# ELECTIVE CARE CENTRES

# Recommendations of a task and finish workstream established by the Department of Health

November 2017

## Executive Summary and Recommendations

In response to recommendations in a series of recent reports as well as commitments in the subsequent Elective Care Plan, an Elective Care Centre task-and-finish workstream was convened in March 2017 chaired by Dr Niall Herity, consultant cardiologist

The terms of reference were as follows:

- To identify, source and analyse the data/evidence that is necessary to identify the optimal number and type of elective care sites for Northern Ireland
- To present and test initial findings at a series of workshops with clinical and managerial colleagues from across the HSC
- To produce a final report with proposals for the configuration of elective care

This report summarises the findings and recommendations of the workstream in line with the terms of reference. The development of specialised Elective Care Centres of excellence is a logical and credible approach to the current difficulties in delivering elective care in Northern Ireland and we recommend that they address ambulatory (day case) surgical procedures in the first instance. They would be supported by patients, the public and the professions

Among the challenges to be faced, the greatest is ensuring the availability of the appropriate workforce, both in Elective Care Centres as well as in centres delivering unscheduled care, complex inpatient elective surgery and long-term conditions care

## Recommendations

1. A regional elective care network should deliver the best elective care arrangement for the population of Northern Ireland, irrespective of Trust or LCG boundaries
2. Teaching, training and research should be among the core functions of Elective Care Centres
3. The existing HSC infrastructure should be used optimally before recommending new buildings for elective care
4. Elective Care Centres should be established and operate under the governance arrangements of the HSC and accountability should operate at HSC system level
5. Existing HSC services should not be destabilised by the establishment of Elective Care Centres

6. Elective Care Centre locations should take account of population distribution, demand patterns and equality/rurality/access requirements
7. Once Elective Care Centres are established, they should be the default location for all patients who have been assessed as clinically appropriate
8. The elective care network should be resourced and staffed to deliver the entire procedural need rather than just current activity
9. The establishment of Elective Care Centres should embed learning from current and previous similar initiatives and should take account of published guidance from relevant professional organisations

Specific recommendations about ambulatory (day case) Elective Care Centres are as follows:

10. The elective care network should be resourced and staffed to deliver the following ambulatory surgical procedure volumes annually:
    102,347 adult procedures requiring an operating theatre or procedure room
    24,964 adult gastrointestinal endoscopy procedures (under surgical teams)
    7,741 procedures across paediatric surgical specialties
11. The number of theatres required to deliver this activity is approximately
    70 adult operating theatres or procedure rooms
    9 adult gastrointestinal endoscopy rooms (not including the need for procedures performed by medical Gastroenterology teams)
    6 paediatric operating theatres or procedure rooms
12. Flexibility should be built into the design of Elective Care Centres to accommodate expansion in demand or changes in the optimal design of the operating theatres/procedure rooms required
13. All Elective Care Centres should have a continual focus on cancellation rates as a key performance indicator. Cancellations should not be regarded as part of normal business and continuous quality improvement efforts should aim to minimise their number
14. Ambulatory elective surgical centres should be of a self-contained configuration
15. The network of self-contained centres will require an appropriate mix of stand-alone centres and self-contained centres on a larger campus. The composition of this

network should be developed in partnership with clinical teams. Ambulatory procedures for children should be undertaken in accredited paediatric facilities

16. Out of 17 existing HSC ambulatory surgery centres we have identified seven that could be developed into stand-alone Elective Care Centres of excellence. Any future changes to regional unscheduled care provision could lead to other hospitals being considered as candidates for this role
17. Any of the remaining ten could be developed into a self-contained centre on a bigger campus. Currently, three of these appear to be operationally more self-contained than the others: Craigavon Hospital DPU; Daisy Hill Hospital; Ulster Hospital DSU
18. One or two Regional Venous Assessment and Treatment Centres should be established in stand-alone centre(s) for the management of patients with symptomatic varicose veins. Twelve procedure room sessions should be provided, co-located with outpatient assessment and diagnostic testing, and with an expectation that 2,700 outpatients be assessed and 1,968 patients be treated annually. The logistical details and final locations of these centres should be developed in partnership with the Northern Ireland Vascular Network
19. Two stand-alone Regional Urology Assessment and Treatment Centres should be established, probably within larger multi-specialty Elective Care Centres. There should also be provision for enhanced ambulatory procedures, delivered in at least one protected self-contained centre, co-located on a bigger hospital site
20. A total of approximately 12 theatres/procedure rooms should be provided, co-located with outpatient clinics and diagnostic testing, and with an expectation that 23,900 patients be treated annually
21. The logistical details of these centres should be developed in partnership with the Northern Ireland Urology Network and the centres should work as a collaborative entity rather than in isolation from each other
22. Regional ambulatory Ophthalmology Assessment and Treatment Centres should be developed within the Elective Care Centre network. The logistical details of these centres should be drawn up in partnership with the specialty and the centres should work as a collaborative entity rather than in isolation from each other
23. Regional ambulatory ENT Assessment and Treatment Centres should be developed within the Elective Care Centre network. The logistical details of these centres

should be drawn up in partnership with the specialty and the centres should work as a collaborative entity rather than in isolation from each other

24. Regional ambulatory Orthopaedic Assessment and Treatment Centres should be developed as part of the Elective Care Centre network. The logistical details of these centres should be drawn up in partnership with the specialty and the centres should work as a collaborative entity rather than in isolation from each other
25. Regional ambulatory Gynaecology Assessment and Treatment Centres should be developed as part of the Elective Care Centre network. The logistical details of these centres should be drawn up in partnership with the specialty and the centres should work as a collaborative entity rather than in isolation from each other

# INTRODUCTION

## Conflict of Interest Statement

No member of the workstream has declared any conflict of interest

## Introduction

In October 2016, an international expert panel under the chairmanship of Professor Rafael Bengoa published recommendations[1] for the reconfiguration of health and social care services in Northern Ireland. The report documented many challenges that face the existing health and social care system and made a series of recommendations

Specifically in relation to elective care, the panel noted particular challenges with rising demand and the impact of unscheduled care on elective care:

> *"Such an increase in emergency and urgent admissions can impact on hospitals' capacity to meet the demand for elective care, meaning more cancelled operations and appointments, and longer waiting times as priority is given to responding to the increasing demand for urgent care. This has been a major factor in the rise in waiting lists and waiting times for elective care in Northern Ireland"*

This observation resonated clearly with the clinicians and managers who organise and deliver elective care and with the patients who are waiting for it

On the same day, the Health Minister at the time published a 10-year vision[2] of how the recommendations of the Expert Panel report would be implemented

Specifically in relation to elective care, the following commitment was made:

> *"Elective Care Centres will be established to provide a dedicated resource for less complex planned surgery and other procedures. Evidence from elsewhere shows that such centres can reduce waiting times for planned care, and provide a better experience for both patients and staff. The current approach of delivering both planned and unplanned care using the same facilities and the same resources, means that waiting times can be adversely affected when the demand for urgent and emergency care is very high.*

[1] Systems not Structures: Changing Health and Social Care. DoH October 2016
[2] Health and Wellbeing 2026. Delivering Together. DoH October 2016

*By making better use of our existing resources, and organising these in a different way, we will be able to provide larger volumes of activity, to a higher quality and in a more timely manner. The centres will be a resource for the region and the way they operate will be designed around the needs of patients. The number and location of these centres will be developed in partnership with clinicians and patients, and I expect proposals to be brought forward in the next 12 months"*

In February 2017, the Department of Health (DoH) published a detailed Elective Care Plan[3] covering the full range of elective care from outpatient appointments, diagnostic testing, ambulatory medical care, ambulatory (day case) procedures and inpatient procedures. Among their analysis of the challenges facing the entire Northern Ireland healthcare system they highlighted the impact of unscheduled care on elective care performance:

*"Of significant importance is the interaction of scheduled and unscheduled care on the whole health and social care system in terms of effectively managing and coordinating patient flow to work efficiently. This is particularly important during periods of increased pressure on available beds arising from unscheduled admissions to hospital which impact on the postponement of elective care procedures"*

As well as describing the impact of how services are configured on elective care delivery, they also noted the gap between funded HSC capacity and patient demand of approximately 63,000 new outpatient assessments; 34,500 inpatient/daycase procedures (excluding cardiac surgery, cardiology and endoscopy procedures) and 172,000 diagnostic tests

This gap is forecast to increase by 2020/21 to approximately 83,500 new outpatient assessments; 39,000 inpatient/daycase procedures (excluding cardiac surgery, cardiology and endoscopy) and 300,000 diagnostics tests

The ambition described in the Elective Care Plan is as follows:

[3] Elective Care Plan. Transformation and reform of elective care services. DoH February 2017

*"To transform Elective Care services to future delivery models where, when people need specialist healthcare, they have timely access to safe, high quality assessment, diagnosis and treatment; where staff are empowered and supported to do what they do best, working in a service that is efficient and sustainable for the future.*
*A key part of this will be to develop a system which can provide sufficient sustainable elective activity in-house within the HSC to meet the needs of the population. This would reform the current system of routinely relying upon the independent sector to supplement activity on an ongoing basis to meet predicted demand. This approach would also place services on a more stable footing resulting in better planning and use of available resources"*

Among five commitments in the Plan, was one that would see the establishment of new models of provision such as regional HSC Elective Care Assessment and Treatment Centres as well as a commitment to significantly expand the existing HSC theatre infrastructure through capital investment in additional endoscopy suites, inpatient and day case theatres and, on some sites, additional bed capacity

Some selected key actions to deliver on these commitments are as follows:

- *There will be a renewed focus on improving theatre productivity and utilisation*
- *The proportion of surgery that is undertaken without the need for an overnight stay in hospital will be increased*
- *Admission on the day of surgery as the default position for all clinically appropriate patients*
- *It will be necessary to monitor the case-mix going through inpatient and daycase theatres across different sites to ensure that procedures are undertaken in the most appropriate setting and sites. Where necessary, activity will be redirected to other settings such as treatment rooms or outpatient settings*
- *One-stop clinics for assessment and preparation for elective surgery will be increased. These clinics will include initial assessment, further diagnostics (if required), decision on type/risk of anaesthesia or prosthesis (if required), booking of the procedure, explanation of the procedure and what to expect post operatively, including the signposting to other support groups or education*

- *The pre-operative assessment service will be increased to ensure the timely clinical assessment of patients. Information about procedures will be improved to help inform patients about their operation and support their decision making*
- *Where clinically appropriate, patients will receive a standard approach of providing patients at discharge, after routine surgery, with comprehensive information and a 24/7 helpline they can call if they are concerned about their recovery. Urgent outpatient appointments will be available as required*
- *Regional Elective Care Assessment and Treatment Centres will be established to deliver large volumes of assessments and non-complex routine surgery across a broad range of specialties*
- *The development of Elective Care Centres, using enhanced HSC facilities, will help reduce the current elective gap through increased capacity, productivity and the use of new technologies. Hospitals designated as Elective Care Centres will be used for outpatient assessments, diagnostics, day surgery or short stay inpatient surgery uninterrupted by emergency admissions*
- *The number and location of these centres will be developed in partnership with clinicians and patients and we will bring forward proposals for their location and service specification*
- *The potential to establish a specific facility to provide assessment and treatment for Orthopaedic patients, to address the gap between capacity and demand in Orthopaedics, will also be explored*

In response to the commitments in Delivering Together and the Elective Care Plan, a task-and-finish workstream was convened in March 2017 under the chairmanship of Dr Niall Herity, consultant cardiologist. The membership is shown in Appendix 1

The terms of reference were as follows:

- To identify, source and analyse the data/evidence that is necessary to identify the optimal number and type of elective care sites for Northern Ireland
- To present and test initial findings at a series of workshops with clinical and managerial colleagues from across the HSC
- To produce a final report with proposals for the configuration of elective care

This report summarises the recommendations of the group in line with the Terms of Reference

## SECTION 1

## DEFINITIONS AND PRINCIPLES

**Definitions**

We have adopted the following definition of elective care:

*Elective care is planned care. The patient journey usually begins in primary care and can begin with a diagnostic procedure, before entering the secondary care system for either an opinion, diagnosis, treatment or procedure*

This definition encompasses a broad range of medical care, ranging from clinic visits to invasive procedures as shown in Figure 1

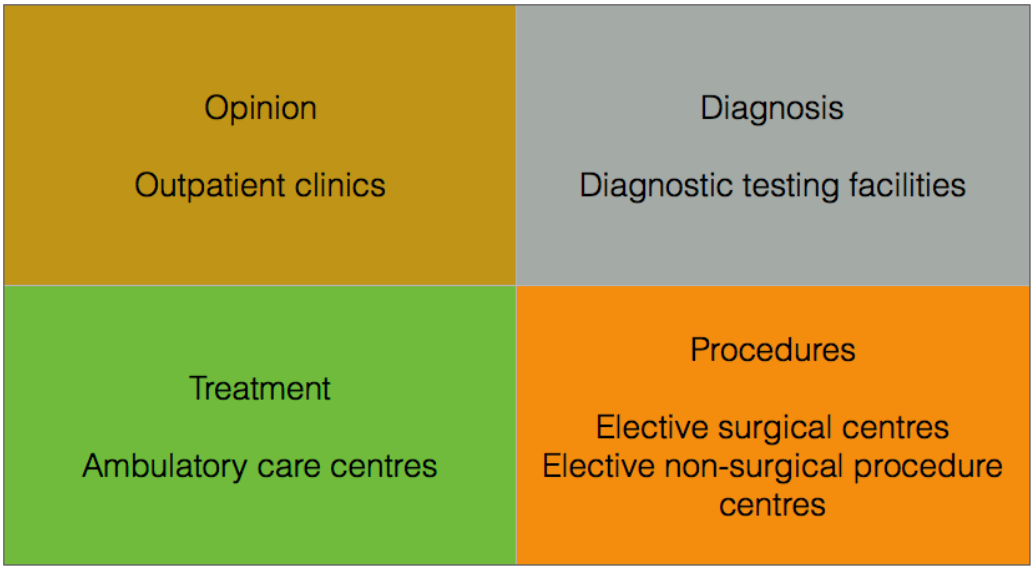



Figure 1. The range of secondary care elective services

We considered all of these aspects of elective care. Based on the description of Elective Care Centres in *Delivering Together*[2] and the Elective Care Plan[3], we judged that the Elective Care Centre workstream should focus on surgical procedures and the supporting services required to deliver them, in the first instance (Figures 2 and 3 below)

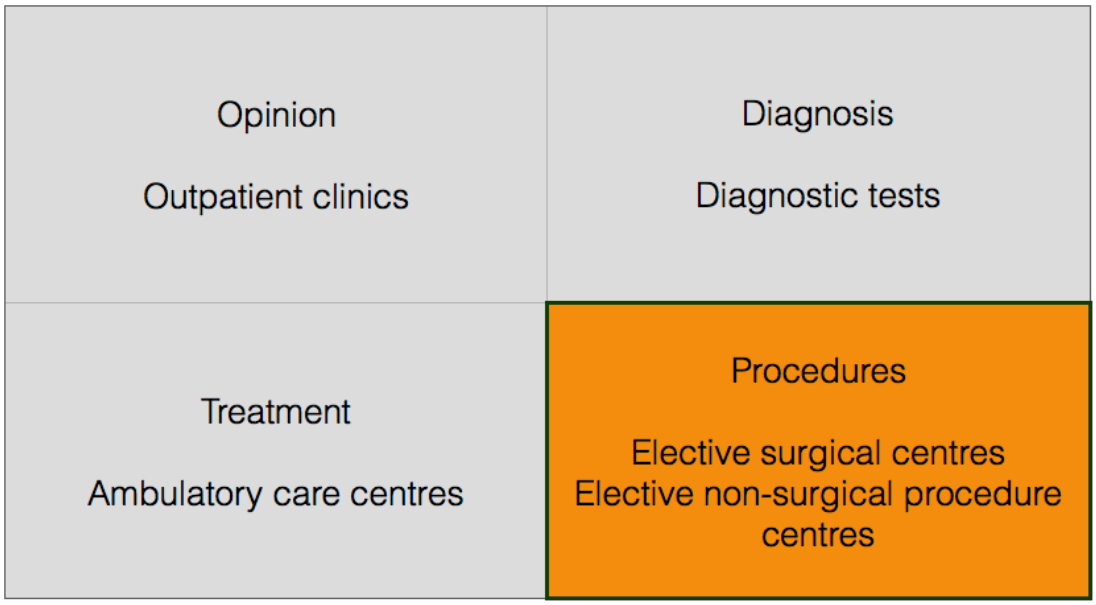



Figure 2. Subdivisions of elective care. Procedures are the primary focus of the Elective Care Centre workstream

