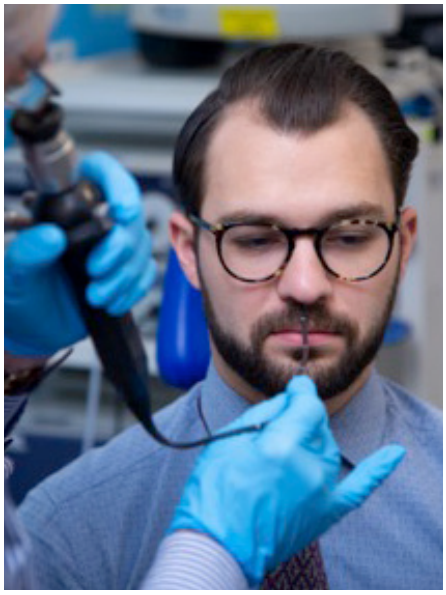
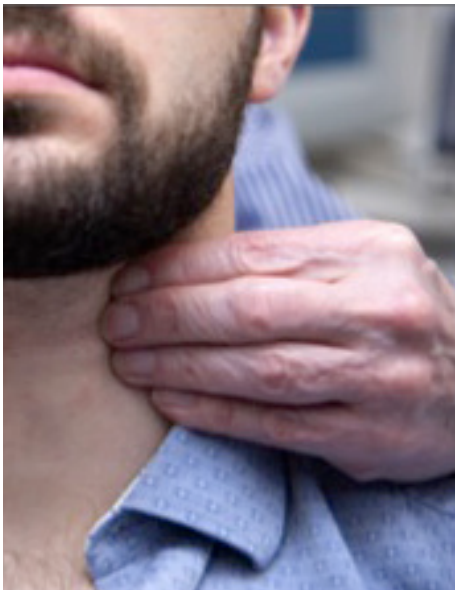
RCSI SURGICAL AFFAIRS

NCPS
NATIONAL CLINICAL PROGRAMME IN SURGERY





Otorhinolaryngology Head & Neck Surgery

A model of care for Ireland

Improving Surgery in Ireland

HSE

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Recommendations

1. Medical treatment of rhinitis and a proportion of ear microsuction can be treated in primary care by general practitioners (GPs) who are appropriately trained in ORL-HNS procedures. Each Hospital Group is to appoint a consultant as educational lead to roll out the GP Education Programme.

2. Primary care practitioners require better access to direct referrals to diagnostic audiology and vestibular services.

3. Outpatient referrals should be triaged according to the national Outpatient Services Performance Improvement Programme (OSPIP) prioritisation model. Each Hospital Group is to nominate an existing administrator to determine symptomatology of referred patients who are on long-term outpatient waiting lists.

4. Outpatient clinic capacity should follow Otorhinolaryngology best practice guidelines (Jardine A, 2017)

5. Implementation of each of the following one-stop multidisciplinary clinics in each Hospital Group:
   - Acute vestibular assessment and rehabilitation clinic
   - Specialist combined respiratory and ORL-HNS multidisciplinary clinic
   - Rapid access speech/swallow clinics
   - Paediatric ORL-HNS clinic (for assessment of obstructive sleep apnoea)
   - Direct referral audiology/otology clinic
   - Direct access neck lump clinic.

6. Outpatient procedures should be costed by the HPO and procedures coded to incentivise cost savings through ambulatory care.

7. Hospital Groups should implement day-of-surgery admissions (DOSAs), including necessary pre-admission support.

8. A lead ORL-HNS consultant should be nominated in each Hospital Group with protected sessions to ensure implementation of this Model of Care, patient safety and quality of care.

9. Initiate development and implementation of symptom-specific e-referral templates for ORL-HNS.

10. Implement a treatment algorithm for epistaxis to reduce admission rate and average length of stay (AvLOS).

11. Increase day case and ambulatory surgical procedures, including tonsillectomy, in children and adults.

12. Separate delivery of complex ORL-HNS scheduled surgery from routine ORL-HNS scheduled surgery.

13. Designate and resource four specialty ‘hub’ centres delivering complex head and neck surgical oncology, supported by four ‘spoke’ sites nationwide, as recommended by the National Cancer Control Programme (NCCP).

14. Unscheduled ORL-HNS patients who fulfil the acute surgical assessment unit (ASAU) admission criteria should be streamed to the ASAU.

15. Develop a hub-and-spoke model for Hospital Groups, with Model 2 and Model 3 hospitals becoming the preferred location for routine scheduled day case procedures. Each Hospital Group is to audit equipment and staffing requirements necessary to provide efficient outpatient services in satellite clinics.

16. Each Hospital Group should calculate the number of protected beds required for inpatients and day cases within each Hospital Group.

17. Each Hospital Group should determine theatre capacity and utilisation required to meet service demands by employing the Theatre Quality Improvement Programme (TQIP) theatre performance software tool, which generates detailed operational analytics.

18. Each Hospital Group should ensure the availability of anaesthesiologists specialising in day case surgery and ORL-HNS.

19. In order to ensure patient safety, protocol-driven discharge in ORL-HNS should be implemented.

20. Implement a structured approach to specialty multidisciplinary workforce planning based on demographics, the needs of the Hospital Groups, and subspecialty requirements.

21. The specialty training and competency professional programme (CPD) programmes from the Royal College of Surgeons in Ireland (RCSI) should reflect future workforce requirements and implementation of this Model of Care.

22. Administration of human papillomavirus (HPV) immunisation for boys and girls should be encouraged in order to reduce oropharyngeal cancer occurrence.

04 FOREWORD

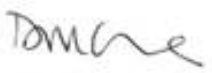
Modern practice in all branches of surgery has adopted multidisciplinary team care as its focus.

Central to delivery of service in the many subspecialist areas of otorhinolaryngology – head and neck surgery (ORL-HNS) is the incorporation of specialists in physiotherapy, speech and language therapy, and nutritional science.

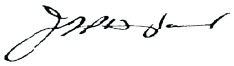
Models of care are an extension of this practice in hospital and community care, and are essential for efficiency of service. System services to schedule rehabilitation, optimisation of comorbidity management, and pre-operative anaesthetic assessment are all essential for modern practice, with efficient use of community, general practice and hospital facilities.

Using models of care, it is estimated that referrals to outpatient departments will reduce by one-third, helping to reduce waiting lists and allowing all patients to benefit from quality improvement in all aspects of care.

Implementation of these models of care will be critical. We must congratulate Professor Michael Walsh, National Clinical Advisor for ENT to the National Clinical Programme in Surgery (NCPS) for his enthusiasm and hard work to bring this project to fruition.



Professor Deborah McNamara
Joint Lead, National Clinical Programme in Surgery



Professor John Hyland
Joint Lead, National Clinical Programme in Surgery

05 INTRODUCTION

The National Clinical Programme in Surgery (NCPS) has published models of care defining the standards of care that should apply to acute (unscheduled) (NCPS, 2013) and elective (scheduled) (NCPS, 2011) surgical care in Irish hospitals. Refer Appendix 1 for MOC development methodology and approval process. These services are delivered by multidisciplinary teams in a range of disciplines. The development of specialty models of care is the next step in defining best practice. It allows a deeper understanding of the range of activity delivered by specialist services and of areas where there are unmet needs. It is also an opportunity for each specialty in surgery to define how the multidisciplinary surgical workforce can best deliver the care required by Irish patients, taking into consideration the new ways of working that are now the standard of care. Improvement of surgical services will require specialties to consider these new ways of working, such as one-stop clinics, delivery of services by health and social care professionals (HSCPs), advanced nurse practitioners (ANPs), clinical nurse specialists (CNSs) and physician associates where appropriate, and migration of some procedures towards ambulatory treatment instead of inpatient care. New technology has the potential to change not only the diagnostic and therapeutic procedures that can be performed, but also the way that surgeons communicate with patients, interdisciplinary team members, colleagues in the community and their fellow surgeons.

The starting point for the development of specialty models of care must remain the needs of Irish patients and our responsibility to ensure that these services are accessible, safe, equitable and of high quality. They must also be delivered in a sustainable way. The 25 most frequent presentations, by the Clinical Classification System (CCS), in the specialty of otorhinolaryngology – head and neck surgery (ORL-HNS) is outlined in Table 1, and the 25 commonest interventions, including operations, are outlined in Table 2. It is immediately apparent that any specialty model of care must take into account both scheduled and unscheduled presentations as well as inpatient, outpatient and ambulatory care.

Table 1: Top 25 most frequent presentations by CCS for specialty of ORL-HNS in 2017

Diagnosis	National	Child HG	Dub ML HG	IE HG	RCSI HG	Saolta HG	SthSW HG	UL HG
Upper respiratory disease – other	7511	332	617	1943	1697	1663	789	470
Tonsillitis acute and chronic	5267	516	856	550	402	1132	1308	503
Ear and sense organ – other	4872	457	228	1092	1516	1012	391	176
Otitis media	3214	626	350	527	327	492	662	230
Other aftercare	2259	66	91	717	730	617	33	##
Cancer head and neck	1153	##	191	242	224	225	249	20
Benign neoplasm – other	1109	68	143	251	128	224	257	38
Surgical/medical complication	1054	131	226	156	73	188	227	53
Upper respiratory infection – other	949	29	77	204	293	209	94	43
Skin – other	788	20	124	136	130	112	107	159
Disease of mouth non-dental	787	23	130	203	121	138	128	44
Thyroid disorder	693	##	85	192	75	62	259	18
Fracture skull and face	662	82	77	58	63	205	45	132
Cancer skin – other non-epithelial	564	-	121	26	40	35	291	51
Injuries external cause – other	462	147	47	24	24	97	69	54
Gastrointestinal – other	439	7	28	102	139	90	54	19
Congenital anomaly – other	378	195	18	30	28	43	40	24
Oesophageal disorder	228	##	25	71	32	63	23	13
Lymphadenitis	220	##	23	65	41	57	26	##
Care of prosthesis/device	213	20	14	57	96	12	9	##
Cancer thyroid	193	-	56	31	23	28	52	##
Congenital anomaly digestive	184	35	15	##	##	47	24	54
Secondary malignancy	181	-	29	49	15	37	51	-
Residual codes – unclassified	147	31	##	##	55	26	12	13
Lower respiratory disease – other	138	17	6	75	13	13	##	10

Source: NQAIS Clinical (Health Atlas Ireland, 2018)

Child HG	Children's Hospital Group
Dub ML	Dublin Midlands Hospital Group
IEHG	Ireland East Hospital Group
RCSI HG	Royal College of Surgeons in Ireland Hospital Group
Saolta	Saolta Health Care Hospital Group
Sth SW	South South West Hospital Group
UL HG	University of Limerick Hospital Group

– Values under 5 are not displayed
\- No data
Note: Otorhinolaryngology, paediatric ear, nose and throat (ENT) specialty discharges in 2017 from National Quality Assurance Improvement System (NQAIS) Clinical which uses Hospital In-Patient Enquiry (HIPE) data from the Healthcare Pricing Office (HPO).

Table 2: Top 25 commonest interventions or operations delivered by the specialty of ORL-HNS in 2017

Procedures	National	Child HG	Dub ML	IEHG	RCSI HG	Saolta	Sth SW	UL HG
No procedure	3629	233	773	350	292	977	629	375
Nasendoscopy	3578	132	7	2091	16	220	18	85
Fibreoptic examination of pharynx	2619	##	14	31	2170	5167	7	57
Ear toilet, bilateral	2071	193	29	255	1180	1386	51	52
Tonsillectomy without adenoidectomy	2057	196	318	259	166	301	616	201
Myringotomy w insertion of tube, bil	1962	515	240	135	100	367	430	175
Ear toilet, unilateral	1681	147	60	768	448	166	72	20
Laryngoscopy	1374	9	48	760	167	269	74	47
Tonsillectomy with adenoidectomy	1213	277	142	50	54	339	207	144
Low volume procedure (<20/year)	965	99	176	198	105	133	202	52
Closed reduction fx nasal bone	738	94	77	63	109	306	48	112
Septoplasty	687	##	128	85	149	97	164	62
Microlaryngoscopy	678	80	103	138	67	132	111	47
Adenoidectomy without tonsillectomy	519	120	49	41	13	123	108	65
Incision drain peritonsillar abscess	518	7	56	76	104	174	168	21
Arrest anterior nasal haem pack/ cauterisation	513	##	37	47	125	782	56	46
Myringotomy w insertion of tube, uni	413	53	46	52	35	101	90	36
Sinuscopy	411	##	57	25	230	93	##	##
Microlaryngoscopy with removal of lesion	384	18	63	86	53	48	99	17
Excision of lesion(s) squamous cell cancer, ear	293	9	78	18	16	23	96	53
Perc [needle] biopsy of thyroid gland	246	##	##	##	##	9	233	##
Fibreoptic laryngoscopy	234	111	8	7	##	102	##	##
Microlaryngoscopy w R/O lesion	222	21	38	69	23	27	37	7
Microlaryngoscopy w R/O lesion	216	##	34	15	10	10	114	29
Excision of lesion(s) SSCT, ear	205	##	67	37	##	15	70	10
Remainder not in top 25 procedures	8478	895	1183	1552	1066	1477	1801	530

Source: NQAIS Clinical (Health Atlas Ireland, 2018)

Child HG	Children's Hospital Group
Dub ML	Dublin Midlands Hospital Group
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– Values under 5 are not displayed
\- No data

Note: Otorhinolaryngology, paediatric otorhinolaryngology specialty discharges in 2017 from NQAIS Clinical which uses HIPE data from the HPO.

Because of the complexity of head and neck cancer surgery, frequent errors in coding are internationally recognised.

This table records Sth SW real time data for the following procedure in Dec 2018	
Nasendoscopy	220
Fibreoptic examination of pharynx	5167
Ear toilet, bilateral	1368
Septoplasty	306
Incision drain peritonsillar abscess	174
Arrest ant nasal haem pack/cauterisation	782

05 INTRODUCTION

In some areas, demand exists but current strategies are inadequate to meet this demand, resulting in waiting lists for outpatient ambulatory and scheduled care. Figure 1 and Figure 2 outline inpatient and outpatient waiting lists for treatment. While this reflects the current status of the known unmet need within the specialty, including patients who are awaiting outpatient consultation and those who have already been seen by a specialist and advised to have a procedure, it does not presently record patients who have been seen by a specialist and advised to have diagnostic tests, for example an X-ray, hearing test or scan.

Figure 3 reflects a forecast for outpatient waiting list volumes which is represented by actuals and forecast to June 2021 for the specialty based on the population growth.

Day Case & Inpat Wait	0-3 Mths	3-6 Mths	6-9 Mths	9-12 Mths	12-15 Mths	15-18 Mths	18-24 Mths	24-36 Mths	36-48 Mths	48+ Mths	Grand Total
03/01/2019	2,019	1,149	636	432	258	193	309	274	11	2	5,283
04/01/2018	2,124	1,378	975	853	566	388	371	190	21	2	6,868
% 1 Yr Change	-5%	-17%	-35%	-49%	-54%	-50%	-17%	44%	-48%	0%	-23%

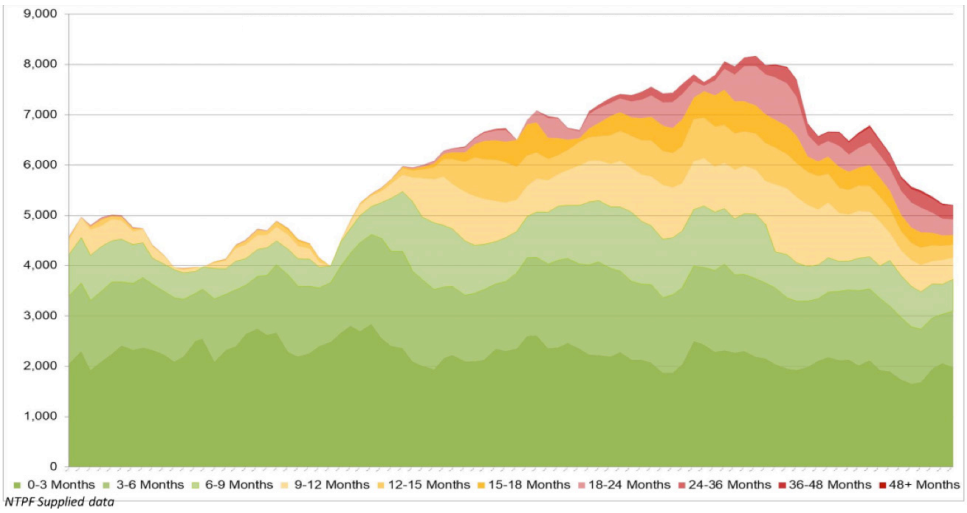


Figure 1 Inpatient day case wait list trend Nov 11-dec 18. Source- NTPF January 2019

The inpatient and day case waiting list for ORL-HNS in January 2019 includes 5,283 patients waiting inpatient or day case surgery. In 2018, there was a 23% decrease in patients. In 2018, there was decrease in patients waiting for longer than 15 months. A number of factors contribute to waiting list challenges in ORL-HNS, including, but not limited to, the availability of adequate and protected bed and theatre capacity. An area of particular concern is rolling theatre closures arising from workforce challenges. More efficient utilisation of existing beds and theatre capacity in Model 2 and Model 3 hospitals will increase capacity, but other initiatives such as ambulatory care centres are also likely needed. A high percentage of complex procedures in Model 4 hospitals means that low-complexity but high-volume procedures are not performed in such centres in sufficient numbers to meet demand, and different ways of working within networks are required.

The outpatient waiting list for ORL-HNS at the end of January 2019 includes patients awaiting surgery. In 2019, there was 9.3% increase in patients waiting for longer than 15 months.

(31 Jan 2017) all procedures

Outpatient Waits	0-3 Mths	3-6 Mths	6-9 Mths	9-12 Mths	12-15 Mths	15-18 Mths	18-21 Mths	21-24 Mths	24-36 Mths	36-48 Mths	48+ Mths	Grand Total
03/01/2019	12,416	8,992	8,611	7,508	5,431	4,761	5,127	4,753	10,083	1801	134	69,617
04/01/2018	12,587	9,127	9,135	9,332	6,658	6,058	6,112	5,108	6,825	292	4	71,2238
% 1 Yr Change	-1%	-1%	-6%	-20%	-18%	-21%	-16%	-7%	48%	517%	3250%	-2%

Note: increase in people waiting 15+ months is 9.3% from 24,339 to 26,659

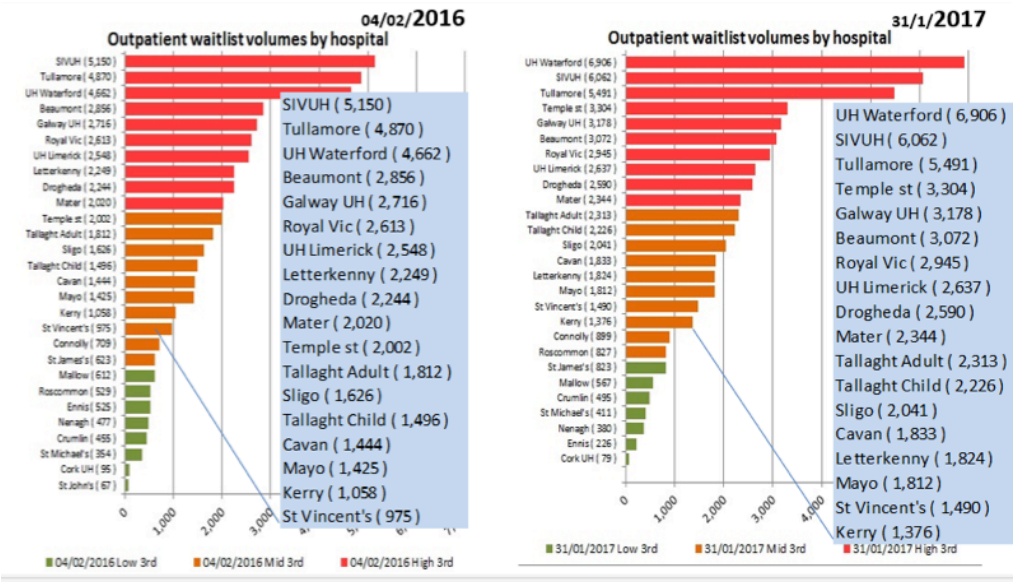


Figure 2: Outpatient waiting list Data Source: NTPF 31-01-17

Avg Wkly	YY-MM	19-03	19-09	20-03	20-09	21-03	21-09	22-03
227.6	Upr F'cst	73,091	80,307	87,524	94,740	101,956	109,173	116,389
192.9	5 Yr Exp F'cst	71,546	75,857	80,428	85,274	90,413	95,861	101,637
145.8	Lwr F'cst	71,378	75,160	78,960	82,751	86,541	90,332	94,123

Outpatient waiting list trend (Jun'13 - Dec'18) and projection to Mar'22 Otolaryngology & Pasediatric ENT specialities

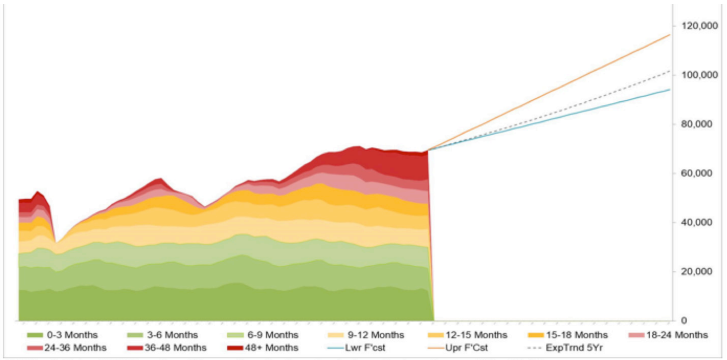


Figure 3: Outpatient waiting list volumes – actuals and forecast to March 2022

Data Source: NCPS 2019

The most frequently performed procedures by ORL-HNS subspecialties are represented in Tables 3, 4 and 5. A total of 35,904 patients were discharged in 2017.

05 INTRODUCTION

Table 3: Most frequently performed procedures in 2017 by ORL-HNS subspecialties

Most Common Procedure	
Tonsillectomy - Total	3690
Otology - Total	7889
Commonest Otology procedure numbers	
Microdebridement of ears	3938
Myringotomy/grommets	2432
Endoscopy	3393
Microlaryngoscopy	2570
Rhinology - Total	2204
Commonest Rhinology procedure numbers	
Septoplasty	687
Endoscopic sinus surgery	487
Facial plastics (skin cancer, head and neck) Total	1344
Commonest Squamous Cell Cancer (SCC) procedure numbers	
SCC pinna	1127
Head/neck oncology - Total	2135
Commonest Head/neck oncology procedure numbers	
Thyroid	530
Salivary	375
Lymph nodes	316
Mucosal	782
Cysts	132

Data Source: NCPS 2019

Table 4: Unscheduled presentation in 2017

ORL-HNS emergency presentations	
Nasal fracture	728
Peritonsillar abscess	517
Arrest nasal haemorrhage	180

Data Source: NCPS 2019

Table 5: Diagnosis on discharge in 2017

Principal diagnosis on discharge from inpatient care ORL-HNS – 19,190 patients discharged 2017	
Diagnosis	**Number of patients per year**
Upper respiratory disease	7511
Tonsillitis	5267
Otitis media	3214
Cancer head and neck	1153
Skin Cancer	788
Thyroid	693
Fracture (nasal)	564

Data Source: NCPS 2019

06 OVERVIEW OF SPECIALTY

ORL-HNS is the oldest and third largest of the surgical specialties in the Republic of Ireland. It manages disorders of the ear, nose and throat and related structures in the neck (thyroid, salivary glands) and the skull base. The specialty assesses and manages sensory losses such as hearing, balance, taste, smell, and the functional loss of speech and swallowing.

ORL-HNS comprises the following subspecialty areas:
- Otology
- Neuro-otology
- Lateral skull base surgery
- Rhinology
- Anterior skull base surgery
- Facial plastic surgery
- Head and neck oncology
- Paediatric otorhinolaryngology
- Laryngology.

All of these subspecialties form part of the ORL-HNS curriculum covering higher surgical training established by the Specialty Advisory Committee (SAC) in ORL-HNS.

ORL-HNS involves the care of all age groups from the foetus (exit surgery is performed at the time of delivery when the baby is attached to the placenta) throughout all stages of life up to the elderly. Figures 4 and 5 represent the age range of patients who presented to ORL-HNS specialists in 2017.

06 OVERVIEW OF SPECIALTY

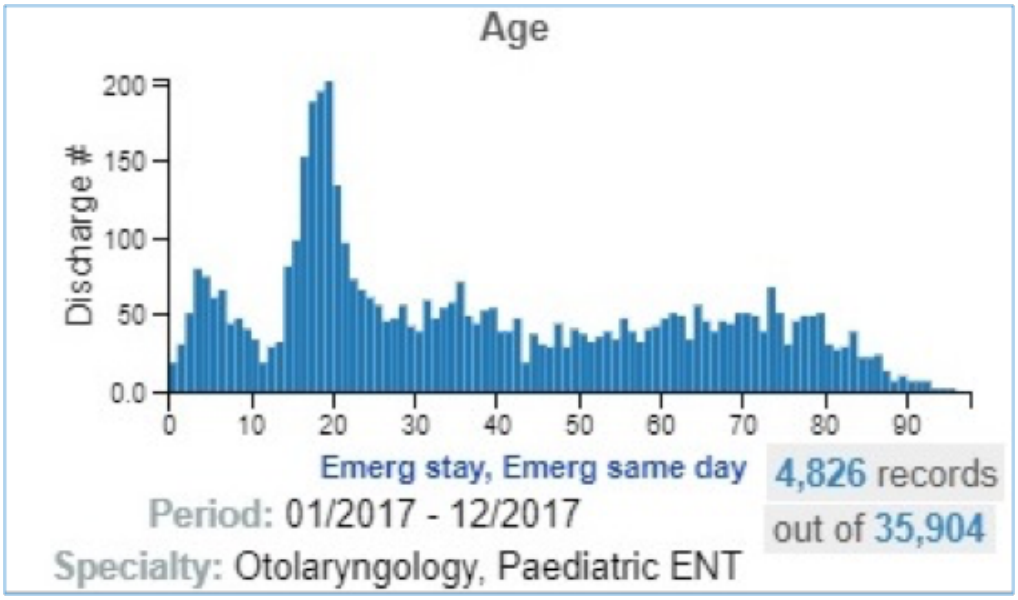


Figure 4: Unscheduled discharges in 2017
Source: NQAIS Clinical Dec 2017. (Health Atlas Ireland, 2018)

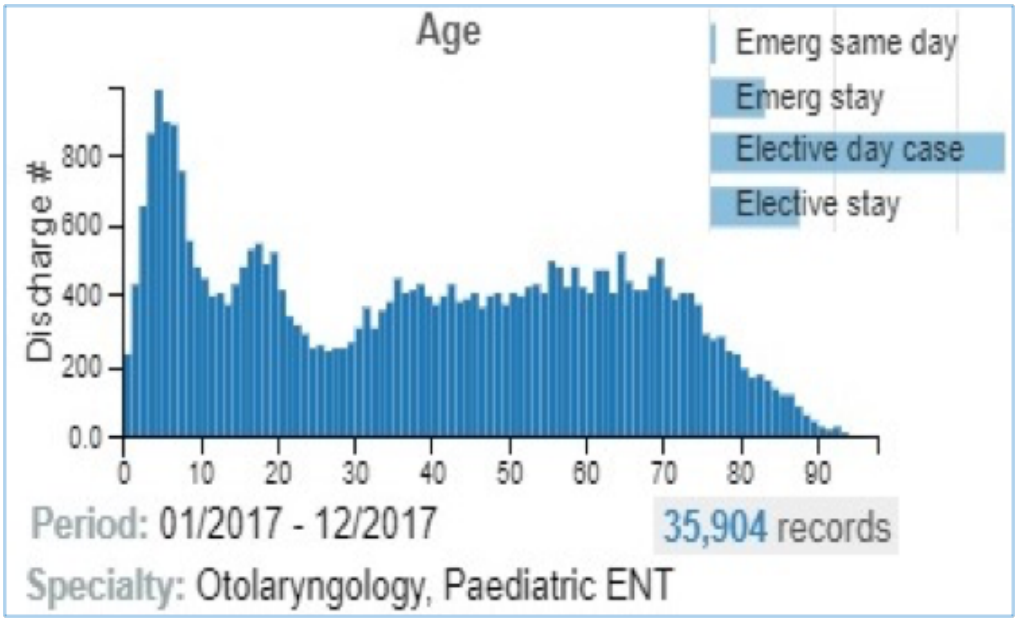
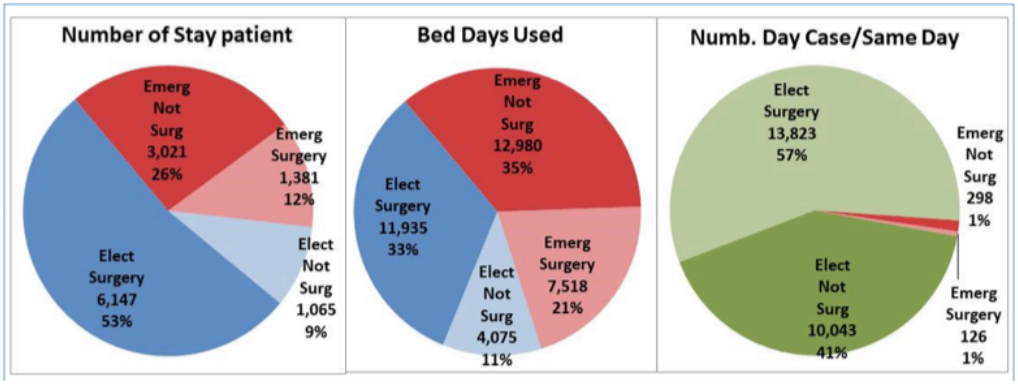


Figure 5: Scheduled discharges in 2017
Source: NQAIS Clinical Dec 2017 (Health Atlas Ireland, 2018)

Unlike many other surgical specialties, there is no medical equivalent to ORL-HNS; 80% of the outpatient workload in general ORL-HNS involves medical management of the patient.

