) continues to have collaborative input from Physiotherapy, Occupational Therapy and Clinical Psychology. The clinic continues to provide an excellent opportunity for AHP and medical students to attend and observe multidisciplinary working.

The brachial plexus outcome measure (BPOM) which is universally used in line with other services in the UK and Europe continues to be used within the consultant-led (CLC) and therapy-led clinics. This provides an initial basis for discussion with the patient/families and appropriate measurements of the affected upper limb can be completed and uploaded onto the patient's portal notes. If there are changes in the patient's range of movement then these are discussed further in line with how it may affect their participation in activities of daily living.

International Collaboration

The Brachial Plexus International AHP Group (BPI NAHP Group) continues to meet annually. Both Nicola Hart and the adult service physiotherapist (Andrea Shaarani) attended this meeting in September in Stockholm (*agenda in Appendix*). We had the opportunity to present the Scottish OBPI service to our international therapists, and share best practice. There is an established WhatsApp group involving 31 international Physiotherapists and Occupational Therapists.

The Scottish OBPI service is part of a proposed study with the **BRITISH PAEDIATRIC SURVEILLANCE UNIT** on incidence and severity of BPBI (brachial plexus birth injury) in the UK. This study is waiting for funding but it has completed the first phase. Recent work by the service has shown a reduction in incidence of severe cases in Scotland. The proposed study should give information on the situation across the UK.

Patients seen by Occupational Therapist at CLC or TLC

Under 5 years – 12
6-10 years – 20
11-16 years – 30

Therapy-Led Clinic (TLC)

The therapy led clinic continues to run well. This clinic allows longer appointment times for additional assessment/management strategies to be discussed with families. It also allows joint working between Physiotherapy, Occupational Therapy and Psychology ensuring that families can access all services within the one appointment.

As noted above (Physiotherapy) the activity levels should be interpreted in the context that many children are seen by the therapy team at the consultant lead clinics or at other times.

Patients Appointed to the Therapy-Led Clinic (TLC) by Health Board							*% Population of Scotland & N Ireland*	*Actual Population of Scotland & N Ireland**
	2023/24	% of total	2022/23	% of total	2021/22	% of total		
Ayrshire and Arran	**0**	*0.0*	[redacted]	*3.6*	**0**	*0.0*	*5.0*	*367,990*
Borders	**0**	*0.0*	**0**	*0.0*	**0**	*0.0*	*1.6*	*115,240*
Dumfries and Galloway	[redacted]	*4.8*	[redacted]	*3.6*	[redacted]	*5.4*	*2.0*	*148,290*
Fife	**0**	*0.0*	**0**	*0.0*	**0**	*0.0*	*5.1*	*374,130*
Forth Valley	**0**	*0.0*	[redacted]	*3.6*	[redacted]	*5.4*	*4.2*	*305,930*
Grampian	[redacted]	*9.5*	[redacted]	*3.6*	[redacted]	*8.1*	*8.0*	*585,550*
GG&CHB	**9**	*42.9*	**13**	*46.4*	**19**	*51.4*	*16.1*	*1,185,240*
Highland	**0**	*0.0*	**0**	*0.0*	**0**	*0.0*	*4.4*	*320,860*
Lanarkshire	[redacted]	*9.5*	[redacted]	*10.7*	[redacted]	*5.4*	*9.0*	*661,960*
Lothian	[redacted]	*14.3*	[redacted]	*10.7*	[redacted]	*10.8*	*12.4*	*912,490*
Orkney	**0**	*0.0*	**0**	*0.0*	**0**	*0.0*	*0.3*	*22,400*
Shetland	**0**	*0.0*	[redacted]	*3.6*	**0**	*0.0*	*0.3*	*22,870*
Tayside	**0**	*0.0*	**0**	*0.0*	**0**	*0.0*	*5.7*	*416,550*
Western Isles	**0**	*0.0*	**0**	*0.0*	**0**	*0.0*	*0.4*	*26,500*
England & Wales	[redacted]	*4.8*	**0**	*0.0*	**0**	*0.0*	*0.0*	-
Northern Ireland	[redacted]	*14.3*	[redacted]	*14.3*	[redacted]	*13.5*	*25.7*	*1,895,510*
Total:	**21**	*100.0*	**28**	*100.0*	**37**	*100.0*	*100*	*7,361,510*