Because ambulatory (day case) procedures account for 75 to 80% of all elective care, we chose to focus on this group of patients first

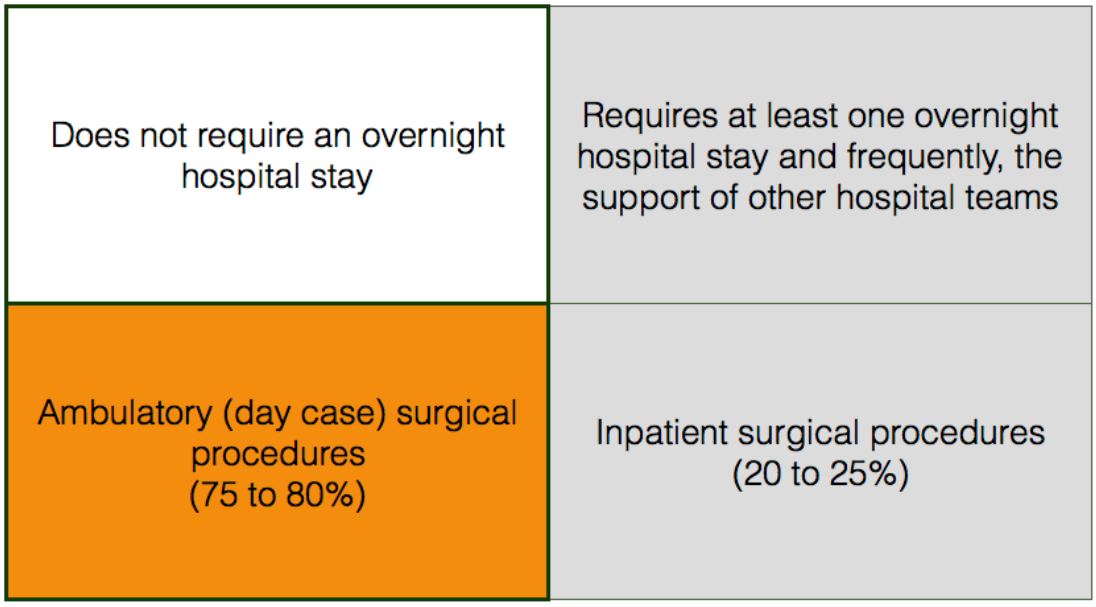



Figure 3. Subdivisions of elective procedural care. Ambulatory (day case) surgical procedures are the primary focus of the Elective Care Centre workstream

We defined the goal of the workstream as follows:

*To agree the configuration and role of at least one type of elective surgical care centre based on data analysis, guideline review, precedents elsewhere and appropriate consultation and to make recommendations in the form of a report within 8 weeks*

## Principles

Through the course of the project, we developed a set of principles to guide the analysis undertaken, the conclusions reached and the recommendations made. They are:

1. Our primary focus is safe, high quality care for all patients
2. We support the principles of co-production and co-design
3. The group will aim to define the best elective care arrangement for the entire population of Northern Ireland, irrespective of Trust or LCG boundaries
4. Currently many patients in Northern Ireland wait too long for elective care. This group aims to enhance timeliness of elective care while maintaining safety and quality
5. We support the separation of elective care and unscheduled care in order to protect patients who require elective care
6. All elective care patients should be cared for in centres appropriate to their clinical needs
7. Day case or short stay care should be the default whenever it can be achieved safely
8. Teaching, training and research should be among the core functions of Elective Care Centres
9. The existing HSC infrastructure should be used optimally before recommending new buildings for elective care
10. Elective Care Centre(s) should be established and operate under the governance arrangements of the HSC and accountability should operate at HSC system level
11. Existing HSC services should not be destabilised by the establishment of Elective Care Centre(s)
12. Elective Care Centre location will take account of population distribution, demand patterns and equality/rurality/access requirements
13. The elective care network should be resourced and staffed to deliver the entire procedural need rather than only the work currently undertaken
14. Once Elective Care Centres are established, they will be the default location for all patients who have been assessed as clinically appropriate
15. Elective Care Centres should deliver value for money

16. The establishment of Elective Care Centres should embed learning from current and previous similar initiatives and should take account of published guidance from relevant professional organisations

These principles were presented at two workshops with clinical and managerial colleagues from across the HSC on June 15, 2017. Responses to questions about the principles were gathered via an anonymous voting system (NearPod) and are summarised in Table 1. They demonstrate strong support for the principles among those who attended

| | AM/PM workshop | Yes (%) | No (%) | No answer (%) |
|---|---|---|---|---|
| Do you generally agree with the principles? | AM | 80 | 0 | 20 |
| | PM | 85 | 0 | 15 |
| "The existing HSC infrastructure should be used optimally before recommending new buildings for elective care" | AM | 68 | 10 | 23* |
| | PM | 88 | 4 | 8 |
| "Elective Care Centre(s) should be established and operate under the governance arrangements of the HSC and accountability should operate at HSC system level" | AM | 78 | 0 | 23* |
| | PM | 92 | 0 | 8 |
| "Once Elective Care Centres are established, they will be the default location for all patients who have been assessed as clinically appropriate" | AM | 78 | 0 | 23* |
| | PM | 88 | 0 | 12 |

Table 1. Summary of anonymous voting responses to questions about the principles developed by the Elective Care Centre workstream. Most workstream members abstained from voting and are included under the No answer group. *The effect of numerical rounding applies to some totals

Based on this level of support, we have chosen to incorporate selected principles into the final recommendations of this report:

*Recommendations*

1. A regional elective care network should deliver the best elective care arrangement for the population of Northern Ireland, irrespective of Trust or LCG boundaries
2. Teaching, training and research should be among the core functions of Elective Care Centres
3. The existing HSC infrastructure should be used optimally before recommending new buildings for elective care
4. Elective Care Centres should be established and operate under the governance arrangements of the HSC and accountability should operate at HSC system level
5. Existing HSC services should not be destabilised by the establishment of Elective Care Centres
6. Elective Care Centre locations should take account of population distribution, demand patterns and equality/rurality/access requirements
7. Once Elective Care Centres are established, they should be the default location for all patients who have been assessed as clinically appropriate
8. The elective care network should be resourced and staffed to deliver the entire procedural need rather than just current activity
9. The establishment of Elective Care Centres should embed learning from current and previous similar initiatives and should take account of published guidance from relevant professional organisations

## SECTION 2

## BACKGROUND INFORMATION

## Contemporary elective surgery performance in Northern Ireland

*Annual activity*

The most contemporary regional hospital activity statistics were published in October 2017[4]. In 2016/17, there were 615,271 hospital admissions across all programmes of care of which the acute programme of care (PoC 1) accounts for 88% of all admissions and includes the specialties under consideration in this report. Among 542,522 admissions in PoC 1, 45% (244,386) were elective and 80% of these were day cases. The published reports detail the number of admissions under every specialty, number of day cases, route of admission (emergency or elective) as well as procedure codes where relevant. The information is freely available[4] and will not be reproduced here. Selected data abstracts and analyses will be presented later

*Waiting times*

The most contemporary inpatient and day case waiting time statistics were published in June 2017[5]. In total 11,261 patients were waiting more than 52 weeks for an inpatient or day case admission, an increase of nearly 4,500 from a year before. Almost half of patients waiting more than 52 weeks were waiting for a day case procedure. Again, the information is freely available[5] and will not be reproduced here

*Cancellations*

Almost 10% of elective procedures in HSC hospitals in Northern Ireland were cancelled in 2016/17. This loss of 10% of surgical capacity (with wide variation between individual hospitals) deserves further attention, and more detail is provided under Section 3 (Data Analysis) below

[4] Acute Episode-Based Activity Statistics 2016/17, Volumes 1 to 4. DoH
[5] Northern Ireland waiting time statistics: inpatient and day case waiting times June 2017. DoH

## Professional guidelines

There is an abundance of professional guidance available that support a concerted move towards ambulatory surgical centres and to guide their development. They deal comprehensively with clinical considerations (patient selection, pre-operative assessment and preparation, suitable procedures, anaesthetic techniques, enhanced recovery) and also with the wider factors that have been found to underpin the success of elective surgery centres (strong audit and clinical governance, clinical and non-clinical leadership, protocols, patient information, nurse-led care)

It is not our intention to summarise every professional guideline but rather to highlight the contemporary advice of the major professional bodies in the field. Each of these publications has an extensive reference list which in turn will be a resource for those tasked with implementation of elective ambulatory surgery centres

In 2004, the NHS Modernisation Agency published 10 high impact interventions for service improvement and delivery to guide NHS leaders and commissioners towards proven changes that should be implemented to deliver best patient care and best use of resources. The number 1 recommendation was treating day surgery (rather than inpatient surgery) as the norm for elective surgery (calculated to potentially release nearly half a million inpatient bed days each year)[6]. They also identified huge variation between different Trusts in the percentage day case rates across a basket of 25 procedures

In 2007, the Royal College of Surgeons of England published recommendations on separating emergency and elective surgical care although did not discuss differing complexities of surgical care in any detail (e.g. ambulatory versus inpatient)[7]. Their recommendations were summarised as follows:

1. A physical separation of services, facilities and rotas works best although a separate unit on the same site is preferable to a completely separate location
2. The presence of senior surgeons for both elective and emergency work will enhance patient safety and the quality of care, and ensure that training opportunities are maximised

[6] 10 high impact changes for service improvement and delivery. A guide for NHS leaders. NHS Modernisation Agency 2004

[7] Separating emergency and elective surgical care. Recommendations for Practice. RCS England September 2007

3. The separation of emergency and elective surgical care can facilitate protected and concentrated training for junior surgeons providing consultants are available to supervise their work
4. Creating an 'emergency team', linked with a 'surgeon of the week' is a good method of providing dedicated and supervised training in all aspects of emergency and elective care
5. Separating emergency and elective services can prevent the admission of emergency patients (both medical and surgical) from disrupting planned activity and vice versa, thus minimising patient inconvenience and maximising productivity for the Trust
6. The success of this will largely depend on having sufficient beds and resources for each service
7. Hospital-acquired infections can be reduced by the provision of protected elective wards and avoiding admissions from the emergency department and transfers from within/outside the hospital
8. The improved use of IT solutions can assist with separating workloads (for example, scheduling systems for appointments and theatres, telemedicine, picture archiving and communication systems, etc), although it is recognised that developments in IT for the NHS are generally behind schedule
9. High-volume specialties are particularly suited to separating the two strands of work. Other specialties can also benefit by having emergencies seen by senior surgeons – this can help to reduce unnecessary admissions, deal with ward emergencies and facilitate rapid discharge

In 2011, the British Association of Day Surgery (BADS) and Association of Anaesthetists of Great Britain and Ireland (AAGBI) published its second set of consensus guidelines[8], the first having appeared in 2005. Supported by 59 references and 15 recommendations for further reading, the guidance is summarised as follows:

[8] Verma R et al. Day case and short stay surgery: 2, *Anaesthesia* 2011; **66**: 417-434

1. Day surgery is a continually evolving speciality performed in a range of ways across different units
2. In recent years, the complexity of procedures has increased with a wider range of patients now considered suitable for day surgery
3. Effective pre-operative preparation and protocol-driven, nurse-led discharge are fundamental to safe and effective day and short stay surgery
4. Fitness for a procedure should relate to the patient's health as determined at pre-operative preparation and not limited by arbitrary limits such as ASA status, age or body mass index
5. Patients presenting with acute conditions requiring urgent surgery can be efficiently and effectively treated as day cases via a semi-elective pathway
6. Central neuraxial blockade and a range of regional anaesthetic techniques, including brachial plexus and paravertebral blocks, can be used effectively for day surgery
7. Each anaesthetist should develop techniques that permit the patient to undergo the surgical procedure with minimum stress and maximum comfort, and optimise his／her chance of early discharge
8. Every day surgery unit must have a Clinical Lead with specific interest in day surgery and whose remit includes the development of local policies, guidelines and clinical governance
9. Good quality advice leaflets, assessment forms and protocols are in use in many centres and are available to other units
10. Effective audit is an essential component of good care in all aspects of day and short stay surgery
11. Enhanced recovery is based on established day surgery principles and is aimed at improving the quality of recovery after inpatient surgery such that the patient is well enough to go home earlier and healthier

In 2016, the Royal College of Anaesthetists published guidance on the provision of anaesthesia for day surgery[9]. Supported by 40 references, they are summarised as follows:

[9] Guidelines for the Provision of Anaesthesia Services (GPAS). Guidance on the provision of anaesthesis for Day Surgery. Royal College of Anaesthetists 2016.

1. Day surgery should have a dedicated clinical lead or clinical director with allocated programmed activities to allow them to lead service development
2. Anaesthesia for day surgery should be consultant led. All anaesthetists delivering day surgical care must be trained, experienced and skilled in the practice of day surgery because high-quality anaesthesia is pivotal to a successful outcome
3. Consultant anaesthetic involvement is essential in policies, protocols and guidelines designed to facilitate smooth running of the day surgery unit (DSU)
4. The location of the DSU must be given careful consideration, in order to accommodate all of the necessary facilities and access to peri-operative support services
5. Patient selection and pre-assessment of criteria of fitness for general anaesthesia for day surgery must be developed and agreed by anaesthetists
6. Pre-assessment clinics should be consultant led and delivered by a specifically trained pre-assessment team
7. The recommended standards of monitoring, trained anaesthetic assistance and post-anaesthetic recovery must be met for every patient undergoing day surgery under a general anaesthetic or sedation
8. Children experiencing day surgical care require all the facilities and staffing that would be expected in any paediatric unit
9. Training in anaesthesia for day surgery is essential so that anaesthetists practising in this area develop techniques that permit the patient to undergo the surgical procedure with minimum stress and maximum comfort, and optimise their chance of early discharge
10. Effective audit is essential in the provision of quality anaesthesia for good day surgery
11. Specific instructions and information must be available for patients, their relatives and community services

Perhaps the most comprehensive resource is *Day Surgery. Development and Practice*, a 2006 publication of the International Association for Ambulatory Surgery[10]. This brings a

[10] Day Surgery. Development and Practice. IAAS 2006

truly international perspective to the field, documenting the history of day surgery as well as reasons for variable uptake across the world. Crucially, it includes a detailed chapter on planning and designing a day surgery unit written by a surgeon and anaesthetist from the NHS in England

In 2012, the Health Improvement and Innovation Resource Centre of New Zealand published its summary of the benefits of separating acute and elective surgery[11]. Many of the benefits outlined before were reiterated and noted that "the greatest benefits to the patient are the reduction in hospital-initiated cancellations and improved timeliness of care. Cancellation of surgery creates great hardship for patients, who plan their working and family lives around proposed operation dates. Most such cancellations occur with less than 24 hours' notice". They summarised the benefits as follows:

**Table 2: Benefits of the separation of acute and elective surgery**

| | Patients | Surgeons | Governments |
|---|---|---|---|
| Enhanced patient outcomes | ✓ | ✓ | ✓ |
| More rapid assessment and better management of the acute surgical patient | ✓ | ✓ | ✓ |
| More timely care | ✓ | ✓ | ✓ |
| The more efficient throughput of patients | ✓ | ✓ | ✓ |
| Reduced elective surgery waiting lists, due in part to the more efficient use of operating theatres and in part to fewer hospital admissions | ✓ | | ✓ |
| Reduced costs due to reduced hospital stays, reduced complication rates and fewer call backs of surgeons | ✓ | | ✓ |
| A more predictable workload with safer and more predictable working hours for surgeons and other health professionals | ✓ | ✓ | ✓ |
| Ongoing peer review of surgeons' work | ✓ | ✓ | ✓ |
| Improved surgical training | ✓ | ✓ | ✓ |

[11] Strategy 10. Improving elective care through separating acute and elective surgery. Health Improvement and Innovation Resource Centre of New Zealand 2012

## SECTION 3

## DATA ANALYSIS

**Current surgical activity profile (procedures)**

The first data overview that we undertook was a regional profile (2015/16 data) of elective procedures performed under surgical specialties, categorised by length of stay (Tables 2 and 3)

| | Ambulatory (Day case) | 1 night LOS | >1 night LOS | **Total** |
|---|---|---|---|---|
| General surgery | 36493 | 2796 | 5396 | 44685 |
| Urology | 21353 | 1387 | 2470 | 25210 |
| Ophthalmology | 15436 | 528 | 70 | 16034 |
| ENT | 4567 | 2020 | 557 | 7144 |
| Gynaecology | 8504 | 1569 | 2872 | 12945 |
| Orthopaedics | 5380 | 1848 | 4808 | 12036 |
| **Subtotal (top 6)** | 91733 | 10148 | 16173 | 118054 |
| Other specialties | 10335 | 747 | 3247 | 14329 |
| **Total** | 102068 | 10895 | 19420 | 132383 |
| Percentage of all elective adult surgery | 77% | 8% | 15% | |