Approximately 2% of the population is referred for ORL-HNS services, with an estimated 18 referrals per 1,000 population. With appropriate training and support, a proportion of this work could safely be provided in primary care as well as by other members of the multidisciplinary teams. Thirty-eight per cent of admissions were unscheduled; 12% of these had a surgical procedure, and the non-surgical group accounted for 56.1% of bed days used (BDU) (Figure 6). This has a major detrimental impact on routine scheduled care admissions.

Unscheduled/scheduled and stay/day split of discharges from January 2017 to December 2017 by otorhinolaryngology/paediatric otorhinolaryngology



Jan - Dec 2017 Summary	Patient who had a surgical primary procedure					Patient admitted under surgical care not having a surgical primary procedure					All surgical patients	
	#inpat	BDU	AvLOS	#DC/ SD	%DC/ SD	#inpat	BDU	AvLOS	#DC/ SD	%DC/ SD	#inpat	#DC/ SD
Emergency	1,381	7,518	5.44	126	8.4%	3,021	12,980	4.30	298	9.0%	4,402	424
Elective	6,147	11,935	1.94	13,823	69.2%	1,065	4,075	3.83	10,043	90.4%	7,212	23,866
Total	7,528	19,453	2.58	13,949	64.9%	4,086	17,055	4,17	10,341	71.7%	11,614	24,290

Figure 6: Bed days used in 2017
Source: NQAIS Clinical Dec 2017(Health Atlas Ireland, 2018)

The most frequent unscheduled admissions are ingestion or inhalation of foreign bodies, life-threatening infections such as abscess formation in the upper airway, airway obstruction, and haemorrhage. Trends in data for ORL-HNS are represented in Figure 7, which confirms that there was no change in scheduled and unscheduled day case admissions from 2015 to 2017.

Otorhinolaryngology and paediatric otorhinolaryngology trend, Q1 2015–Q4 2017 33% scheduled day case, 13.4% unscheduled. Activity static in the last two years

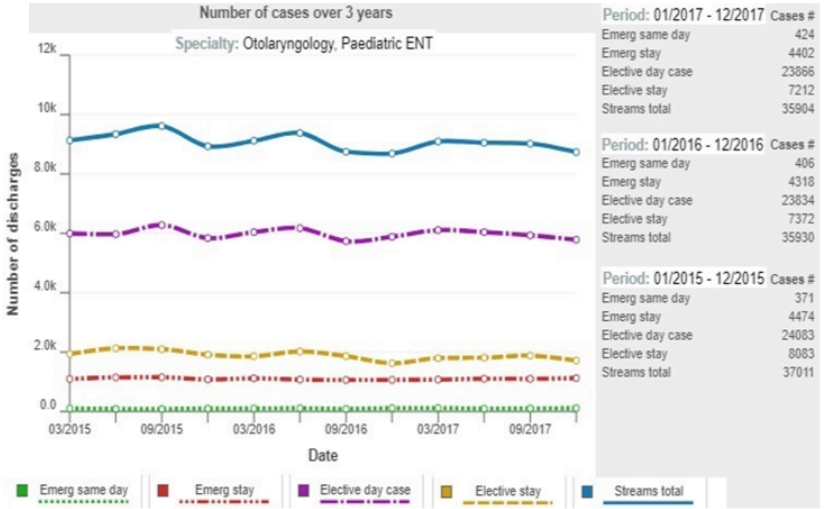


Figure 7: Trend data for otorhinolaryngology and paediatric otorhinolaryngology
Source: NQAIS Clinical Dec 2017(Health Atlas Ireland, 2018)

07 WHAT 'GOOD' LOOKS LIKE

This ORL-HNS Model of Care aims to improve the quality of care for patients by standardising care delivery, improving access to ORL-HNS services, and providing recommendations for implementation by the Health Service Executive (HSE), hospital and community managers, clinicians, and multidisciplinary teams caring for patients.

Table 6: Recommendations

1. Medical treatment of rhinitis and a proportion of ear microsuction can be treated in primary care by general practitioners (GPs) who are appropriately trained in ORL-HNS procedures. Each Hospital Group is to appoint a consultant as educational lead to roll out the GP Education Programme.

2. Primary care practitioners require better access to direct referrals to diagnostic audiology and vestibular services.

3. Outpatient referrals should be triaged according to the national Outpatient Services Performance Improvement Programme (OSPIP) prioritisation model. Each Hospital Group is to nominate an existing administrator to determine symptomatology of referred patients who are on long-term outpatient waiting lists.

4. Outpatient clinic capacity should follow Otorhinolaryngology best practice guidelines (Jardine, 2017)

5. Implementation of each of the following one-stop multidisciplinary clinics in each Hospital Group:
   - Acute vestibular assessment and rehabilitation clinic
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   - Rapid access speech/swallow clinics
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   - Direct referral audiology/otology clinic
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6. Outpatient procedures should be costed by the HPO and procedures coded to incentivise cost savings through ambulatory care.

7. Hospital Groups should implement day-of-surgery admissions (DOSAs), including necessary pre-admission support.

8. A lead ORL-HNS consultant should be nominated in each Hospital Group with protected sessions to ensure implementation of this Model of Care, patient safety and quality of care.

9. Initiate development and implementation of symptom-specific e-referral templates for ORL-HNS.

10. Implement a treatment algorithm for epistaxis to reduce admission rate and average length of stay (AvLOS).

11. Increase day case and ambulatory surgical procedures, including tonsillectomy, in children and adults.

12. Separate delivery of complex ORL-HNS scheduled surgery from routine ORL-HNS scheduled surgery.

13. Designate and resource four specialty ‘hub’ centres delivering complex head and neck surgical oncology, supported by four ‘spoke’ sites nationwide, as recommended by the National Cancer Control Programme (NCCP).

14. Unscheduled ORL-HNS patients who fulfil the acute surgical assessment unit (ASAU) admission criteria should be streamed to the ASAU.

15. Develop a hub-and-spoke model for Hospital Groups, with Model 2 and Model 3 hospitals becoming the preferred location for routine scheduled day case procedures. Each Hospital Group is to audit equipment and staffing requirements necessary to provide efficient outpatient services in satellite clinics.

16. Each Hospital Group should calculate the number of protected beds required for inpatients and day cases within each Hospital Group.

17. Each Hospital Group should determine theatre capacity and utilisation required to meet service demands by employing the Theatre Quality Improvement Programme (TQIP) theatre performance software tool, which generates detailed operational analytics.

18. Each Hospital Group should ensure the availability of anaesthesiologists specialising in day case surgery and ORL-HNS.

19. In order to ensure patient safety, protocol-driven discharge in ORL-HNS should be implemented.

20. Implement a structured approach to specialty multidisciplinary workforce planning based on demographics, the needs of the Hospital Groups, and subspecialty requirements.

21. The specialty training and competency professional programme (CPD) programmes from the Royal College of Surgeons in Ireland (RCSI) should reflect future workforce requirements and implementation of this Model of Care.

22. Administration of human papillomavirus (HPV) immunisation for boys and girls should be encouraged in order to reduce oropharyngeal cancer occurrence.

08 CURRENT STATE

Based on a population of 4.7 million people in Ireland, the number of consultants working in public practice currently represent 1 per 83,873 population. When taking into account consultants working in private practice, this reduces to 1 per 71,238 population versus the recommended level of 1 per 40,000 population (RCSI, 2003). Please refer to Table 7, which details Ireland's ORL-HNS consultant workforce, and Table 8, which details where ORL-HNS services are provided by Hospital Group.

Table 7: Current ORL-HNS consultant workforce

CURRENT ORL-HNS CONSULTANTS IN IRELAND	
Public consultant in ORL-HNS	51
Locum consultants ORL-HNS in posts	6
Total posts in public practice	57
Private consultant in ORL-HNS	10
Total number of consultants nationwide in public and private practice	**67**

Table 8: Hospital locations where current services are provided

Hospital Group	Model 2	Model 3	Model 4
Ireland East	Royal Victoria Eye and Ear Hospital (M2S) St Michael's Hospital, Dun Laoghaire		Mater Misericordiae University Hospital St Vincent's University Hospital
South/South West	Mallow General Hospital South Infirmary Victoria University Hospital (M2S)	University Hospital Kerry*	Cork University Hospital* University Hospital Waterford*
University of Limerick	Ennis Hospital Nenagh Hospital		University Hospital Limerick*
Saolta University Health Care Group		Letterkenny University Hospital Mayo University Hospital Sligo University Hospital*	University Hospital Galway*
Dublin Midlands		Midland Regional Hospital, Tullamore*	St James's Hospital Tallaght University Hospital
RCSI	Louth County Hospital, Dundalk Monaghan Hospital St Joseph's Hospital, Raheny	Connolly Hospital Blanchardstown, Dublin Our Lady of Lourdes Hospital, Drogheda	Beaumont Hospital
Children's		Temple Street Children's University Hospital Our Lady's Children's Hospital, Crumlin Tallaght University Hospital	

*These sites were historically designated Regional Units

While these hospitals deliver the majority of ORL-HNS services, a number of satellite clinics exist that enable care to be delivered closer to the patient; appropriate resourcing of such satellite units has the potential to transfer a significant proportion of outpatient department (OPD) activity from Model 4 and Model 3 hospitals. The minimum requirement for a satellite clinic is the availability of fibreoptic nasendoscopes, a microscope and an appropriately trained clinical nurse specialist (CNS). In 2017, 35,904 patients were treated and discharged by ORL-HNS (NQAIS) (Table 9).

Table 9: Discharges by ORL-HNS

Discharged in 2017	National	Child HG	DubML	IEHG	RCSI HG	Saolta	SthSW	UL HG
General surgery	169 906	1628	27 086	37 019	26 912	33 916	31 847	11 498
Orthopaedics	69 702	3044	10 089	16 060	7129	14 207	14 118	5055
Ophthalmology	58 494	791	##	27 791	849	13 223	10 159	5681
Urology	43 650	260	7211	6846	8835	5718	9948	4832
Otorhinolaryngology	35 572	2883	3825	7208	6703	7209	5501	2243
Gynaecology	41 524	15	5611	7756	8640	9566	7761	2175
Plastic surgery	28 988	2199	3528	4486	5826	7313	5608	28
Gastrointestinal surgery	10 393	##	846	2606	4201	##	2056	683
Vascular surgery	10 382	##	1932	1275	2304	1368	2214	1289
Maxillofacial	5653	95	1524	##	##	1131	1008	1895
Cardiothoracic surgery	4297	591	951	1251	##	665	839	##
Neurosurgery	4268	307	123	##	2502	##	1336	##
Dental surgery	3884	473	257	509	553	837	294	961
Paediatric surgery	3406	3391	15	##	##	##	##	##
Obstetrics/ gynaecology	2669	##	##	520	378	1712	##	57
Breast surgery	2570	##	##	##	944	89	1520	14
Hepatobiliary surgery	997	##	##	##	##	##	997	##
Paediatric orthopaedic surgery	937	933	##	##	##	##	##	##
Oral surgery	586	##	##	61	##	472	52	##
Paediatric otorhinolaryngology	332	326	6	##	##	##	##	##
Paediatric neurosurgery	325	##	##	##	324	##	##	##
Renal transplantation	189	##	##	##	189	##	##	##
Paediatric urology	134	134	##	##	##	##	##	##
Total	498 858	17 072	63 004	113 391	76 289	97 427	95 264	36 411

Child HG	Children's Hospital Group
Dub ML	Dublin Midlands Hospital Group
IEHG	Ireland East Hospital Group
RCSI HG	Royal College of Surgeons in Ireland Hospital Group
Saolta	Saolta Health Care Hospital Group
Sth SW	South South West Hospital Group
UL HG	University of Limerick Hospital Group

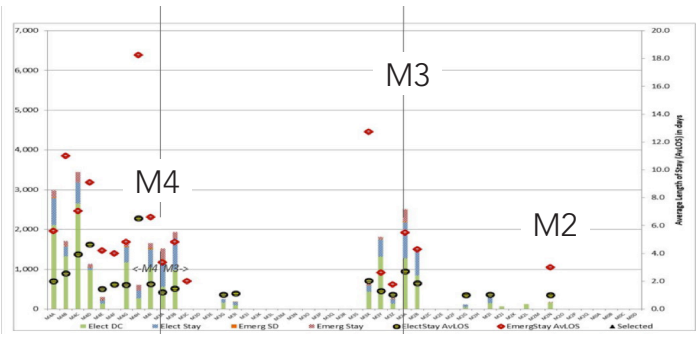
– Values under 5 are not displayed
\- No data
Note: Surgical discharges in 2017 from NQAIS Clinical which uses Hospital In-Patient Enquiry (HIPE) data from the Healthcare Pricing Office (HPO).

Source: NQAIS Clinical Dec 2017 (NQAIS Clinical)

Figure 8 demonstrates that the workload is concentrated in Model 4 and Model 3 hospitals, and that capacity is not utilised in the Model 2 hospitals.

Otorhinolaryngology unscheduled/scheduled discharges by hospital in 2017.

All procedures – excluding nasendoscopy and fibreoptic exam of pharynx

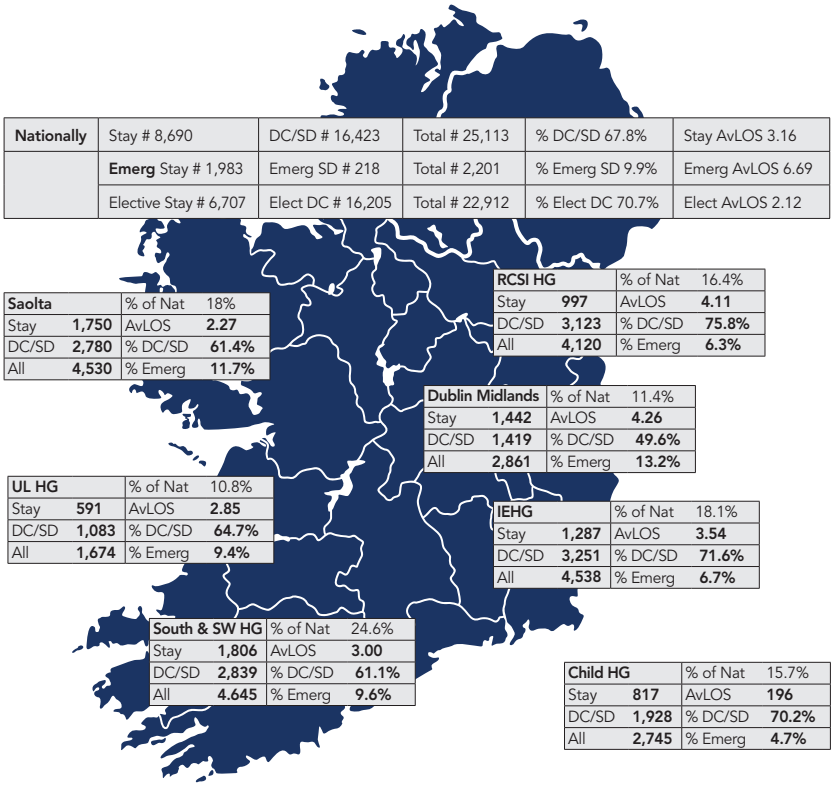


For Hospitals	Emergency (Emerg) AvLOS	% Emerg as SD	Emergency (Emerg) AvLOS	% Elect as DC	Combined AvLOS	Combined % DC/SD
Average	6.7	9.9%	2.1	70.7%	3.2	66.4%
Min	1.8	0.0%	1.0	29.4%	1.0	0.0%
Max	18.2	100.0%	6.5	100.0%	11.4	100.0%

Figure 8: Variation across system. Source: HIPE Data (HSE, 2017)

08 CURRENT STATE

Complex and unscheduled admissions to ORL-HNS generally receive prompt care, but significant challenges arise in the delivery of a safe, efficient service for outpatients and for patients requiring less complex scheduled surgery. Otorhinolaryngology specialties – scheduled/unscheduled discharges by hospital in 2017 (exc. nasendoscopy/fibreoptic exam of pharynx). Includes all discharges by otorhinolaryngology or paediatric otorhinolaryngology, excluding those having nasendoscopy/fibreoptic exam of pharynx.
Figure 9 demonstrates the variation in workload across the Hospital Groups.



DC = day case, DC/SD = day case/ same-day discharge
Source: HIPE Data (HSE, 2017)

Figure 9: Scheduled and unscheduled discharges by hospital in 2017

Current delivery of services for the ORL-HNS subspecialty otology are represented in Table 10.

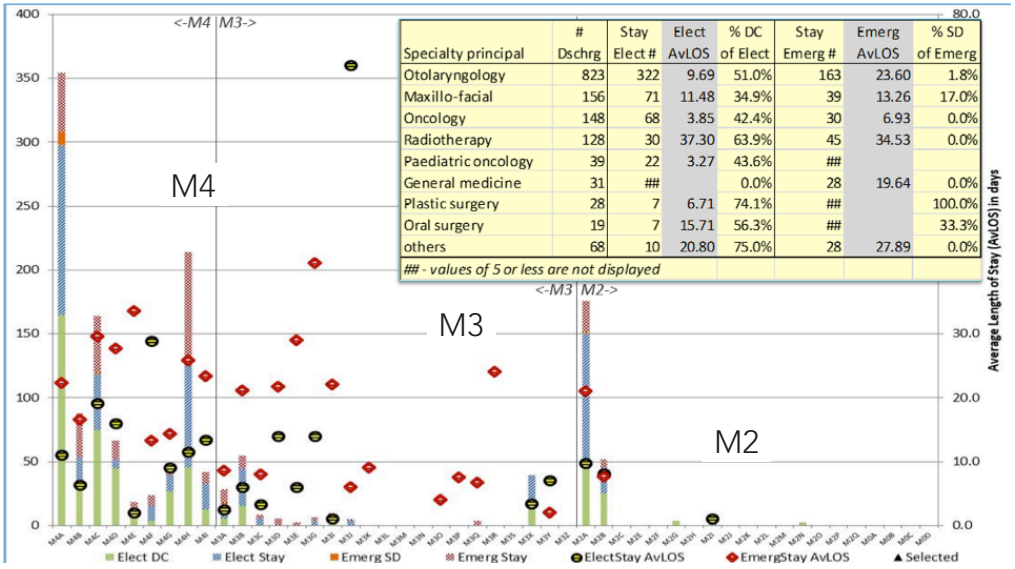
Table 10: Current availability of service delivery

Head and neck oncology	
Dublin North	Beaumont Hospital Mater Misericordiae University Hospital
Dublin South	St James's Hospital St Vincent's University Hospital
Nationwide	University Hospital Waterford University Hospital Galway University Hospital Limerick South Infirmary Victoria University Hospital Midland Regional Hospital, Tullamore

Complex head and neck surgery has a prolonged length of stay (AvLOS of 15.3 days) (Health Atlas Ireland, 2018) then delivered in units with unscheduled admissions. This impacts on the waiting list for routine scheduled care in Model 4 hospitals. Day-of-surgery admission (DOSA) is not available for head and neck cancer patients in many of the hospitals that provide ORL-HNS services.

Figure 10 and Figure 11 details the unscheduled and scheduled discharges for head and neck and Thyroid cancer by hospitals in 2017, confirming that the majority of these cancers are triaged through ORL-HNS.

Head and neck cancer for all specialties: scheduled and unscheduled discharges by hospital in 2017 Includes all discharges by otorhinolaryngology or paediatric otorhinolaryngology, excluding those having nasendoscopy/ fibreoptic exam of pharynx.



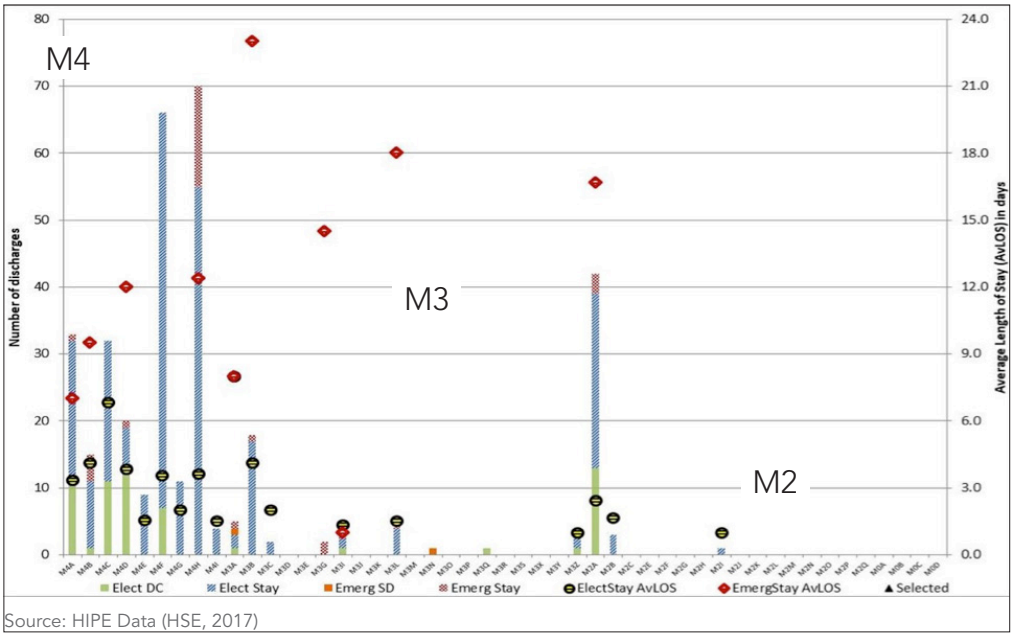
Specialty principal	# Dschrg	Stay Elect #	Elect AvLOS	% DC of Elect	Stay Emerg #	Emerg AvLOS	% SD of Emerg
Otolaryngology	823	322	9.69	51.0%	163	23.60	1.8%
Maxillo-facial	156	71	11.48	34.9%	39	13.26	17.0%
Oncology	148	68	3.85	42.4%	30	6.93	0.0%
Radiotherapy	128	30	37.30	63.9%	45	34.53	0.0%
Paediatric oncology	39	22	3.27	43.6%	##		
General medicine	31	##		0.0%	28	19.64	0.0%
Plastic surgery	28	7	6.71	74.1%	##		100.0%
Oral surgery	19	7	15.71	56.3%	##		33.3%
others	68	10	20.80	75.0%	28	27.89	0.0%

- values of 5 or less are not displayed

For Hospitals	Emerg Stay AvLOS	% Emerg as SD	Elect Stay AvLOS	% Elect as DC	Combined AvLOS	Combined % DC/SD
Average	22.4	3.7%	10.9	50.5%	15.3	39.2%
Min	2.0	0.0%	1.0	0.0%	1.0	0.0%
Max	41.0	17.9%	72.00	100.0%	50.0	100.0%

Figure 10: Head and neck cancer for all specialties: unscheduled and scheduled discharges by hospital in 2017
Source: HIPE Data (HSE, 2017)

Thyroid cancer for all specialties: scheduled and unscheduled discharges by hospital in 2017 Includes all discharges by otorhinolaryngology or paediatric otorhinolaryngology, excluding those having nasendoscopy/fibreoptic exam of pharynx.



Source: HIPE Data (HSE, 2017)

Figure 11 Thyroid cancer for all specialties: scheduled and unscheduled discharges by hospitals in 2017

08 CURRENT STATE

Speciallity Principal	# Discharge	Stay Elect #	Elect AvLOS	%DC of Elect	Stay Emerg #	Emerg AvLOS	%SD of Emerg
Otolarynagology	167	123	3.60	18.5%	16	14.06	0.0%
General Surgery	60	51	2.39	13.6%	##		0.0%
Radiotherapy	41	40	4.15	2.4%	##		
Endocrinology	40	36	3.36	2.7%	##		0.0%
Radiology	20	##		100.0%	##		
Oncology	10	##		0.0%	6	13.50	14.3%
Others	10	##		40.0%	##		20.0%
## - values of 5 or less are not displayed							

For Hospitals	Emerg Stay AvLOS	% Emerg as SD	Elect Stay AvLOS	% Elect as DC	Combined AvLOS	Combined % DC/SD
Average	12.4	6.3%	3.5	19.0%	4.4	17.8%
Min	1.0	0.0%	1.0	0.0%	1.0	0.0%
Max	23.0	100.0%	8.0%	100.0%	14.5	100.0%

The National Cancer Control Programme (NCCP) is currently in discussion regarding the future configuration of head and neck oncology services with the relevant specialties; it is envisaged that the delivery of head and neck cancer treatment will take place in four hub sites and four satellite sites. This document supports implementing the NCCP's recommendation in due course. Table 11 tabulates the current sites where complex ORL-HNS surgery is performed.