**Sources: 2020 mid-year estimates. www.nrscotland.gov.uk & www.nisra.gov.uk . Patients from England are not regularly seen at this clinic.*

Attendance at Therapy-Led Clinic			
	2023/24	2022/23	2021/22
Under 5 years	[redacted]	[redacted]	15
5 to 10 years	[redacted]	7	12
10 to 16 years	12	16	10
Did not attend	[redacted]	8	7

Clinical Psychology

Dr Sarah McFarline (Principal Clinical Psychologist)

Clinical Psychology has provided 0.2 WTE (one day per week) NSD funded resource dedicated to and ring-fenced for the Obstetric Brachial Plexus Injury Service since the psychology service began in July 2018. Planning for the Clinical Psychologist's role in the service is outlined in the Annual Report 2017- 18.

Over the past 12 months, the focus of the service delivery has continued to be a strong MDT approach, offering consultation and brief, psychoeducation within the clinic setting. The Psychologist has continued to work within the MDT, and has carried out targeted interventions, alongside preventative, early intervention work within the consultant-led and therapy-led clinics. Service delivery has primarily been face-to-face, however, the ability to use VC technology has continued to benefit this patient population, allowing some interventions to occur with patients based in Northern Ireland (for example supporting preparation for surgery). As such, there is still a significant benefit to having VC technology as an option; to enable geographical equity when accessing Specialist Psychology provision, rather than referring to local Psychology services.

Quantitative Data

Patients seen by Clinical Psychology at either the consultant-led or therapy-led clinics April 2023 to March 2024:-

Patients Seen by Psychology at CLC or TLC			
	2023/24	2022/23	2021/22
Under 5 years of age	19	17	26
6 to 10 years of age	19	17	16
11 to 16 years of age	16	19	11

There have also been 32 one-to-one Psychology appointments offered. The following table shows the geographical spread of these sessions:-

Health Board	No. of patients	No. of sessions
NHS Ayrshire	[redacted]	1
NHS Fife	[redacted]	3
NHS Forth Valley	[redacted]	6
NHS Greater Glasgow & Clyde	[redacted]	3
NHS Highland	[redacted]	2
NHS Lothian	[redacted]	4
Northern Ireland	[redacted]	5

Current Work

MDT Clinics

Psychology presence at the OBPI clinics has continued to be important in terms of providing early intervention, brief targeted psychoeducation to patients and families. It has also allowed families to meet the Psychologist and gather information about this aspect of the service, before being referred for one-to-one input. Research has shown that there are a number of risk factors for distress in relation to OBPI (negative coping

strategies, pain, social difficulties and challenges with upper limb function and daily activities) and protective factors (self-determination; Ho et al. 2022). These are areas which are thought about during an initial assessment with a family, alongside parental distress (Azhar, Habib & Saeed, 2022).

Outcome Measures

Utilising a standardised questionnaire within the clinic setting would allow the collection of data focused around psychosocial factors. This would facilitate screening for distress, but would also allow the collection of a data set that may be helpful in the future for audit or research purposes.

Utilising a quality of life measure, such as the Pediatric Quality of Life Inventory (PEDSQL) would allow health-related quality of life to be measured. This measure has been suggested by Brown, Van der Looven & Pondaag (2024) in order for all specialist services supporting children and adolescents with OBPI to standardise their data-set to allow for continuity across services. The Psychologist is currently in discussion with the wider team about adding this to the standardised screening at clinics.

Future Work

- As mentioned, psychology is an embedded part of OBPI clinics, where families can meet and psychology input can be discussed. It has been noted that clinic appointments can often involve a number of professionals which can feel overwhelming for some. It seems it would be helpful to develop a Psychology information leaflet, which could be given to parents at this first meeting and would provide information on how to get in touch to arrange a more detailed assessment appointment.
- Previously the therapy team had felt it would be helpful to develop a pre-teen brochure written by the MDT to provide information and support around treatment, adherence and education around this developmental stage. This task will be carried forward for 2024.
- It would be helpful to carry out a scoping exercise to find out if we can provide additional support during a number of key time-points, such as at diagnosis, pre-teen and when young people are transitioning to adult services.