Table 2. Summary of the distribution of 132,383 adult elective surgical procedures (including surgical endoscopy) undertaken in the HSC in Northern Ireland in 2015/16. Source: Hospital Information Branch, DoH

| | Ambulatory (Day case) | 1 night LOS | >1 night LOS | **Total** |
|---|---|---|---|---|
| ENT | 3077 | 918 | 49 | 4044 |
| Paediatric/General Surgery | 1299 | 116 | 154 | 1569 |
| Orthopaedics | 679 | 294 | 178 | 1151 |
| Oral surgery | 498 | 11 | 20 | 529 |
| Ophthalmology | 412 | 13 | 2 | 427 |
| **Subtotal (top 5)** | 5965 | 1352 | 403 | 7720 |
| Other specialties | 846 | 64 | 93 | 1003 |
| **Total** | 6811 | 1416 | 496 | 8723 |
| Percentage of all elective Paediatric Surgery | 78% | 16% | 6% | |

Table 3. Summary of the distribution of 8,723 paediatric elective surgical procedures undertaken in the HSC in Northern Ireland in 2015/16. Source: Hospital Information Branch, DoH

Several conclusions can be drawn, foremost among which is that the great majority of surgical procedures are in adults and are performed as day cases (also known as ambulatory surgery). 77% of all adult surgical cases (and 78% of paediatric cases) are performed as day cases with 23% and 22% respectively performed as inpatients. The percentage of patients undergoing surgery on an ambulatory basis (75 to 80%) mirrors those seen in guideline documents. As previously mentioned, this predominant position of ambulatory surgery led us to focus attention on a solution for these procedures in the first instance (Figure 3 above)

Further conclusions with specific reference to ambulatory surgery are as follows:

- Six surgical specialties dominate day case adult surgical practice, between them delivering 90% of all ambulatory cases. Two of these (General Surgery and Urology) also dominate surgical endoscopy practice (97% of cases between the two of them)
- Five paediatric surgical specialties dominate ambulatory surgical practice, between them delivering 88% of ambulatory cases. The list is similar but not identical to the adult list
- Hence, considerations about elective ambulatory surgical centres should deliver a solution which works well for these high-volume ambulatory specialties at a minimum

Procedure level analysis reveals that the adult General Surgery dataset includes large numbers of endoscopic procedures. These require an appropriately accredited endoscopy facility[12] and overlap with endoscopic procedures performed by gastroenterologists or physicians. Gastrointestinal endoscopy should be ideally suited to consolidation into a small number of Elective Care Centres, in part because of the demanding accreditation process and the need for thorough decontamination facilities

Tables 4 through 10 demonstrate the top 15 ambulatory procedures in major adult surgical specialties, along with some indication about the type of facility that would be required to deliver them based on the 2015 published standards of the British Association of Day Surgery[13]. Many ambulatory surgical procedures require full operating theatre facilities including the support of anaesthetic teams and anaesthetic equipment. However many do not and can be undertaken in a specialised endoscopy room or appropriately-equipped procedure room

[12] Joint Advisory Group on Gastrointestinal Endoscopy (JAG) accreditation standards for endoscopy services

[13] BADS Directory of Procedures and National Dataset. British Association of Day Surgery 2015

Table 4 shows a breakdown of gastrointestinal endoscopy procedures performed by General Surgery teams in Northern adult Ireland in 2015/16. Endoscopy accounts for about half of ambulatory general surgical procedures (52%). Many of these procedures are performed in stand-alone Elective Care Centres. These ~19,000 procedures do not encompass all adult gastrointestinal endoscopy; there are ~25,000 day case procedures undertaken annually by medical gastroenterologists, most of which are likely to be endoscopy and ~20,000 day case procedures undertaken annually by general physicians, some of which are likely to be endoscopy

There are currently between 15 and 20 elective endoscopy centres across Northern Ireland each with between 1 and 3 endoscopy rooms; hence it is logical to address whether gastrointestinal endoscopy can be consolidated into a smaller number of specialised Elective Care Centres, each with a larger number of endoscopy rooms than at present

| | |
|---|---|
| Diagnostic fibreoptic endoscopic examination of upper gastrointestinal tract | 6,544 |
| Diagnostic endoscopic examination of colon | 6,059 |
| Diagnostic endoscopic examination of lower bowel using fibreoptic sigmoidoscope | 3,349 |
| Endoscopic extirpation of lesion of colon | 2,833 |
| Endoscopic extirpation of lesion of lower bowel using fibreoptic sigmoidoscope | 421 |
| **Total** | **19,206** |

Table 4. Procedure-level breakdown of adult General Surgery gastrointestinal endoscopy procedures performed in Northern Ireland in 2015/16. Endoscopy accounts for about half of ambulatory general surgical procedures (52%). Most of these procedures could normally be performed in a specialised endoscopy room in a stand-alone Elective Care Centre. Source: Hospital Information Branch, DoH and HSCB

| | | Number | Day case rate of top 5% UK centres (2015)[5] | UK median day case rate achieved (2015)[5] |
|---|---|---|---|---|
| | Other excision of lesion of skin | 2,954 | | |
| N17 | Excision of vas deferens | 1,012 | 100% | 100% |
| T20 | Primary repair of inguinal hernia | 906 | 93% | 73% |
| B28 | Other excision of breast | 546 | 84-100% | 60-100% |
| L88 | Transluminal operations on varicose vein of leg (P) | 535 | 100% | 97-100% |
| H52 | Destruction of haemorrhoid (banding) (P) | 500 | 100% | 98% |
| J18 | Excision of gall bladder | 457 | 78% | 53% |
| A65 | Release of entrapment of peripheral nerve at wrist | 442 | 100% | 98% |
| M45 | Diagnostic endoscopic examination of bladder (P) | 415 | 100% | 81% |
| H55 | Other operations on perianal region | 296 | 100% | 88% |
| | **Total** | **8,063** | | |

Table 5. Procedure-level breakdown of the commonest adult General Surgery ambulatory procedures performed in Northern Ireland in 2015/16, after gastrointestinal endoscopy has been removed and shown separately in Table 4. (P) indicates procedures that could be performed in a procedure room[13]. Source: Hospital Information Branch, DoH and HSCB

| | | Number | Day case rate of top 5% UK centres (2015)[5] | UK median day case rate achieved (2015)[5] |
|---|---|---|---|---|
| M45 | Diagnostic endoscopic examination of bladder (P) | 9,867 | 100% | 81% |
| M49 | Other operations on bladder (P) | 1,793 | | |
| M70 | Other operations on outlet of male bladder (P) | 1,387 | | |
| M47 | Urethral catheterisation of bladder (P) | 1,050 | | |
| M14 | Extracorporeal fragmentation of calculus of kidney (P) | 985 | | |
| N17 | Excision of vas deferens (P) | 341 | 100% | 100% |
| M29 | Other therapeutic endoscopic operations on ureter | 328 | | |
| M16 | Other operations on kidney | 325 | | |
| N30 | Operations on prepuce (P) | 310 | 100% | 91% |
| M42 | Endoscopic extirpation of lesion of bladder | 278 | 74% | 27% |
| M27 | Therapeutic ureteroscopic operations on ureter | 206 | 80% | 34% |
| M30 | Diagnostic endoscopic examination of ureter | 205 | 100% | 50% |
| M43 | Endoscopic operations to increase capacity of bladder | 184 | | |
| M76 | Therapeutic endoscopic operations on urethra (P) | 129 | | |
| M79 | Other operations on urethra (P) | 97 | | |
| | **Total** | **17,485** | | |

Table 6. Procedure-level breakdown of the top 15 adult ambulatory Urology procedures performed in Northern Ireland in 2015/16. (P) indicates procedures that could be performed in a procedure room[13]. Source: Hospital Information Branch, DoH and HSCB

| | | Number | Day case rate of top 5% UK centres (2015)[5] | UK median day case rate achieved (2015)[5] |
|---|---|---|---|---|
| C75 | Prosthesis of lens | 7,893 | 100% | 99% |
| C82 | Destruction of lesion of retina | 1,524 | | |
| C73 | Incision of capsule of lens | 1,157 | 100% | 99% |
| C12 | Extirpation of lesion of eyelid (P) | 977 | 100% | 99% |
| C15 | Correction of deformity of eyelid (P) | 318 | 100% | 100% |
| C22 | Other operations on eyelid (P) | 204 | | |
| C18 | Correction of ptosis of eyelid | 194 | 100% | 99% |
| C60 | Filtering operations on iris | 189 | 100% | 97% |
| C31 | Combined operations on muscles of eye | 188 | 100% | 97% |
| C79 | Operations on vitreous body | 183 | 100% | 98% |
| C27 | Operations on nasolacrimal duct | 147 | | |
| C62 | Incision of iris (P) | 138 | 100% | 100% |
| C13 | Excision of redundant skin of eyelid | 103 | 100% | 100% |
| C61 | Other operations on trabecular meshwork of eye | 98 | | |
| C51 | Other operations on cornea | 97 | | |
| | **Total** | **13,410** | | |

Table 7. Procedure-level breakdown of the top 15 adult ambulatory Ophthalmology procedures performed in Northern Ireland in 2015/16. (P) indicates procedures that could be performed in a procedure room[13]. Source: Hospital Information Branch, DoH and HSCB

| | | Number | Day case rate of top 5% UK centres (2015)[5] | UK median day case rate achieved (2015)[5] |
|---|---|---|---|---|
| W90 | Puncture of joint | 1,097 | 100% | 95% |
| W82 | Therapeutic endoscopic operations on semilunar cartilage | 665 | 98% | 89% |
| W28 | Other internal fixation of bone | 500 | 92% | 78% |
| A65 | Release of entrapment of peripheral nerve at wrist | 461 | 100% | 98% |
| W74 | Other reconstruction of ligament | 150 | 90% | 27% |
| V54 | Other operations on spine | 132 | | |
| T72 | Other operations on sheath of tendon | 130 | 100% | 97% |
| T62 | Operations on bursa | 124 | | |
| W19 | Primary open reduction of fracture of bone and intramedullary fixation | 123 | | |
| W24 | Closed reduction of fracture of bone and internal fixation | 123 | | |
| T52 | Excision of other fascia | 109 | 100% | 93% |
| W26 | Other closed reduction of fracture of bone | 108 | | |
| W20 | Primary open reduction of fracture of bone and extramedullary fixation | 106 | | |
| O29 | Excision of bone | 92 | 91% | 70% |
| | **Total** | **3,920** | | |

Table 8. Procedure-level breakdown of the top 15 adult ambulatory Orthopaedics procedures performed in Northern Ireland in 2015/16.

Source: Hospital Information Branch, DoH and HSCB

| | | Number | Day case rate of top 5% UK centres (2015)[5] | UK median day case rate achieved (2015)[5] |
|---|---|---|---|---|
| D15 | Drainage of middle ear | 1,481 | 100% | 95% |
| F34 | Excision of tonsil | 939 | 99% | 65% |
| V09 | Reduction of fracture of other bone of face | 487 | 100% | 96% |
| E37 | Diagnostic microendoscopic examination of larynx | 469 | 100% | 84% |
| E03 | Operations on septum of nose | 435 | 100% | 75% |
| E20 | Operations on adenoid | 398 | 100% | 86% |
| E08 | Other operations on internal nose | 177 | 100% | 65% |
| E04 | Operations on turbinate of nose | 175 | 100% | 83% |
| E36 | Diagnostic endoscopic examination of larynx | 151 | 100% | 84% |
| D02 | Extirpation of lesion of external ear | 140 | 100% | 98% |
| D14 | Repair of eardrum | 127 | 100% | 64% |
| E25 | Diagnostic endoscopic examination of pharynx | 111 | 100% | 84% |
| E34 | Microtherapeutic endoscopic operations on larynx | 103 | 100% | 74% |
| E13 | Other operations on maxillary antrum | 82 | 100% | 68% |
| E07 | Other plastic operations on nose | 51 | 100% | 52% |
| | **Total** | **5,326** | | |

Table 9. Procedure-level breakdown of the top 15 adult and paediatric ambulatory ENT procedures performed in Northern Ireland in 2015/16.

Source: Hospital Information Branch, DoH and HSCB

| | | Number | Day case rate of top 5% UK centres (2015)[5] | UK median day case rate achieved (2015)[5] |
|---|---|---|---|---|
| Q18 | Diagnostic endoscopic examination of uterus (P) | 1,992 | 99% | 90% |
| Q12 | Intrauterine contraceptive device | 1,143 | | |
| Q16 | Other vaginal operations on uterus | 604 | 97% | 87% |
| Q17 | Therapeutic endoscopic operations on uterus | 581 | 97% | 87% |
| Q01 | Excision of cervix uteri (P) | 472 | 100% | 93% |
| Q11 | Other evacuation of contents of uterus | 406 | 98% | 90% |
| Q35 | Endoscopic bilateral occlusion of fallopian tubes | 267 | 100% | 90% |
| M45 | Diagnostic endoscopic examination of bladder (P) | 246 | 100% | 81% |
| P09 | Other operations on vulva | 244 | | |
| Q02 | Destruction of lesion of cervix uteri (P) | 238 | 100% | 93% |
| M53 | Vaginal operations to support outlet of female bladder | 210 | 89% | 55% |
| Q55 | Other examination of female genital tract (P) | 194 | 100% | 100% |
| M43 | Endoscopic operations to increase capacity of bladder | 187 | | |
| T43 | Diagnostic endoscopic examination of peritoneum | 183 | | |
| Q22 | Bilateral excision of adnexa of uterus | 98 | 71% | 31% |
| | **Total** | **7065** | | |

Table 10. Procedure-level breakdown of the top 15 adult Gynaecology procedures performed in Northern Ireland in 2015/16. (P) indicates procedures that could be performed in a procedure room[13]. Source: Hospital Information Branch, DoH and HSCB

## Calculation of the population need (procedures)

Calculating existing case volumes (Tables 2 and 3) is only a start to understanding the population need for ambulatory elective surgical procedures. In order to define and plan for the actual population need, we have factored in additional data:

- the annual growth in waiting lists for surgical procedures
- the annual growth in surgical outpatient waiting lists with a conversion factor applied to estimate the expected conversion to a surgical or endoscopic procedure
- the annual number of patients treated in the independent sector from HSC waiting lists

Tables 11 and 12 summarise these calculations for Northern Ireland adults and children respectively. We have calculated a need for 127,311 ambulatory adult surgical procedures annually which is approximately 25% greater than the activity delivered in 2015/16. We have calculated a need for 7,741 ambulatory paediatric surgical procedures annually, approximately 14% greater than the activity delivered in 2015/16

| | 2015/16 data | | | | | | |
|---|---|---|---|---|---|---|---|
| | **Day case activity** | **Growth in procedural waiting lists** | **Growth in new outpatient waiting list** | **Conversion factor to a procedure** | **Additional activity from outpatients** | **Number sent to IS** | **Calculated total day case need** |
| **General surgery** | 36493 | 2354 | 4149 | 0.54* | 2240 | 1207 | 42294 |
| **Urology** | 21353 | 229 | 2344 | 0.99* | 2321 | 14 | 23917 |
| **Ophthalmology** | 15436 | 906 | 2877 | 0.55 | 1582 | 618 | 18542 |
| **ENT** | 4567 | 591 | 4185 | 0.30 | 1256 | 253 | 6667 |
| **Gynaecology** | 8504 | 627 | 489 | 0.30 | 147 | 217 | 9495 |
| **Orthopaedics** | 5380 | 72 | 7196 | 0.55 | 3958 | 3398 | 12808 |
| **Other specialties combined** | 10335 | 769 | 2330 | 0.30 | 699 | 1785 | 13588 |
| **Total** | 102068 | 5548 | 23570 | | 12203 | 7492 | **127311** |