Site where complex ORL_HNS surgery is performed	
Lateral and anterior skull base complex procedures	Beaumont Hospital Cork University Hospital South Infirmary Victoria University Hospital
Cochlear implantation	Beaumont Hospital Temple Street Children's University Hospital
Bone anchored hearing aid surgery	Mater Misericordiae University Hospital/ Temple Street Childrens Hospital Midland Regional Hospital, Tullamore University Hospital Galway South Infirmary Victoria University Hospital
A specialised head and neck skin cancer service	University Hospital Waterford
Specialised laryngology services	St Vincent's University Hospital University Hospital Waterford South Infirmary Victoria University Hospital Midland Regional Hospital, Tullamore
Thyroid/endocrine multidisciplinary service (includes ORL-HNS, Endocrinology, Endocrine surgery, radiology, radiation oncology and pathology)	Beaumont Hospital Mater Misericordiae University Hospital St James's Hospital South Infirmary Victoria University Hospital University Hospital Waterford
Combined Respiratory ENT service	University Hospital Galway Beaumont Hospital Mater Misericordiae University Hospital
Balance clinic	Midland Regional Hospital, Tullamore Mater Misericordiae University Hospital

Table 11: Complex ORL-HNS surgery

09 NEW WAYS OF WORKING

There are a number of new ways of working that would have a significant impact on care delivery for patients requiring ORL-HNS intervention. The following section includes recommendations for implementation within Hospital Groups, primary care and community health organisations.

i. Primary care education for ORL-HNS skills

At the 2017 Irish College of General Practitioners (ICGP) Summer Sessions a high percentage of general practitioner (GP) delegates, when surveyed, stated that they would be interested in upskilling in ORL-HNS knowledge and procedural skills.

By addressing these educational needs through a fit-for-purpose ORL-HNS educational programme aimed at primary care practitioners, GPs and practice nurses, better patient health outcomes and value for money can be achieved. The patient maintains their connection with their primary care provider, as they are treated within the community, and the patient journey is therefore streamlined.

The ultimate aim of this integrated care programme is to develop a national network of credentialed primary care practitioners who are empowered to deliver an adult microsuction service for common ear conditions. This proof of concept model is currently operating in Royal Victoria Eye and Ear Hospital, Sligo University Hospital and University Hospital Waterford (Appendix 2).

The national establishment of this programme is subject to the allocation and appropriate funding and staffing in primary care.

RECOMMENDATION 1

Medical treatment of rhinitis and a proportion of ear microsuction can be treated in primary care by general practitioners (GPs) who are appropriately trained in ORH-LNS procedures. Each Hospital Group is to appoint a consultant as educational lead to roll out the GP Education Programme.

ii. Direct access for audiology diagnostics

The South Infirmary Victoria University Hospital (SIVUH) completed an audiology waiting list initiative of 1,000 patients waiting for an ORL-HNS outpatient appointment (Figure 12). This showed that a high volume of ORL-HNS outpatients could have their complete episode of care within the audiology department, negating the need for the patient to attend the ORL-HNS outpatient clinic. The validation provided evidence that up to 60 new ORL-HNS outpatients per week could be seen in audiology by a senior audiologist and that 37% of these patients could be discharged directly back to their GP with the appropriate advice and management regarding rehabilitation.

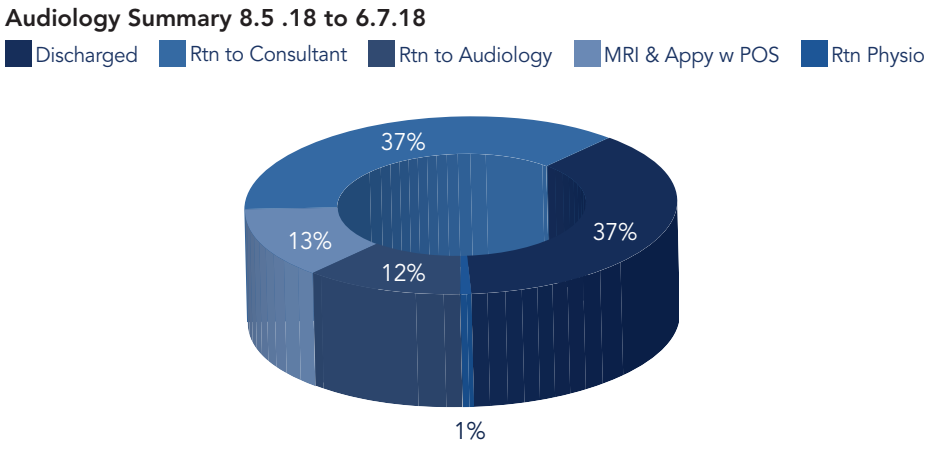


Figure 12: Results of audiology direct referral initiative at South Infirmary Victoria University Hospital

09 NEW WAYS OF WORKING

Nationally agreed referral criteria for direct referral to audiology services can be found in Appendix 3. Unpublished analysis by the Outpatient Services Performance Improvement Programme (OSPIP) of 1,000 patients on the waiting lists in University Hospital Waterford and University Hospital Galway indicates that approximately one-third of the patients on the long-term waiting list for ORL-HNS outpatient appointments are awaiting audiological assessment (Figure 13). A direct referral system to audiology would therefore have a major impact on the long-term waiting list. However, this is not available nationally due to workforce shortages in audiology.

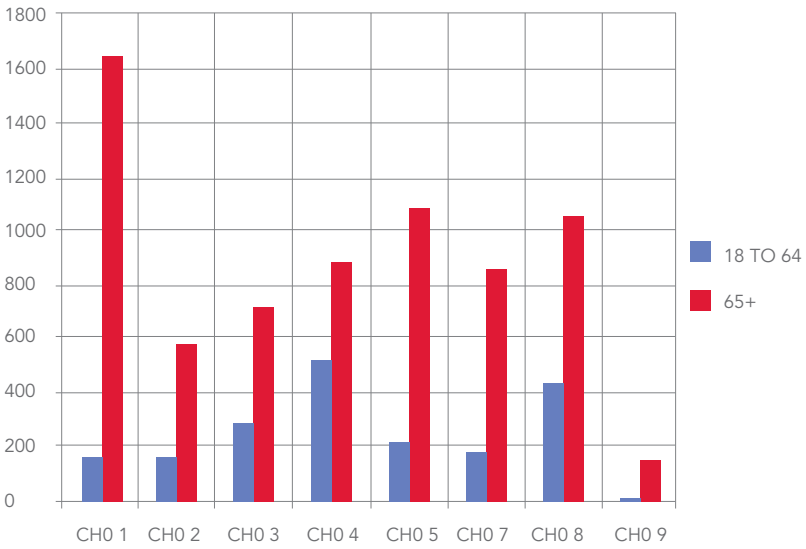


Figure 13: Waiting list for community audiology services, 2016
Data Source: Audiology services, 2016

RECOMMENDATION 2
Primary care practitioners require better access to direct referrals to diagnostic audiology and vestibular services.

iii. Joint specialist speech and language therapists (SLTs) and ORL-HNS voice and swallowing clinics

The Irish Association of Speech & Language Therapists (IASLT) recognise that following appropriate training for advanced practice roles (IASLT, 2016). This advanced practice role is also described by the Health and Social Care Professions Education and Development Advisory Group in its 'Progressing Advanced Practice' document (Reed, 2017).

An SLT-led multidisciplinary voice and swallowing clinic for medium- and low-priority patients referred to ORL-HNS with suspected voice or swallowing difficulty is common internationally.

Within this model, GP referrals are triaged by ORL-HNS specialists. Appropriate referrals are sent to specialist SLTs for assessment and the patient is discharged back to the GP with onward referral to primary care SLT services. The benefits of this model are improved patient access to appropriate services, improved ORL-HNS capacity to see high-priority referrals/ complex urgent cases, and enhanced patient outcomes and experience. It is recommended that an SLT-led clinic is co-located and run concurrently with another ORL-HNS outpatient clinic (Carding, 2003), (Vaghela et al., 2005), (Seabrook et al., 2017). This ensures that Otorhinolaryngology services are available for supervision and risk management, and are on call for any direct patient consultation if requested by an SLT. Inclusion and exclusion criteria for the SLT-led multidisciplinary clinic would be devised by ORL-HNS and SLTs.

(Carding, 2003) and (Seabrook et al., 2017) both implemented SLT-led voice clinics. In Carding's study, an audit of the service revealed that 81.3% of patients were able to be managed without ORL-HNS specialist intervention, with significant reductions to the ORL-HNS

waiting list. Of the patients in the Seabrook et al. (Seabrook et al., 2017) study, 74.8% were managed without the need for further Otorhinolaryngology input.

An audit of all referrals to Tallaght University Hospital's Otorhinolaryngology outpatient service over a four-year period identified 6% of the entire waiting list as appropriate to be triaged directly to an SLT-led endoscopy clinic. Redirecting this triaged cohort directly to an SLT-led service for assessment and management of voice and swallowing disorders can achieve significant cost savings, improved service efficiencies, and value improvements, thereby achieving better patient outcomes and improving patient experience and satisfaction.

SLT-led endoscopy clinics are not common in Ireland due to the lack of staffing resources to support this work; however, there are models in Ireland which should be considered. For example, in the Mater Misericordiae University Hospital, an SLT-led clinic for patients with voice disorders associated with Parkinson's disease is under development. This clinic will be led by a clinical specialist SLT who is trained in nasoendoscopy, and the clinic has the potential to provide significant time savings for ORL-HNS consultant staff. Research has shown that joint voice clinics run by ORL-HNS and a specialist SLT avoid repetition of clinical assessment, resulting in better planning of patient management and early initiation of treatment (Vaghela et al., 2005).

A pilot project of a parallel SLT/ORL-HNS clinic is also in its early stages in Beaumont Hospital. The aim of this work is to reduce waiting times for outpatient Otorhinolaryngology appointments by channeling those with voice disorders who do not require medical or surgical management out of the ORL-HNS outpatient clinic. A review of the voice therapy referrals received by SLTs in Beaumont Hospital in 2018 indicated that approximately 60% of those referrals were patients with a functional voice disorder. An audit of referrals received in the Mater Misericordiae University Hospital in 2017 identified that 50% of those referred to SLTs were considered to have no laryngeal pathology on ORL-HNS examination.

The benefits of voice therapy are well documented and well recognised. Prompt voice therapy for those with a functional voice disorder may result in symptom resolution with no further need for the patient to attend an Otorhinolaryngology service. Voice therapy for those with other organic causes of dysphonia, such as vocal nodules, will also reduce the need for medical or surgical intervention. All untreated voice disorders risk the development of secondary concomitant issues which require further ORL-HNS interventions. This specialist SLT clinic model will release capacity within the ORL-HNS clinic to focus on other areas and therefore improve waiting times.

Additional SLT resources at a clinical specialist level are required to set up, manage and develop these clinics. It is recommended that SLT-led endoscopy clinics be set up in all Model 4 hospitals. Provision should be made for SLT-led endoscopy clinics in Model 3 hospitals as required, in keeping with the aims of the hub-and-spoke model and the specific clinical needs of patients attending ORL-HNS services in those hospitals.

iv. Outpatients and ambulatory care

The OSPIP framework (HSE OSPIP, 2016) proposes triaging outpatient appointments to a clinically recommended time frame (Table 12).

Table 12: OSPIP outpatient recommended timeframes

Prioritisation Outcome	Clinical characteristics/outcomes of conditions within category	Recommended time to consultation to minimise risk and/or achieve best clinical outcomes	Notes/ discussion points
Immediate	• Imminent risk of death • Trauma major or minor • Irreversible deterioration if not seen immediately	Same day	Patients should be sent to ED/ minor injury unit /AMAU as appropriate, or a same day rapid access clinic where that facility exists
Urgent	Risk of permanent damage to organ system if treatment is delayed beyond CRT • Major functional impairment • Suspected malignant neoplastic disease • Rapidly progressing dysfunction (over a period of days or weeks) in established conditions	<= 28 days	NCCP/Individual specialties and/ or subspecialties may set urgent CRT at less than 28 days (e.g., as per breast disease)
Semi-urgent	Risk of damage to organ system if treatment is delayed beyond CRT • Moderate functional impairment or progressive loss of function over a period of months or years • Benign neoplastic disease • Significant restriction of economic activity	<= 13 weeks	Individual specialties and/or subspecialties and/or conditions may set semi-urgent CRT at less than 13 weeks for internal clinical management
Non-urgent	Minimal risk of damage to organ system if treatment is delayed beyond 13 weeks • Moderate functional impairment • Significant restriction of social activity • Management issues in established conditions • Reassessment of stable/chronic conditions that meet the criteria for review	<= 26 weeks	
Excluded	Conditions that have no impact on physical well-being, e.g., work assessments, cosmetic surgery • Sub-acute or minor conditions/ complaints that will be safely diagnosed and/or managed in primary care.		Specialties can decide on specific conditions/complaints, based on literature and/or international best practice, taking account of Irish health system's structure.

RECOMMENDATION 3

Outpatient referrals should be triaged according to the national Outpatient Services Performance Improvement Programme (OSPIP) prioritisation model. Each Hospital Group is to nominate an existing administrator to determine symptomatology of referred patients who are on long-term outpatient waiting list.

A review of ORL-HNS outpatient services in the United Kingdom (UK) on behalf of ENT UK (Jardine, 2017) recommend the safe practice guidelines for safe numbers of patients attending clinics listed in Table 13. Refer appendix 4 categorisation definitions for ORL-HNS prioritisation for patients presenting with different complaints

Table 13: ENT UK safe practice guidelines

General clinic	Recommendation	Consideration
Consultant	12 patients New and follow-up patients will vary, allowing 20 minutes per patient	Patients requiring consent will take 30 minutes Reduce clinic numbers by 1 patient per junior doctor supervised
Higher trainee/specialist registrar (SpR)	10 patients	

RECOMMENDATION 4
Outpatient clinic capacity should follow Otorhinolaryngology best practice guidelines.(Jardine A, 2017)

The implementation of the OSPIP prioritisation guidelines please refer table 12 and adopting the ENT UK guidelines for safe numbers in ORL-HNS outpatients will have a significant impact on increasing the outpatient waiting lists unless radical new strategies – such as direct access to audiology and one-stop multidisciplinary team (MDT) subspecialty clinics – are introduced. The benefits of a consultant-delivered service are well documented.(Academy of Medical Royal Colleges, 2012). The aim of these recommendations is to improve patient safety standards for outpatient service provision. Clinicians must have clinical autonomy; in some circumstances, it may be safe to see more patients if additional support services are provided.

MDT care has proven to enhance outcomes and decrease costs.(Epstein, 2014) Appropriate triage of patient referrals to one-stop clinics will ensure an efficient and cost-effective service by minimising unnecessary reviews and expensive diagnostic testing for the following clinics

a. Acute vestibular assessment and rehabilitation clinic
b. Specialist combined respiratory and ORL-HNS multidisciplinary clinic
c. Rapid direct access to speech/swallow clinics
d. Paediatric ORL-HNS clinic (for assessment of obstructive sleep apnoea)
e. Direct referral to audiology/otology clinic
f. Direct access to one-stop neck lump clinic.

a. Acute vestibular assessment and rehabilitation clinic

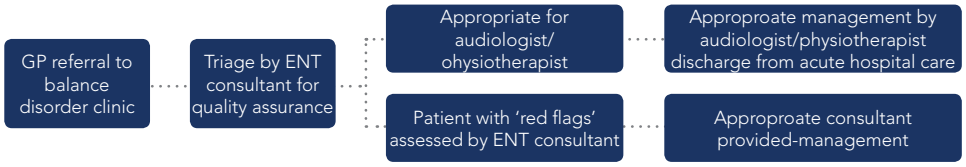
One in five elderly people experiences a disorder of balance. At the age of 70 years, 36% of females and 29% of males experience some disorder of balance, which contributes to the third commonest cause of mortality in this age group (Jayarajan and Rajenderkumar, 2003). Adults with reported dizziness have a higher mortality rate than non-dizzy patients (McDonnell, 2015) to minimise morbidity, these patients should be targeted for fall-prevention therapy/ interventions (Bath et al., 2000). If appropriately triaged and deemed suitable for follow-up by diagnostic vestibular audiology and vestibular physiotherapy audiology, half of the population with a balance disorder could be discharged from acute hospital services. Please refer to Figure 14, which shows a balance disorder clinic referral pathway. In order to meet the patient demand, there is a requirement to establish specialist clinics in each Hospital Group for the assessment and management of balance disorders.

Vestibular rehabilitation is internationally recognised as the standard of care for the management of dizziness and balance disorders originating in the inner ear, and it is best managed by an MDT, led by an ORL-HNS specialist, that includes audiologists and physiotherapists with specialised training (RCP, 2007). Refer to Figure 14 for a specialist vestibular rehabilitation pathway referral clinic and to Table 14 for clinic resource requirements.

It is recommended that patient support groups be established for those with dizziness and balance disorders, as for some patients these problems are chronic and severely affect their quality of life. These groups could be led by audiologists and/or physiotherapists.

A study carried out in Mater Misericordiae University Hospital demonstrated that half of the patients referred to this model of care can be effectively and safely discharged, demonstrating a significant reduction in outpatient waiting lists.

Figure 14: Acute vestibular assessment and rehabilitation referral pathway



RECOMMENDATION 5
Implementation of an acute vestibular assessment and rehabilitation clinic in each Hospital Group.

Table 14: Acute vestibular assessment and rehabilitation clinic resource requirements

Population	Where	Who	Support	Benefit
Patients with disorders of balance	Balance disorder clinic	ORL-HNS surgeon specialised in otology and vestibular disorders	Vestibular physiotherapist Audiologist	Reduction in ratio of new to returning patients Appropriate multidisciplinary care of patient 50% of patients referred can be discharged in order to reduce outpatient department (OPD) waiting list numbers

b. Specialist combined respiratory and ORL-HNS multidisciplinary clinic

Ireland has the highest admission rates for respiratory tract infections in Europe, which accounts for 12.1% of deaths in Europe (Fokkens et al., 2012). Obstructive sleep apnoea affects one in five people in Ireland, and the prevalence is increasing due to increasing levels of obesity. Obstructive sleep apnoea has significant cardiac and metabolic comorbidities. ORL-HNS plays a significant role in the assessment and management of these patients (Su et al., 2013). One in three patients who suffer a cerebral vascular accident develop aspiration pneumonia, which is a common cause of morbidity and death in over 65's age group. Analysis of 1,000 patients on the long-term waiting list (unpublished OSPIP data) in Ireland for ORL-HNS outpatient assessment revealed that 28.2% had rhinological symptoms, and a significant proportion of the patients referred with rhinological symptoms had rhinitis. The development of combined respiratory medicine MDT clinics has the potential to alleviate this workload; please refer to Figure 15 for a specialist combined respiratory and ORL-HNS clinic referral pathway and to Table 15 for clinic resource requirements.

RECOMMENDATION 5
Implementation of a specialist combined respiratory and ORL-HNS multidisciplinary clinic in each Hospital Group.

A pilot study at University Hospital Galway showed that it facilitates the implementation of protocols for medical management. All patients receive maximum medical management, minimising the need for repetitive suboptimal treatment (Appendix 5). We recommend the establishment of specialist combined respiratory and ORL-HNS multidisciplinary clinics, which will improve the quality of treatment provided to these patients and contain overall costs (Su et al., 2013).

c. Rapid direct access to speech/swallow clinics

A number of hospitals – for example Beaumont Hospital, Mater Misericordiae University Hospital, St James's Hospital, and Tallaght University Hospital – provide a fibreoptic endoscopic examination of the swallow (FEES) service alongside their videofluoroscopy service. A FEES is an SLT-led procedure which "involves the transnasal insertion of a fiberoptic nasendoscope to the level of the oropharynx/hypopharynx to evaluate laryngopharyngeal anatomy and physiology as it relates to the management of secretions and the ability to swallow food and fluids. Images are recorded and analysed" (IASLT, 2016). This service is provided by qualified SLTs trained in this area. The IASLT has adopted the FEES guidelines developed by the Royal College of Speech and Language Therapists (RCSLT, 2015).

International evidence recognises the role of FEES in the assessment of dysphagia, and it is well recognised that prompt intervention in the management of dysphagia can prevent costly and life-threatening complications, such as aspiration pneumonia (RCSLT, 2014). Oropharyngeal dysphagia is a common condition after stroke and in patients with Parkinson's disease and Alzheimer's disease, and can cause serious complications, including malnutrition, aspiration pneumonia and premature mortality. Dysphagia has been reported in between 8.1% and 80% of stroke patients, between 11% and 81% of Parkinson's disease patients, between 27% and 30% of traumatic brain injury patients, and 91.7% of patients with community-acquired pneumonia (Takizawa et al., 2016), (Lakshminarayan et al., 2010) showed that the incidence of aspiration pneumonia due to dysphagia could be reduced from 6.7% to 0% through effective management (RCSLT, 2014).

The presence of oropharyngeal dysphagia significantly increases healthcare utilisation and cost, and is an important contributor to pressure on healthcare systems. Dysphagia increases length of hospital stay by 2.99 days, and dysphagia increases length of stay among stroke admissions by as much as 4.73 days (Attrill et al., 2018). The presence of dysphagia has been shown to add 40% to healthcare costs internationally (Westmark et al., 2018). An established Adult and Paediatric Dysphagia Clinic run by a clinical specialist SLT in Tallaght University Hospital provides access to advanced swallowing assessments, including FEES, VFU (Videofluoroscopic) and high-resolution manometry, and treatments for both inpatients and outpatients to deliver accessible, timely, comprehensive, and patient-focused interventions.

The level of FEES service varies according to both the equipment and SLT staffing resources available within each hospital, not primarily due to the demand for the service. Examples of two Model 4 hospital FEES services are as follows:

- In 2017, 125 FEES exams were completed in Mater Misericordiae University Hospital: 95 inpatients and 30 outpatients.
- In 2017, 118 FEES exams were completed in Tallaght University Hospital, representing a 57% increase compared with figures from 2013.

RECOMMENDATION 5
Implementation of rapid direct access to a speech/ swallow clinic in each Hospital Group.

The appropriate equipment and staffing resources are required to best make use of this service. Specialist combined respiratory, ORL-HNS, and SLT multidisciplinary clinics are also effective for disorders such as chronic cough or vocal cord dysfunction.

Figure 15: Specialist combined respiratory and ORL-HNS multidisciplinary clinic referral pathway and resource requirements

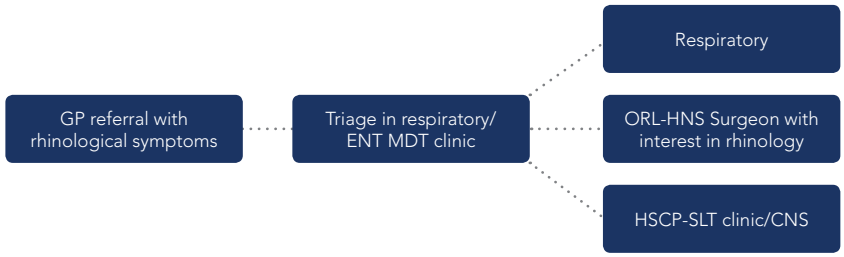


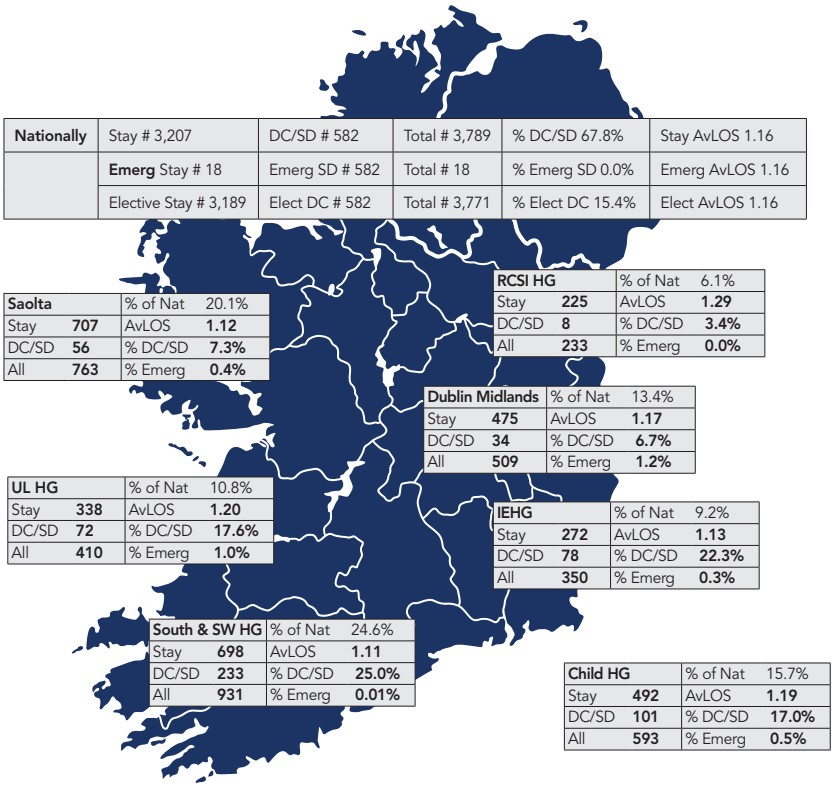
Table 15: Specialist combined respiratory and ORL-HNS multidisciplinary resource requirements

Where	What	Who	Diagnostic access	Support	Benefit
Each Hospital Group	Specialist ENT/ respiratory MDT clinic	Respiratory physician ORL-HNS surgeon with interest in rhinology	Skin allergy testing Diagnostic radiology	Clinical nurse specialist Speech and language therapist Dietician	Cost-effective Fewer unnecessary tests Ensures optimal treatment

d. Paediatric ORL-HNS clinic (for assessment of obstructive sleep apnoea)
Children awaiting a tonsillectomy account for one of the largest cohorts of patients on the long-term waiting list for ORL-HNS surgery.(ENT UK; Royal College of Surgeons UK, 2016) It is estimated that between 1% and 4% of children with large tonsils and adenoids have significant obstructive sleep apnoea (OSA). The potential cardiorespiratory and neural cognitive complications of untreated OSA are well recognised, and the surgery (adenotonsillectomy) is the first line of treatment (Brown et al., 1998). Studies suggest that incidents of OSA affect between 2% and 3% of the paediatric population under 10 years of age (Young et al., 2002). Figure 16 represents the variation of all ENT discharges by Hospital Group who had a tonsillectomy and/or adenoidectomy as their primary procedure.

The development of a paediatric otorhinolaryngology clinical pathway and fulfilling clinic resource requirements has the potential to efficiently triage this workload. Refer to Figure 17 for a tonsillectomy clinic referral pathway and to Table 16 for clinic resource requirements.

Otorhinolaryngology surgery – scheduled/unscheduled discharges by Hospital Group in 2017 (tonsillectomy and/or adenoidectomy) (Includes all patients discharged by otorhinolaryngology and who had a tonsillectomy and/or adenoidectomy)



DC = day case, DC/SD = day case/same-day discharge
Source: HIPE Data (HSE, 2017)

Figure 16: Tonsillectomy and/or adenoidectomy variation

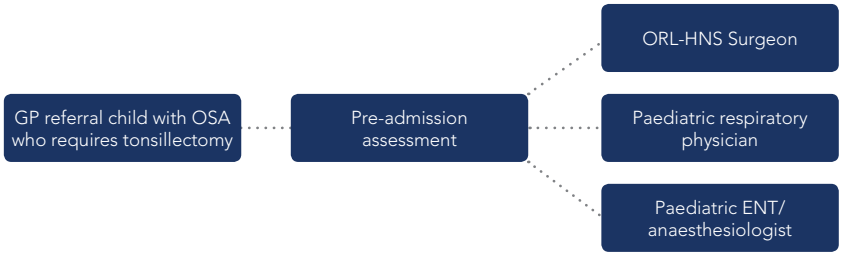


Figure 17: Paediatric otorhinolaryngology clinic referral pathway

Table 16: Paediatric Otorhinolaryngology clinic resource requirements for tonsillectomy

Population	New service	Where	Who	Benefit
Children with clinical features of sleep apnoea	Pre-operative assessment for population requiring tonsillectomy	Designated centre in each Hospital Group	ORL-HNS surgeon with interest in paediatric ORL-HNS Paediatric respiratory physician	Reduced risk for patients

RECOMMENDATION 5
Implementation of a paediatric ORL-HNS clinic (for assessment of obstructive sleep apnoea) in each Hospital Group.