Administration

Overview

Administrative duties for both the adult and children's services are provided by the service administrator based at the New Victoria Hospital in Glasgow, with access to offices and clinics at the Royal Hospital for Children and the Queen Elizabeth University Hospital.

The service administrator's main duties include: setting up clinics on the NHS TrakCare system; receiving and processing new referrals to the service; adding patients to the in-house MS Access database; creating an electronic record for new patients on the TrakCare system and appointing to the appropriate clinic as required; monitoring clinic attendance and booking review appointments as necessary; liaising with all members of the brachial teams in relation to patient reviews; gathering and recording clinical and attendance data for each patient for the database; providing monthly activity reports to NHS National Services Division (NSD); updating, monitoring and improving the service website; providing administrative support to the department of Trauma and Orthopaedics as required; collating year-end activity data for annual service reports; all other day-to-day ancillary administrative duties.

Clinics

Adult OBPI clinics, for patients over sixteen years of age, are run by the adult service normally twice per year at the New Victoria Hospital (*see the adult service report for activity levels*). Children's OBPI clinics take place at the Royal Hospital for Children in Glasgow, usually once per month. Outreach clinics in Aberdeen encompassing both the adult and children's services are organised by the service administrator up to twice per year.

Near Me/Attend Anywhere Virtual Appointments

Children's brachial plexus clinics continue to combine virtual video or telephone consultations alongside face-to-face consultations. Virtual reviews can be beneficial for families who would normally travel long distances to attend the clinic in Glasgow.

Requirements for face-to-face versus virtual appointments are closely monitored by the service administrator and clinic templates are adjusted accordingly. During the year 2023/24 107 patients were seen face-to-face. 20 were reviewed remotely with the vast majority of these being seen by video.

Virtual v Face-to-face Appointments			
	2023/24	2022/23	2021/22
% Face-to-face	85.4	82.7	67.0
% Telephone	0.5	0.6	1.0
% Video	14.1	16.8	32.0

The benefits of accessing virtual consultation systems has been highlighted by both patients and staff, particularly for patients in outlying areas and in Northern Ireland. Virtual appointments will continue to be offered alongside face-to-face appointments in the longer term.

Service Website (www.brachialplexus.scot.nhs.uk)

The service website is a useful resource for clinicians and patients alike and is regularly monitored and updated by the service administrator. Patients can access various resources via the website including general information on the nature and treatment of brachial plexus injury, links to outside resources and support groups, and contact details for the service. Clinicians use the website to access referral forms and guidelines, and to contact the service.

Database

The children's service database is maintained by both the administrator and the lead consultant. It is under constant revision and is a primary resource in facilitating reporting and service developments. Data from all clinics is gathered and recorded both in the electronic patient record (EPR) and on the service database for future clinical and reporting purposes. The administrator endeavours to gather this data within seventy-two hours of clinic attendance thus keeping available clinical information as current as possible.

Electronic Patient Record (EPR)

Clinical data is recorded electronically on the clinical portal via electronic forms which went live in September 2020. This enables quicker and more accurate data gathering for the service, enhanced security, less pressure on staff resources and the elimination of the need to manually scan paperwork into the EPR. Clinicians can input the data at source (i.e. during a clinic appointment) into the patient's electronic record. This data is then retrieved remotely by the service administrator.

Electronic Patient Satisfaction Survey Form

Patient satisfaction surveys are carried out every two years. Obtaining patient feedback is a challenge particularly for the children's service with families living as far afield as Northern Ireland and the highlands of Scotland, and having limited time to fill out paper forms while at the clinic. With this in mind the service administrator created an electronic survey form using Microsoft Forms. The electronic form is available all year round via the service website and highlighted to patients via appointment letters and at clinic appointments.