Table 11. Calculation of annual need for adult elective ambulatory surgical procedures in Northern Ireland. The total calculated need (127,311 procedures) is approximately 25% greater than the number of procedures delivered in 2015/16 (102,068 procedures). *An aggregate conversion factor from two others – one for endoscopic and one for operative procedures. Source: Hospital Information Branch, DoH and HSCB

| | 2015/16 data | | | | | | |
|---|---|---|---|---|---|---|---|
| | **Day case activity** | **Growth in procedural waiting lists** | **Growth in new outpatient waiting list** | **Conversion factor to a procedure** | **Additional activity from outpatients** | **Number sent to IS** | **Calculated total day case need** |
| **General / Paediatric Surgery** | 1299 | 166 | -349 | 0.50 | -175 | 82 | 1372 |
| **Oral Surgery** | 498 | 125 | 35 | 0.30 | 11 | 7 | 641 |
| **Ophthalmology** | 412 | 4 | 124 | 0.55 | 68 | 0 | 484 |
| **ENT** | 3077 | 395 | 1001 | 0.30 | 300 | 8 | 3780 |
| **Orthopaedics** | 679 | -11 | -286 | 0.55 | -157 | 7 | 518 |
| **Other Specialities** | 846 | 108 | -26 | 0.30 | -8 | 0 | 946 |
| **Total** | 6811 | 787 | 499 | | 39 | 104 | **7741** |

Table 12. Calculation of annual need for paediatric elective ambulatory surgical procedures in Northern Ireland. The total calculated need (7,741 procedures) is approximately 14% greater than the number of procedures delivered in 2015/16 (6,811 procedures). Source: Hospital Information Branch, DoH and HSCB

## Calculation of the population need (facilities)

In order to translate these case volumes into the resources required to deliver them, we agreed that the most valuable way to express the resource need was in the annual number of endoscopy suite, operating theatre or procedure room sessions required to deliver the work. This would then allow those commissioning and providing the service to calculate the wider resources needed in terms of infrastructure as well as all supporting services, including workforce. These calculations are shown in Tables 13, 14, 15 and 16 below

The percentage breakdown of endoscopic procedures in Table 4 is important. Gastrointestinal endoscopic procedures are categorised based on a points system, derived from the anticipated procedure duration, with 12 points expected per 210-minute session, including turnaround time. Table 13 demonstrates that the average number of points per procedure in 2015/16 was 1.63 and this correction factor will be used in future calculations

| | Number of procedures in 2015/16 | Weighted value (points) |
|---|---|---|
| **1 point procedures** | | |
| Diagnostic OGD | 6544 | 6544 |
| Diagnostic flexible sigmoidoscopy | 3349 | 3349 |
| **2 point procedures** | | |
| Therapeutic OGD | 0 | 0 |
| Therapeutic sigmoidoscopy | 421 | 842 |
| Diagnostic colonoscopy | 6069 | 12138 |
| **3 point procedures** | | |
| Therapeutic colonoscopy | 2833 | 8499 |
| **Total** | **19216** | **31372** |
| Average number of points per endoscopic procedure | | **1.63** |

Table 13. Calculation of the average number of points per gastrointestinal endoscopic procedure undertaken by surgical teams in 2015/16

Our calculations indicate that the annual ambulatory surgical procedure demand for adults could be accommodated in 70 operating theatres/procedure rooms and 9 dedicated endoscopy rooms. Although we initially set out to separate out procedures needing operating theatres from those that can be accommodated in procedure rooms, we found that many of our assumptions were out-of-date and that many specialties see opportunities to move procedures away from the theatre environment. Hence we have left the categories combined, with a view to separating them at a procedure-by-procedure level for each individual specialty during the implementation stage

For children, the very small number of endoscopy procedures and procedures requiring a procedure room led us to combine all annual ambulatory surgical procedure demand into a single theatre/procedure room category. This work could be accommodated in approximately 6 dedicated theatres/procedure rooms. This relatively small number suggests that it should be delivered in a single dedicated paediatric centre

| | Adult gastrointestinal endoscopy (undertaken by surgical teams) | | | | |
|---|---|---|---|---|---|
| **Adult Specialities** | **2015/16 activity** | **Calculated number of procedures required** | **Estimated number of points required annually*** | **Number of sessions required annually**** | **Number of physical endoscopy rooms required***** |
| General Surgery | 21838 | 24964 | 40691 | 3768 | 9 |

Table 14. Calculation of annual gastrointestinal endoscopy resource needed by surgical teams to deliver their adult elective endoscopy need for Northern Ireland. Source: HSCB

*Based on an average of 1.63 points per procedure in 2015/16 (Table 13); **Assuming 12 points per 210-minute session and 90% utilisation

***Assuming 10 endoscopy sessions per week and a 42-week year

| | Adult theatres and procedure rooms (excluding gastrointestinal endoscopy) | | | | | |
|---|---|---|---|---|---|---|
| **Adult Specialities** | **2015/16 activity** | **Calculated number of procedures required*** | **Estimated time required (minutes)** | **Number of theatre sessions required annually**** | **Number of physical theatre equivalents required***** | **With turnover of 15 minutes applied between cases** |
| General Surgery | 14655 | 17330 | 973325 | 5150 | 12.3 | 15.5 |
| Urology | 21353 | 23917 | 617212 | 3266 | 7.8 | 12.3 |
| Ophthalmology | 15436 | 18542 | 749211 | 3964 | 9.4 | 12.9 |
| ENT | 4567 | 6667 | 310312 | 1642 | 3.9 | 5.2 |
| Gynaecology | 8504 | 9495 | 340332 | 1801 | 4.3 | 6.1 |
| Orthopaedics | 5380 | 12808 | 563326 | 2981 | 7.1 | 9.5 |
| Other Specialities | 10335 | 13588 | 463668 | 2453 | 5.8 | 8.4 |
| **Total** | 80230 | 102347 | 4017386 | 21256 | **50.6** | **69.9** |

Table 15. Calculation of the annual theatre or procedure room resource needed to deliver the adult elective ambulatory surgery need for Northern Ireland (excluding gastrointestinal endoscopy). Source: HSCB

*Assumes that all patients who went to the independent sector had a procedure requiring an operating theatre or procedure room

**Assuming a 210-minute session and 90% utilisation; ***Assuming 10 theatre sessions per week and a 42-week year

| | All types of theatre/procedure room (children) | | | | | |
|---|---|---|---|---|---|---|
| **Paediatric Specialities** | **2015/16 activity** | **Calculated number of procedures required** | **Estimated time required (minutes)** | **Number of sessions required annually*** | **Number of physical theatres required**** | **With turnover of 15 minutes applied between cases** |
| Paediatric Surgery | 1299 | 1373 | 67938 | 359 | 0.9 | 1.1 |
| Oral surgery | 498 | 641 | 43568 | 231 | 0.5 | 0.6 |
| Ophthalmology | 412 | 484 | 22332 | 118 | 0.3 | 0.4 |
| ENT | 3077 | 3780 | 124494 | 659 | 1.6 | 2.3 |
| Orthopaedics | 679 | 518 | 44478 | 235 | 0.6 | 0.7 |
| Other Specialities | 846 | 946 | 72320 | 383 | 0.9 | 1.1 |
| **Total** | 6811 | 7741 | 375130 | 1985 | **4.7** | **6.2** |

Table 16 Calculation of annual theatre sessional resource needed to deliver the paediatric elective ambulatory surgery need for Northern Ireland. Source: HSCB. *Assuming a 210-minute session and 90% utilisation. **Assuming 10 theatre sessions per week and a 42-week year

## Cancellations

The ideal cancellation rate for planned surgery is 0%, but a realistic goal is for a regional cancellation rate that is as good as, or better than appropriate peers. Our purpose in analysing these data is to understand how well Northern Ireland centres benchmark now, and also to identify those centres that currently deliver lower than expected cancellation rates. Such centres could justifiably be considered as preferred candidates for development as dedicated Elective Care Centres in the future

*Cancellations for non-clinical reasons*

Tables 17 and 18 show cancellation rates for non-clinical reasons (a lack of ward or ICU or HDU beds; a surgeon or anaesthetist or theatre staff or other staff were unavailable; emergencies or trauma displaced scheduled patients; a list overran; there was an equipment failure; there was an administrative error; there were cancellations due to ED pressures). Table 17 shows these cancellations for all types of procedure (day case or inpatient). The regional average was 2.8% with substantial variation (0.3% to 8.4%). The data reinforce the well-recognised impact of 24/7 unscheduled care responsibilities on elective care. Six of the seven hospitals with above- average non-clinical cancellation rates have a Type 1 emergency department on-site, while eight of the eleven hospitals with below-average cancellation rates do not have a Type 1 emergency department on-site

Table 18 shows the same analysis applied to day case procedures only and the pattern is broadly similar to that for all elective procedures. The non-clinical cancellation rate was lower for day cases than for all procedures but not dramatically so (2.2% versus 2.8%) indicating that under current arrangements, day case procedures are not especially protected from cancellations for non-clinical reasons. However it is also worth noting that several hospitals achieved a non-clinical cancellation rate of 1% or less for day procedures, indicating that this level of performance is deliverable in a Northern Ireland context. Recently published non-clinical cancellation rates were 2.0% in NHS Scotland and 1.0% in NHS England[14,15]. Hence while there is room for improvement at an average regional level, several hospitals perform well currently against these benchmarks

[14] https://www.isdscotland.org/Health-Topics/Waiting-Times/Publications/2017-11-07/2017-11-07-Cancellations-Summary.pdf

[15] https://www.england.nhs.uk/statistics/wp-content/uploads/sites/2/2013/04/Cancelled-Operations-Stats-PN-Q1-2017-18-46580.pdf

| Hospital | Type 1 emergency department? | Total scheduled elective admissions for an operation | Hospital cancellations due to non-clinical reasons | |
|---|---|---|---|---|
| South West Acute | Yes | 4,480 | 377 | 8.4% |
| Antrim | Yes | 10,147 | 410 | 4.0% |
| Royal Group of Hospitals | Yes | 42,746 | 1,706 | 4.0% |
| Mater | Yes | 7,392 | 249 | 3.4% |
| Causeway | Yes | 9,736 | 327 | 3.4% |
| Altnagelvin | Yes | 26,029 | 873 | 3.4% |
| Belfast City Hospital including Cancer Centre | No | 35,191 | 1,055 | 3.0% |
| **Northern Ireland average 2.8% (6,525 out of 235,854)** | | | | |
| Musgrave Park | No | 11,094 | 266 | 2.4% |
| Craigavon | Yes | 17,706 | 375 | 2.1% |
| Ulster | Yes | 14,529 | 254 | 1.7% |
| Mid-Ulster | No | 5,262 | 90 | 1.7% |
| Daisy Hill | Yes | 10,576 | 174 | 1.6% |
| Downe | No | 5,557 | 67 | 1.2% |
| Lagan Valley | No | 8,922 | 97 | 1.1% |
| South Tyrone | No | 9,744 | 100 | 1.0% |
| Whiteabbey | No | 5,723 | 56 | 1.0% |
| (Ards) | No | 5,167 | 34 | 0.7% |
| (Tyrone County) | No | 5,853 | 17 | 0.3% |

Table 17. Northern Ireland hospitals ranked by cancellation rates for all scheduled elective operations for non-clinical reasons in 2016/17. Source: Hospital Information Branch, DoH

| Hospital | Type 1 emergency department? | Total scheduled day case admissions for an operation | Hospital cancellations due to non-clinical reasons | |
|---|---|---|---|---|
| South West Acute | Yes | 3,656 | 169 | 4.6% |
| Mater | Yes | 6,520 | 242 | 3.7% |
| Royal Group of Hospitals | Yes | 30,839 | 1,018 | 3.3% |
| Causeway | Yes | 8,440 | 262 | 3.1% |
| Belfast City Hospital including Cancer Centre | No | 27,506 | 815 | 3.0% |
| Antrim | Yes | 7,085 | 190 | 2.7% |
| Altnagelvin | Yes | 19,040 | 470 | 2.5% |
| **Northern Ireland average 2.2% (3,815 out of 175,561)** | | | | |
| Mid-Ulster | No | 5,256 | 90 | 1.7% |
| Downe | No | 5,491 | 66 | 1.2% |
| Lagan Valley | No | 8,854 | 95 | 1.1% |
| South Tyrone | No | 9,744 | 100 | 1.0% |
| Ulster | Yes | 9,955 | 100 | 1.0% |
| Craigavon | Yes | 6,347 | 63 | 1.0% |
| Whiteabbey | No | 5,723 | 56 | 1.0% |
| (Ards) | No | 5,165 | 34 | 0.7% |
| Daisy Hill | Yes | 5,444 | 26 | 0.5% |
| (Tyrone County) | No | 5,853 | 17 | 0.3% |
| Musgrave Park | No | 4,643 | 2 | 0.04% |

Table 18. Northern Ireland hospitals ranked by cancellation rates for scheduled day case operations for non-clinical reasons in 2016/17. Source: Hospital Information Branch, DoH

*Cancellations for clinical, patient-related or other reasons*

Tables 19 and 20 show cancellation rates for clinical, patient-related or other reasons in 2016/17 (the patient was considered clinically unsuitable to undergo the procedure; another clinical reason; the patient cancelled)

Table 19 shows these cancellations for all types of procedure (day case or inpatient). More than twice as many procedures were cancelled for this aggregate group of reasons than for non-clinical reasons and the common link between the eleven hospitals that have above-average rates of such cancellations is not immediately apparent. If anything, the pattern is a mirror image of Tables 17 and 18, with several smaller centres experiencing more of these cancellations. Reasons behind the variation in these cancellation rates are likely to be complex and beyond the scope of this report. Nonetheless the data show that this aggregated category of cancellations could mean the difference between success and failure for a given Elective Care Centre, and needs to be a closely-monitored performance indicator

Table 20 shows the same analysis as in Table 19 applied to day case procedures. Again, there is no evidence that day cases are intrinsically immune from such cancellations. Indeed the cancellation rate for day cases (7.5%) was actually higher than that for inpatient surgery (3.2%)

Direct benchmarks from NHS England were not available. NHS Scotland cites an equivalent aggregate rate of 7.2% (3.5% clinical reason; 3.4% cancellation by patient; 0.3% other)[14]

Finally Table 21 shows the cancellation rates for any reason among patients admitted for day case procedures. It demonstrates that Musgrave Park Hospital has reported an exceptionally low overall cancellation rate, assuming the data are accurate. Any future Elective Care Centres will need to have a major focus on avoiding cancellations and a continuous quality improvement strategy to achieve rates similar to what is seen in NHS England

| Hospital | Type 1 emergency department ? | Total scheduled elective admissions for an operation | Hospital cancellations due to clinical, patient-related or other reasons | |
|---|---|---|---|---|
| (Tyrone County) | No | 4,480 | 997 | 17.0% |
| (Ards) | No | 10,147 | 653 | 12.6% |
| South West Acute | Yes | 42,746 | 555 | 12.4% |
| Downe | No | 7,392 | 632 | 11.4% |
| Lagan Valley | No | 9,736 | 896 | 10.0% |
| Causeway | Yes | 26,029 | 838 | 8.6% |
| Mid-Ulster | No | 35,191 | 441 | 8.4% |
| Whiteabbey | No | 11,094 | 430 | 7.5% |
| Antrim | Yes | 17,706 | 730 | 7.2% |
| Ulster | Yes | 14,529 | 1,036 | 7.1% |
| Mater | Yes | 5,262 | 526 | 7.1% |
| South Tyrone | No | 10,576 | 622 | 6.4% |
| **Northern Ireland average 6.4% (15,040 out of 235,854)** | | | | |
| Altnagelvin | Yes | 5,557 | 1,571 | 6.0% |
| Royal Group of Hospitals | Yes | 8,922 | 2,157 | 5.0% |
| Belfast City Hospital including Cancer Centre | No | 9,744 | 1,559 | 4.4% |
| Daisy Hill | Yes | 5,723 | 431 | 4.1% |
| Craigavon | Yes | 5,167 | 626 | 3.5% |
| Musgrave Park | No | 5,853 | 342 | 3.1% |

Table 19. Northern Ireland hospitals ranked by cancellation rates for all scheduled elective operations for clinical, patient-related or other reasons in 2016/17. Source: Hospital Information Branch, DoH

| Hospital | Type 1 emergency department? | Total scheduled day case admissions for an operation | Hospital cancellations due to clinical, patient-related or other reasons | |
|---|---|---|---|---|
| (Tyrone County) | No | 5,853 | 997 | 17.0% |
| South West Acute | Yes | 3,656 | 537 | 14.7% |
| (Ards) | No | 5,165 | 647 | 12.5% |
| Downe | No | 5,491 | 632 | 11.5% |
| Lagan Valley | No | 8,854 | 889 | 10.0% |
| Causeway | Yes | 8,440 | 803 | 9.5% |
| Antrim | Yes | 7,085 | 595 | 8.4% |
| Mid-Ulster | No | 5,256 | 438 | 8.3% |
| Ulster | Yes | 9,955 | 805 | 8.1% |
| Mater | Yes | 6,520 | 501 | 7.7% |
| Altnagelvin | Yes | 19,040 | 1,444 | 7.6% |
| Whiteabbey | No | 5,723 | 427 | 7.5% |
| **Northern Ireland average 7.5% (13,088 out of 175,561)** | | | | |
| South Tyrone | No | 9,744 | 622 | 6.4% |
| Craigavon | Yes | 6,347 | 376 | 5.9% |
| Royal Group of Hospitals | Yes | 30,839 | 1,789 | 5.8% |
| Belfast City Hospital including Cancer Centre | No | 27,506 | 1,358 | 4.9% |
| Daisy Hill | Yes | 5,444 | 227 | 4.2% |
| Musgrave Park | No | 4,643 | 1 | 0.02% |