Children with documented OSA require close postoperative monitoring.

Recommended key performance indicator (KPI):
- Reduction in unscheduled admissions to high dependency unit (HDU).
- Direct referral

e. Direct referral to audiology/otology

As otology is the cornerstone of ORL-HNS services, Hospital Groups should continue to have a specialised otology service. Table 3 reveals that microdebridement of ears is the most frequently performed procedure carried out in ORL-HNS.

RECOMMENDATION 5
Implementation of a direct referral to audiology/otology clinic in each Hospital Group.

f. Direct access to neck lump clinic

The provision of a one-stop neck lump service aims to improve the pathway from referral to diagnosis of patients with a neck lump. If pathology requires ongoing treatment, the patient is referred to the appropriate MDT i.e head and neck oncology endocrinology surgery.

Please refer to Figure 18 for the clinical pathway and to Table 17 for clinic resource requirements.

09 NEW WAYS OF WORKING

Figure 18: One-stop neck lump clinic

Table 17: One-stop neck lump resource requirements

Population	Where	Who	Support	Benefits
Patients with a neck lump	In each Hospital Group	Head and neck oncologist Radiologist Pathologist Clinical nurse specialist (CNS)	Ultrasound Cytology service	Patients with neck lumps which prove to be benign are reassured early Patients with malignant neck lumps are swiftly diagnosed and transferred for relevant specialist management

Internationally recognised KPIs for one-stop neck lump service pathways that ORL-HNS clinics aspire to include:

- Time of referral to first MDT clinic appointment (target 85% in three weeks)
- Date for investigation, ultrasound scan, cytology (percentage performed on the same day)
- KPI turnaround time for reporting fine needle aspiration (FNA) (100% within 96 hours)
- Reduction in time to diagnosis from referral to histology for patients with benign disease
- Reduction in time to diagnosis from referral to histology for patients with malignant disease.

RECOMMENDATION 5
Direct access to a neck lump clinic in each Hospital Group.

Current metrics do not capture this data
KPIs which can be collated include:

- Waiting times of less than 12 weeks
- Reduction in OPD patient numbers
- Reduction in unnecessary diagnostic testing.

a. Ambulatory procedures

Nasendoscopy is recorded as the most common procedure performed on patients discharged by ORL-HNS (NQAIS Clinical) however, although this is an outpatient procedure, it is recorded as a day case intervention in many hospitals. Please refer to Table 18 for tabulated procedures currently performed in outpatient clinics and Table 19 for additional procedures which could be carried out in outpatient clinics. The Hospital In-Patient Enquiry (HIPE) coding system currently does not record outpatient procedures; a Health Service Executive (HSE) Healthcare Pricing Office (HPO) review is in progress for HIPE coding of procedures performed in outpatient clinics.

Table 18 Procedures currently performed in outpatient clinics

Procedures currently available in an outpatient clinic	
Microdebridement of ears	Reduction nasal fracture
Myringotomy and grommet insertion in adults	Nasal biopsy
Removal of foreign body from ear canal	Insertion of nasal pack
Nasendoscopy	FNA of lymph node/thyroid nodule
Functional endoscopic swallowing test	Drainage of peritonsillar abscess
Stroboscopy	Drainage of neck abscess

These interventions are time consuming, not coded as procedures, and considered part of the normal consultation process. A coding mechanism for ambulatory surgical procedures is required but presently lacking (Keane et al., 2018). Until outpatient procedures are coded, all hospitals should adopt the policy of recording them as day case procedures. Ring-fenced funding should be provided to deliver the above on a 'see-and-treat' basis (Figure 19).

There is the potential to reduce the inpatient/day case waiting list by using see-and-treat clinics provided that the procedures are coded and recorded, and that adequate time, resources, nursing and administrative support are provided.

Table 19: Additional recommended outpatient procedures

There is the potential to perform additional procedures in the outpatient setting, such as selected cases of:	
Turbinate reduction	Skin tumour excision with local flap reconstruction
Modified septoplasty	Streptomycin ablation therapy
Excisional biopsy of neck lump	

RECOMMENDATION 6
Outpatient procedures should be costed by the HPO and procedures coded to incentivise cost savings through ambulatory care.

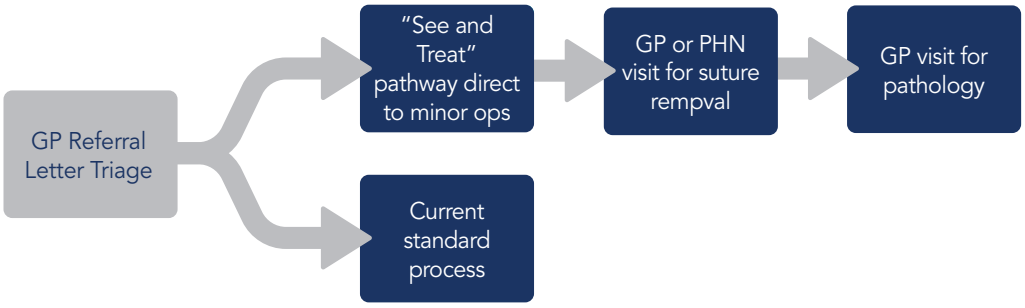


Figure 19: 'See-and-treat' algorithm

Streamlining the patient journey reduces cost and waste of theatre time and improves the patient's experience. Pre-admission and day-of-surgery admission (DOSA) are an essential formula for this model of care (NCPS, 2011).

b. Pre-admission
Pre-admission reduces day-of-surgery cancellations and shortens average length of stay (AvLOS), and ensures that appropriate services are planned for patients requiring multidisciplinary care. Regional variation exists in the percentage of patients who attend pre-admission clinics for ORL-HNS services. This service has the potential to be jointly delivered by an advanced nurse specialist for ORL-HNS and anaesthesiology (NCPA, 2014).

Recommended KPI: In excess of 80% of patients attend pre-admission.

RECOMMENDATION 7
Hospital Groups should implement day-of-surgery admissions (DOSAs), including necessary pre-admission support.

c. Day-of-surgery admission
DOSA for patients who have had the appropriate pre-admission workup and planning reduces the number of same-day cancellations. Hospital Groups should engage with clinicians and agree locally on a cohort of patients who are suitable for DOSA.

Recommended KPI: In excess of 80% of patients admitted via DOSA.

d. Escalation protocol
It is recommended that a clear escalation protocol be established and agreed locally for major complications occurring in a 'spoke' site, and an admission and transfer protocol should exist for direct access to a 'hub' site for management. Escalation of care involves recognising, communicating and responding to patient deterioration until a satisfactory outcome has been achieved. The issues in relation to timely recognition and response are complex. Key factors in escalation process failures identified in a 2016 study by Johnson & Johnson (Johnson and Johnson Health Care Privacy, 2016) were outdated communication technology, understaffing, and hierarchical barriers.

In order to address these failures, defined escalation protocols are required for each specialty. The training bodies are responsible for human factors training, while the provision of safe staffing levels and enhanced communication technology are the responsibility of the employing authority. The key to mimimising the escalation rate is to develop, implement and maintain a quality care plan for otorhinolaryngology.

RECOMMENDATION 8
A lead ORL-HNS consultant should be nominated in each Hospital Group with protected sessions to ensure implementation of this Model of Care, patient safety and quality of care.

A study by Rajasekaran et al. (Rajasekaran et al., 2015) identified five major focus areas:
1. pre-admission risk stratification by the American Society of Anesthesiologists' (ASA's) physical status classification, the ASA Score
2. communication among patients, clinicians and allied care providers
3. patient education
4. appropriate discharge care and planning
5. coordination of care after discharge.

The most common reasons for readmission in this study were problems with the surgical site, education/expectation issues, and recurrent symptoms of underlying disease. The majority of these problems could have been addressed by focused patient education. In order to implement a quality-of-care strategy, a consultant ORL-HNS should be nominated as quality control officer in each Hospital Group with protected sessions. They will require dedicated support from a clinical nurse specialist (CNS), SLT, physiotherapist, dietician, anaesthesiology, and social workers, as well as administrative support (Johnston et al., 2015).

e. Enhanced recovery
The introduction of enhanced recovery after surgery (ERAS) programmes in head and neck surgical units has been demonstrated to reduce AvLOS for cancer patients (Coyle et al., 2016). The key elements include a patient diary, nutritional optimisation, avoiding tracheostomy when possible, goal-directed intraoperative fluid therapy and a specific head and neck pain management protocol.

The programme requires structured multidisciplinary meetings between surgeons, anesthesiologists, dieticians, SLTs, CNSs and physiotherapists. This type of programme should be embedded in all head and neck cancer units.

f. Discharge protocols
Discharge protocols are encouraged in order to ensure minimum readmission rates (KPI <3%). These protocols can be nurse/AHP led and should be managed locally (NHS Scotland, 2015). A proof of concept into non-medical discharge in Ireland is currently being piloted in three pilot sites nationwide.

Recommended KPI: 50% of this cohort of patients discharged by a non-medical clinician.

Figure 20 details patient pathways for pre-admission, DOSA and enhanced recovery.

	Pre-admission	Day of Surgery Admission	Enhanced Recovery
Recommended KPI	Nurse led pre admission service	Establish pathway for patients suitable for DOSA	> Effective pre-admission care > DOSA > Promt discharge for patients
	80% of ENT patients attend pre-assessment	80% of ENT patents admitted by DOSA lounge	50% of patients discharged by a non medical clinician

Figure 20: Patient pathways

The National Patient Experience Survey (HSE, 2018) found some of the current discharge protocols to be unsatisfactory. The patient should know what to expect in the recovery pathway, what complications to look out for and when to seek immediate assistance, and potential side effects of medications prescribed on discharge.

g. Electronic health/virtual clinics

In order to reduce patient visits to acute hospitals and improve the patient experience, there is a role for virtual clinics or telephone follow-up within ORL-HNS services. Patients can be reviewed via telephone, informed of results and provided with management advice and reassurance. This is a role that could be filled by a CNS.

RECOMMENDATION 9
As proposed by the HSE, this Model of Care requires development and implementation of symptom-specific e-referral templates for ORL-HNS.

h. E-referrals

Key to general practitioners (GPs) being able to triage patients directly to audiology, vestibular services and subspecialty clinics is the development of symptom-specific e-referral templates that should be constructed with inputs from the Outpatient Services Performance Improvement Programme (OSPIP) and Healthlink, GPs and the specialty of ORL-HNS.
A specialty-specific e-referral system is crucial to the implementation of numerous clinics discussed within this document. This is outlined in the Strategy for the Design of Integrated Outpatient Services 2016-2020 and exemplified by that document's guiding principle 1 (HSE OSPIP, 2016).

i. Management of epistaxis

Epistaxis represents 0.9% (Pope and Hobbs, 2005) of attendances to emergency departments, and it accounts for the most frequent unscheduled admissions in ORL-HNS. The majority of these patients are elderly with significant comorbidities which results in a prolonged length of stay (AvLOS 5.5 days), (NQAIS Clinical). A significant proportion of these patients could be best managed in a medical ward once haemostasis is secured. Figure 21 shows a proposed treatment algorithm that may assist with the management of this cohort of patients.

RECOMMENDATION 10
Implement a treatment algorithm for epistaxis to reduce admission rate and average length of stay (AvLOS).

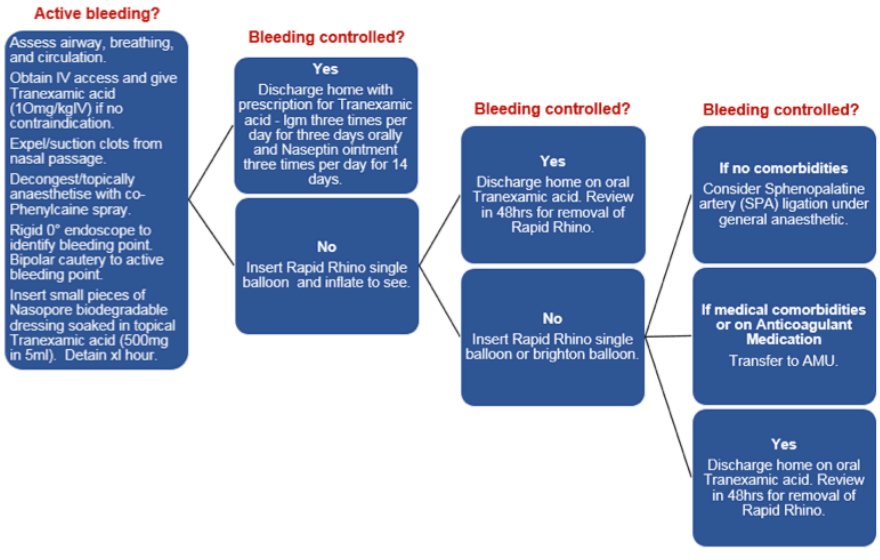


Figure 21: Epistaxis patient pathways

j. Direct booking system for tonsillectomy

Analysis of 1,000 patients on the long-term waiting list for ORL-HNS outpatient assessment revealed 18% with tonsillitis/sore throat. The development of a direct-access tonsillectomy has the potential to alleviate this workload.

In the vast majority of patients, the decision as to whether a tonsillectomy is indicated is made on the basis of the patient's history and not on the clinical appearance of the tonsils, as outlined by the Scottish Intercollegiate Guidelines Network (SIGN), (NHS, 2010).

A direct booking system is suggested; please refer to Table 20 for a direct booking process.

Table 20: Direct booking process to tonsillectomy

GP refers patient to ORL-HNS for tonsillectomy assessment.	Tonsillectomy questionnaire sent to patient/guardian.	Patient is directly booked to surgery if they fit the criteria for surgery.

In this system, once the consultant receives the referral letter, a questionnaire is sent to the patient (see Appendix 6). This questionnaire consists of eight parts designed to assess whether the patient meets the criteria for a tonsillectomy (Health Information and Quality Authority (HIQA, 2013) and SIGN (NHS, 2010). The questionnaire will determine whether they are medically fit for surgery and will exclude patients for whom a tonsillectomy would be contraindicated. An information sheet on the procedure is also sent to the patient with the questionnaire, and a letter is sent to the GP informing them that the questionnaire has been sent to their patient. The returned questionnaire is reviewed by the consultant and if the patient fulfils the criteria for a tonsillectomy, they are booked for the procedure. If appropriate, the patient may be seen in the pre-assessment clinic. Once they are booked for surgery, an information leaflet regarding the procedure, including risks and complications, is sent to the patient (see Appendix 7). The patient or their guardian is required to read, sign and return this information leaflet, confirming that they understood the procedure and potential complications.

RECOMMENDATION 11
Increase day case and ambulatory surgical procedures, including tonsillectomy, in children and adult

On the day of admission for the tonsillectomy, the patient will be assessed by a senior otorhinolaryngologist consultant or specialist registrar (SpR) to confirm that they fulfil the criteria for a tonsillectomy, that there are no contraindications to surgery, and that they fully understand the morbidity and risks associated with the procedure.

The direct booking system speeds up the patient's journey through the system. A study carried out in Beaumont Hospital showed this system to be efficient and safe (R. Ali, 2010). Direct booking systems have also been introduced in the UK for direct access to hernia surgery (Sri-Ram et al., 2006) and oral surgery (Ravi and Howell, 2007).

Recommended KPIs:
- Decrease waiting times
- Reduction in review patients
- Fewer readmissions
- Reduction in AvLOS for unscheduled care.

10

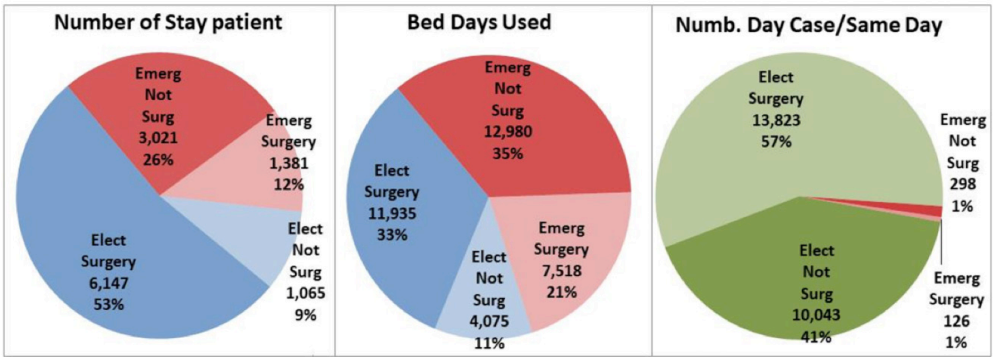
SCHEDULED AND UNSCHEDULED SURGICAL CARE DELIVERY

a. Separate pathways for scheduled and unscheduled admissions

The acute (NCPS, 2013) and elective (NCPS, 2011) models of surgical care recommend the separation of scheduled and unscheduled care. Within current service provision, the bulk of scheduled and unscheduled care takes place in Model 4 and Model 3 hospitals. Both complex surgical procedures and routine elective surgeries are performed in the same departments and, as illustrated in Figure 22, 26% of admissions to these units are acute. When combined with the inadequate stock of protected beds for elective surgery for ORL-HNS specialty, the waiting lists for routine scheduled surgery in this specialty continue to increase.

In the Model 4 hospitals where complex scheduled and unscheduled care is provided, an essential requirement is the availability of the appropriate number of intensive care unit (ICU) beds.

Otolaryngology discharges split between Elective/Emergency and had surgical proc./not had surg. proc. 2017



2017 Summary	Patient who had a surgical primay procedure					Patient admitted under sugerical care not having a surgical primary procedure					All surgical patients	
	# Inpat	BDU	AvLOS	#DC/SD	%DC/SD	# Inpat	BDU	AvLOS	#DC/SD	%DC/SD	# Inpat	# DC/SD
Emergency	1,381	7,518	5.44	126	8.4%	3,021	12,980	4.30	298	9.0%	4,402	424
Elective	6,147	11,935	1.94	13,823	69.2%	1,065	4,075	3.83	10,043	90.4%	7,212	23,866
Total	7,528	19,453	2.58	13,949	64.9%	4,086	17,055	4.17	10,341	71.7%	11,614	24,290

Figure 22: Discharges by specialty (NQAIS Clinical)

RECOMMENDATION 12
Separate delivery of complex ORL-HNS scheduled surgery from routine ORL-HNS scheduled surgery.

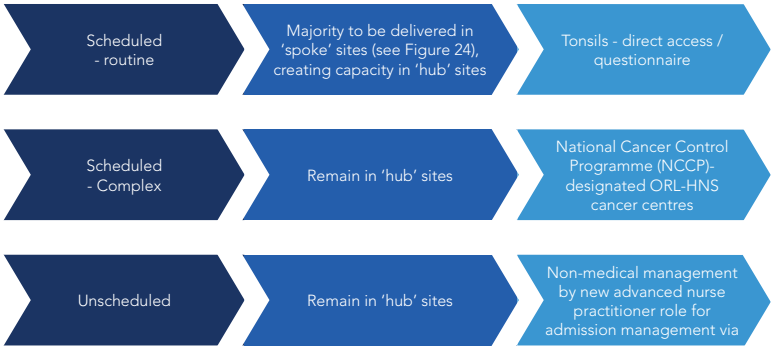


Figure 23: Overview of separation of scheduled and unscheduled care

Separation of routine scheduled care from unscheduled care and complex routine care is the key to effective service delivery. A hub-and-spoke model is essential to delivering this service; please refer to Figure 24 for a schematic of the hub-and-spoke model. It is imperative that anaesthesiologists work in both the hub sites and spoke sites in order to maintain skills in the management of scheduled and unscheduled care.

RECOMMENDATION 13
Designate and resource four specialty 'hub' centres delivering complex head and neck surgical oncology, supported by four 'spoke' sites nationwide, as recommended by the National Cancer Control Programme (NCCP).

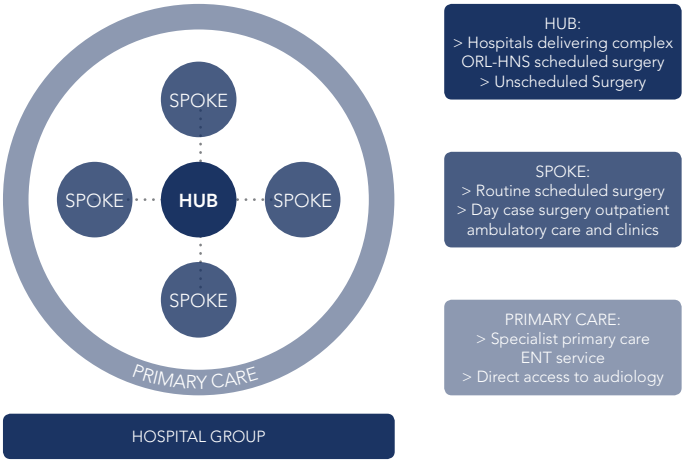


Figure 24: Hub-and-spoke model

b. Acute surgical assessment units

Acute surgical assessment units (ASAUs) can provide patients with an improved experience when accessing unscheduled surgical services. The National Clinical Programme in Surgery (NCPS) Model of Care for Acute Surgery (NCPS, 2013) sets out a process whereby considerable efficiency and safety benefits may accrue for acutely ill surgical patients. ASAUs are designed to deal with a significant throughput of acutely unwell surgical patients, but not patients who are unwell to the point where they require active resuscitation. These Category 1 and 2 patients Manchester Triage System (Kevin Mackway-Jones, 2013) would still continue through the default emergency department (ED)/resuscitation streams. The majority of surgical attendances will still be seen through the existing ED stream, but an ASAU provides the potential to stream less high-acuity patients directly to specialty decision-makers. Treatment may either be on the spot, by ambulatory or outpatient care, or require admission (NCPS Minimum Standards for Acute Surgical Assessment Units (ASAU) in Ireland) (NCPS, 2018) ORL-HNS patients presenting to ED with the conditions listed in Table 21, provided they fulfil the criteria, are suitable for management via an ASAU with local agreement. ASAUs will be an integral component of the acute floor going forward.

Table 21: ASAU unscheduled presentations criteria for ORL-HNS

ASAU unscheduled presentations criteria for ORL-HNS
Foreign bodies in the airway or upper digestive tract
Deep neck space abscess
Complicated mastoiditis/cholesteatoma or sinusitis
Behavioural change in the presence of sinus infection
Pharyngeal/laryngeal foreign body
Abscess or haematoma, e.g. peritonsillar abscess, septal or auricular haematoma, paranasal sinus pyocoele
Acute neck swelling
Lower motor neuron facial palsy in the presence of purulent ear discharge or vesicles on the pinna/in the ear canal
Vertigo in the presence of purulent ear discharge
Fluctuating post-auricular swelling in the presence of purulent ear discharge
Unilateral deep seated temporal headache in the presence of unilateral purulent ear discharge
Lower motor neuron facial palsy following skull-based fracture
Acute sensory hearing loss
Severe otitis externa in a diabetic or immunocompromised patient
Acute painful swelling of salivary glands
Acute proptosis in the presence of an upper respiratory tract infection

10

SCHEDULED AND UNSCHEDULED...

RECOMMENDATION 14
Unscheduled ORL-HNS patients who fulfil the acute surgical assessment unit (ASAU) admission criteria should be streamed to the ASAU.

The initial management of the patient by a senior decision-maker is shown to reduce patient experience times and could be facilitated by a nurse in an advanced role.
Recommended KPIs for an ASAU
KPI 1: A patient experience time (PET) time of less than four hours for 80% of patients
KPI 2: Admissions less than 60% per month
KPI 3: ASAU review in less than 30 minutes for at least 80% of patients
KPI 4: Less than 10% Triage Category 5 patients
KPI 5: Conduct patient satisfaction follow-up in at least 25 patients each quarter

Table 22 outlines complex procedures performed in Model 2, Model 3 and Model 4 hospitals. Table 23 outlines the definition of Model 2, 3 and 4 hospitals as define by the National Acute Medicine Programme (RCPI, 2010). The British United Provident Association (BUPA) code stratifies complexity for surgery procedures.

Table 22: BUPA Codes for complex procedures

OTOLOGY, Complex		
Procedure	BUPA code	Count in 2017
Cochlear implant	CMO 2	157
Exploration of middle ear	Major 4	154
Excision lesion middle ear	Major 4	83
Modified radical mastoid	Major 3	105
Combined approach	CMO 2	52
Revision mastoid	Major 4	22
Atticotomy	Major 4	13
RHINOLOGY, COMPLEX		
Ethmoidectomy	Major 3	487
HEAD AND NECK, COMPLEX		
Total thyroidectomy	Major 5	125
Partial thyroidectomy	Major 4	250
Revision thyroidectomy	Major 5	56
Retrosternal thyroidectomy	Major 3	11
Sub-total parathyroidectomy	Major 1	65
Total parathyroidectomy	Major 3	10
Superficial parotidectomy	CMO 1	162
Total parotidectomy	CMO 2	44
Excision submandibular gland	Inter 5	52
Radical lymph node dissection	CMO 1	48
Selective neck dissection	CMO 1	109
Cysts/fistulas thyroglossal cyst	Major 4	65
Branchial cyst	Inter 5	35
Mucosal complex laryngectomy	CMO 2	32
Partial glossectomy	Major 5	27
Commando	CMO2	30

Model 2 hospitals should become the location for the majority of routine scheduled and day case procedures. South Infirmary Victoria University Hospital (SIVUH) and the Royal Victoria Eye and Ear Hospital (RVEEH) are designated Model 2S hospitals where major complex procedures are performed.

Major advantages of utilising Model 2 hospitals include:
- No unscheduled patients
- Ability to perform high volumes of procedures, making investment in equipment feasible and allowing nurses and other staff to be highly skilled with specialised equipment.

RECOMMENDATION 15
Develop a hub-and-spoke model for Hospital Groups, with Model 2, Model 2S and Model 3 hospitals becoming the preferred location for routine scheduled day case procedures. Each Hospital Group is to audit equipment and staffing requirements necessary to provide efficient outpatient services in satellite clinics.

Table 23: HSE hospital modelling system

Model 1	Community/district hospital
Model 2	Ambulatory care, diagnostics, selected medical inpatients, medical assessment and local injury units Model 2S are sites where complex surgery can be performed
Model 3	Undifferentiated acute medical and surgical patients, emergency department and intensive care unit
Model 4	University teaching hospitals – as per Model 3, plus tertiary referral and higher-level intensive care

Figure 25 demonstrates scheduled and unscheduled discharges for patients who had surgery in 2017 by hospital average case complexity. Otorhinolaryngology unscheduled/scheduled discharges who had surgery in 2017, by hospital. Unscheduled and scheduled discharge volume, AvLOS and average case complexity by hospital.