Shortened URL: https://forms.office.com/e/FA9AHtBTpr

5. Governance and Regulation

5.1 Clinical Governance

The brachial plexus team holds regular multidisciplinary meetings before or after clinics to discuss developments and any problems with the service.

Local governance reports for the Paediatric Orthopaedic Service are submitted monthly; incidents are reported, investigated and reviewed. Information is then passed to the quarterly Paediatric Orthopaedic GG&C Clinical Governance meetings and relevant information then passed to the GG&C groups attended by senior management.

No significant governance issues have been identified through these mechanisms during 2023/24.

5.2 Risks and Issues

No adverse events arose during 2023/24.

5.3 Adverse Events

The service uses existing Greater Glasgow & Clyde thresholds for instigation of adverse event reporting and investigation, plus online reporting systems.

No adverse events have been reported to occur during the period 2023/24.

5.4 Complaints and Compliments

The GG&C policy on complaint handling is followed. There have been no complaints relating to the Children's Brachial Plexus Injury Service during 2023/24. Compliments are directed specifically to the service providers.

5.5 Equality

The Scottish National Brachial Plexus Injury Service complies with NHS rules on Equality & Diversity in the appointment of staff. Similar care is taken in providing equal care standards to patients and relatives. Appropriate use of interpreters and awareness of cultural, ethnic and religious practices in regard to examination and interaction with parents is facilitated.

Staff have completed required LearnPro modules, as set by NHS GG&C (Module 004: Equality, Diversity & Human Rights).

6. Financial reporting and workforce

NHS Greater Glasgow & Clyde		Actual Activity	4
Women & Children's Directorate		Projected Activity	4
Obstetric Brachial Plexus		Contract Activity	10
Twelve Month Report: 23/24			
		Contract Type	C&V

	Full Year Funded Value Of Agreement £	Twelve Month Funded Value Of Agreement £	Actual Outturn As At 31st March 2024 £	Variance £	Projected Full Year Outturn £
FIXED					
Nursing/PAM	92,913	92,913	92,913	0	92,913
Medical	12,978	12,978	13,204	-226	13,204
Other direct	59,112	59,112	59,112	0	59,112
Indirect	18,609	18,609	18,827	-218	18,827
Capital charges	58	58	58	0	58
Total Fixed	183,670	183,670	184,115	-445	184,115
VARIABLE					
Pharmacy	5,767	5,767	2,356	3,411	2,356
Travel & Training	2,415	2,415	987	1,428	987
Total Variable	8,182	8,182	3,343	4,839	3,343
TOTAL	**191,852**	**191,852**	**187,458**	**4,394**	**187,458**

7. Audit & Clinical Research / publications

Tim Hems

Research

Editor, Journal of Hand Surgery, European Volume.

During the year there has been ongoing observation and analysis of the numbers and severity of OBPI cases among children born in Scotland. It is planned to continue this work.

Presentations

Archie Todd-Hems, Tim Hems. Obstetric brachial plexus injury in Scotland: Incidence over 16 years. 23rd November 2023, British Society for Surgery of the Hand, Autumn Meeting, Glasgow.

Archie Todd-Hems, Tim Hems. Obstetric brachial plexus injury in Scotland: Incidence over 17 years. Glasgow Meeting of Orthopaedic Research, 8th March 2024.

Publications

Hems T, Todd-Hems A. Obstetric brachial plexus injury in Scotland: Incidence over 16 years. Short report, Journal of Hand Surgery (European Volume). 2023, 48: 668-9.

Tim Hems, Antonina Parafioriti, Binu P Thomas, Andrea Di Bernardo. An algorithmic approach to the management of peripheral nerve tumours. Journal of Hand Surgery (European Volume). 2024 Mar 27:17531934241238739. doi: 10.1177/17531934241238739. Online ahead of print.

Tim Hems. Chapter. Principles of nerve injuries and their management. In: Rockwood and Greens' Fractures in Adults, 10th edition. Edited by Paul Tornetta III, William M. Ricci, Margaret M. McQueen, Charles M. Court-Brown, and Michael D. McKee, Lippincott Williams and Wilkins, Philadelphia. In press.