Table 20. Northern Ireland hospitals ranked by cancellation rates for scheduled day case operations for clinical, patient-related or other reasons in 2016/17. Ards and Tyrone County hospitals in brackets as their surgical services have moved elsewhere. Source: Hospital Information Branch, DoH

| Hospital | Total scheduled day case admissions for an operation | Hospital cancellations for any reason | |
|---|---|---|---|
| South West Acute | 3,656 | 706 | 19.3% |
| (Tyrone County) | 5,853 | 1,014 | 17.3% |
| (Ards) | 5,165 | 681 | 13.2% |
| Downe | 5,491 | 698 | 12.7% |
| Causeway | 8,440 | 1,065 | 12.6% |
| Mater | 6,520 | 743 | 11.4% |
| Lagan Valley | 8,854 | 984 | 11.1% |
| Antrim | 7,085 | 785 | 11.1% |
| Altnagelvin | 19,040 | 1,914 | 10.1% |
| Mid-Ulster | 5,256 | 528 | 10.1% |
| **Northern Ireland average 9.6% (16,903 out of 175,561)** | | | |
| Royal Group of Hospitals | 30,839 | 2,807 | 9.1% |
| Ulster | 9,955 | 905 | 9.1% |
| Whiteabbey | 5,723 | 483 | 8.4% |
| Belfast City Hospital including Cancer Centre | 27,506 | 2,173 | 7.9% |
| South Tyrone | 9,744 | 722 | 7.4% |
| Craigavon | 6,347 | 439 | 6.9% |
| Daisy Hill | 5,444 | 253 | 4.7% |
| Musgrave Park | 4,643 | 3 | 0.06% |

Table 21. Northern Ireland hospitals ranked by cancellation rates for scheduled day case operations for any reasons in 2016/17. Ards and Tyrone County hospitals in brackets as their surgical services have moved elsewhere. Source: Hospital Information Branch, DoH

*Recommendations*

10. The elective care network should be resourced and staffed to deliver the following ambulatory surgical procedure volumes annually:
    102,347 adult procedures requiring an operating theatre or procedure room
    24,964 adult gastrointestinal endoscopy procedures (under surgical teams)
    7,741 procedures across paediatric surgical specialties
11. The number of theatres required to deliver this activity is approximately
    70 adult operating theatres or procedure rooms
    9 adult gastrointestinal endoscopy rooms (not including the need for procedures performed by medical gastroenterology teams)
    6 paediatric operating theatres or procedure rooms
12. Flexibility should be built into the design of Elective Care Centres to accommodate expansion in demand or changes in the optimal design of the operating theatres/procedure rooms required
13. All Elective Care Centres should have a continual focus on cancellation rates as a key performance indicator. Cancellations should not be regarded as part of normal business and continuous quality improvement efforts should aim to minimise their number

**SECTION 4**

**CONFIGURATIONS**

**Ambulatory surgical centre configurations**

There are two categories of ambulatory surgical centre described in the literature – embedded and self-contained – and within each of these categories there are two sub-categories as shown in Figure 4

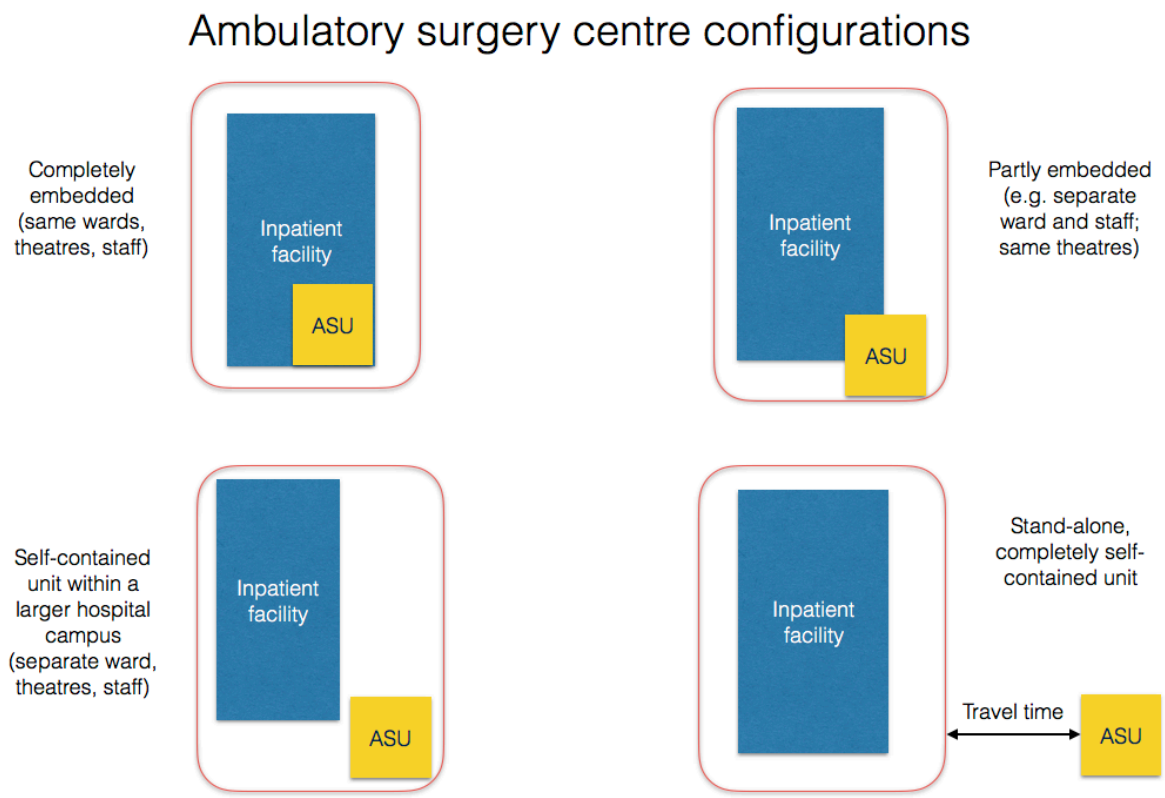



Figure 4. Four recognised categories of ambulatory surgery centres

In guidelines, self-contained units are preferred to embedded units in terms of their ability to maintain throughput and productivity, independent of unscheduled care pressures[7]. By contrast, embedded units (complete or partial) are recognised as likely to suffer short-notice procedural cancellations during times of unscheduled care pressure, resulting in the poor patient experience that has been observed so frequently over recent years across the NHS, including in Northern Ireland

At two workshops on June 15, 2017 this preference for self-contained rather than embedded configurations was strongly endorsed by the voting preferences of senior local

surgical clinicians and managers, which are summarised in Table 22. They demonstrate support for self-contained units and a low level of support for embedded units

| | | Embedded | Self-contained | No answer |
|---|---|---|---|---|
| Which do you consider to be the preferred configuration of ambulatory surgery centre? | AM | 18 | 53 | 30 |
| | PM | 8 | 42 | 23* |

Table 22. Summary of anonymous voting responses to questions about ambulatory care centre configurations developed by the Elective Care Centre workstream. *An option of a mix of configurations was included in the afternoon session

Among self-contained units, stand-alone centres are ideal for lower risk surgical and endoscopic procedures and allow those managing the centre to develop a strong focus on patient experience factors: accessibility, free car parking, waiting facilities for patients and their relatives and a service that continually measures its performance in person-centred terms and responds quickly to patient and relative feedback (Figure 5)


Figure 5. Patient feedback zone in the foyer of Emersons Green NHS Treatment Centre. A stand-alone elective surgical care centre

The key advantage of a self-contained ambulatory unit on a bigger hospital campus is its proximity to surgical, medical and critical care support in the rare event of a serious complication. This proximity serves to reassure clinicians who are concerned about undertaking intermediate risk procedures in a stand-alone environment. There have been many anecdotal descriptions of prior attempts to establish stand-alone units across Northern Ireland which did not attract the anticipated volumes of patients because of concerns among the clinical teams about undertaking intermediate risk procedures in the absence of what they considered to be optimal clinical backup. These concerns may explain in part the surprisingly high clinical cancellation rates seen in Tables 20 and 21 above

An example of a self-contained ambulatory unit on a bigger hospital campus is shown in Figure 6. It can be seen that the enhanced clinical safety associated with proximity to clinical support is likely to be achieved at the expense of patient experience factors that go with large hospital campuses: congested access, competition for limited car parking which is typically expensive, and a generally lower level of focus on individualised person-centred care

Tables 18 and 19 in Section 3 above are a reminder that Elective Care Centres on unscheduled care campuses are vulnerable to non-clinical cancellations during times of heightened pressures. Therefore any ambulatory surgery centre that is co-located on a larger unscheduled care campus should have its patient spaces, staff, theatres and procedure rooms formally ring-fenced and its facilities should not form part of any unscheduled care Escalation Plan

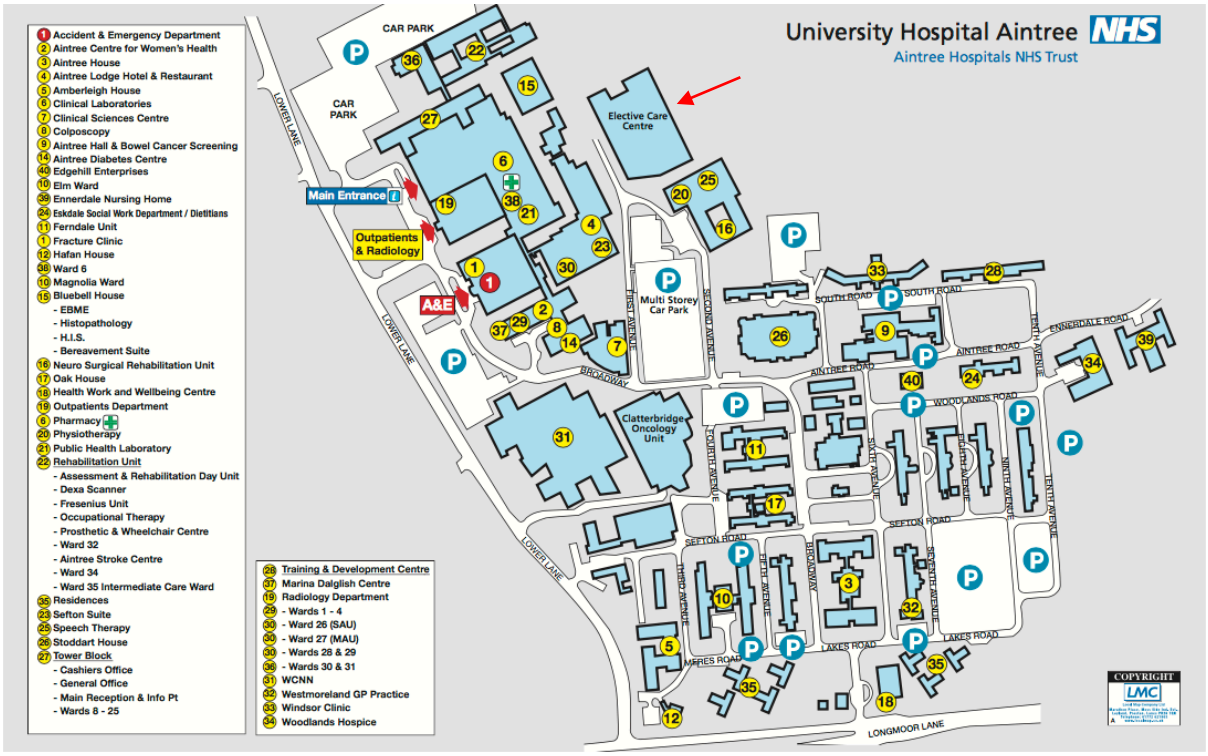



Figure 6. An example of a self-contained Elective Care Centre (red arrow) co-located on a larger hospital campus at Aintree Hospitals NHS Trust

These considerations about the preferred configuration of ambulatory (day case) surgical centres leave three strategic options:

1. Develop a network of self-contained ambulatory surgery centres co-located on major hospital sites across Northern Ireland (as in Figure 6) or
2. Develop a network of stand-alone ambulatory surgery centres across Northern Ireland, by re-designing and refurbishing existing HSC hospital sites which are not expected to provide unscheduled care in the future or
3. Develop a hybrid network of self-contained ambulatory surgery centres across Northern Ireland with a mix of stand-alone facilities and co-located, self-contained facilities

The third option seems intuitively to be the one that provides the best balance between optimal patient experience, optimal patient safety and optimal confidence of clinicians who would work in the network. Such a network should be designed in collaboration with different surgical specialties, to reflect the type of configuration(s) best suited to the physiological impact of the procedures that would be delivered by these teams (Figure 7)

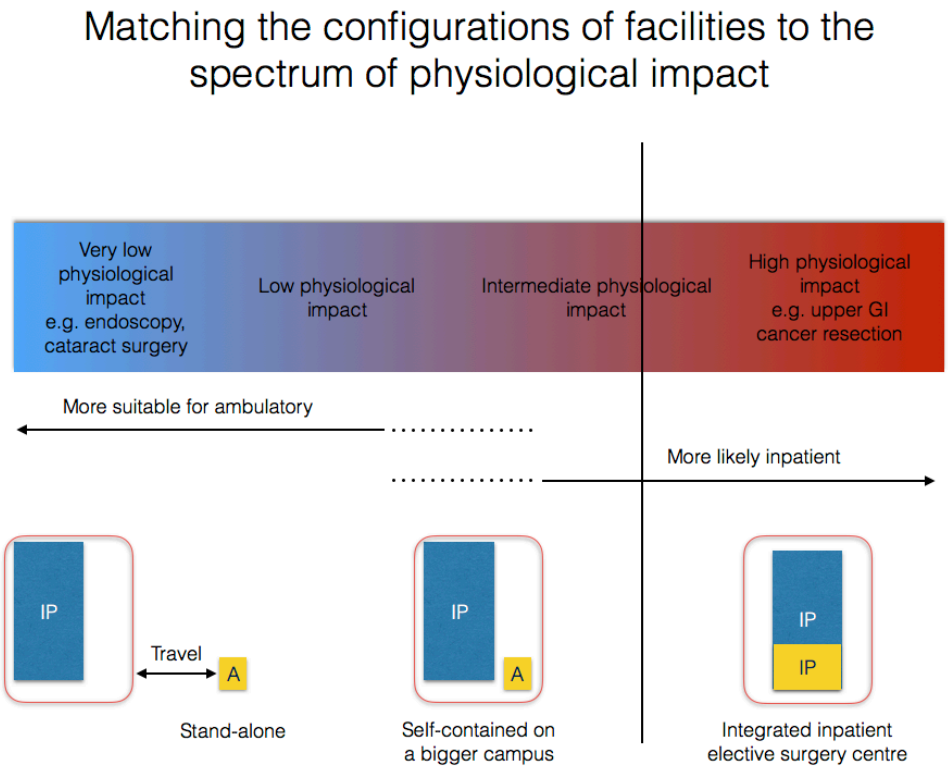



Figure 7. Matching different types of self-contained ambulatory surgery centres to the physiological impact of the procedures undertaken therein as well as the risk profile of the patients undergoing the procedures

*Recommendations*

14. Ambulatory elective surgical centres should be of a self-contained configuration
15. The network of self-contained centres will require an appropriate mix of stand-alone centres and self-contained centres on a larger campus. The composition of this network should be developed in partnership with clinical teams. Ambulatory procedures for children should be undertaken in accredited paediatric facilities

## SECTION 5

## PRECEDENTS FROM EXISTING AMBULATORY ELECTIVE SURGERY CENTRES ELSEWHERE

**Precedent elsewhere**

*Penn Medicine University City Ambulatory Surgery Facility*

On April 11 2017, Dr Rosemary Hogg (consultant anaesthetist, Belfast HSC Trust) attended a workstream meeting and shared her experience of being part of a team that set up an ambulatory elective surgery centre in Philadelphia, Pennsylvania