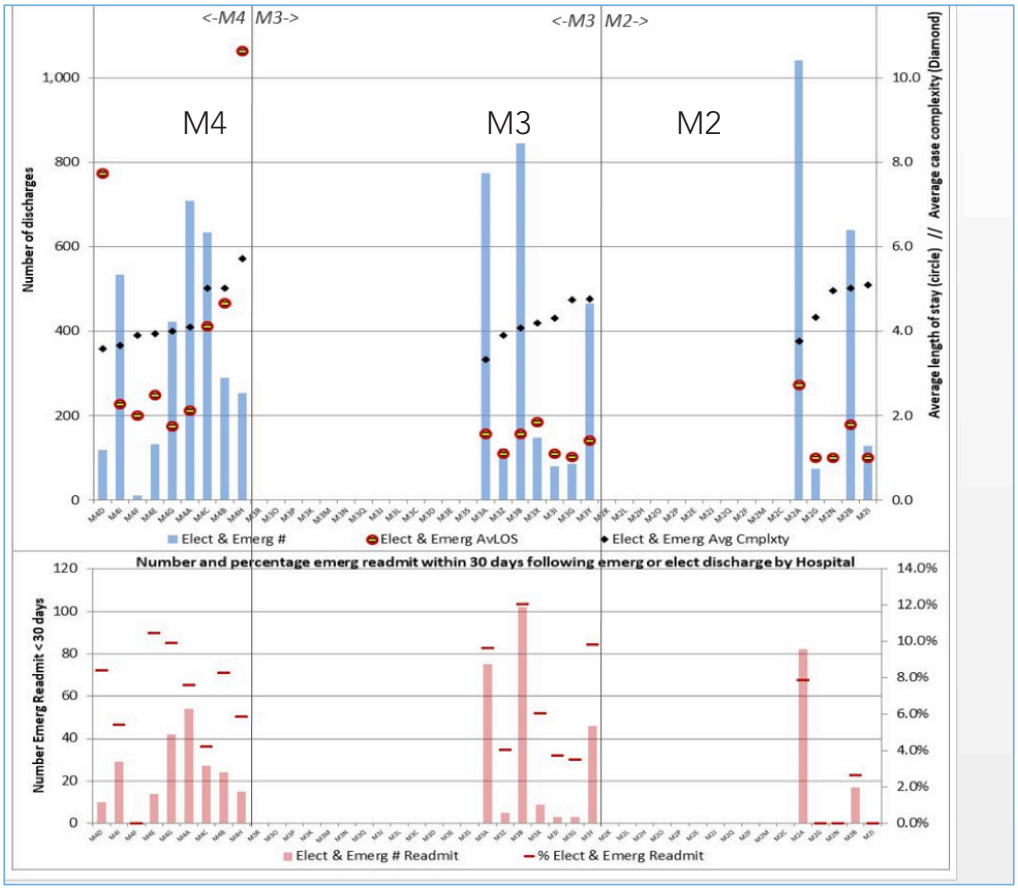


Figure 25: Unscheduled and scheduled discharges by hospital in 2017
Source: HIPE (HSE, 2017)
Note: 91% of discharges had procedures coded for complexity

10 SCHEDULED AND UNSCHEDULED...

c. Protected beds

An absolute prerequisite for an efficient, cost-effective and smooth patient flow through the scheduled surgery process demands the provision of protected beds, whether day or inpatient. This needs to be estimated for each Hospital Group. Refer to Appendix 8 for a bed requirement simulation model.

RECOMMENDATION 16

Each Hospital Group should calculate the number of protected beds required for inpatients and day cases within each Hospital Group.

Theatre Quality Improvement Programme

A modelling system to predict theatre requirements is outlined in Appendix 9. In 2017, a collaboration between the HSE's Integrated Care Programme for Patient Flow, the National Clinical Programme for Anaesthesia (NCPA), the NCPS and the RCSI's Quality and Process Improvement Centre (QPIC) was established to oversee a sustainable Theatre Quality Improvement Programme (TQIP). The TQIP aims to support hospitals and multidisciplinary perioperative teams who are committed to quality and process improvement in order to deliver sustainable improvements in:

- Patient experience and outcomes
- Safety, quality and reliability of care
- Team effectiveness and staff well-being
- Value
- Organisational quality improvement capability.

RECOMMENDATION 17

Each Hospital Group should determine theatre capacity and utilisation required to meet service demands by employing the Theatre Quality Improvement Programme (TQIP) theatre performance software tool, which generates detailed operational analytics.

Implementation of the TQIP supports improved perioperative patient flow and value through improved theatre efficiency (e.g. reduction in delays in start times, turnaround times, better scheduling of capacity to meet demand, and reduced overruns and inventory costs). Participating sites are supported in situ on their improvement journey by a team of experienced TQIP process improvement advisors. Each hospital site can be provided with a theatre performance software tool, which generates detailed operational analytics, enabling the local team to quickly identify areas for improved perioperative flow. Standardised KPIs and measures are reported through local perioperative and executive management governance structures to support continuous improvement efforts and more effective operational management.

Participating team members are also awarded a certificate in Quality and Process Improvement following successful completion of the training programme. This supports increased capability and sustainability in the application of quality improvement tools within perioperative teams in the participating sites.

d. Increasing day case activity in Model 2 and Model 3 hospitals

There is potential capacity in some Model 3 and Model 2 hospitals which could be utilised for routine scheduled day case procedures in ORL-HNS. The implementation of the recommendations in this document will help to overcome the obstacles that hinder the initiation of day case surgical procedures in Model 2 hospitals. These barriers include the following:

1. Some of the units have no history of providing a service for ear, nose and throat (ENT) surgery.
2. Capital investment in theatre, equipment, day care facilities and appropriately trained staff is required.
3. Consultant workforce levels in ORL-HNS are currently not capable of covering services in these units.
4. There is an insufficient consultant workforce in anaesthesiology.
5. There is a lack of multidisciplinary teams working to facilitate effective patient flow.

Provided these barriers are overcome and the criteria for managing day surgery units (as outlined in the Implementation support guide for the Model of Care for Elective Surgery) (NCPS, 2011) are adhered to, a significant bulk of the routine elective work could be carried out in these hospitals.

RECOMMENDATION 18
Each Hospital Group should ensure the availability of anaesthesiologists specialising in day case surgery and ORL-HNS.

The management of the shared airway between the anaesthetist and the ORL-HNS surgeon is well recognised. The incidence of major airway complications is higher in ENT procedures (30%) than in other surgical procedures (Brown et al., 1998). Therefore, when planning the expansion of scheduled day case surgery to Model 3 and selected Model 2S and Model 2 hospitals, it is essential that there is an availability of consultants in anaesthesiology specifically trained in day surgery and upper airway procedures. The readmission rate following day case procedures for ORL-HNS averages 2.8% (ranging from 0.6% to 19%). The commonest reasons for readmission are vomiting (30%), hemorrhage (20%) and inadequate recovery from general anaesthetic (22%). Rhinological procedures have a higher than expected admission rate, e.g. septoplasty admission rate is (13.4%), (Han et al., 2015). Use of criteria-led discharge in Ireland has yet to be proven; however, a current pilot project is underway, in line with international findings (NHS Scotland, 2015). Protocol-driven, nurse-led discharges are essential to mimimise readmission rates, and if significant complications occur, there should be a clear agreed pathway for transfer to the Model 4 hospital in the Hospital Group.

RECOMMENDATION 19
In order to ensure patient safety, protocol-driven discharge in ORL-HNS should be implemented.

e. Tonsillitis/tonsillectomy

Tonsillectomy constitutes the principal procedure for patients discharged by the specialty (NQAIS Clinical) (Table 3). In order to manage demand in the system, it is suggested that the following new ways of working are adopted for patients requiring tonsillectomies.
Day care tonsillectomy is a safe procedure to perform in a day case setting (O'Dwyer, 1994), provided that patients are carefully selected and the infrastructure is in place to provide adequate access to support for patients with postoperative problems. In Ireland, there is a wide variation in the rate of day case tonsillectomy (ranging from 1.1% to 63%) (NQAIS Clinical). The most prevalent contraindication to day case tonsillectomy in Ireland is distance from the hospital (Kharytaniuk et al., 2015). As outlined in the publication Securing the Future of Smaller Hospitals: A Framework for Development (HSE, 2013) a significant proportion of tonsillectomies have the potential to be performed in Model 2S hospitals, provided the appropriate staffing, training, equipment and care pathways are in place and that the procedures are scheduled on a morning list.

An audit published by University Hospital Galway in 2015 (Kharytaniuk et al., 2015) established that 27% of patients were considered suitable for day case tonsillectomy, as the distance/time criteria from the hospital excluded 64% of the patients.

The main principle laid out in Money Follows the Patient: Policy Paper on Hospital Financing (DOH, 2013) recommends the implementation of a funding system, which should support the provision of quality care in the lowest complexity setting. There is significant variation in the tonsillectomy rate when different regions are compared (NQAIS Clinical) (HSE, 2017) To ensure standardisation, the HIQA guidelines for tonsillectomy should be adhered to in all regional units, as this has been demonstrated to decrease the inappropriate referral rate (Hasan et al., 2016).

Because of the ongoing debate in the UK as to whether tonsillectomies should be funded by the public health system, a prospective audit using the Throat Disorders Outcome Tool (TI-14) should be instituted by the National Office of Clinical Audit (NOCA).

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In May 2017, the Oireachteas Committee on the Future of Healthcare proposed a 10-year strategy for healthcare in Ireland called Sláintecare (DOH, 2017), and the implementation plan for this was published in 2018 (DOH, 2018).There is a vision for a universal single-tier health and social care system. Among the measures outlined are waiting time guarantees for hospital care, expanded hospital capacity and phased elimination of private practice in public hospitals.

There is convincing evidence that the best results in treatment are achieved when patients are treated by staff working as part of a multidisciplinary specialist team. Better clinical outcomes are achieved in hospitals that have the required number of specialist staff, high volumes of activity and access to appropriate diagnostic and treatment facilities. Achieving this vision will require a strategic planned phased expansion of the ORL-HNS workforce, which includes clinical nurse specialists, advanced nurse practitioners, audiologists, speech and language therapists, dieticians, specialist physiotherapists, specialist registrars in training posts and consultant ORL-HNS surgeons.

a. Clinical nurse specialists
Clinical nurse specialists' (CNSs') practice is a defined area of nursing and requires the application of knowledge, experience and clinical expertise. The overall purpose of the CNS's role is to improve the quality of care of patients.

Within otorhinolaryngology practice, there is a wide and varied potential for CNSs to contribute to improving quality and service. These roles will apply to the subspecialist areas of:
- Otology/neurotology
- Rhinology and anterior skull base surgery
- Facial plastic surgery
- Head and neck oncology
- Paediatric otorhinolaryngology
- Nurse-led clinics for microdebridement of ears
- Postoperative endoscopic debridement of nasal cavity
- Follow-up of patients virtual clinics.

b. Advanced nurse practitioners
The potential impact of advanced nurse practitioners (ANPs) within ORL-HNS would improve patients' access to services, reduce waiting lists, facilitate early discharge and avoid unnecessary hospital attendance by keeping patients at home through pathways of integrated care (Office of the Chief Nurse DOH, 2017). The scope of advanced practice would extend from assessment through to discharge, including referral to diagnostics, consultants, health and social care professionals (HSCPs) and GPs. The potential benefits of ANPs in the specialty of otorhinolaryngology is widespread. Suggested ANP roles are outlined below:
- **Unscheduled ORL-HNS ANP:** Management of unscheduled care accounting for 30% of admissions to otorhinolaryngology, with the ability to manage a pathway of care and discharge, and the potential management of ORL-HNS patients via ambulatory care, virtual follow-up clinics and GP outreach.
- **Outpatient ORL-HNS ANP:** Management of specialised clinics, specifically respiratory/ ENT multidisciplinary team (MDT) clinics, rapid access neck lump clinics and paediatric otorhinolaryngology services.
- **Scheduled care ANP:** Management of day case surgery selection and nurse-led discharge; management of direct booking for tonsillectomy.

There is currently only one ANP post in ORL-HNS in Ireland. The following is the ANP scope of practice in line with Advanced Practice Standards and Requirements, NMBI Guidance 2018 (Nursing and Midwifrey Board, 2018) (Figure 26):
- Otoscopy
- Microscopic examination of ears

- Microsuction aural toilet (MAT)
- Nasopharyngoscopy
- Vestibular triaging
- Advanced knowledge and critical thinking to optimise the patient's well-being when dealing with complex Otorhinolaryngology disorders
- Nurse prescribing.

ANP Recommended KPIs
- Decrease waiting times
- Fewer review patients
- Fewer readmissions
- Reduction in AvLOS for unscheduled admissions.

Patient-reported outcomes of care by ANPs enable self-management and postoperative interventions.

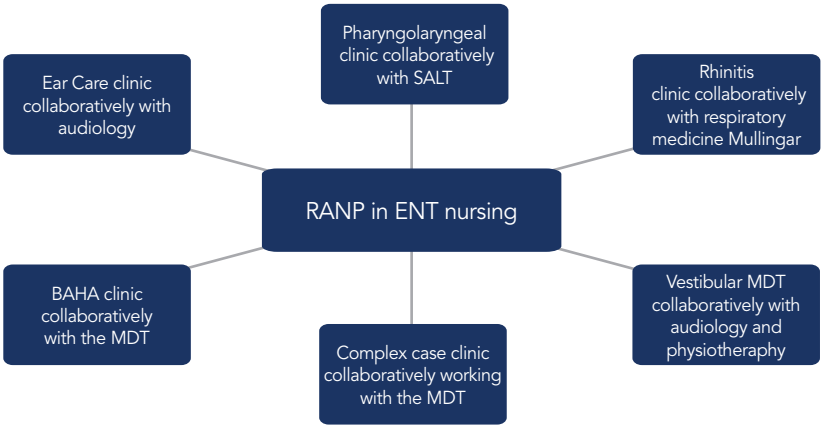

Figure 26: ANP Scope of practice

c. Audiologists
The 2011 HSE National Audiology Review (HSE, 2011) carried out an extensive examination of audiology services in Ireland. It defined the role of audiology services, which comprise a range of clinical and technical rehabilitative services.

The review identified a population need for audiology services based on the fact that between three and four children per 1,000 population have a hearing handicap, which constitutes between 3,000 and 4,500 children per year. Two per cent of two- to four-year-olds have hearing loss due to 'glue ear', and a high percentage of this group would benefit from surgical intervention.

The 2017 report of The Irish Longitudinal Study on Ageing (McGarrigle, 2017) (TILDA), Health and Wellbeing: Active Ageing for Older Adults in Ireland, included more than 6,000 participants aged 54 years and older. Just over one-third (37%) reported that they had experienced hearing loss, with higher rates in men (41%) compared with women (32%). Some of this difference may be due to increased exposure of men to occupational noise in previous decades. For those aged over 70, more than 70% have some level of hearing loss, and more than 40% have a moderate or greater level of hearing loss. A person with moderate hearing loss will have considerable communication difficulties without some form of amplification.

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TILDA used an assessment tool called the CASP-12 that measures quality of life across various domains. "Individuals who report fair or poor hearing have lower CASP-12 scores indicating reduced quality of life compared to those who rated their hearing as good, very good or excellent".

The study also found that those with hearing loss had reduced levels of active social participation, especially among older women. They study also found that "older adults with fair or poor hearing tend to have a higher number of depressive symptoms compared to those with better self-rated hearing" (McGarrigle, 2017). This finding was consistent across all the age categories and for both men and women. Other studies have reported that people with untreated hearing loss have up to three times the risk of developing depression.

TILDA also found that those who reported having hearing loss experienced higher levels of loneliness, and this was particularly the case for older women.

Scientists have found that a person's chances for mental decline seem to get worse when there are hearing problems. In one study, mild, moderate and severe hearing loss corresponded with a risk of developing dementia over the following 10 or more years that was two, three and five times higher, respectively.

Location of audiology service:
Due to current Irish legislation, the HSE Community Audiology Service can only provide services for those adults with valid medical cards, thereby excluding those who are non-medical card holders. Only a legislative change would enable the HSE Community Audiology Service to see clients based upon need and not entitlement.

A direct referral model would therefore need to be established within an acute unit, or a satellite service under the acute unit governance, with care closer to home being a clear requirement. In the future, in order to align with Department of Health/HSE strategy, resources should be looked at as a whole time equivalent (WTE) within an integrated audiology service, working towards the integration agenda of acute and community services.

A permanent acquired hearing loss of significant degree affects 8% of the adult population. In the over-70 age group, this rises to 15%, which equates to a quarter of a million adults in Ireland having permanent hearing impairment, mainly due to the ageing process or to the effects of noise exposure. The HSE Community Audiology Service review group identified a significant shortfall in staff and resources nationwide. The estimated staffing requirements include:

- Introduction of an additional 23.5 assistant audiologists
- An increase of 21.1 WTE graduate-level audiology staff
- An increase of 38.9 WTE postgraduate-level audiology staff.

Audiology services are currently delivered by two distinct services: Acute Audiology Services and Community Audiology Services. The HSE Community Audiology Service review group recommended that there should be integration between the Acute Audiology and Community Audiology Services.

On the positive side, since the publication of the TILDA report in 2011, the following developments have occurred:

- A neonatal screening service has been rolled out.
- Bone-anchored hearing aid surgery is provided in designated centres.
- An MSc programme at University College Cork (UCC) for Audiological Science has been inaugurated.
- The National Cochlear Implant Programme for Children has been expanded to the Temple Street Children's University Hospital and bilateral implants are now occurring.

d. Clinical specialist physiotherapists

Direct referral of patients for vestibular assessment and rehabilitation will require specialist vestibular physiotherapists in each of the hub sites. If appropriately triaged and deemed suitable for follow-up by vestibular physiotherapy, patients with balance disorder could be discharged from acute hospital services (refer to acute vestibular pathway shown in Figure 14). Primary care practitioners require better access to direct referrals to diagnostic audiology and vestibular services, as it is recognised that most dizziness is managed at primary care. One in five adults complains of dizziness at any given time, and 50% of these will have associated unsteadiness. (Yardley, 1998) Prevalence rises to one in three in the over-65 age group (Colledge et al.,1994,) and dizziness is the most common complaint of patients presenting to primary care among those aged over 75 (Sloane et al., 1989). Furthermore, 35% of adults exhibit some evidence of vestibular dysfunction on balance testing (Agrawal et al., 2009). Vestibular rehabilitation and falls prevention programmes are both safe effective interventions for these problems, (McDonnell, 2015), (Sherrington et al., 2008) but access to either is limited. Appendix 10 presents a 2018 paper from the Vestibular Rehabilitation Seminar Group.

e. Speech and language therapists

Speech and language assessment is an integral component of paediatric and adult ORL-HNS services.

The Irish Association of Speech & Language Therapists (IASLT), in its pre-budget submission for 2019, has identified an alarming deficiency in speech and language therapists (SLTs) across all domains of its area of expertise. The Irish Institute of Otorhinolaryngology/Head and Neck Surgery (IIOHNS) supports the IASLT's request for an urgent review of the current workforce and future requirements.

SLTs have expertise in assessing, diagnosing and managing disorders of communication, speech, voice and swallowing. SLTs provide specialist clinical assessment, including instrumental assessment of voice and swallowing (nasendoscopy, stroboscopy, fibreoptic endoscopic evaluation of the swallow (FEES and videofluoroscopy). SLTs work with patients and their families as required. In ORL-HNS services, this period may be lifelong and SLTs will remain involved in the palliative care of individuals.

To cope with current demand, all major departments of ORL-HNS (including the Children's Hospital Group) require expansion of WTE SLTs in their services. Despite the increased activity in ORL-HNS services, there has been no increase in WTE allocation to SLT ENT services for a number of years. Table 24 shows WTE information from four Model 4 hospitals in Dublin.

Table 24: WTE for Model 4 Dublin hospitals

	WTE employees in 2006	WTE employees in 2017
Beaumont Hospital	1	1
Mater Misericordiae University Hospital	1.3	1.3
St James's Hospital	2	2
Tallaght University Hospital	1	1

Existing SLT services are currently focused on managing a significantly increased caseload of enormous complexity with insufficient staffing. In order to meet the increasing demand created by head and neck oncology services, many SLT services have reduced their activity in the area of voice therapy, which has unfortunately resulted in increased outpatient ORL-HNS clinic numbers. Patients who are unable to access timely voice therapy re-present due to a lack of resolution of their symptoms, creating additional demand.

An SLT who specialises in head and neck cancer should be available to work with every patient whose primary treatment disrupts the ability to speak, eat or swallow (National Institute for

Health and Care Excellence, 2016). SLTs provide both inpatient and outpatient services to this patient group. Following discharge home, SLTs maintain contact with patients who have ongoing needs, resulting in large inpatient and outpatient caseloads. For example, post-laryngectomy patients will have a lifelong connection with the SLT service, with each patient requiring a different level of rehabilitation or support.

SLT-suggested KPIs

- Those with voice disorders receive timely access
- SLT-led clinics
- Reduce waiting time to access
- Reduce ratio of new to returning patients for SLTs
- Increase numbers of discharges
- Decrease number of patients re-referred back to ENT services
- Improved patient outcomes
- Improve instrumental assessment access
- Increase patient/consultant/GP satisfaction
- Reduced hospital admissions
- Reduced incidence of negative health outcomes (e.g. aspiration pneumonia)
- Reduced hospital length of stay
- Reduced ORL-HNS waiting time for initial appointment for patients of higher priority
- Reduced ration of new-to-returning patients for ENT consultant services for voice and dysphagia referrals.

f. Dieticians

A key recommendation of the Head and Neck Cancer Multidisciplinary Guidelines is that "A specialist dietician" should be a key part of the multidisciplinary team for treating Head and Neck cancer patients throughout the continuum of care as frequent dietetic contact has been shown to have enhanced outcomes". (Paleri, 2016)

Otorhinolaryngology dietician roles can include advanced practice in the form of replacing and removing gastrostomy feeding tubes, providing an emergency contact for outpatients so that they can avoid emergency department attendance (Monday to Friday) for tube emergencies. Of note, this advance practice frees up interventional radiology and endoscopy slots. It also includes advocating for gastrostomy insertion when required; managing nasogastric feeding; giving advice on how to meet nutritional needs while following altered texture diets as per the International Dysphagia Diet Standardisation Initiative (IDDSI) Framework; giving nutritional support advice to patients managing a number of side effects of their treatment or pre and post-surgery; and advising vulnerable patients from lower socioeconomic groups with a background of poor nutritional quality diets.

In each designated head and neck cancer unit there is a requirement for a minimum of one WTE dietician to support the service, which should also include a dedicated social worker, physiotherapist and SLT.

Table 25: Future workforce recommendations

Workforce requirements	Workforce planning
Audiology	Additional 23.5 assistant audiologists. Increase of 21.1 graduate audiologists. Increase of 38.9 postgraduate audiologists
SLT	It is anticipated that there will be an increase of 40 WTE SLTs to support voice, aspiration post stroke, rehabilitation and post-cancer surgery
Clinical specialist physiotherapists in rehabilitation centres	It is anticipated that there would need to be an increase to 13 specialist physiotherapists in order to establish a balance clinic. Expansion in vestibular services should be matched by an expansion of vestibular physiotherapists Workforce planning for physiotherapists can be calculated (Jasmin Behan et. al., 2009)
ANPs	It is anticipated that there would need to be an increase in the ANP workforce to support new ways of working.
Dieticians	One WTE in each Model 4 and Model 3 hospital
CNSs	It is anticipated that there would need to be an increase in the CNS workforce to support new ways of working

g. Physician associates

Physician associates (PAs) have a future role in ORL-HNS services for the specialty. These roles may include pre-admission assessments, operating room assistance and specialised skills (i.e. microdebridement of ears, nasendoscopy). PAs have the potential to take over the administration duties of specialist registrars (SpRs), freeing up time for training and ensuring adherence to the European Working Time Directive (EWTD).

h. Operating department assistants

To date, surgeons in Ireland have primarily been assisted by nurses. However, recruitment and retention of personnel in the operating room is a major contributor to rolling closures and cancellations of scheduled lists. Alternative theatre personnel grades have been shown internationally to be a viable option. In the UK National Health Service (NHS), the role of operating department practitioner (ODP) is well developed. There, ODPs have an important role in the three interconnected phases of perioperative care:

- Anaesthetic phase
- Surgical phase
- Recovery phase.

RECOMMENDATION 20

Implement a structured approach to specialty multidisciplinary workforce planning based on demographics, the needs of the Hospital Groups, and subspecialty requirements.

Training varies between higher education institutions, combining plenty of practical involvement in an operating department with learning the background and theory. In the UK this is generally a two-year programme leading to a Diploma of Higher Education in Operating Department Practice, although training courses can range from two years (full time) to seven years (part time). Some universities also run degree programmes in Operating Department Practice (NHS Careers, 2013). The UK Health and Care Professions Council is the regulatory body for several career groups, including ODPs. Exploration (as appropriate) into the scope for such roles in the Irish context is required, as at present there is no regulatory body responsible for ODPs nor do any such roles exist in any HSE-funded post.

i. Consultant workforce

There are currently 57 ORL-HNS consultants working in the public system in Ireland. The 2015 Medical Workforce Intelligence Report revealed that the exit rate from the specialty was 9.4% and that 22.4% of those who left the specialty were female.(Irish Medical Council, 2016) Consultant workforce projections to date have been estimated on a per-capita basis; however, this fails to take into account subspecialisation, geographic dispersion of patients and hospitals, and lifestyle choices of professionals (i.e. working part time or job sharing).
The Royal College of Surgeons in Ireland (RCSI) published The Future of Surgical Specialties in Ireland in 2003 (RCSI, 2003) and predicted a requirement for 93 consultants in ORL-HNS, achieving a ratio of 1:40,000 to provide a consultant-delivered service. The majority of consultants in ORL-HNS in Ireland work as general otorhinolaryngologists with a subspecialty interest. A minority are pure subspecialists.

Table 26: Consultant subspecialty workforce: current and future requirements

	Lateral skull base surgeon/ neurologists	Anterior skull base surgeons	Head/neck surgical oncologists	Paediatric otorhinolaryngologists	Otologists	Rhinologists	Laryngologists	Facial plastic surgeons
WTE (current)			3	3 (2) sanctioned				
Part WTE (current)	2	1	8		8	6	2	4
Projections for additional posts	2	2	5	5 Children's Hospital Group 6 Part time (for other Hospital Groups)	4	6 Part time	2	6

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Lateral skull base surgeon/neurologists
A lateral skull base surgeon treats complex benign and malignant disease of the ear which involves the adjacent skull base and brain. They work in neurosurgical units, providing a multidisciplinary service with neurosurgeons and plastic surgeons.

Anterior skull base surgeons
An anterior skull base surgeon treats complex benign and malignant disease arising from the nose and sinuses involving the brain and adjacent skull base. They work in neurosurgical centres providing a multidisciplinary service with neurosurgeons and endocrinologists.

Head and neck surgical oncologists
A head and neck surgical oncologist treats benign and malignant disease involving the mucosa of the upper digestive tract, i.e. the oral cavity, pharynx and larynx, complex head and neck skin tumours, and thyroid and salivary gland tumours. They may have trained in ORL-HNS, plastic or maxillofacial surgery, or general surgery.

In Ireland, the majority of ORL-HNS surgical oncologists have undergone two years of advanced fellowship training in head and neck oncology. The bulk of head and neck cancers are diagnosed and treated by otorhinolaryngologists. There are currently nine centres providing a head and neck cancer service. The otorhinolaryngology specialty recommends that there should be four designated hub centres for complex head and neck cancer, and four spoke sites.

Complex head and neck cancer is defined as surgical management requiring more than one surgical team, i.e. free flap reconstruction involving ORL-HNS, plastic, and/or maxillofacial surgeons. A designated hub centre for head and neck cancer should ideally have on-site radiotherapy, as 50% of the patients require radiation.

Because the vast majority of head and neck cancer patients are referred from GPs to ORL-HNS, the IIORLHNS recommends that there should be a minimum of one otorhinolaryngologist with a subspecialty interest in head and neck oncology in each major unit.