Leila Harhaus, Esther Vögelin, Tim Hems. Chaper. Nerve repair and reconstruction: updated methods. In: Current treatment concepts in hand surgery. Edited by Jin Bo Tang. Elsevier. In press.

8. Looking ahead

Staffing and Activity Levels

Tim Hems and Professor Andrew Hart continue to provide the medical and surgical part of the service. The multidisciplinary design of the service has been strengthened with greater input from physiotherapy, occupational therapy, and clinical psychology for outpatient reviews and initial assessment of children. Staffing will need to be kept under careful review over the next few years taking into account activity levels.

Recent review of activity levels since the service was designated in 2006 has shown a fall in the serious cases of obstetric brachial plexus injury (OBPI) causing long term deficit in children born in Scotland, particularly during the last 5 years. There are consequently less children requiring early surgical intervention. This reduction appears to be a result of successful developments in obstetric practice, with protocols and simulation training for management of shoulder dystocia probably being of particular significance. There has also been a fall in referrals of new cases from Northern Ireland. However, it is notable that referrals of older children, who were born outside the UK, from immigrant families have continued. These cases will need longer term follow-up. The reduction in new-born cases has implications for future provision of the service, as it may raise difficulties with acquisition of experience of OBPI for new staff. It is likely that a system of integration of the service with other units in the UK with MDT discussions between centres being undertaken. Application of modern video conferencing should facilitate such a development.

National and International Interactions

The unit continues to interact regularly on a national and international basis. During the year Tim Hems attended and contributed to the Congress of the Federation of European Societies for Surgery of the Hand in Rimini in May 2023.

Members of the team attended the UK-Scandinavian meeting in Leeds and the International Collaborative Therapists Group meeting in Stockholm in September 2023 (*See report in Section 4. Quality and Service Improvement, Occupational Therapy; and Summary in Appendices Section*).