Philadelphia is the sixth most populous city in the USA with an urban population of over 1.5 million and over 6 million in its greater metropolitan area. The University of Pennsylvania Health System (Penn Medicine) is a very large healthcare organisation comprising a network of hospitals across urban and suburban Philadelphia. Within this network, Penn Medicine University City[16] (Figure 8) was developed as an advanced treatment and outpatient facility that brings a multitude of specialties together, providing outpatient clinics, an outpatient radiology centre and operating rooms for same-day surgery


Figure 8. Penn Medicine University City

[16] https://www.pennmedicine.org/for-patients-and-visitors/penn-medicine-locations/penn-medicine-university-city

Drivers to build the facility included pressure from insurers to reduce inpatient costs, competition from other providers and a need for additional operating theatre capacity. It took 2 years from planning to completion. There are six operating rooms and no inpatient beds. All patients coming for surgery arrive on the day of the procedure and are discharged the same day. The ambulatory surgical facility closes its doors at approximately 9pm, after the last patient has been discharged and opens again the following morning. It is close to, but not connected to, a major emergency centre – Penn Presbyterian Medical Center. Arrangements are in place to transfer patients in the event of a serious complication or the need for an overnight stay; this happens rarely

Some advanced IT features of the centre include a common paperless electronic medical record, a dedicated website with downloadable information and instructions for patients[17] and automated reminder telephone calls to patients the day before surgery. Only adults are treated and the surgical specialties that are provided are very similar to those identified as priorities in the Northern Ireland data above (Table 2):

| | | |
|---|---|---|
| **Orthopaedics** | **Plastic Surgery** | **Pain Management** |
| **General Surgery** | **Oral Surgery** | **Gynaecology** |
| **Urology** | **Ocular plastics** | **ENT** |

The centre could be considered an example of a self-contained centre on a larger campus in that it is across the road from a major emergency centre but all of the staff and facilities are entirely independent of the emergency centre. It is also an example of a large ambulatory surgical facility co-located with outpatient clinics and an outpatient radiology centre. It has become highly successful and efficient

*Some lessons from this experience for the planning of elective surgery centres in Northern Ireland*

- Work with enthusiastic teams and individuals first. They are motivated to find solutions to teething problems which will inevitably arise at the outset
- Start small and build up rather than trying a big bang approach from the beginning
- Educate and involve patients

[17]https://www.pennmedicine.org/~/media/documents%20and%20audio/patient%20guides%20and%20instructions/surgery/asf%20brochure.ashx?la=en

- Encourage innovative clinical practice, teaching, training and research
- identify the factors that enhance morale among staff and that encourage the staff to work efficiently. Build these into the planning process
- This centre demonstrates a clear focus on critical success factors for elective surgical care: cleanliness, a positive patient and staff experience, a positive experience for relatives, excellent physical access, reliability of appointments, theatre and outpatient productivity and efficiency, excellent IT
- No patients stay overnight. We think that similar centres in Northern Ireland should only treat ambulatory patients and should have defined opening and closing times
- Similarly no children are treated at this centre. We believe that ambulatory elective surgery centres should be designed to treat adults only and that ambulatory paediatric surgical facilities should be included in the broader planning of paediatric surgical services
- Comprehensive patient information is available on-line. This was identified as a critical element for success by patients that we spoke to

*Emersons Green NHS Treatment Centre, Bristol*

On May 30 2017, five workstream members (SA, NH, LMcW, TM and AT) visited Emersons Green NHS treatment centre (www.emersonsgreentreatmentcentre.nhs.uk) at the kind invitation of their management team. This is a stand-alone elective surgery centre run by a private company (Care UK) which specialises in the treatment of NHS patients (Figure 9). Neither unscheduled care nor long-term conditions care are provided; the sole focus is on elective surgical care, towards the less-complex end of the risk spectrum. This care includes outpatient appointments, diagnostic imaging, endoscopy and surgical procedures

Figure 9. Emersons Green NHS treatment centre, Bristol

It provides services to patients from Bristol, North Somerset, South Gloucestershire, Wiltshire, Gloucestershire, Bath, North East Somerset, Swindon and South Wales with a catchment population of 1.5 to 2 million people. Within this geographical region there is a mix of NHS treatment centres, private providers and NHS Trusts, all competing with each other for referrals. The elective specialties provided at Emersons Green are also very similar to those identified as priorities in the Northern Ireland data (Table 2) and are as follows:

| | | |
|---|---|---|
| **Orthopaedic surgery** | **Dental surgery** | **ENT** |
| **Ophthalmology** | **Gastroenterology (GI endoscopy)** | |
| **Gynaecology** | **General surgery** | **Urology** |

Only adults are treated at Emersons Green (16 years and upwards). Given the extensive additional regulation associated with treating younger children, together with the additional training and the relatively small number of patients involved, the company took a strategic decision not to include children under 16 years

Examples of the age profile of patients attending Emersons Green for two specialties are shown in Figure 10 below. The peak age for patients undergoing Ophthalmology procedures is in the 70-79 age group which is identical to the pattern of patients undergoing ambulatory Ophthalmology procedures in Northern Ireland; for Orthopaedic Surgery the peak age at Emersons Green is in the 60-69 age group and in the 50-59 age group in Northern Ireland. Taken together with the relatively short list of contraindications, the patient age profiles in these two specialties do not show evidence of “cherry-picking” younger or very low risk patients for this stand-alone treatment centre

The overall age profile (Figure 11) peaks in the 50-59 age group while the overall peak is in the 60-69 age group in Northern Ireland. This may reflect a disproportionate number of patients attending for oral surgery and endoscopy at Emersons Green

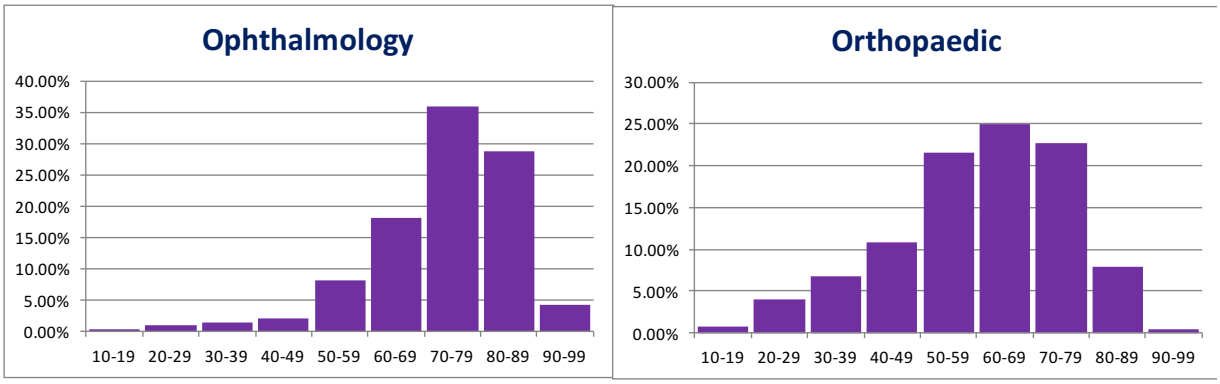



Figure 10. Age profiles of patients undergoing Ophthalmology and Orthopaedic procedures at Emersons Green

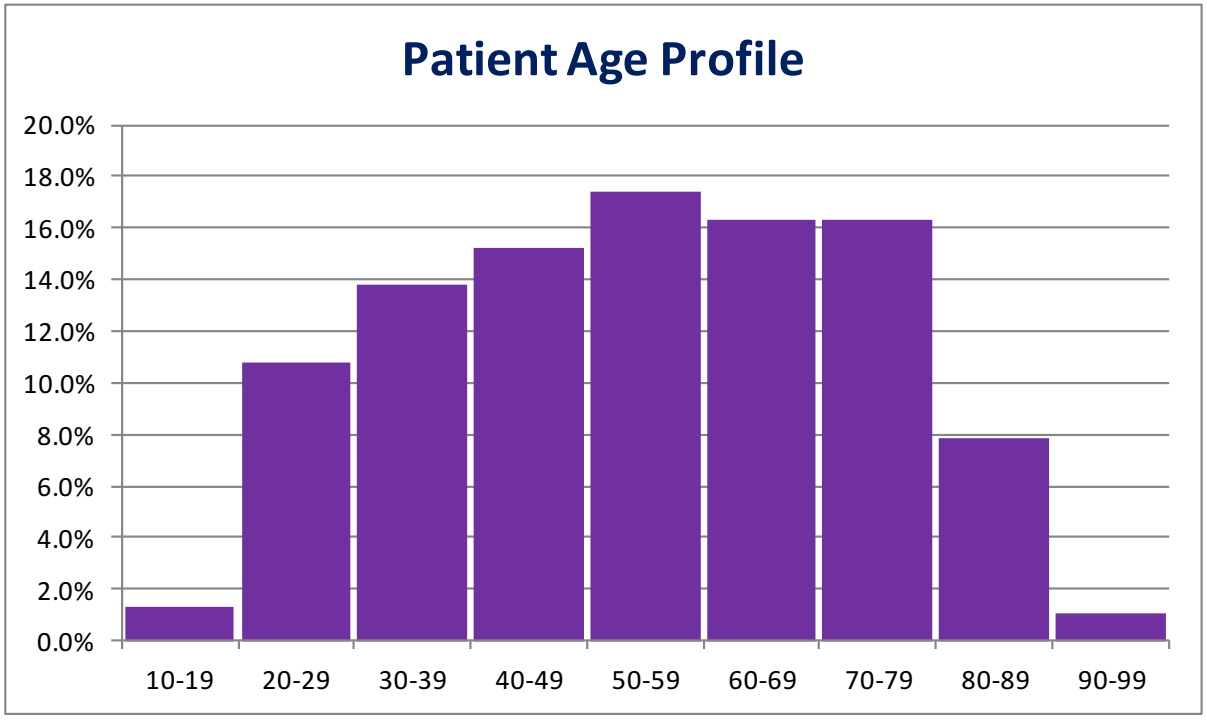
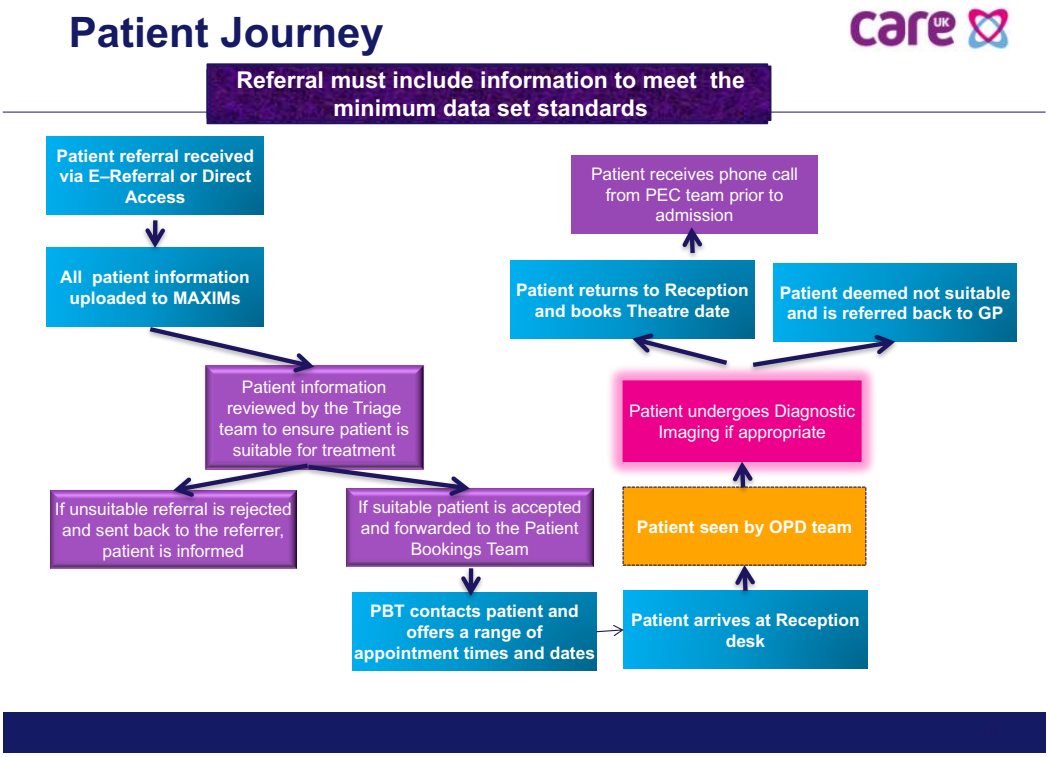



Figure 11. Overall age profile of patients undergoing all procedures at Emersons Green

The typical patient journey starts with a GP referral to a surgical outpatient clinic at the stand-alone centre (Figure 12). If a surgical procedure is required, diagnostic testing and pre-assessment are undertaken as appropriate (often on the same day) and the procedure is scheduled. Outpatient procedures may be undertaken on the day of the first outpatient

visit. There is an innovative, one-stop cataract treatment service where patients have their cataract operation on the same day as their first outpatient visit. Although patients occasionally are transferred from NHS waiting lists to be treated at Emersons Green, this is not typical; rather, the norm is for the entire patient journey from GP referral to discharge to be managed in the stand-alone centre



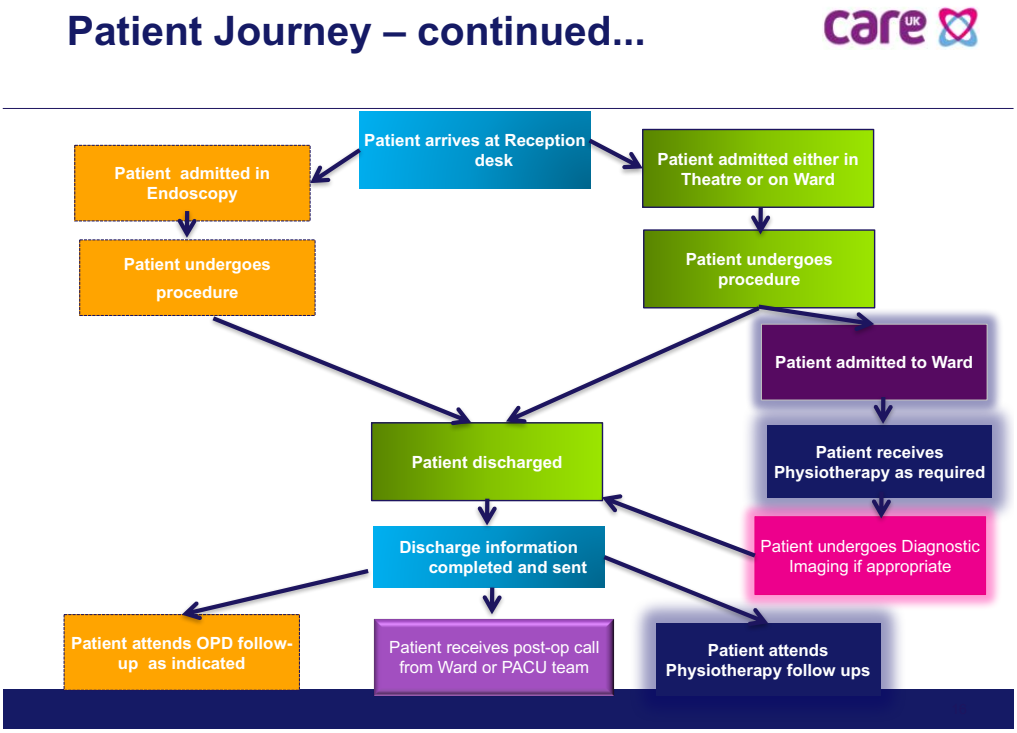



Figure 12. The patient journey from referral through procedure to discharge

Waiting times are shown below

## Our current waiting times

| Speciality | First appointment | From appointment to treatment |
|---|---|---|
| General surgery | 1 week | 7 weeks |
| Dental surgery | 4 weeks | 4 weeks |
| Ear, Nose and Throat (ENT) surgery | 2 weeks | 12 weeks |
| Endoscopy | N/A | 2 weeks |
| Eye surgery | 4 weeks | 3 weeks |
| Foot surgery | 1 week | 4 weeks |
| Gynaecology | 1 week | 9 weeks |
| Hand and wrist surgery | 1 week | 4 weeks |
| Hip surgery | 1 week | 4 weeks |
| Knee surgery | 1 week | 4 weeks |
| Radiology | N/A | 2 weeks |
| Urology | 3 weeks | 8 weeks |