Paediatric otorhinolaryngologists
Because children constitute a considerable volume of the workload in general ENT services, the IIORLHNS recommends that there be a minimum of one general otorhinolaryngologist with a special interest in paediatric otorhinolaryngology in each major unit.

Paediatric otorhinolaryngologists treat congenital complex airway disease and tumours of the head and neck in children, perform cochlear implantation in profoundly deaf children and carry out routine procedures on children with severe comorbidities.

Otologists
Otologists have undergone advanced training in middle- and inner-ear surgery. The majority of general ORL-HNS surgeons carry out middle-ear surgery. The IIORLHNS recommends that each major unit should have a minimum of one ORL-HNS with a special interest in otology, as otological procedures constitute the major volume of surgical procedures in the specialty.

Rhinologists
Rhinologists treat diseases of the nose and sinuses. The majority of general otorhinolaryngologists carry out rhinological procedures. The IIORLHNS recommends that each major unit should have a minimum of one ORL-HNS surgeon whose main interest is in rhinology.

Laryngologists
Laryngologists or phonetic surgeons have undergone advanced training in the management of disorders of the vocal cords.

RECOMMENDATION 21
The specialty training and continuing professional development (CPD) programmes from the Royal College of Surgeons in Ireland (RCSI) should reflect future workforce requirements and implementation of this Model of Care.

Facial plastic surgeons
The principles of plastic surgery are an integral part of training in ORL-HNS because incisions are made in the highly visible area of the face and neck. ORL-HNS surgeons who have completed advanced training in facial plastics may manage complex congenital and acquired deformities of the facial area. They also have expertise in treating skin cancers of the head and neck area. Facial plastic surgery is also performed by Consultants in Plastic and Reconstructive Surgery who may also work jointly with ORL-HNS surgeons in managing the needs of complex patients. The optimal workforce will depending on local service configuration, the skill-mix among existing staff, and the needs of the patient population.

Training and education needs based on projections and recommendations above
The Irish Otolaryngology Training Programme in Otolaryngology is coordinated through the RCSI. There are currently 19 specialty trainees (STs) in post in the programme with a total capacity of 27 trainees, including the six-month residency post at Boston Children's Hospital. The STs rotate through 10 training units throughout Ireland. On average, between three and five STs Graduate from the programme per year, but a large number have graduated recently. There are approximately four to five entrants at the ST3 level per year from the Core Surgical Training programme, and the specialty is currently proving very popular as a career choice at this level. The exact number of entrants varies depending on the needs of the specialty.

The STs spend four years in general otorhinolaryngology training with exposure to all of the subspecialties (ST3–ST6) and two years in subspecialty training (ST7 and ST8). During their training, STs are required to attend the five annual mandatory surgical skills courses run by the Otolaryngology Training Programme, most of which are undertaken at the Surgical Skills and Simulation centre at RCSI. They are also required to undertake annual multiple choice questions (MCQ) and clinical exams at the Education and Research Centres at Beaumont Hospital and University Hospital Waterford, which are designed to prepare candidates for the Intercollegiate Fellowship examination.

On graduation, most graduates will then undertake a one- to two-year clinical fellowship in their preferred subspecialty area(s). Future consultant expansion requirements will necessitate expansion of ST numbers; there is a role for STs with a special interest in general otorhinolaryngology to fill these posts. More subspecialised otorhinolaryngology can then be undertaken in the central or hub hospitals.

Defining staffing for delivery of scheduled and unscheduled care
There is significant potential for each Hospital Group to design services within its geographical region, adhering to the general principles of this document. Please see Tables 27 to 33, outlining recommendations by Hospital Group.

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Table 27: Saolta Hospital Group - Workforce recommendations

Saolta Hospital Group had 6232 scheduled and unscheduled principle procedures discharged by the otorhinolaryngology and paediatric otorhinolaryngology specialties in 2017.	
Current service delivery Population: 704 977	74.2% of scheduled and unscheduled procedures for Saolta Hospital Group were carried out in University Hospital Galway. 25.5% of scheduled and unscheduled procedures for Saolta Hospital Group were carried out in Sligo University Hospital. 0.3% of scheduled and unscheduled procedures for Saolta Hospital Group were carried out in Mayo University Hospital.
Recommendations for future development 1:40 000	Theatre capacity expanded in Mayo University Hospital, Roscommon University Hospital, and Portiuncula University Hospital Ballinasloe; Letterkenny University Hospital to facilitate hub and spoke Consultant workforce increased to 17.6 SLTs increased to 2 WTE Vestibular physiotherapists increased to 2 WTE Audiologists increased to 5 WTE An appropriate number of ANPs and CNSs

Source: HSE HG population (HSE CHO Ch 6, 2013)

Table 28: Dublin Midlands Hospital Group - Workforce recommendations

Dublin Midlands Hospital Group had 3058 scheduled and unscheduled principle procedures discharged by the otorhinolaryngology and paediatric otorhinolaryngology specialties in 2017.	
Current service delivery Population: 956 481	22.4% of scheduled and unscheduled procedures for the Hospital Group were carried out in St James's Hospital. 10.7% of scheduled and unscheduled procedures for the Hospital Group were carried out in Tallaght University Hospital. 66.9% of scheduled and unscheduled procedures for the Hospital Group were carried out in Midland Regional Hospital, Tullamore.
Recommendations for future development 1:40 000	St James's Hospital to perform only major complex head and neck surgery. Theatre capacity to be utilised in Naas General Hospital, Midland Regional Hospital, Portlaoise, and Midland Regional Hospital, Mullingar as spokes to St James's Hospital hub Consultant workforce expansion increased to 23.9 SLTs increased by 3 WTE Vestibular physiotherapists increased by 3 Audiologists increased by 6 An appropriate number of ANPs and CNSs.

Source: HSE HG population (HSE CHO Ch 6, 2013)

Table 29: University of Limerick Hospital Group - Workforce recommendations

University of Limerick Hospital Group had 1868 scheduled and unscheduled principle procedures discharged by the otorhinolaryngology and paediatric otorhinolaryngology specialties in 2017.	
Current service delivery Population: 379 327	99.5% of scheduled and unscheduled procedures for the Hospital Group were carried out in University Hospital Limerick. 0.5% of scheduled and unscheduled procedures for the Hospital Group were carried out in Mid-Western Regional Hospital, Ennis.
Recommendations for future development 1:40 000	There is potential for expansion of day case procedures in Mid-Western Regional Hospital, Ennis and in Nenagh General Hospital. Consultant workforce increased to 9.5 SLTs increased to 2 WTE Audiologists increased to 2 WTE Vestibular physiotherapists increased by 1 WTE An appropriate number of ANPs and CNSs.

Source: HSE HG population (HSE CHO Ch 6, 2013)

Table 30: South/South West Hospital Group - Workforce recommendations

South/South West Hospital Group had 8017 scheduled and unscheduled principle procedures discharged by the otorhinolaryngology and paediatric otorhinolaryngology specialties in 2017.	
Current service delivery Population: 886 471	0.4% of scheduled and unscheduled procedures for the Hospital Group were carried out in Cork University Hospital. 5.3% of scheduled and unscheduled procedures for the Hospital Group were carried out in University Hospital Kerry. 3.8% of scheduled and unscheduled procedures for the Hospital Group were carried out in Mallow General Hospital. 54.3% of scheduled and unscheduled procedures for the Hospital Group were carried out in South Infirmary Victoria University Hospital (SIVUH). 36.2% of scheduled and unscheduled procedures for the Hospital Group were carried out in University Hospital Waterford.
Recommendations for future development 1:40 000	Ideally, major complex procedures should be expanded into Cork University Hospital. There is potential for expansion of scheduled day case procedures to the Mercy University Hospital, Mallow General Hospital, South Tipperary General Hospital, and Bantry General Hospital. Consultant workforce increased to 22 Audiologists increased (UHW) by 4 WTE, (SIVUH) increase by 4 WTE Vestibular Physiotherapists increased by (UHW) by 2, (SIVUH) increased by 2 An appropriate number of ANPs and CNSs.

Source: HSE HG population (HSE CHO Ch 6, 2013)

Table 31: RCSI Hospital Group - Workforce recommendations

RCSI Hospital Group had 6411 scheduled and unscheduled principle procedures discharged by the otorhinolaryngology and paediatric otorhinolaryngology specialties in 2017.	
Current service delivery Population: 1 020 891	86.8% of scheduled and unscheduled procedures for the Hospital Group were carried out in Beaumont Hospital. 2.2% of scheduled and unscheduled procedures for the Hospital Group were carried out in Connolly Hospital Blanchardstown. 1.2% of scheduled and unscheduled procedures for the Hospital Group were carried out in Louth County Hospital, Dundalk. 2.1% of scheduled and unscheduled procedures for the Hospital Group were carried out in Monaghan General Hospital. 2.9% of scheduled and unscheduled procedures for the Hospital Group were carried out in Our Lady of Lourdes Hospital, Drogheda. 4.8% of scheduled and unscheduled procedures for the Hospital Group were carried out in St Joseph's Hospital, Raheny.
Recommendations for future development 1:40 000	There is a significant potential for expansion of scheduled services in Connolly Hospital, Blanchardstown, Our Lady of Lourdes Hospital, Cavan General Hospital, and Monaghan General Hospital. Consultant workforce increased to 25.5 Beaumont Hospital to only perform major complex surgery SLTs increased by 2 WTE Audiologists increased by 3 WTE Vestibular physiotherapists increased by 1WTE An appropriate number of ANPs and CNSs.

Source: HSE HG population (HSE CHO Ch 6, 2013)

11 WORKFORCE

Table 32: Ireland East Hospital Group - Workforce recommendations

Ireland East Hospital Group had 6858 scheduled and unscheduled principle procedures discharged by the otorhinolaryngology and paediatric otorhinolaryngology specialties in 2017.	
Current service delivery Population: 640 099	51.7% of scheduled and unscheduled procedures for the Hospital Group were carried out in Mater Misericordiae University Hospital. 24.0% of scheduled and unscheduled procedures for the Hospital Group were carried out in Royal Victoria Eye and Ear Hospital. 2.0% of scheduled and unscheduled procedures for the Hospital Group were carried out in St Michael's Hospital, Dun Laoghaire. 22.3% of scheduled and unscheduled procedures for the Hospital Group were carried out in St Vincent's University Hospital.
Recommendations for future development 1:40 000	There is capability for expansion of services into Midland Regional Hospital, Mullingar; Wexford General Hospital; Our Lady's Hospital, Navan; and St Columcille's Hospital, as well as further expansion of services in St Michael's Hospital, Dun Laoghaire. The Royal Victoria Eye and Ear Hospital is in an ideal position to provide a scheduled service for routine procedures for this Hospital Group because of its geographic location and protected beds. Consultant workforce increased by 16.0 Audiologists increased by 4 WTE SLTs increased by 2 WTE Vestibular physiotherapists increased by 2 An appropriate number of ANPs and CNSs.

Source: HSE HG population (HSE CHO Ch 6, 2013)

Table 33: Children's Hospital Group - Workforce recommendations

Children's Hospital Group had 2976 scheduled and unscheduled principle procedures discharged by the otorhinolaryngology and paediatric otorhinolaryngology specialties in 2017.	
Current service delivery	23.6% of scheduled and unscheduled procedures for the Hospital Group were carried out in Our Lady's Children's Hospital, Crumlin. 9.7% of scheduled and unscheduled procedures for the Hospital Group were carried out in Tallaght University Hospital (Children). 66.7% of scheduled and unscheduled procedures for the Hospital Group were carried out in Temple Street Children's University Hospital.
Recommendations for future development	Consultant workforce increased by 5 WTE paediatric ORL-HNS Requirement for 10 WTE ORL-HNS in Children's Hospital Group An appropriate number of ANPs and CNSs.

12 FUTURE DIRECTION

RECOMMENDATION 22
Administration of human papillomavirus (HPV) immunisation for boys and girls should be increased in order to reduce oropharyngeal cancer occurrence.

Virtual reality:
This technology opens new horizons in surgical training; surgical trainees will have to adapt to radical new ways of treating patients.

Augmented reality:
This will allow for 3D reconstruction of tumours, allowing the surgeon to interact with specific organs in 3D space.

Surgical robotics:
The da Vinci surgical system has been used in practice since the early 2000s and its place in head and neck surgical oncology is well established. This role will expand and will be a mandatory component of future head and neck surgery in Ireland.

3D printing:
This technology opens new horizons and will have an important role in training and surgical planning.

Artificial intelligence:
These systems are rapidly expanding in healthcare, specifically in the area of diagnosis.

Genetic engineering:
As advances in molecular biology is occurring at a rapid pace, it is possible that the role of the surgeon in cancer care may decrease.

Stem cell therapy:
There is the potential to use stem cell therapy for congenital and acquired hearing loss.

Scientific wellness:
Based on individual phenotyping, it is possible to predict illness and variables such as drug resistance on a personal basis, which has a possibility of changing the prevalence of many chronic disease processes.

Vaccinations:
Human papillomavirus (HPV) immunisation for boys and girls should significantly reduce oropharyngeal cancer occurrence.

13 MEASUREMENT OF KPI'S

Table 34: Model of Care-recommended KPIs: summary

	ORL-HNS Model of Care (MOC) KPI summary
KPI 1	In excess of 80% of patients attend pre-admission
KPI 2	50% of otorhinolaryngology patients discharged by a non-medical clinician
KPI 3	Reduction in unscheduled admissions to high dependency unit (HDU) for children's tonsillectomy
KPI 4	Reduction in unnecessary diagnostic testing
KPI 5	In excess of 80% of patients admitted via day-of-surgery admission (DOSA)
KPI 6	Maximum readmission rates <3% for scheduled day case procedures
KPI 7	Decrease waiting times
KPI 8	Improve ratio of new-to-returning patients in outpatient department
KPI 9	Fewer readmissions
KPI 10	Reduction in AvLOS for unscheduled care
KPI 11	Reduced waiting times for high-risk patients with neck lump
KPI 12	Decrease in occurrence of aspiration pneumonia
KPI 13	Reduction in AvLOS for enteral tube feeding

Table 35: Internationally recognised KPIs

	International KPIs that ORL-HNS services aspire to
KPI-I-1	Increase day case and ambulatory surgical procedures, including tonsillectomy in children and adults, to achieve: • Decreased waiting times • Fewer review patients • Fewer readmissions • Reduction in AvLOS for unscheduled care.
KPI-I-2	Time of referral to first MDT clinic appointment (target 85% in 3 weeks)
KPI-I-3	Recommended KPIs for an acute surgical assessment unit (ASAU): • A patient experience time (PET) time of less than four hours for 80% of patients • Admissions less than 60% per month • ASAU review in less than 30 minutes for at least 80% of patients • Less than 10% Triage Category 5 patients • Conduct patient satisfaction follow-up in at least 25 patients each quarter
KPI-I-4	Date for investigation, ultrasound scan, cytology (percentage performed on the same day).
KPI-I-5	Recommended KPI for ANPs: • Decreased waiting times • Fewer review patients • Fewer readmissions • Reduction in AvLOS for unscheduled admissions.
KPI-I-6	Increase turnaround time for reporting fine needle aspiration (FNA) (100% within 96 hours)
KPI-I-7	Recommended KPIs for those with voice disorders receive timely access via SLT-led clinics: • Reduce waiting time to access • Reduce ratio of new to -returning ratio for SLTs • Decrease numbers of discharges • Decrease number of patients re-referred back to "otorhinolaryngology services • Improved patient outcomes • Improved instrumental assessment access • Increase patient/consultant/GP satisfaction • Reduced hospital admissions • Reduced incidence of negative health outcomes (e.g. aspiration pneumonia) • Reduced hospital length of stay • Reduced ORL-HNS waiting time for initial appointment for patients of higher priority • Reduced ration of new-to-returning ratio for ENT consultant services for voice and dysphagia referrals.
KPI-I-8	Reduction in time to diagnosis from referral to histology for patients with benign disease
KPI-I-9	Reduction in time to diagnosis from referral to histology for patients with malignant disease

14 IMPLEMENTATION PLAN

Next steps: implementing the Model of Care

This Model of Care for ORL-HNS is just the starting point for enhancing the delivery of high-quality surgical care in ORL-HNS. To achieve its full potential, the Model of Care will require an integrated approach to implementation that is aligned with the fundamental principles laid out in Sláintecare (Figure 27). A structured implementation phase will allow us to tackle the most pressing challenges in our health systems, and to improve outcomes and experiences for the greatest number of patients in the most effective manner. In addition to defining targeted areas for resourcing, the implementation phase must include engagement with patients and staff, define appropriate leadership and governance, and be supported by the use of improvement methodology underpinned by robust measurement (QID HSE, 2016).

Figure 27: Fundamental principles of Sláintecare

Once the Model of Care has been published, the implementation phase should commence. The implementation phase will encompass the development of a robust and comprehensive implementation plan. This plan will focus on the implementation and evaluation of the Model of Care and the change management needed to make that happen. The implementation plan will prioritise a series of costed, strategic actions, taking into the account the fundamental principles defined in the Sláintecare Implementation Strategy (DOH, 2018) and will define metrics by which implementation outcomes will be measured. It is anticipated that the implementation strategy for the ORL-HNS Model of Care will be published at the annual Freyer Meeting in September 2019.

Development of a robust implementation strategy for the Model of Care for ORL-HNS will require robust governance structures and input from a wide range of relevant stakeholders. The implementation phase will be overseen by the ORL-HNS Model of Care Implementation Steering Group. Nominees for a proposed steering group will be recommended to the HSE's Office of the National Clinical Advisor and Group Lead, Dr Vida Hamilton, by 28 February 2019 for review and approval. The ORL-HNS Model of Care Implementation Steering Group should be chaired by the Clinical Advisor for ORL-HNS and will include representatives including, but not limited to, those from the Irish ORL-HNS Surgical Society, related

14 IMPLEMENTATION PLAN

specialties, nursing, health and social care professionals, primary care, audiology and, where possible, patients. The ORL-HNS Model of Care Implementation Steering Group will report to the National Clinical Programme in Surgery (NCPS) Co-Leads through the Clinical Advisor for ORL-HNS and upwards through the HSE in compliance with existing NCPS reporting relationships. The Steering Group should then regularly report publicly on the implementation of the Model of Care and evaluate its impact quantitatively and qualitatively.

Prioritisation of implementation

1. Each Hospital Group is to nominate an existing administrator to determine symptomatology of referred patients who are on long-term outpatient waiting lists. Once determined:
   - Patients awaiting hearing assessment to be referred directly to audiology service
   - Patients with sore throats to be sent a questionnaire and information sheet regarding direct booking for tonsillectomy.

2. Where appropriate staffing currently exists, direct referral systems for vestibular assessment, speech/swallow and respiratory/ENT clinics are to be immediately established (e.g. in Beaumont Hospital, Mater Misericordiae University Hospital, Tallaght University Hospital, Royal Victoria Eye and Ear Hospital, and South Infirmary Victoria University Hospital).

3. A workforce and capacity analysis is to be conducted in each Hospital Group to determine requirements for establishing a direct referral system.

4. An ORL-HNS consultant is to be nominated as quality control officer in each Hospital Group to initiate day surgery in Model 2 hospitals.

5. Each Hospital Group should determine theatre capacity required to manage current Inpatient /day case waiting list.

6. Each Hospital Group is to establish the number of beds required to manage current Inpatient /day case waiting list.

7. Each Hospital Group is to audit equipment and staffing requirements necessary to provide efficient outpatient services in satellite clinics.

8. Each Hospital Group is to appoint a consultant as educational lead to roll out the GP Education Programme.

9. The Outpatient Services Performance Improvement Programme is to develop symptom-specific e-referral templates for ORL-HNS.

10. Each Hospital Group is to nominate nurses in advance roles to manage/triage unscheduled admissions.

15 GLOSSARY OF TERMS

Term	Definition
ANP	advanced nurse practitioner
ASAU	acute surgical assessment unit
AvLOS	average length of stay
BDU	bed days used
CCS	Clinical Classification System
CHO	Community Healthcare Organisation
CNS	clinical nurse specialist
DOSA	day-of-surgery admission
ED	emergency department
ENT	ear, nose and throat
ERAS	enhanced recovery after surgery
EWTD	European Working Time Directive
FEES	fibreoptic endoscopic examination of the swallow
FNA	fine needle aspiration
GP	general practitioner
HDU	high dependency unit
HIPE	Hospital In-Patient Enquiry
HIQA	Health Information and Quality Authority
HNS	head and neck surgery
HPO	Healthcare Pricing Office
HPV	human papillomavirus
HSCP	health and social care professional
HSE	Health Service Executive
IASLT	Irish Association of Speech & Language Therapists
ICGP	Irish College of General Practitioners
IDDSI	International Dysphagia Diet Standardisation Initiative
IIORLHNS	Irish Institute of Otorhinolaryngology/Head and Neck Surgery
INDI	Irish Nutrition and Dietetic Institute
KPI	key performance indicator
MDT	multidisciplinary team
MRI	magnetic resonance imaging
NCCP	National Cancer Control Programme
NCPS	National Clinical Programme in Surgery
NOCA	National Office of Clinical Audit
NQAIS	National Quality Assurance Improvement System
ODP	operating department practitioner
OPD	outpatient department
ORL-HNS	otorhinolaryngology – head and neck surgery
OSA	obstructive sleep apnoea
OSPIP	Outpatient Services Performance Improvement Programme
PA	physician associate
RCSI	Royal College of Surgeons in Ireland
RVEEH	Royal Victoria Eye and Ear Hospital
SAC	Specialty Advisory Committee
SIGN	Scottish Intercollegiate Guidelines Network
SIVUH	South Infirmary Victoria University Hospital
SLT	speech and language therapist
SpR	specialist registrar
ST	specialty trainee
TILDA	The Irish Longitudinal Study on Ageing
TQIP	Theatre Quality Improvement Programme
UK	United Kingdom
WTE	whole time equivalent

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Mr Jamie Logan	Nurse Lead
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Ms Laura Hammond	Chief Data Technician

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National Clinical Programmes

National Clinical Programme for emergencymedicing
National Clinical Programme for critical care
National Clinical Programme for radiology
National Clinical Programme for Acute Medicine
National Clinical Programme for Paediatrics and Neonatology
National Clinical Programme for Asthma
National Clinical Programme for Anaesthesia

National Cancer Control Programme (NCCP)

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Dr Brendan O'Shea

HSE HPO
The models of care used all of Hospital In-Patient Enquiry (HIPE) discharge records for 2017 to provide annualised anonymised objective metrics which help inform and justify the clinical and business proposals contained in each document. HIPE is an administrative data set coded by individuals trained HIPE coders in each hospital from the paper/electronic records after the patient has been discharged using the Australia coding standards (ACS) augmented by the Irish coding standards (ICS) as issued by the healthcare pricing office (HPO). This data was processed and summarised using the NQAIS Clinical application which was jointly designed by the HSE acute hospitals teams, acute hospital national clinical programme leads and the health intelligence unit in the HSE.

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Appendix 1:	Model of Care Development Methodology and Approval Process
Appendix 2:	Summary Report for ENT education learning module for Primary Care
Appendix 3:	Nationally agreed referral criteria for direct referral to audiology services
Appendix 4:	ORL-HNS prioritisation of patients presenting complaints
Appendix 5:	Proof of concept for specialist combined respiratory and ORL-HNS multidisciplinary clinic at University Hospital Galway
Appendix 6:	Tonsillectomy questionnaire
Appendix 7:	Tonsillectomy information leaflet
Appendix 8:	Bed requirement simulation model
Appendix 9:	Theatre capacity planning
Appendix 10:	Vestibular Rehabilitation Seminar Group – Response to the Irish Institute of Otorhinolaryngology/Head and Neck Surgery's Model of Care for ENT

Appendix 1: Model of Care Development Methodology and Approval Process

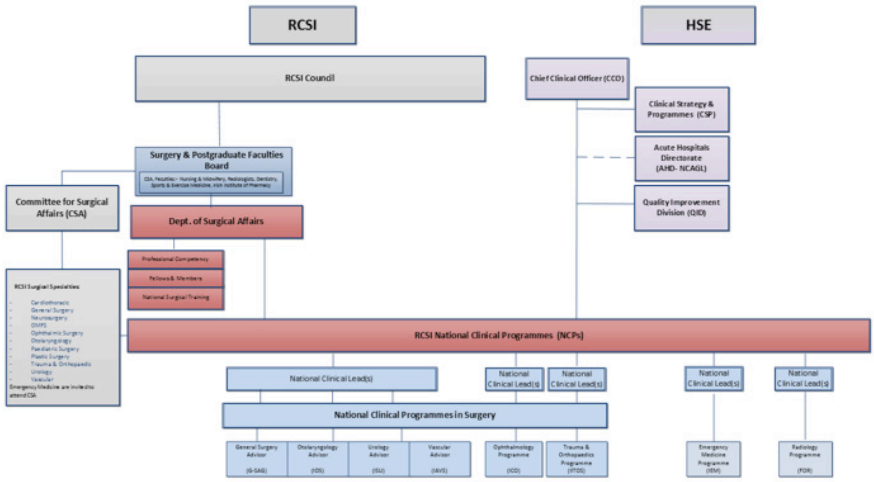
The methodology used for development of this model of care adheres to the "Model of Care Development Guidance Framework" guidelines as set out by the National Clinical Strategy and Programmes which now sit under the office of the CCO Chief Clinical Officer in the HSE. (https://www.hse.ie/eng/about/who/qid/quality-and-patient-safety-documents/clinicalprogrammechecklistupdated141014.pdf).

The NCPS has a direct reporting relationship with RCSI through the Committee for Surgical Affairs (CSA). This committee meets monthly and its membership includes both Leads of the NCPS and is the principal forum in RCSI for representation of Surgical Specialties, as follows:
RCSI Surgical Specialties:

- Cardiothoracic
- General Surgery
- Neurosurgery
- OMFS
- Ophthalmic Surgery
- Otolaryngology
- Paediatric Surgery
- Plastic Surgery
- Trauma & Orthopaedic
- Urology
- Vascular
- Emergency Medicine are invited to attend CSA

The NCPS has a second reporting relationship through the office of the National Clinical Advisor to the Acute Hospital Group Lead (NCAGL) and Clinical Strategy and Programmes in the HSE who in turn reports through the office of the CCO Chief Clinical Officer in the HSE.