Appendices

Teaching and Education

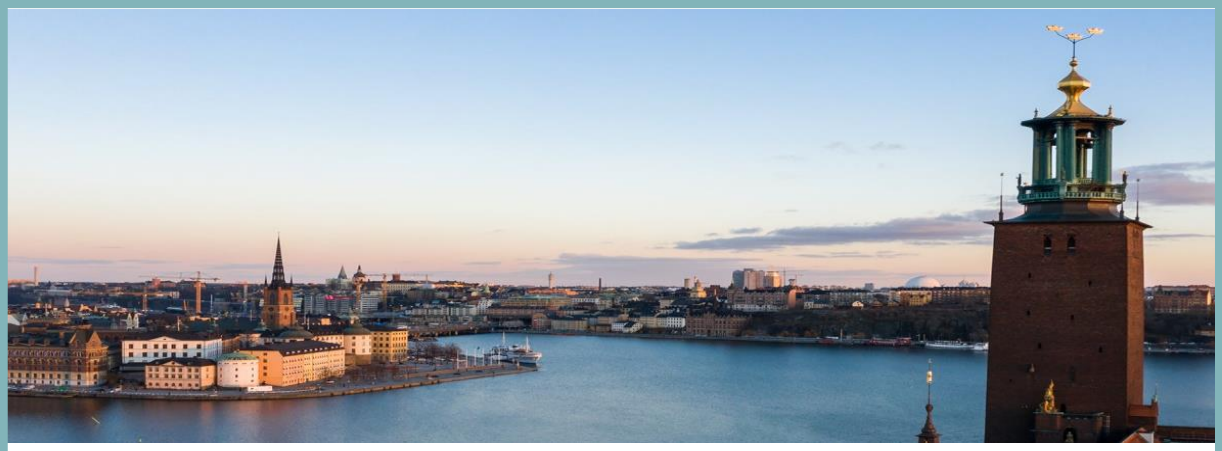
Tim Hems

Teaching 2023-24

13th May 2023	Lecture: "When statistics can mislead conclusions". Congress of the Federation of European Societies for Surgery of the Hand, Rimini, Italy. (Session organised by the Journal of Hand Surgery European Volume)
10th November 2023	Brachial plexus: Anatomy and Examination. Brachial Plexus Injuries: Investigation and Management. Obstetric brachial plexus injury. MCh Orth course, Dundee.
23rd November 2023	Introduction to evidence-based hand surgery and levels of evidence. An editor's perspective. British Society for Surgery of the Hand, Autumn Meeting, Glasgow. Journal session: Evidence based hand surgery: is it possible and what does it look like?
24th November 2023	Organised session on Traumatic Brachial Plexus Injuries. Gave lecture on Infraclavicular Injuries – Clinical scenarios and management. British Society for Surgery of the Hand, Autumn Meeting, Glasgow.
8th December 2023	Traumatic Brachial Plexus Injuries: Introduction and The Role of Surgery. Online teaching for Rehabilitation medicine trainees from Scotland, Northern England, and Northern Ireland.
12th March 2024	Edinburgh Hand Surgery Course. "Principles of management of peripheral nerve injury". "Management of Brachial Plexus Injuries". Small group teaching on clinical examination of upper limb neurology.

Continuing Medical Education

10th – 13th May 2023	Congress of the Federation of European Societies for Surgery of the Hand, Rimini, Italy.
23rd – 24th Nov 2023	British Society for Surgery of the Hand, Autumn Meeting, Glasgow.



IBPRC-meeting in Stockholm, September 28-29, 2023

THURSDAY – Birth related plexus injuries

9.00 **Welcome and short presentations of each clinic and present ongoing research projects** (5-10 min/clinic)

10.00 **AHA-plex and CHEQ** - *Lena Krumlinde-Sundholm, Associate Professor at the Karolinska Institutet, Department of Woman's and Children's Health, Neuropediatric unit, Stockholm.*

11.00 Swedish Fika

11.30 **Rotation and development of the glenohumeral joint in brachial plexus birth palsy** - *Krister Jönsson, PhD, MD*

12.00 **Helsinki Shoulder Protocol – a therapist´s view** - *Sanna Rautakorpi and Patrick Willamo, physiotherapists, Helsinki University Hospital*

12.30 Lunch

13.30 **Constraint-induced Movement Therapy (CIMT)** - *Tamsyn Brown, Senior occupational therapist Ireland*

14.00 (*" Provide an outline of her role with this patient group" - Helen Lowther, clinical psychologist, Scotland)*

14.30 **Workshop, Assessment**

- Swedish national assessment manual- for measuring motion of shoulder - *My Jallinder and Anna Källströmer physiotherapists in Stockholm and Umeå*
- Mallet score

15.30 Swedish Fika

16.00 **Workshops continued**

- **Patient information**

19.00. **Dinner** at (still to be decided depending on number of people attending) optional and at your own expense.

FRIDAY – Traumatic plexus injuries

8.30 **Welcome**

8.45 **National quality register for hand surgery (HAKIR)** - *Marianne Arner, Associate professor, and founder of HAKIR.*

9.15 **Return to work following TBPI and the initial results of the James Lind alliance priority setting partnership in TBPI** - *Hazel Brown, Clinical specialist physiotherapist.*

- Discussion "return to work", (everybody)

10.15 **Develop core outcome set- COMBINE** - *Caroline Miller, PhD physiotherapist.*

10.30 Swedish Fika

11.00 **National survey study and Focus group discussion (NHV)** - *Helena Millkvist, Linda Evertsson occupational therapists, PhD students and Stina Sjerén physiotherapist (Umeå and Stockholm).*

11.30 **Advancing diagnostics, outcome measures and rehabilitation in patients suffering from brachial plexus injury using inertial motion sensors and surface EMG** - *Anna Källströmer physiotherapist and PhD student.*

12.00 Lunch

13.00 **Workshops** *(everyone contributes, send in advance).*

- Tips and tricks.
- Patient support groups, "Morning coffee" etc.
- Patient information
- Information to colleagues or other care givers
- Pain – treatment strategies
- "Life hacks" – what's new
- Carbonhand
- Saebo glove

14.30 **Swedish Fika and Next IBPRC meeting**

15.00 **Tour at department of hand surgery at Södersjukhuset**

15.30 Hejdå!