Figure 13. Contemporary waiting times at Emersons Green NHS Treatment Centre

Annual caseload volumes are shown below (Figures 14 and 15). About 3,700 endoscopic procedures and almost 12,000 other ambulatory surgical procedures are performed per year. The ambulatory surgical activity would equate to approximately 9% of the required volume for Northern Ireland, through three ambulatory operating theatres working 6 days per week, 52 weeks per year

| Activity Type | Emersons | Devizes | Total |
|---|---|---|---|
| Inpatient Admissions | 2,000 | 0 | 2,000 |
| Daycase Admissions | 11,600 | 4,400 | 16,000 |
| Outpatient 1st Appointments | 12,900 | 4,900 | 17,800 |
| Outpatient Subsequent Appointments | 22,800 | 7,500 | 30,300 |
| Outpatient Procedures | 3,100 | 700 | 3,800 |

Figure 14

| Specialty | Procedure Volume |
|---|---|
| Major Orthopaedics | 1,560 |
| Other Orthopaedics | 1,850 |
| Ophthalmology | 3,240 |
| General Surgery | 1,660 |
| Oral Surgery | 3,960 |
| ENT | 400 |
| Endoscopy | 3,680 |
| Gynaecology | 490 |
| Urology | 370 |
| **Total** | **17,210** |

Figure 15

The centre is a clear example of a stand-alone configuration. There are facilities for both inpatients and ambulatory patients, but the inpatient beds are relatively under-used. There is no HDU or ICU and the nearest acute hospital is 5 to 10 minutes away. There are clear protocols for emergency transfers but it is a very rare event

We witnessed a live theatre management software system designed to display visually the progress in the various operating theatres, and in particular any problems with start times, turnover times or procedure times (Figure 16). We would regard this as an essential component of such centres, giving the opportunity for a theatre manager to intervene immediately if there are delays, as well as storing data that gives operator level feedback on start times, procedure times, turnover times and finish times

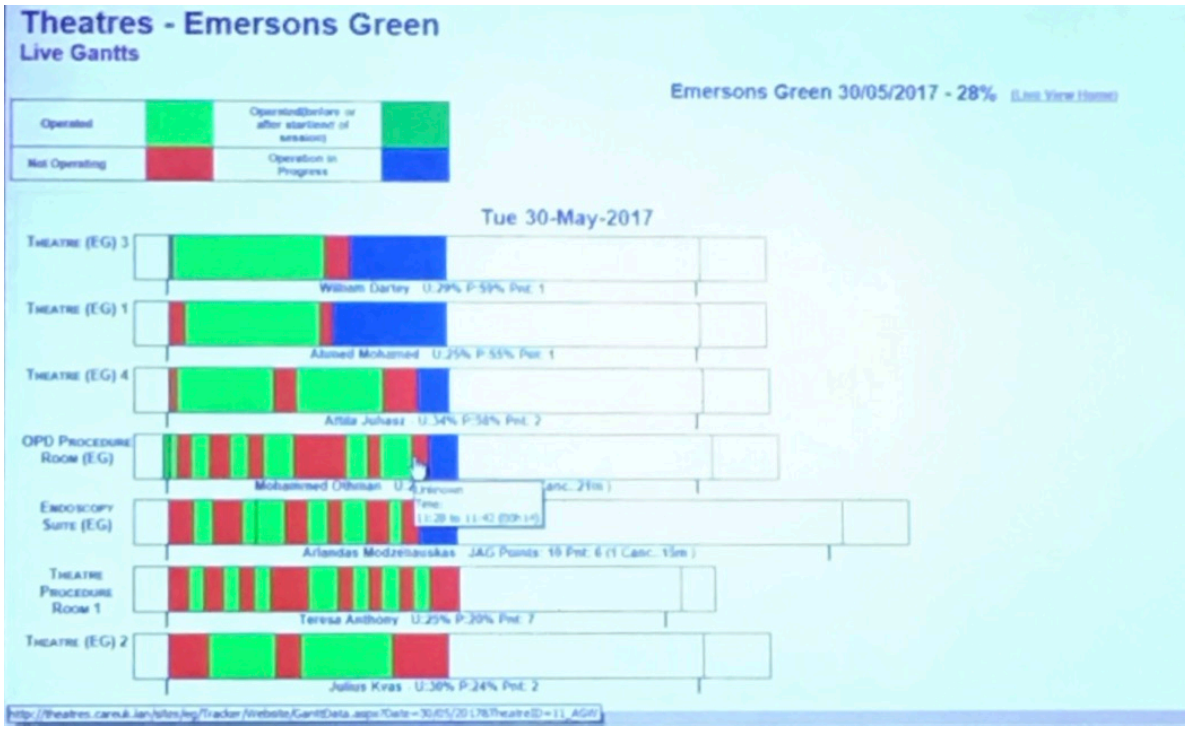



Figure 16. Live visual display of operating theatre progress

The initiation of the patient pathway directly from GP referral prompted a change in our thinking. Existing elective surgical journeys in Northern Ireland often involve patients being seen at surgical outpatient clinics in large HSC hospitals, put on waiting lists at those hospitals and then filtered towards stand-alone centres at the discretion of surgical and anaesthetic teams. The Emersons Green model involves the first outpatient contact at the Elective Care Centre, pre-assessment and diagnostic testing (often on the same day) and a default to be treated at that centre unless there is a listed contraindication:

- a Body Mass Index of more than 42 for general anaesthetic, or a BMI of more than 45 for local anaesthetic
- being under 16 years old
- pregnancy
- requiring complex rehabilitation or having a chronic disease that would require immediate post-operative care in an ICU
- sickle cell anaemia, renal failure, a high suspicion of cancer, or having had a cardiac arrest in the last six months

Most patients do not have outpatient review appointments. There is a 24-hour helpline manned by nurses and a telephone contact shortly after discharge

The centre is not a training centre and most consultations and procedures are performed by consultants. On occasions, Ophthalmology trainees accompany consultants from NHS Trusts but this is the exception rather than the norm

Productivity bonuses are paid to consultants who deliver higher than expected levels of case volume in their theatre sessions

*Lessons for planning of elective surgery centres in Northern Ireland*

- This centre also demonstrates a clear focus on critical success factors for elective surgical care: cleanliness, a positive patient and staff experience, a positive experience for relatives, excellent physical access, free car parking, reliability of appointments, theatre and outpatient productivity and efficiency
- The centre is of a relatively small scale. Although we believe that a somewhat larger scale is appropriate in Northern Ireland, we do not assume that a single "mega-centre" would necessarily maintain excellence in the critical success factors outlined above
- Adding an inpatient/overnight stay capability to this centre seems to bring an added level of complexity and 24/7 staffing requirement without much additional throughput. We think that similar centres in Northern Ireland should only treat ambulatory patients and should have defined opening and closing times
- Similarly the efforts required to accommodate children from 16 years upwards at this centre were out of proportion to the number of additional patients that were

ultimately treated. We believe that ambulatory elective surgery centres should be designed to treat adults only and that ambulatory paediatric surgical facilities should be included in the broader planning of paediatric surgical services

- Being a private company, the centre does not need to adhere to NHS contract terms and conditions. Specifically it can pay extra for extra productivity. This reflects a consistent theme throughout workstream discussions: the need to encourage productivity among clinical teams and to incorporate business principles into this type of HSC working

In recommendation 9 (Section 1) we stated the following

*The establishment of Elective Care Centres should embed learning from current and previous similar initiatives and should take account of published guidance from relevant professional organisations*

These two precedents of successful self-contained ambulatory elective care centres give cause for optimism and provide clear opportunities for such learning. They demonstrate that while developing the right physical infrastructure is important, cultural factors are at least as important. Furthermore, in both examples organisational income is linked to the number of patients treated and at Emersons Green, staff income could also be enhanced by treating more patients. Such arrangements can incentivise teams to focus on ensuring that work is performed as efficiently as possible, that cancellations are minimised and that patient experience is positive so that they will recommend the centre to their family and friends

## SECTION 6

## EXISTING HSC AMBULATORY ELECTIVE SURGERY PROVISION IN NORTHERN IRELAND

## Current capacity and configurations

The preceding sections have established a number of foundation principles and assumptions to guide our final recommendations including that:

- Existing HSC infrastructure should be used optimally before recommending new buildings for Elective Care Centres
- Elective Care Centres should be self-contained, not embedded or partly embedded

They have also shown that existing arrangements are not working well for patients in that in June 2017 11,261 patients were waiting more than a year for an inpatient or day case admission, of whom almost half were waiting for a day case procedure[5]

We have calculated that the infrastructure required for ambulatory surgical procedures for Northern Ireland is approximately 70 adult operating theatres or appropriately-equipped procedure rooms, approximately 9 adult gastrointestinal endoscopy suites and 6 paediatric operating theatres

We have undertaken a stocktake of the HSC hospitals in Northern Ireland that would be capable of undertaking elective ambulatory surgical procedures (including endoscopy) and a count of their existing operating theatre, procedure room and endoscopy facilities. We have also developed an objective method to define their existing operational characteristics, with a view to identifying those whose functional arrangements most closely resemble self-contained configurations

| | Number of operating theatres | | | |
|---|---|---|---|---|
| **Name** | **Inpatient** | **Day case** | **Endoscopy rooms** | **Procedure rooms** |
| **Altnagelvin** | 10 | 2 | 3 | 0 |
| **Antrim** | 4 | 1 | 2 | 0 |
| **BCH** | 8 | 2 | 3 | 0 |
| **Causeway** | 3 | 2 | 1 | 0 |
| **Craigavon** | 6 | 1 | 1 | 0 |
| **DHH** | 4 | 1 | 1 | 0 |
| **Downe** | 0 | 2 | 2 | 0 |
| **LVH** | 0 | 3 | 2 | 1 |
| **MIH** | 3 | 2 | 2 | 0 |
| **MPH** | 7 | 2 | 0 | 1 |
| **MUH** | 0 | 2 | 1 | 0 |
| **OHPCC** | 0 | 3 | 1 | 1 |
| **RVH** | 14 | 3 | 3 | 0 |
| **STH** | 0 | 2 | 2 | 0 |
| **SWAH** | 2 | 1 | 1 | 0 |
| **UHD** | 7 | 4 | 2 | 0 |
| **WAH** | 0 | 2 | 2 | 0 |
| **Total** | **67** | **37** | **29** | **3** |

Table 23. A list of HSC hospitals currently undertaking surgical procedures along with a count of their existing surgical facilities. Source HSCB theatre stocktake November 2017

Figure 17 is a flowchart that we developed to help define objectively the configurations of existing ambulatory centres across Northern Ireland. It is not difficult to identify stand-alone centres and completely embedded centres. The differentiation of partly embedded facilities from self-contained facilities on a larger campus is more complex and turned out to be more controversial within the group

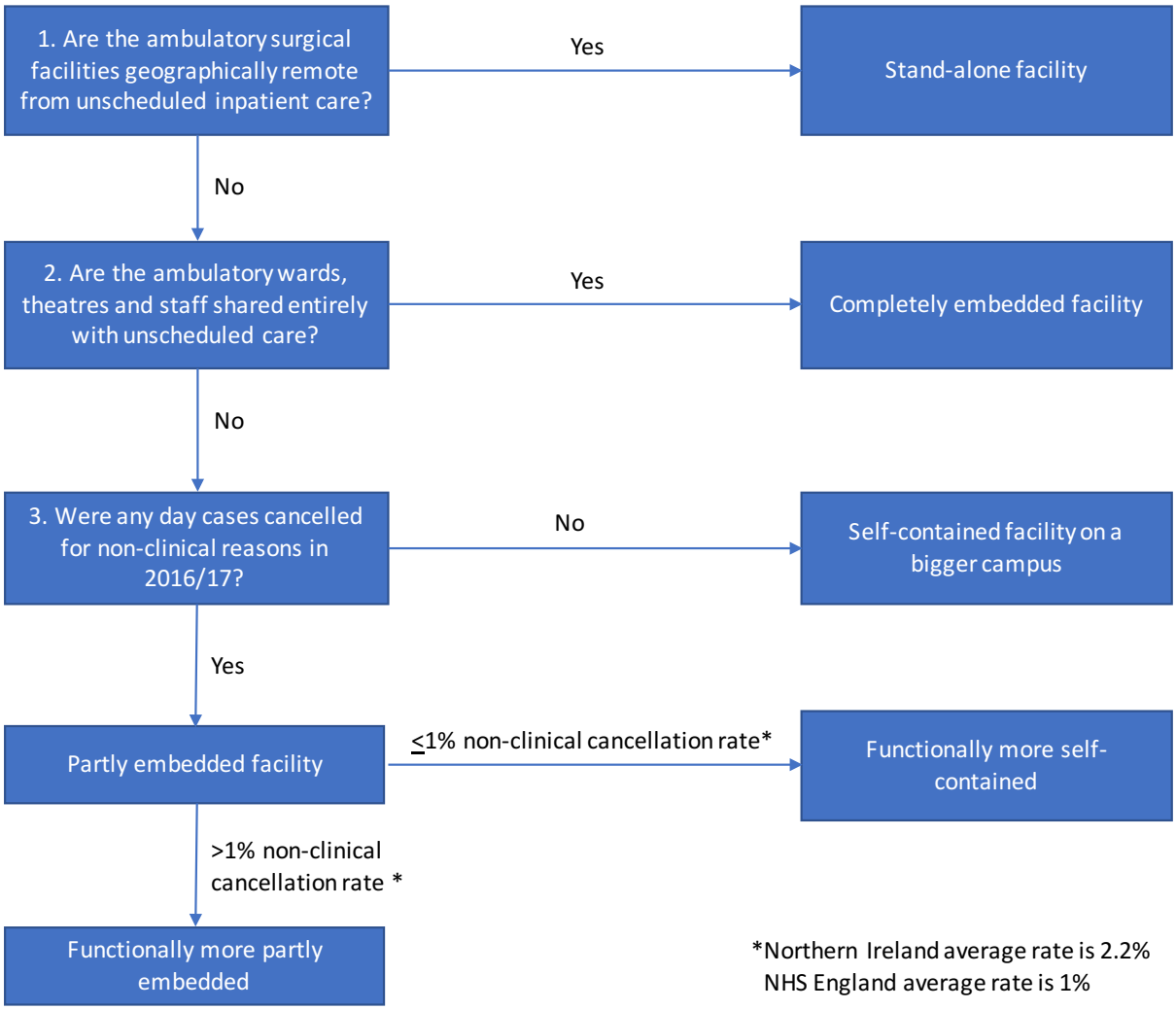



Figure 17. Flowchart with a series of definitions to objectively categorise existing HSC elective ambulatory surgical centres in Northern Ireland

Based on question 1, we identified 5 existing facilities that are clearly stand-alone and they are shown in Table 24

| Name | Answers to questions in Figure 17 | | | Current configuration |
|---|---|---|---|---|
| | 1 | 2 | 3 | |
| **MUH** | Yes | | | Stand-alone |
| **MPH** | Yes | | | |
| **STH** | Yes | | | |
| **OHPCC** | Yes | | | |
| **WAH** | Yes | | | |

Table 24. Existing HSC ambulatory elective surgical care centres that meet the criteria for stand-alone centres, being geographically remote from unscheduled inpatient care

Based on questions 2 and 3, we did not identify any clear-cut completely embedded facility, nor any clear-cut self-contained facility on a bigger campus (such as in Figure 6). Therefore all remaining facilities appear to be partly-embedded to a greater or lesser degree. The challenge became to develop an objective, numerical metric that would discriminate these centres into those which are operationally more self-contained versus those that are operationally less self-contained. We explored whether the non-clinical cancellation rate for day case procedures would serve this purpose

Table 18 is reproduced in modified form below and shows non-clinical cancellations for day case procedures for all centres in Northern Ireland as well as some contextual information about the extent of their unscheduled care responsibilities. It shows that the centres categorised as stand-alone in Table 25 above (and coloured blue below) all demonstrate below-average rates of non-clinical cancellations. This goes some way towards validating the metric of day case cancellation rate for non-clinical reasons as an objective measure of how self-contained each centre is, at an operational level