The Surgery Programme reporting structure is represented as follows: -



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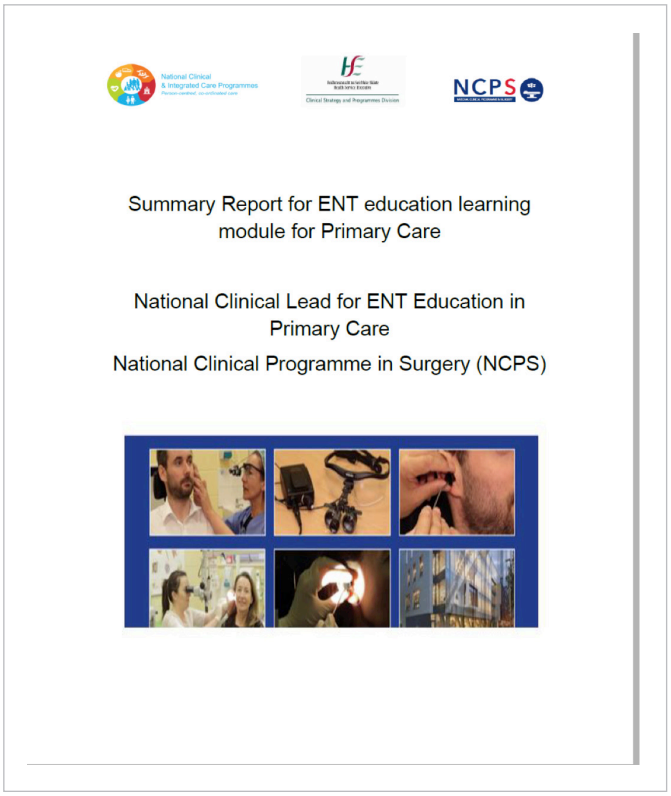
Appendix 1: Model of Care Development Methodology and Approval Process

Development of models of care commence with agreement through HSE and RCSI reporting relationships. A NCPS model of care template framework is defined by the Clinical Leads in collaboration with all relevant stakeholders. The Specialty Clinical Advisor develops and authors the model of care with the assistance of the NCPS team and leads collaboration with their speciality. Upon completion of the penultimate draft of a MOC the document is widely distributed nationally across HSE, the department of health, clinical programmes and other representative bodies (stakeholders) as advised by the specialty MOC Clinical Advisor. After the stakeholder feedback has been considered by the NCPS team, NCPS leads and the relevant clinical advisor, a near-final version of the MOC is presented to the CSA for clinical endorsement and is circulated to all surgical specialty representatives through the Committee for Surgical Affairs. Each MOC is presented at CSA for endorsement by the Chair and CSA Specialties and subsequently through the RCSI Council at which point it is an endorsed RCSI MOC. HSE approval is coordinated through the office of the NCAGL on behalf of the HSE. Each model of care incorporates a proposed implementation plan. It is envisaged that this MOC is reviewed every 3 years.

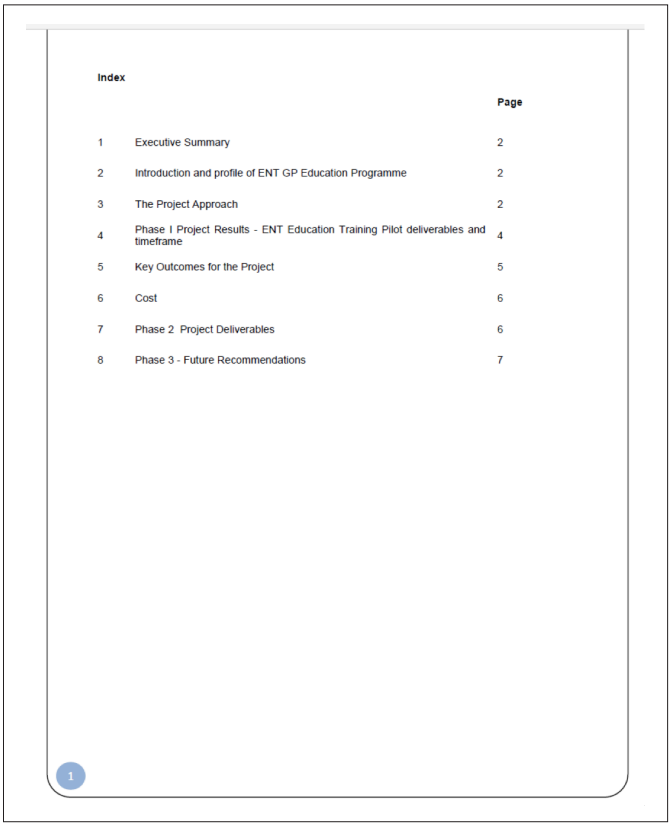
Appendix 2: Summary Report for ENT education learning module for Primary Care



Summary Report for ENT education learning module for Primary Care

National Clinical Lead for ENT Education in Primary Care

National Clinical Programme in Surgery (NCPS)



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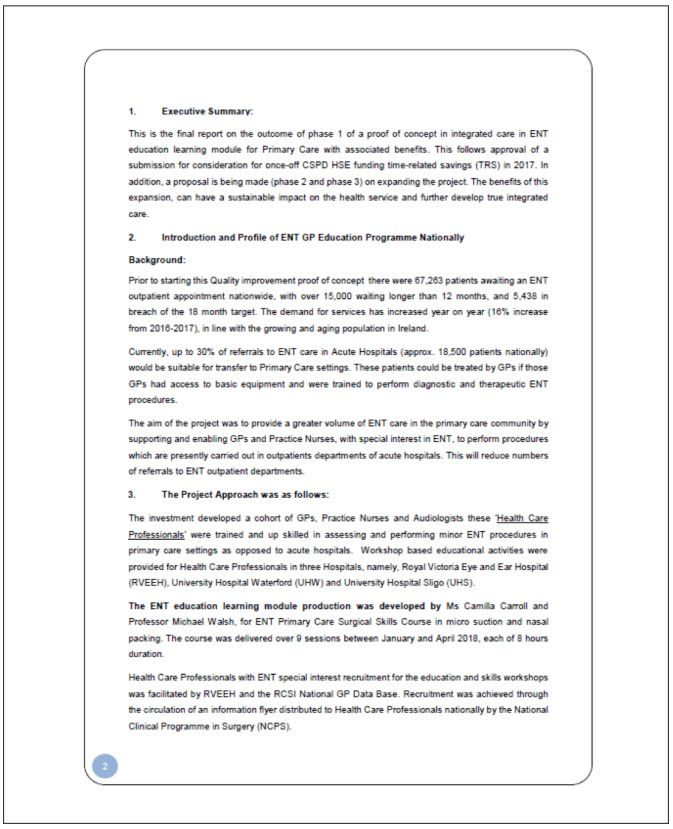
Appendix 2: Summary Report for ENT education learning module for Primary Care



1. Executive Summary:

This is the final report on the outcome of phase 1 of a proof of concept in integrated care in ENT education learning module for Primary Care with associated benefits. This follows approval of a submission for consideration for once-off CSPD HSE funding time-related savings (TRS) in 2017. In addition, a proposal is being made (phase 2 and phase 3) on expanding the project. The benefits of this expansion, can have a sustainable impact on the health service and further develop true integrated care.

2. Introduction and Profile of ENT GP Education Programme Nationally

Background:

Prior to starting this Quality improvement proof of concept there were 67,263 patients awaiting an ENT outpatient appointment nationwide, with over 15,000 waiting longer than 12 months, and 5,438 in breach of the 18 month target. The demand for services has increased year on year (16% increase from 2016-2017), in line with the growing and aging population in Ireland.

Currently, up to 30% of referrals to ENT care in Acute Hospitals (approx. 18,500 patients nationally) would be suitable for transfer to Primary Care settings. These patients could be treated by GPs if those GPs had access to basic equipment and were trained to perform diagnostic and therapeutic ENT procedures.

The aim of the project was to provide a greater volume of ENT care in the primary care community by supporting and enabling GPs and Practice Nurses, with special interest in ENT, to perform procedures which are presently carried out in outpatients departments of acute hospitals. This will reduce numbers of referrals to ENT outpatient departments.

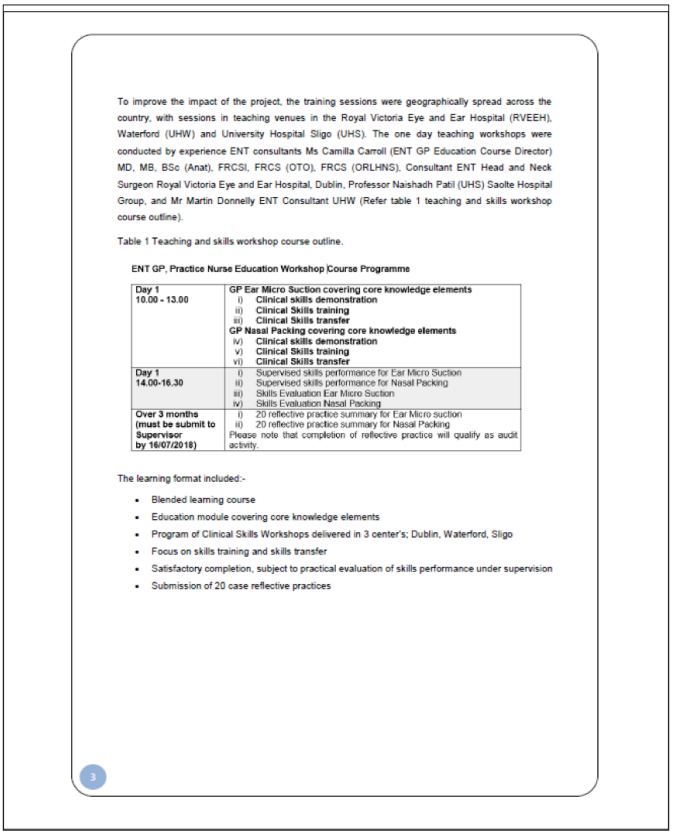
3. The Project Approach was as follows:

The investment developed a cohort of GPs, Practice Nurses and Audiologists these 'Health Care Professionals' were trained and up skilled in assessing and performing minor ENT procedures in primary care settings as opposed to acute hospitals. Workshop based educational activities were provided for Health Care Professionals in three Hospitals, namely, Royal Victoria Eye and Ear Hospital (RVEEH), University Hospital Waterford (UHW) and University Hospital Sligo (UHS).

The ENT education learning module production was developed by Ms Camilla Carroll and Professor Michael Walsh, for ENT Primary Care Surgical Skills Course in micro suction and nasal packing. The course was delivered over 9 sessions between January and April 2018, each of 8 hours duration.

Health Care Professionals with ENT special interest recruitment for the education and skills workshops was facilitated by RVEEH and the RCSI National GP Data Base. Recruitment was achieved through the circulation of an information flyer distributed to Health Care Professionals nationally by the National Clinical Programme in Surgery (NCPS).

2



To improve the impact of the project, the training sessions were geographically spread across the country, with sessions in teaching venues in the Royal Victoria Eye and Ear Hospital (RVEEH), Waterford (UHW) and University Hospital Sligo (UHS). The one day teaching workshops were conducted by experience ENT consultants Ms Camilla Carroll (ENT GP Education Course Director) MD, MB, BSc (Anat), FRCSI, FRCS (OTO), FRCS (ORLHNS), Consultant ENT Head and Neck Surgeon Royal Victoria Eye and Ear Hospital, Dublin, Professor Naishadh Patil (UHS) Saolte Hospital Group, and Mr Martin Donnelly ENT Consultant UHW (Refer table 1 teaching and skills workshop course outline).

Table 1 Teaching and skills workshop course outline.

ENT GP, Practice Nurse Education Workshop Course Programme

Day 1 **10.00 - 13.00**	**GP Ear Micro Suction covering core knowledge elements** i) **Clinical skills demonstration** ii) **Clinical Skills training** iii) **Clinical Skills transfer** **GP Nasal Packing covering core knowledge elements** iv) **Clinical skills demonstration** v) **Clinical Skills training** vi) **Clinical Skills transfer**
Day 1 **14.00-16.30**	i) Supervised skills performance for Ear Micro Suction ii) Supervised skills performance for Nasal Packing iii) Skills Evaluation Ear Micro Suction iv) Skills Evaluation Nasal Packing
Over 3 months **(must be submit to Supervisor** **by 16/07/2018)**	i) 20 reflective practice summary for Ear Micro suction ii) 20 reflective practice summary for Nasal Packing Please note that completion of reflective practice will qualify as audit activity.

The learning format included:-

- Blended learning course
- Education module covering core knowledge elements
- Program of Clinical Skills Workshops delivered in 3 center's; Dublin, Waterford, Sligo
- Focus on skills training and skills transfer
- Satisfactory completion, subject to practical evaluation of skills performance under supervision
- Submission of 20 case reflective practices

3

Appendix 2: Summary Report for ENT education learning module for Primary Care

Picture 1. Course participants at RVEEH 10 March 2017

4. Project Results Phase I - ENT Education Training Pilot deliverables and timeframes:

Nine workshops took place between January and May 2018. Five workshops were delivered in the educational center at the RVEEH, two in UHS and two in UHW.

A total of 60 Primary Care Professionals attended the workshops. There were 49 GPs, 9 Practice Nurses and 2 Audiologists (Refer Table 2 Workshop Summary).

Table 2. Workshop Summary

RVEEH dates:	Sat 10th Feb	Sat 10 March	Sun 11th March	Sat 12th May	Total
Attendees:	10 (1 DNAs)	11 (4 DNAs)	8 (4 DNAs)	18 (4 DNAs)	
Continuing to Certification	8	7	4	12	31

UHS dates:	Fri 16th Feb	Fri 16th March	
Attendees:	10 (3 DNAs)	10 (2 DNAs)	
Continuing to Certification	7	8	15

UHW dates:	Sat 24th Feb	Sat 14th April	
Attendees:	10 (3 DNAs)	10	
Continuing to Certification	4	10	14

4

5. Key Outcomes for the Project:

Key outcomes included:-

1. Practical demonstration of ability to perform ear micro suction and nasal packing, relevant to the treatment of impacted wax, otitis externa and epistaxis.
2. Completion of a one day workshop course which qualified participants for 8 External CME Credits.
3. 60 Health Care Professionals attended and are continuing on to treat patients in primary settings (or ENT outpatient department in RVEEH, UHW, or UHS for skills development) for ear micro suction and nasal packing.
4. The project managed to attract requests from up to 120 Health Care Professionals for training while there was limited access to a GP data base, post withdrawal of the ICGP from the initiative due to GP Contract negotiations.
5. The GP data base developed by the NCPS was from the Irish Medical Directory (IMD) GP listings. The data base developed accounted for approximately (n = 699) 20% of the National GPs registered with the ICGP Faculty (n = 3379) in 2017.
6. Credentialing in the procedures of micro suction and nasal packing to be awarded by the RCSI.
7. Treatment and management of 20 patients in practice is a pre-requisite to accreditation.

Deliverables for Phase I of the project.

1. Created an educational programme for technical skill transfer to Health Care Professionals in the domain of ear micro suction and nasal packing.
2. Demonstrated that this is a unique Education Programme which is robust and sustainable as demonstrated by delivery by different ENT experts at different sites.
3. Excellent feedback from course participants.
4. An ability to recruit 60 Health Care Professionals who were interested in acquiring technical skill in ear micro suction and nasal packing.
5. The 60 course participants who have completed the workshops are required to see, treat and manage 20 patients each. Therefore 1,200 patients will be managed, that is, seen and treated by March 2019, removing these patient from the ENT OP waiting list as a result of this pilot programme. The Health Care Professional is required to keep a reflective diary for every patient that is treated by them. This data will then be audited by the National Clinical Lead for ENT Education in Primary Care.
6. To date 11 reflective practices (220 patients treated) have been returned with a further 30 (500 patients undergoing treatment) in GP Practices. A further 20* Health Care Professionals will complete their reflective practice cases (400 patients) on site in the ENT departments of the RVEEH, UHW and UHS with Consultant led supervision of Ms Camilla Carroll, Professor Naishadh Patil and Mr Martin Donnelly.
7. The 60 course participants, upon completion of the patient case load, will attend for review of their technical skills in March 2019. At this time they will have competency assessment in the

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Appendix 2: Summary Report for ENT education learning module for Primary Care

area of ear micro suction and nasal packing and, if successful, will be awarded an Entrustable Professional Accreditation (EPA) for management of impaction and otitis external.

6. Costs of the project:

	Role	WTE	Salary	Full year	3 sites
Educational Support Team	Educational Leads x3	1.8			
	Total				
Course set up and consumables cost	learning platform *				
	Evaluation & Accreditation process *				
	Learning Materials + Consumables (documentation, training packs, couriers, catering printing)				
Equipment Costs - once off: to be used in all sites	Microscopes x 3 Otosim Pathology Simulator x1				
	Orisim Bronchoscope Simulator x1				
	Ear Loupes x 6				
	Otoscope (digital) x3				
	Total				
	GP x 60 Grant Equipment				
	Grand Total				**€158,802**

* Funding set aside for ICGP participation was re-assigned post withdrawal of the ICGP from the initiative due to GP Contract negotiations.

7. Deliverables for Phase 2 of the project will be:

- Reflecting the changes occurring in the ICGP training pathways, sustaining Primary Care education through continued professional development in the area of ENT ear micro suction and nasal packing, relevant to the treatment of impacted wax, otitis externa and epistaxis.
- Provision of ENT Primary care education programme that aligns with the IMO's sustainability and professional assessment by the provision of EPAs which is in keeping with competency based training process that align in with current adult education philosophies.
- The National Clinical Lead for ENT Education in Primary Care in Phase 2 will continue to support the 60 Health Care Professionals in Primary Care who have agreed to complete the 20 reflective practice case in order to achieve accreditation. This will be achieved providing clinical expert support on-site at GP practices and scheduled clinics for GP micro suction at the RVEEH held over the course of 15 days in July 2018. The 20* course participants will have

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the opportunity to complete their reflective practices at these scheduled GP micros suction clinics at the RVEEH. This will be delivered within the funding already allocated.

- The National Clinical Lead for ENT Education in Primary care will then appraise and audit the reflective cases presented by the 60 course participants. Each course participant will then complete a final technical skills assessment over 6 final assessment days to be held at the RVEEH. 10 participants will be assessed per day and awarded an EPA at that time if competency is demonstrated.
- It is proposed that an annual technical skills workshop will be delivered by National Clinical Lead for ENT Education in Primary Care for those who have attained an EPA in micro suction. This will ensure that competency is maintained. Revalidation would be required every 2 years to demonstrate ongoing technical proficiency.
- To deliver technical skills training to a wider cohort of primary care practitioners, it is proposed to commence a Train the Trainer Programme (TTT) starting in 2018-2019. A National Clinical Lead for ENT Education in Primary Care will deliver and co-ordinate these programmes, engaging with GP trainers locally and regionally. This proposal will also lead to long-term sustainability of the programme and continue to support the development of ENT integrated care pathways.

It is imperative that a robust system of validating, measuring and reporting is maintained throughout this process. Hence it is proposed that an annual programme review be carried out and, as previously stated, maintaining an EPA for ear micro suction in primary care will require attendance at an annual refresher course and revalidation every 2 years.

8. Phase 3 Future Recommendations, supporting the development of service delivery structures:

The National Clinical Programme in Surgery (NCPS), through the work of this ENT GP Educational programme, represents a step-change in the RCSI College's clinical leadership role in moving beyond the surgeon to the context in which surgical care is delivered. In collaboration with the HSE, these programmes are shaping both the surgical service delivery model and surgical patient pathway. To date, this collaboration has contributed significantly to both quality and process initiatives and yielded considerable benefit to patients. The scale of service re-engineering is challenging, however will rapidly broadened as service and pathway recommendations are implemented in an increasingly austere financial environment. The RCSI remains committed to provide the clinical leadership to inform service improvement planning, to support the broader service aspiration towards more 'Integrated Care' pathways as well as the practical implementation of the hospital networks in support of both service and training.

RCSI believes that it is necessary to increase the depth of our focus within the clinical programmes in the following areas to:

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Appendix 2: Summary Report for ENT education learning module for Primary Care

- Develop appropriate specific service models of care and service pathways across all surgical specialties including robust referral pathways for care that is regionally or nationally centralised.
- Develop a robust system of validating, measuring, reporting and mitigating the mismatch between capacity and demand for both outpatient and inpatient treatment.
- Support the development of integrated care pathways for those with chronic diseases that requires surgical input including the development, resourcing and support of both hospital and community based multi- and interdisciplinary clinical pathways.
- Expansion of consultant supported (rather than consultant led) clinics in areas such as ENT services.
- Train GPs to allow a change in service design and service provision directly into Nursing Homes and step down facilities to transform the care of older people in Ireland.
- Provide a GP training scheme that specifically trains GPs to work in areas of deprivation and with marginalised groups.
- Train those who wish to engage with HSE in audiological service who do not have the skills for micro suction. Currently these patient are referred to ENT in Acute Hospitals OP services before hearing aid can be dispensed.
- Increasingly there is a need in nursing homes with elderly patients to manage and train GPs and community Audiologists who care for minor ENT conditions. This will achieve removal of a significant number of older people from the outpatient waiting lists.
- Support and develop additional programmes for delivery of integrated care programme for our patients.
- Continue the opportunity to further develop this important and truly integrated care programme for patients.

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Appendix 3: Nationally agreed referral criteria for direct referral to audiology services

Feidhmeannacht na Seirbhíse Sláinte
Health Service Executive

Office of the Integrated Audiology Programme
44 North Great George's Street
Dublin 1

Direct Referral Guidelines to ENT from Primary Care HSE Audiology Services (2016)

The following referral guidelines have been agreed by the National ENT & Audiology Group, they supersede the British Academy of Audiology Guidelines (2009)

Scope: These guidelines apply to adult referrals to HSE community Audiology services for assessment and hearing aid management. The guidelines indicate red flags for adults direct referral patients warranting a direct referral from primary care to ENT for assessment and management.

History	
Sudden loss or sudden deterioration of hearing (sudden = within 1 week, in which case send to A&E or Urgent Care ENT clinic)	
Rapid loss or rapid deterioration of hearing (rapid=90 days or less)	
Audiometry	
Conductive hearing loss, defined as 25 dB or greater air-bone gap present at two or more of the following frequencies: 500, 1000, 2000 or 4000 Hz.	
Unilateral or asymmetrical sensorineural hearing loss, defined as a difference between the left and right bone conduction thresholds of 20 dB or greater at two or more of the following frequencies: 500, 1000, 2000 or 4000 Hz.	
Evidence of deterioration of hearing by comparison with an audiogram taken in the last 24 months, defined as a deterioration of 15 dB or more in air conduction threshold readings at two or more of the following frequencies: 500, 1000, 2000 or 4000 Hz.	
Other	
Any other unusual presenting features at the discretion of the audiologist.	
… please give details	

Implementation:
These guidelines will be implemented from 1/09/2016.

Review:
The guidelines will be reviewed within 12 months from implementation.
Feedback / evidence for amendments should be provided to relevant professional body.

Yours sincerely

Prof M.Walshe
National Clinical Lead (ENT)

Gary Norman AuD,MSc,BSc
National Clinical Lead (Audiology)

Appendix 3: Nationally agreed referral criteria for direct referral to audiology services

Persistent pain affecting either ear (defined as earache lasting more than 7 days in the past 90 days before appointment)	
History of discharge other than wax from either ear within the last 90 days	
*Sudden loss or sudden deterioration of hearing	
(sudden = within 1 week, in which case send to A&E or Urgent Care ENT clinic)	
+Rapid loss or rapid deterioration of hearing (rapid=90 days or less)	
Fluctuating hearing loss, other than associated with colds	
Unilateral or asymmetrical, or pulsatile or distressing tinnitus lasting more than 5 minutes at a time	
Troublesome, tinnitus which may lead to sleep disturbance or be associated with symptoms of anxiety or depression	
Abnormal auditory perceptions (dysacuses)	
Vertigo including dizziness, swaying or floating sensations	
Normal peripheral hearing but with abnormal difficulty hearing in noisy backgrounds; possibly having problems with sound localization, or difficulty following complex auditory directions.	
Ear examination	
Complete or partial obstruction of the external auditory canal preventing proper examination of the eardrum and/or proper taking of an aural impression or real ear measurements.	
Abnormal appearance of the outer ear and/or the eardrum (e.g., inflammation of the external auditory canal, perforated eardrum; active discharge).	
Audiometry	
+Conductive hearing loss, defined as 25 dB or greater air-bone gap present at two or more of the following frequencies: 500, 1000, 2000 or 4000 Hz and no previous ENT assessment / management with regards to current hearing loss	
+Unilateral or asymmetrical sensorineural hearing loss, defined as a difference between the left and right bone conduction thresholds of 20 dB or greater at two or more of the following frequencies: 500, 1000, 2000 or 4000 Hz and no previous ENT assessment / management with regards to current hearing loss	
+Evidence of deterioration of hearing by comparison with an audiogram taken in the last 24 months, defined as a deterioration of 15 dB or more in air conduction threshold readings at two or more of the following frequencies: 500, 1000, 2000 or 4000 Hz and no previous ENT assessment / management since the deterioration	
Other	
+Any other unusual presenting features at the discretion of the audiologist.	
… please give details	

If any of the answers above is checked, seek medical opinion
*Warrants immediate referral to Accident and Emergency clinic or Emergency ENT clinic.
+Warrants definite ENT referral (where not previously referred and seen by ENT Consultant)
Other listed conditions may require medical consultation only prior to decision on ENT referral.

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Appendix 3: Nationally agreed referral criteria for direct referral to audiology services

HSE Community Audiology can refer directly to ENT services for clients presenting with red flags, ISHAA Hearing Aid Audiologists should refer to GP (unless sudden onset)

Feidhmeannacht na Seirbhíse Sláinte
Health Service Executive

Office of the Integrated Audiology Programme
44 North Great George's Street
Dublin 1

To:
Clinical Leads (Audiology)
ENT National Clinical Lead
Audiology Operational Managers

02 August 2016

Memorandum
Revised Guidelines for Audiologists: Medical Referral of Adult Direct Referral clients

Audiologists within HSE Community services have historically used the British Academy of Audiology (BAA) 2009 guidelines for identifying referrals to Ear Nose and Throat (ENT) Consultants for medical opinion, based upon identified red flags. The criterion from this guideline was however never agreed nationally by the ENT Consultants, leading to variation in service delivery of this care pathway.

A review of the current referral criteria used by Audiologists for onwards referral to ENT has been undertaken by representative leads from the ENT service, Irish Academy of Audiology (IAA) and Integrated Audiology Programme (IAP). This document outlines the agreed guidelines for audiologists for implementation from September 2016.

Clients attending HSE community Audiology services, presenting with red flags (highlighted * or +), based upon clinical history or examination should be referred directly to local ENT services. Clients identified with other risk factors should be referred back to their GP for initial management and decision regarding ENT referral as deemed appropriate.

Where appropriate, hearing aid management should continue, unless clinically contra indicated.

Yours sincerely

Dr G.Norman AuD, MSc, BSc
National Clinical Lead (Audiology)

Criterion for Medical Referral

History	
Persistent pain affecting either ear (defined as earache lasting more than 7 days in the past 90 days before appointment)	
History of discharge other than wax from either ear within the last 90 days	
*Sudden loss or sudden deterioration of hearing	
(sudden = within 1 week, in which case send to A&E or Urgent Care ENT clinic)	
+Rapid loss or rapid deterioration of hearing (rapid=90 days or less)	
Fluctuating hearing loss, other than associated with colds	
Unilateral or asymmetrical, or pulsatile or distressing tinnitus lasting more than 5 minutes at a time	
Troublesome, tinnitus which may lead to sleep disturbance or be associated with symptoms of anxiety or depression	
Abnormal auditory perceptions (dysacuses)	
Vertigo including dizziness, swaying or floating sensations	
Normal peripheral hearing but with abnormal difficulty hearing in noisy backgrounds; possibly having problems with sound localization, or difficulty following complex auditory directions.	
Ear examination	
Complete or partial obstruction of the external auditory canal preventing proper examination of the eardrum and/or proper taking of an aural impression or real ear measurements.	
Abnormal appearance of the outer ear and/or the eardrum (e.g., inflammation of the external auditory canal, perforated eardrum; active discharge).	
Audiometry	
+Conductive hearing loss, defined as 25 dB or greater air-bone gap present at two or more of the following frequencies: 500, 1000, 2000 or 4000 Hz and no previous ENT assessment / management with regards to current hearing loss	
+Unilateral or asymmetrical sensorineural hearing loss, defined as a difference between the left and right bone conduction thresholds of 20 dB or greater at two or more of the following frequencies: 500, 1000, 2000 or 4000 Hz and no previous ENT assessment / management with regards to current hearing loss	
+Evidence of deterioration of hearing by comparison with an audiogram taken in the last 24 months, defined as a deterioration of 15 dB or more in air conduction threshold readings at two or more of the following frequencies: 500, 1000, 2000 or 4000 Hz and no previous ENT assessment / management since the deterioration	
Other	
+Any other unusual presenting features at the discretion of the audiologist.	
… please give details	

*Warrants immediate referral to Accident and Emergency clinic or Emergency ENT clinic.
+Warrants definite ENT referral (where not previously referred and seen by ENT Consultant)
Other listed conditions may require medical consultation only prior to decision on ENT referral.
(HSE Community Audiology can refer directly to ENT services for clients presenting with red flags, ISHAA Hearing Aid Audiologists should refer to GP (unless sudden onset)

If any of the answers above is checked, seek medical opinion

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Appendix 3: Nationally agreed referral criteria for direct referral to audiology services

Recommended GP Request for Medical Assessment

Client Name:	Clinic date:
Surname:	Address:
D.o.B.:	
Our Reference Number:	
Home Phone:	
Mobile Phone:	
Audiologist:	

Dear Dr. _____

The above named has been seen in the audiology clinic today. The client has been assessed as a *direct referral to audiology. Please see noted referable condition(s) on the reverse of this page that require a medical opinion to be sought.

I request that you arrange ENT / see this client for medical opinion + consider ENT referral in relation to this and we will / will not simultaneously continue with audiology care. I attach a copy of the Audiogram.

Tympanometry findings:	Right:	Left:
Otoscopic inspection:	Right:	Left:

Kind regards,

_____ (Audiologist).

CC: File*Guidance based on BAA (2009) - Guidelines for Referral to Audiology of Adults with Hearing Difficulty, modified and agreed with ENT / IAA in Ireland 2016.

Appendix 4: ORL-HNS prioritisation of patients presenting complaints

Prioritisation Outcome	Clinical characteristics/ outcomes of conditions within category	Recommended time to consultation to minimise risk and/ or achieve best clinical outcomes	Notes/ discussion points	ENT Conditions
Immediate	• Imminent risk of death • • Trauma major or minor • • Irreversible deterioration if not seen immediately	Same day	Patients should be sent to ED/ minor injury unit /AMAU as appropriate, or a same day rapid access clinic where that facility exists	Stridor Severe epistaxis Laryngeal obstruction and/or fracture Complicated mastoiditis/ cholesteatoma or sinusitis. Behavioural change in the presence of sinus infection Pharyngeal/laryngeal foreign body Abscess or haematoma, e.g. peritonsillar abscess, septal or auricular haematoma, paranasal sinus pyocoele Acute neck swelling Lower motor neuron facial palsy in the presence of purulent ear discharge or vesicles on the pinna/in the ear canal Vertigo in the presence of purulent ear discharge Fluctuating post auricular swelling in the presence of purulent ear discharge Unilateral deep seeded temporal headache in the presence of unilateral purulent ear discharge Lower motor neuron facial palsy following skull based fracture Acute sensory hearing loss Severe otitis externa in a diabetic or immuno compromised patient Acute painful swelling of salivary glands Acute proptosis in the presence of an upper respiratory tract infection Symptoms of hypocalcaemia following thyroid surgery Acute vertigo in a patient with positive eye occlusion test and third degree alternating nystagmus Trachestomy tube complications, dislodgement/crusting/haemorrhage Complications of head and neck cancer treatment

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Appendix 4: ORL-HNS prioritisation of patients presenting complaints

Prioritisation Outcome	Clinical characteristics/ outcomes of conditions within category	Recommended time to consultation to minimise risk and/ or achieve best clinical outcomes	Notes/ discussion points	ENT Conditions
Urgent	• Risk of permanent damage to organ system if treatment is delayed beyond CRT • Major functional impairment • Suspected malignant neoplastic disease • Rapidly progressing dysfunction (over a period of days or weeks) in established conditions	≤ 28 days	NCCP/Individual specialties and/ or subspecialties may set urgent CRT at less than 28 days (e.g., as per breast disease)	Uncomplicated nasal fracture Acute facial/cranial nerve palsy Vertigo/purulent ear discharge in a patient with previous history of ear surgery Documented severe sleep apnoea Unexplained cervical lymphadenopathy Unexplained cervical adenopathy in an adult Oropharyngeal ulceration Severe otitis externa not responding to primary intervention Recurring moderate epistaxis Dysphagia Suspected malignancy Lesion suspicious of non-melanoma skin cancer in the head and neck Uncontrolled pain and/or infection Trauma not requiring immediate attention Recurring purulent ear discharge Unilateral pulsatile tinnitus Blood stained ear discharge Haemoptysis Recurring aspiration Sever recurring sinus infection affecting lower respiratory tract Cystic neck swelling in an adult Severe acute infection of throat not responding to front line intervention Thyroid nodules with suspicious features on ultrasound scan **Symptoms/signs of head and neck cancer in an at risk patient (smoking, alcohol excess, family history, radiation exposure and lifestyle i.e. HPV, HIV) to be seen within 2 weeks** Hoarsness Dysphagia Ulcer on the lip, tip or floor of mouth Unilateral tonsill swelling Persistent unilateral middle ear effusion in an adult Referred otalgia Enlarged cervical and lymph nodes Unilateral nasal obstruction with blood stained discharge Unexplained unilateral atypical facial pain Recurring aspiration pneumonia Rapidly enlarging thyroid gland Unilateral proptosis Change in size or colour of mole or other lesion in the neck and neck area

Prioritisation Outcome	Clinical characteristics/ outcomes of conditions within category	Recommended time to consultation to minimise risk and/ or achieve best clinical outcomes	Notes/ discussion points	ENT Conditions
Semi-Urgent	• Risk of damage to organ system if treatment is delayed beyond CRT • Moderate functional impairment or progressive loss of function over a period of months or years • Benign neoplastic disease • Significant restriction of economic activity	≤ 13 weeks	Individual specialties and/or subspecialties and/or conditions may set semi-urgent CRT at less than 13 weeks for internal clinical management	Progressive unilateral nasal obstruction. Minor recurrent epistaxis. Cancerphobia. O.M.E. with effusion Post traumatic pain Persistent sore throat Hoarseness without documented risk factors Progressive asymmetric hearing loss Unilateral sensory hearing loss Unilateral tinnitus Incidental thyroid nodules found on imaging Persistent hoarsness in non-risk cancer patient Moderate recurring otitis externa Severe recurring tonsillitis affecting education or occupation Globus symptoms Persistent nasal obstruction affecting sleep quality or daily activity Recurring documented sinus infections Vertigo not responding to medical therapy
Non-urgent	• Minimal risk of damage to organ system if treatment is delayed beyond 13 weeks • Moderate functional impairment • Significant restriction of social activity • Management issues in established conditions • Reassessment of stable/chronic conditions that meet the criteria for review	≤ 26 weeks		Snoring Episodic vertigo Recurrent tonsillitis Symmetrical hearing loss Chronic perennial rhinitis Nasal obstruction Painless otorrhoea Acquired aesthetic deformity of ear and nose Auricular deformities Nasal deformities (cosmetic) Sore throats Mild otitis externa Symmetrical subjective tinnitus Mild episodic vertigo
Excluded	• Conditions that have no impact on physical well-being, e.g., work assessments, cosmetic surgery • Sub-acute or minor conditions/ complaints that will be safely diagnosed and/ or managed in primary care.		Specialties can decide on specific conditions/ complaints, based on literature and/ or international best practice, taking account of Irish health system's structure.	It should be noted that the public health provider responsibility does not rest with the alteration of what is regarded within the general population as the normal appearance or function, i.e. cosmetic.

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Appendix 5: Proof of concept for specialist combined respiratory and ORL-HNS multidisciplinary clinic at University Hospital Galway

The Rhinology MDM in our Clinical Practice

Chronic Sinus/ Airway conditions have multiple contributing factors which can require both medical and surgical management and thus require the involvement of a number of teams within the hospital system, including immunology, respiratory and microbiology specialities. For patients this requires multiple hospital visits between these specialities which while not just inconvenient for them, inefficient for the hospital services, also can delay the input of overall treatment.

In 2015, we set about developing a Chronic Airway Disease Multi-Disciplinary Team in our Hospital at UHG, whose purpose was

1. To discuss and develop agreed pathways for patient management
2. Discuss complex/ difficult clinical cases.
3. Planning for future treatments and investigations for better subtyping and management of this complex group.

The team currently includes Respiratory, Immunology, Microbiology, Specialist Clinical Respiratory Nurses and a Rhinology Consultant. To date we have achieved on clinical protocols for medical care which are now being implemented ensuring all patients get the maximum appropriate medical management required and avoiding the need for repetitive suboptimal treatments. Co-ordination and timing of de-sensitisation treatments with surgical intervention has improved. It is also improving on how we investigate our patients, reducing unnecessary and sometimes repetitive tests which are cost inefficient. But is has also been an educational benefit for all specialities!

Setting up this MDM has been a challenging process however and is hampered by the busy schedules of all the individuals involved. At present we meet every 2/3 months but that to date has been a challenge. As a result its role is only part of the solution with this patient group. In the past 2 years we have also developed combined Respiratory/ Rhinology clinics focusing on patients with severe asthma which run every 6 weeks but from next month will now run every Wednesday morning simultaneously between a respiratory and a Rhinology OPD clinic. These patients will see both specialists and have their care co-ordinated simultaneously for best patient management. Already this has identified many patients who have needed surgical intervention earlier than they would have been identified, and consequently expedited their management. It has often avoided unnecessary prolonged antimicrobial treatments or unnecessary radiological imaging. It is also a fantastic educational tool for our specialist trainees in both respiratory Medicine and ENT. While it has been a long road to get to this point, it is clear to us that this is undoubtedly going to benefit the patient, providing hopefully a more efficient and shorter pathway through our system. If we can just co-ordinate our MDM meetings with these clinics then we will have achieved all of our current goals.

Planning future management pathways requires ongoing analysis and so we have developed the WISARD (West of Ireland Sinus and Respiratory Disease) database which collects all clinical data related to these patients at different time points along their treatment pathway, which may help us understand and develop better strategies for treatment of this complex group in the future.

Appendix 6: Tonsillectomy questionnaire

Patients Referred For Tonsillectomy

Dear Patient,

Your General Practitioner Dr…….. has referred you to us because you been suffering from recurrent sore throats. We would be grateful if you could fill out the following questionnaire. If you return this questionnaire to the Ear nose and Throat Department in the Hospital it will be reviewed and if deemed suitable you will be booked directly to have your tonsils removed without having to attend the Out Patient Department. An information sheet is enclosed outlining the indications and risks associated with removal of tonsils. If you are agreeable to proceed with the operation please sign the back of the information sheet and send it with the questionnaire. Enclosed please find an addressed envelope.

1) How long have your been suffering from sore throats?	
Weeks:	
Months:	
Years:	

2) How often do you get sore throats?	
1 per month	
1 per 2 months	
1 per 3 months	
More than 2 per month:	

3) How long do these sore throats last?	
Less than 48 hours:	
2-3 days:	
Greater than 3 days:	

	Yes:	No:
4) When you have the sore throat do you:		
(a) Have high fever?		
(b) Do the glands in your neck enlarge?		
(c) Can you see pus on the surface of the tonsils?		
(d) Do you suffer from prolonged tiredness and lack of energy following the sore throat?		
(e) Do you ever develop a rash associated with the sore throat?		

5) Have you missed some time from school or work because of these sore throats?		

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Appendix 6: Tonsillectomy questionnaire

6) Have you ever been admitted to the Casualty Department or Hospital because of a severe sore throat?		
	YES	NO
7) Have you ever had a quinsy or tonsil abscess?		
8) Are these sore throats significantly affecting the quality of your life?		
9) Do you suffer from any of the following associated Ear Nose and Throat symptoms:		
(a) Blocked Nose?		
(b) Chronic nasal discharge?		
(c) Recurring ear infections?		
(d) Loud snoring?		
If yes do you suffer from day time tiredness?		
(e) Do you suffer from allergies to any specific medications? If so please name the medications you are allergic to.		
(f) Do you suffer from a tendency to bleed or bruise easily? Is there any family history of bleeding disorders?		
(g) Have ever had a heart murmur diagnosed?		
(h)You ever had a general anaesthetic in the past?		
If so did you develop any complications under general anaesthetic?		
(i) Is there a family history of problems with anaesthesia?		
If you are on the oral contraceptive pill it should be discontinued six weeks prior to surgery.		
(j) Are you on any of the following medication?		
1) Contraceptive Pill		
2) Aspirin		
3) Plavix		
4) Warfarin		
5) Lithium		
6) MAOI inhibitors		
10) Do you suffer from:		
(a) Rheumatic heart disease?		
(b) Kidney Disease?		
(c) Psoriasis?		
11) Do you have any dental implants, dental bridge, dental caps or brace?		
12) What is your height?		
13) What is your height?		

Appendix 7: Tonsillectomy information leaflet

Tonsillectomy Indications

Recurring Tonsillitis
- That is, infections that are recurring with such frequency and severity as to interfere with work/school attendance or general health and wellbeing.
- Predisposing to obstructive sleep apnoea in children and adults
- Two or more attacks of quinsy (tonsil abscess)
- As part of a uvulo-palatoplasty operation for snoring
- Suspicion of malignancy (painless swelling of one tonsil.

Contra-indications to tonsillectomy
- Presence of active severe tonsillitis (surgery be deferred for three weeks after an acute attack).
- Any bleeding disorder.
- Oral contraceptive pill or drugs that could cause bleeding i.e. warfarin.

Options
- The only alternative in recurring tonsillitis is to treat the infections with anti-biotics.
- Tonsils should be removed in children with documented sleep apnoea because of the morbidity associated with the condition.
- After two or more attacks of quinsy, tonsils should be removed because of the risks of abscess spreading to the neck.

Procedure
The Patient is usually admitted the morning of surgery. Selected cases are carried out as day case procedures. They should be fasting from both fluids and foods for six hours prior to surgery. It is important to tell the admitting doctor if you have had any recent severe upper respiratory tract infection, that is, within two weeks of admission. A pre-medication drug may be given to relay anxiety.

Operative Procedure
The procedure is done under general anaesthetic. A gag is inserted into the mouth and the tonsil is dissected from its bed. Any bleeding is secured using a diathermy cautery or by the application of ties or sutures.

Post-Operative Period
The patient is brought from the theatre to the recovery room, they will be drowsy for six to eight hours after the operation. Nausea and vomiting is not uncommon especially in children. Referred pain to the ear is also a common feature.
Prompt return to oral intake of fluids is essential to reduce post-operative pain and promote healing.

Pain Relief in the early post-operative period is achieved either by the use of intramuscular or intravenous injections or by the use of analgesic suppositories.

For approximately two weeks following the procedure there will be a yellow slough (membrane) over the tonsil bed. This is a normal occurrence and erroneously thought to be due to infection. Routine anti-biotics are not given to patients following tonsillectomy.

The pain usually last 10 to 14 days following the procedure. Therefore, it is advisable to take a minimum of two weeks off work or school following surgery.

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Appendix 7: Tonsillectomy information leaflet

Risks
The specific risks of tonsillectomy are:-

- Haemorrhage or bleeding which can occur from 2 to 10 % of cases. These bleedings may occur immediately after the surgery that is within 24 hours (primary bleeding) or up to 14 days following surgery (secondary bleeding). It may be necessary for the patient to be brought back to theatre to stop the bleedings.
- If any bleeding occurs following discharge from hospital the patient should immediately go to the nearest Accident and Emergency Department. The risk of bleeding is greatly enhanced if the patient does not return to oral intake of fluids following surgery.
- Infection in the middle ear can occasionally follow removal of the tonsils.
- A chest infection can also be a rare complication of removal of the tonsils.

Dislocation of Teeth
This is a rare complication brought about by the insertion of the gag which is required to remove the tonsils.

Pain over the Tempro Mandibular Joint

- This is also a rare complication associated with the necessity to open the mouth with the gag during removal of the tonsils.
- Persistent Pain: rarely severe persistent pain has been reported following removal of tonsils. Specific reason is unknown.
- Alteration in the quality of the singing voice is a rare complication usually found only in professional singers.
- Recurrence of tonsils. Surrounding glandular tissue frequently grows into the tissue bed. This does not imply the tonsil tissue has recurred or was inadequately removed. This rarely given further problems.

Mortality
Death following tonsillectomy is very rare (less than 1:10,000 cases) it is usually due to severe haemorrhage (bleeding), obstruction of the airway due to clot or swelling, or an allergic reaction to medication.

In a Teaching Hospital the procedure may be carried out by a Speciality trainee under the supervision of the Consultant.

Medication on Discharge

- Solpadol 2 tabs, 8 hourly increase to 2 tabs 4 hourly, if required, x 14 days.
- Difflam oral spray, 2 puffs every 2 hrs.
- Magic Mouth Wash, gargle every 4 hrs.

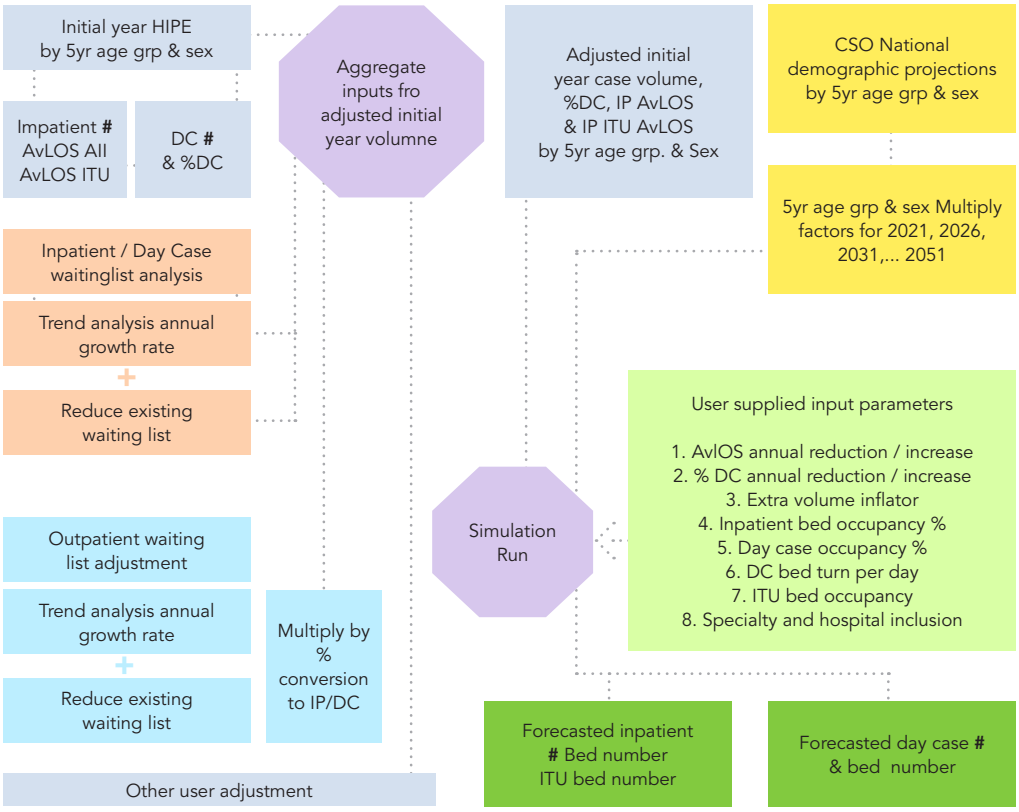
I have read this information sheet, I have had the time to understand the implications of surgery and I am wiling/not willing to proceed.

Signed: _____

Date: _____

Appendix 8: Bed requirement simulation model

Bed requirement simulation - setup and execution



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Appendix 9: Theatre capacity planning

Formula to predict theatre requirements

Number on DC/IP waiting list. Divided by number of theatre sessions per week. Multiplied by average throughput per session.
Application of this formula will facilitate prediction of the patient numbers that will exceed the waiting list targets and allow for planned structured outsourcing.

Calculation of workload is assisted by giving each procedure a weighting that takes into account complexity and theatre time, including anaesthetic time.

Using the BUPA classification of procedures, each procedure can be give an intermediate equivalent value (IEV)

Minor 0.5 intermediate 1.0. Major 1.75. Major plus 2.2 complex major 4 for planning purposes 1 EV is approximately 1 hour of operating time. (Includes or preparation and anaesthetic induction.

Example; 1 consultant carrying out 3.5 IEV per list a week for 40 weeks a year.

3.5 x 1 x 3 x 40 weeks = per consultant elective work.
6664 patients on IP/day case waiting list (NQAIS Mar 18). 21% increase in patients waiting greater than 15 months.

Contributing factors.
Inadequate bed stock for speciality.
Surgical beds occupied by medical outliers
Lack of protected beds.
Frequent rolling theatre closures.
Inefficient use of potential bed /theatre capacity in model 3/2 Hospitals.
Lack of ambulatory care canters.
High percentage of complex procedures in model 4 hospitals

Reference; British Association of Otolaryngology (Workload) Feb, 1993.

Appendix 10: Vestibular Rehabilitation Seminar Group – Response to the Irish Institute of Otorhinolaryngology/Head and Neck Surgery's Model of Care for ENT

About the Vestibular Seminar Group
The Vestibular Rehabilitation Seminar Group meets approximately monthly during the academic year. Physiotherapists and audiologists are invited to present cases pertaining to vestibular rehabilitation and discussions ensue with the literature and evidence examined. Usually 9-15 attend representing clinicians with an interest in Vestibular Rehabilitation. Remote attendees attend via Skype or Zoom from outside Dublin. Commenced in 2015, the group is co-ordinated by Dr. Dara Meldrum (Research Fellow, School of Medicine, TCD and Physiotherapist at the Balance Centre Ranelagh). This response to the ENT MOC document was prepared by Dr. Dara Meldrum with input from other members of the group.

This response is focused on Recommendations 2 and 5 (p15) which fall within the remit of the Vestibuar Seminar Group, with input from Dr. Dara Meldrum (TCD, School of Medicine) , Dr. Doug Duffy (Physiotherapy, RVEEH) and Roulla Katiri (Audiology Mater Hospital).

Recommendation 2
Primary care practitioners require better access to direct referral to diagnostic audiology and vestibular services
It is recognised that most dizziness is managed at primary care, 1 in 5 adults complain of dizziness at any given time and 50% of these will have associated unsteadiness (Yardley et al., 1998). Prevalence rises to one in three in the over 65's (Colledge et al., 1994) and dizziness is the most common complaint of patients presenting to primary care in those aged over 75 (Sloane et al., 1989). Furthermore 35% of adults exhibit some evidence of vestibular dysfunction on balance testing (Agrawal et al., 2009). Vestibular rehabilitation and falls prevention programmes are both safe effective interventions for these problems (McDonnell and Hillier, 2015, Sherrington et al., 2008) but access to either is limited.

In light of this knowledge, it is recommended that less complex and common vestibular and balance issues are managed by physiotherapists at primary care level. Increasing both the numbers of physiotherapists at primary care level and their capacity to recognise and treat balance problems is necessary for better access.

An educational/training piece will be fundamental to success. Primary care physiotherapists should be trained to recognise and treat the commonest vestibular condition BPPV, to assess elderly patients for falls risk and postural orthostatic hypotension, and to provide exercise programmes for those with balance problems and history of/risk of falls. Furthermore, they should be able to triage the more complex vestibular problems (e.g. persistent BPPV, vestibular migraine, persistent postural perceptual dizziness, central vestibular problems) and refer on to the specialist balance centres. It will be critical to the success of the specialist centres that appropriate patients are referred and that GPs are aware of the effectiveness of physiotherapeutic intervention in these problems. A MDT programme of training with core lectures delivered to all members of the MDT combined with profession specific training would be faciliatory in this regard. A recognised post graduate qualification in vestibular and balance rehabilitation structured within the National Framework of Qualifications a certificate would be an optimal means of ensuring quality of training for physiotherapists and would ideally be delivered by one of the Schools of Physiotherapy/Medicine.

Vestibular rehabilitation is currently thought of as a specialty with introductory lectures only at undergraduate level (approximately 3-4 hours) and thereafter training provided sporadically in the form of post graduate courses. Irish therapists commonly travel to Emory University in Atlanta to complete the longstanding Vestibular Competency Course provided by a MDT faculty. Of note, the field has grown considerably within Ireland over the past 20 years with a consequent increase in demand for post graduate training. The Irish Society

of Physiotherapists has contracted in specialists to train physiotherapists in Vestibular Rehabilitation and in the past year alone 6 weekend CPD courses have taken place, training in excess of 150 physiotherapists.

Recommendation 5
"Acute vestibular assessment and rehabilitation clinic2 and P61 "Direct referral of patients for vestibular assessment and rehabilitation will require specialist vestibular physiotherapists in each of the hub sites. Balance disorder if appropriately triaged and deemed suitable for follow up by Vestibular Physiotherapy could be discharged from acute hospitals services. Refer to Acute Vestibular pathway Figure 26"

The vestibular seminar group is fully in agreement with these aspirations and would be happy to assist with the development of care pathways and guidelines in this regard.

The UK has experimented with Audiology and Physiotherapy led balance clinics with initial triaging by senior registrars or consultants and/or co-location of therapists and consultants in the same clinic so patients with red flags can directly access the consultant (Kasbekar et al., 2014, Lee et al., 2011). One independent prescriber physiotherapist post has recently been reported (Burrows et al., 2017) with initial safety and efficacy of the clinic established. Direct referral to an appropriately and highly trained vestibular physiotherapist would have a huge impact on waiting lists at secondary care level.

Of note, Beaumont Hospital has recently approved a one day a week specialist physiotherapist post for vestibular rehabilitation. The physiotherapist will work in the ENT OPD clinic alongside the ENT consultant. This post should be evaluated carefully for its structure, impact on waiting lists and quality and effectiveness of care and could provide a template for future specialist balance centres.
Recommendation 9

Implement a structured approach to specialty multidisciplinary workforce planning, based on demographics, the needs of the Hospital Groups and sub-specialty requirements.

The aforementioned papers on physiotherapy/audiology led clinics provide useful metrics on the number of new and return patients that can be treated by physiotherapists at each clinic, and could provide the basis for work force planning in the future.

Further comments
- It is recommended that patient support groups be set up for those with dizziness and balance disorders, for some these problems are chronic and severely affect quality of life. These could be led by audiologists/physiotherapists.
- P61 Cochlear Implant Programme has been expanded into The Children's University Hospital, Temple Street and bilateral implants are now occurring. It is recognised that vestibular dysfunction can be a result of cochlear implantation (Abouzayd et al., 2017, Ibrahim et al., 2017) and it is likely these problems will respond to vestibular rehabilitation. It is recommended that a clinical specialist physiotherapist be available for CI users and furthermore that longitudinal evaluation is available as problems may not develop immediately post op. Paediatric and adult Vestibular Rehabilitation services in this regard should be developed and made available.
- P45- there is a role for virtual clinics or telephone follow-up within ORLHN. There is also potential for virtual clinics for physiotherapists, in particular, a model where less specialised physiotherapists together with their patient at primary care level, may access a specialist physiotherapist at a specialist centre for virtual consultation. This model has been employed effectively by GPS in Australia where geographical distances are great (AlDossary et al., 2017)

- The UK DoH proposed a model for provision of adult balance services (www.orderline.dh.gov.uk and quote: 290554/Provision of Adult Balance Services: A Good Practice Guide) which could serve as a useful guide to the setting up of Vestibular Rehabilitation services in Ireland.
- Given the high prevalence of vestibular migraine and CNS causes for dizziness a pathway to neurological/neuro-opthalmology consultation should be embedded.
- Similarly given the high prevalence of anxiety and to a lesser extent depression in those with dizziness and vertigo access to psychological services would be ideal (in Model 4 hospitals)

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