It also draws attention to the five centres that are not stand-alone but exhibit below-average rates of non-clinical cancellations. All of these five achieve rates that are close to the standard set in NHS England (1.0%) and are substantially better than the seven centres that are above the Northern Ireland average. Discussions among workstream members led to agreement that Downe and Lagan Valley should be considered as functionally stand-alone in that they do not provide advanced support (emergency surgery, critical care) in the event of a serious complication. Most (though not all) members agreed that use of this

metric is a fair way to differentiate those centres that are functionally more self-contained on a bigger campus from those that are functionally more partly embedded

| Hospital | Non-elective inpatients as a percentage of all day cases and inpatients | Total scheduled day case admissions for an operation | Number and percentage of day cases cancelled due to non-clinical reasons | |
|---|---|---|---|---|
| SWAH | 65.4 | 3,656 | 169 | 4.6% |
| MIH | 49.4 | 6,520 | 242 | 3.7% |
| RVH | 41.8 | 30,839 | 1,018 | 3.3% |
| Causeway | 48.0 | 8,440 | 262 | 3.1% |
| BCH including Cancer Centre | 15.7 | 27,506 | 815 | 3.0% |
| Antrim | 69.7 | 7,085 | 190 | 2.7% |
| Altnagelvin | 40.9 | 19,040 | 470 | 2.5% |
| **Northern Ireland average 2.2% (3,815 out of 175,561)** | | | | |
| MUH | 5.2 | 5,256 | 90 | 1.7% |
| Downe | 40.6 | 5,491 | 66 | 1.2% |
| LVH | 27.8 | 8,854 | 95 | 1.1% |
| STH | 0 | 9,744 | 100 | 1.0% |
| UHD | 59.1 | 9,955 | 100 | 1.0% |
| Craigavon | 49.3 | 6,347 | 63 | 1.0% |
| WAH | 0.1 | 5,723 | 56 | 1.0% |
| (Ards) | 2.1 | 5,165 | 34 | 0.7% |
| DHH | 57.3 | 5,444 | 26 | 0.5% |
| (TCH) | 40.4 | 5,853 | 17 | 0.3% |
| MPH | 5.1 | 4,643 | 2 | 0.04% |

Table 18 (reproduced). Northern Ireland hospitals ranked by cancellation rates for scheduled day case operations for non-clinical reasons in 2016/17. Ards and Tyrone County hospitals in brackets as their surgical services have moved elsewhere

Table 25 summarises the outcome of the categorisation process. We have defined seven existing stand-alone HSC ambulatory surgical centres across the region including two that we categorised as functionally stand-alone. We did not identify any totally self-contained centres on a bigger campus, but we have identified three partly embedded centres that appear to be operationally more self-contained than the others, based on their low non-clinical cancellation rates: Craigavon Hospital DPU, Daisy Hill Hospital and the Ulster Hospital DSU

| Name | Answers to questions in Figure 17 | | | Current configuration |
|---|---|---|---|---|
| | 1 | 2 | 3 | |
| **MUH** | Yes | | | Stand-alone |
| **MPH** | Yes | | | |
| **STH** | Yes | | | |
| **OHPCC** | Yes | | | |
| **WAH** | Yes | | | |
| **Craigavon DPU** | No (Type 1 ED) | No | Yes. ≤1% | Functionally more self-contained on a bigger campus |
| **DHH** | No. Type 1 ED | No | Yes. ≤1% | |
| **UHD DSU** | No (Type 1 ED) | No | Yes. ≤1% | |
| **Altnagelvin** | No (Type 1 ED) | No | Yes. >1% | Functionally more partly embedded |
| **Antrim** | No (Type 1 ED) | No | Yes. >1% | |
| **BCH DPU** | No (Co-located with several unscheduled specialties) | No | Yes. >1% | |
| **Causeway** | No (Type 1 ED) | No | Yes. >1% | |
| **MIH** | No (Type 1 ED) | No | Yes. >1% | |
| **RVH** | No. Type 1 ED | No | Yes. >1% | |
| **SWAH** | No (Type 1 ED) | No | Yes. >1% | |
| **Downe** | No (Type 2 ED) | No | Yes. 1.2% | Functionally stand-alone* |
| **LVH** | No (Type 2 ED) | No | Yes. 1.1% | |

Table 25. Existing HSC centres currently delivering ambulatory elective surgical care, along with their current configurations. *Although not physically separate from unscheduled care, Downe and Lagan Valley Hospital are counted as functionally stand-alone in that they do not provide emergency surgery nor advanced support facilities such as critical care

Table 26 lists the existing available surgical facilities from Table 23, now subdivided by the types of ambulatory centre configurations in which they reside

| Name | Number of operating theatres | | Endoscopy rooms | Procedure rooms |
|---|---|---|---|---|
| | Inpatient | Day case | | |
| **Stand-alone or functionally stand-alone centres** | | | | |
| **MPH** | 7 | 2 | 0 | 1 |
| **MUH** | 0 | 2 | 1 | 0 |
| **STH** | 0 | 2 | 2 | 0 |
| **OHPCC** | 0 | 3 | 1 | 1 |
| **WAH** | 0 | 2 | 2 | 0 |
| **Downe** | 0 | 2 | 2 | 0 |
| **LVH** | 0 | 3 | 2 | 1 |
| **Total** | **7** | **16** | **10** | **3** |
| **Partly embedded centres** | | | | |
| **Functionally more self-contained on a bigger campus** | | | | |
| **Craigavon** | 6 | 1 | 1 | 0 |
| **UHD** | 7 | 4 | 2 | 0 |
| **DHH** | 4 | 1 | 1 | 0 |
| **Total** | **17** | **6** | **4** | **0** |
| **Functionally more partly embedded** | | | | |
| **Altnagelvin** | 10 | 2 | 3 | 0 |
| **Antrim** | 4 | 1 | 2 | 0 |
| **BCH** | 8 | 2 | 3 | 0 |
| **Causeway** | 3 | 2 | 1 | 0 |
| **MIH** | 3 | 2 | 2 | 0 |
| **SWAH** | 2 | 1 | 1 | 0 |
| **RVH** | 14 | 3 | 3 | 0 |
| **Total** | **44** | **13** | **15** | **0** |

Table 26. Existing HSC centres currently delivering ambulatory surgical care, along with their current capacity for adult surgical procedures

The categorisation process outlined in Figure 17 and Table 25 above leads to two short-lists of existing centres that could be considered preferred candidates for development into elective surgery centres of excellence:

*a. Stand-alone ambulatory centres (alphabetical order)*

1. Downe Hospital
2. Lagan Valley Hospital
3. Mid-Ulster Hospital
4. Musgrave Park Hospital
5. Omagh Hospital and Primary Care Complex
6. South Tyrone Hospital
7. Whiteabbey Hospital
8. Any other hospital where a future change to its unscheduled inpatient care profile leads to a change in its categorisation (as laid out in Figure 17 and Table 25)

*b. Self-contained ambulatory centres on a bigger campus (alphabetical order):*

9. Craigavon Hospital DPU
10. Daisy Hill Hospital
11. Ulster Hospital DSU
12. Any other ambulatory surgical centre, co-located with emergency surgery, medical specialties and HDU/ICU facilities, where a strategic decision is made to ring-fence it from unscheduled care in all circumstances, thereby leading to a change in its categorisation (as laid out in Table 25)

Table 20 is reproduced as a reminder that day case cancellation rates for *non-clinical* reasons are only one element of the overall cancellation profile. There is considerably more variation in cancellations for clinical, patient-related or other reasons, including several examples that are much higher than the benchmark from NHS Scotland (7.2%). Plans to designate any existing centre as a future ambulatory Elective Care Centres should include a clear understanding of how the rate of 7.2% or less for this type of cancellation will be delivered, through optimal pre-assessment, patient selection and a continuous focus on this aspect of quality improvement

| Hospital | Type 1 emergency department? | Total scheduled day case admissions for an operation | Hospital cancellations due to clinical, patient-related or other reasons | |
|---|---|---|---|---|
| (Tyrone County) | No | 5,853 | 997 | 17.0% |
| South West Acute | Yes | 3,656 | 537 | 14.7% |
| (Ards) | No | 5,165 | 647 | 12.5% |
| Downe | No | 5,491 | 632 | 11.5% |
| Lagan Valley | No | 8,854 | 889 | 10.0% |
| Causeway | Yes | 8,440 | 803 | 9.5% |
| Antrim | Yes | 7,085 | 595 | 8.4% |
| Mid-Ulster | No | 5,256 | 438 | 8.3% |
| Ulster | Yes | 9,955 | 805 | 8.1% |
| Mater | Yes | 6,520 | 501 | 7.7% |
| Altnagelvin | Yes | 19,040 | 1,444 | 7.6% |
| Whiteabbey | No | 5,723 | 427 | 7.5% |
| **Northern Ireland average 7.5% (13,088 out of 175,561)** | | | | |
| South Tyrone | No | 9,744 | 622 | 6.4% |
| Craigavon | Yes | 6,347 | 376 | 5.9% |
| Royal Group of Hospitals | Yes | 30,839 | 1,789 | 5.8% |
| Belfast City Hospital including Cancer Centre | No | 27,506 | 1,358 | 4.9% |
| Daisy Hill | Yes | 5,444 | 227 | 4.2% |
| Musgrave Park | No | 4,643 | 1 | 0.02% |

Table 20 (reproduced). Northern Ireland hospitals ranked by cancellation rates for scheduled day case operations for clinical, patient-related or other reasons in 2016/17. Ards and Tyrone County hospitals in brackets as their surgical services have moved elsewhere

*Remaining hospitals*

The remaining ambulatory elective surgery centres are listed below (alphabetical order):

| | |
|---|---|
| Altnagelvin Hospital | Mater Hospital |
| Antrim Hospital | Royal Victoria Hospital |
| Belfast City Hospital DPU | South-West Acute Hospital |
| Causeway Hospital | |

While all are currently functioning more like partly embedded centres, as evidenced by the non-clinical cancellation data above, it is possible for any of these centres to change their categorisation in the future due to either a strategic decision to separate and ring-fence ambulatory elective surgery facilities from unscheduled care no matter what the circumstances or a strategic change to its unscheduled inpatient care profile

Section 7 below will describe the specialty-specific meetings and workshops that have taken place to date but Table 27 lists the stand-alone centres and the specialties that have expressed preliminary interest in developing their ambulatory work there in the future, typically because of positive previous or current experiences

*Recommendations*

16. Out of 17 existing HSC ambulatory surgery centres we have identified seven that could be developed into stand-alone Elective Care Centres of excellence. Any future changes to regional unscheduled care provision could lead to other hospitals being considered as candidates for this role
17. Any of the remaining ten could be developed into a self-contained centre on a bigger campus. Currently, three of these appear to be operationally more self-contained than the others: Craigavon Hospital DPU; Daisy Hill Hospital; Ulster Hospital DSU

| | Downe | LVH | MPH | MUH | OHPCC | STH | WAH | Others |
|---|---|---|---|---|---|---|---|---|
| **ENT surgery** | Yes | Yes | | | Yes | | | Daisy Hill |
| **General surgery** | | | | | | | | |
| **Gynaecology** | | Yes | | | Yes | Yes | | Causeway<br>Daisy Hill<br>Mater<br>Ulster |
| **Ophthalmology** | Yes | Yes | | Yes | Yes | | | Mater<br>Causeway |
| **Orthopaedic surgery** | | | Yes | | Yes | Yes | | Altnagelvin<br>Craigavon<br>Daisy Hill<br>Ulster |
| **Urology** | Yes | Yes | | Yes | | | | Altnagelvin<br>BCH<br>Craigavon<br>Ulster |
| **Vascular surgery** | Yes | Yes | | Yes | Yes | | | |

Table 27. Matrix of existing stand-alone centres and the specialties that have volunteered preliminary interest in developing their ambulatory surgery services therein, usually because of a positive previous working experience

## SECTION 7

## WORKSHOPS AND THE DoH HEALTH SURVEY

**Vascular Surgery Workshop**

On April 25 2017, Mr Dennis Harkin attended the workstream as the Royal College of Surgeons Regional Specialty Advisor for Vascular Surgery. He summarised the specialty profile in Northern Ireland and highlighted the current clinical circumstances of patients requiring endovenous or operative treatment for varicose veins

These are characterised by long waiting lists (about 1,300 patients waiting across Northern Ireland currently) and long waiting times (over 3 years in some cases). Newer technologies have allowed progressively more patients to be treated by non-operative methods. NICE guidelines determine which patients should undergo procedures[18]; most patients can be treated in an ambulatory setting under local anaesthetic

On August 31 2017, a wider group of vascular surgeons and other interested parties met to take this forward (see attendees below)

It was generally agreed that patients with varicose veins and an indication for treatment would benefit from a focussed ambulatory Elective Care Centre approach

Mr David McCormack (HSCB) presented a summary of the regional data in order to calculate the resources required. They are as follows:

- Approximately 2,700 varicose vein referrals per year to outpatient clinics
- A regional conversion to procedure rate of 55%
- Therefore approximately 1,500 patients per year requiring a procedure
- Assuming 4 patients per session, gives 375 sessions per year
- This translates to approximately 9 sessions per week (over a 41-week year)

Discussion among the group suggested that this may be a modest underestimate for the following reasons: patients currently going to the independent sector may come back to HSC centres if access to treatment improves; similarly patients previously not referred by their GP may start being referred if access to treatment improves; finally an existing backlog of 1,300 patients would prove very difficult to clear with waiting list initiatives alone. Based on these discussions, the group concluded that a service delivering 12 procedural sessions per week should be able to accommodate the annual need with some additional capacity to account for the factors highlighted above

[18] Varicose veins: diagnosis and management. NICE clinical guideline [CG 168]. July 2013

Following several of the principles outlined previously, it was agreed that these procedures are suitable to be performed as ambulatory cases in a stand-alone centre; almost all can be done under local anaesthetic in a suitable procedure room rather than an operating theatre. An anaesthetist is not required

There is limited need for pre-assessment or diagnostic testing, although formal pre-procedural ultrasound examinations may be required in some patients. There is no clinical reason why linked outpatient visits, diagnostic tests and pre-assessment (if required) cannot be undertaken at the Elective Care Centre(s). This would result in the establishment of one or two stand-alone Regional Venous Assessment and Treatment Centres for Northern Ireland as part of a broader HSC Elective Care Centre Network

Either a single centre model (12 procedure sessions plus additional outpatient and diagnostic sessions) or a two-centre model (6 sessions each plus additional outpatient and diagnostic sessions) would seem the most appropriate options. Based on the preliminary opinions expressed by those in attendance, the preferred centres are:

- Downe Hospital
- Lagan Valley Hospital
- Mid Ulster Hospital
- Omagh Hospital and Primary Care Complex (OHPCC)

*Additional considerations raised by the clinical teams*

The Northern Ireland Vascular Review[19] centralised arterial and emergency vascular surgery in Belfast, work that had previously also been undertaken in Altnagelvin and Craigavon Hospitals. To mitigate the impact of this centralisation on other specialties, an outreach Vascular Surgery service is provided such that Belfast Trust Vascular Surgeons undertake clinical sessions (including varicose vein treatment lists) in Altnagelvin and Craigavon. Moving such sessions to stand-alone centres (for example at OHPCC) would potentially reduce the number of outreach sessions delivered on the Altnagelvin and Craigavon sites

[19] Northern Ireland Review of Vascular Services. HSCB 2014

Procedures (including diagnostic ultrasound) should be undertaken by appropriately trained specialists who perform cases in sufficient volumes to maintain expertise. A comprehensive range of treatment techniques, including percutaneous techniques, should be provided. It is not mandatory for every operator to perform every technique; however, patients should undergo the most appropriate treatment, including if that means referral to another operator with more experience in that technique. NICE guidelines clearly advise surgical treatment only when endovenous treatment is unsuitable

There should be regionally-agreed and uniformly-applied pathways of care covering clinical assessment, diagnosis, consent, patient information and choice of treatment modality to minimise variation in care. When agreed, such pathways should allow patients to be assessed by one member of the team and be treated by another. This would optimise the efficiency of the service and would also facilitate referrals within the team as outlined above

Planning such a service should consider the likely impact of the Vascular Review on the location of the vascular surgery workforce in the future. Current vascular surgeons in the WHSCT and SHSCT may not be replaced by vascular surgeons there in the future. This could jeopardise the stability of a single-centre service in the future and strengthens the argument for a two-centre model

*Recommendation*

18. One or two Regional Venous Assessment and Treatment Centres should be established in stand-alone centre(s) for the management of patients with symptomatic varicose veins. Twelve procedure room sessions should be provided, co-located with outpatient assessment and diagnostic testing, and with an expectation that 2,700 outpatients be assessed and 1,968 patients be treated annually. The logistical details and final locations of these centres should be developed in partnership with the Northern Ireland Vascular Network

Attendance list (in addition to workstream members): Mr Mark Grannell, Mr Zola Mzimba (WHSCT); Mr Alastair Lewis (SHSCT); Ms Julie Read, Mr Louis Lau, Mr Paul Blair (BHSCT); Dr Catherine Coyle (PHA); Mr David McCormack (HSCB)

Figure 18 is a diagrammatic representation of how such a centre could work in practice

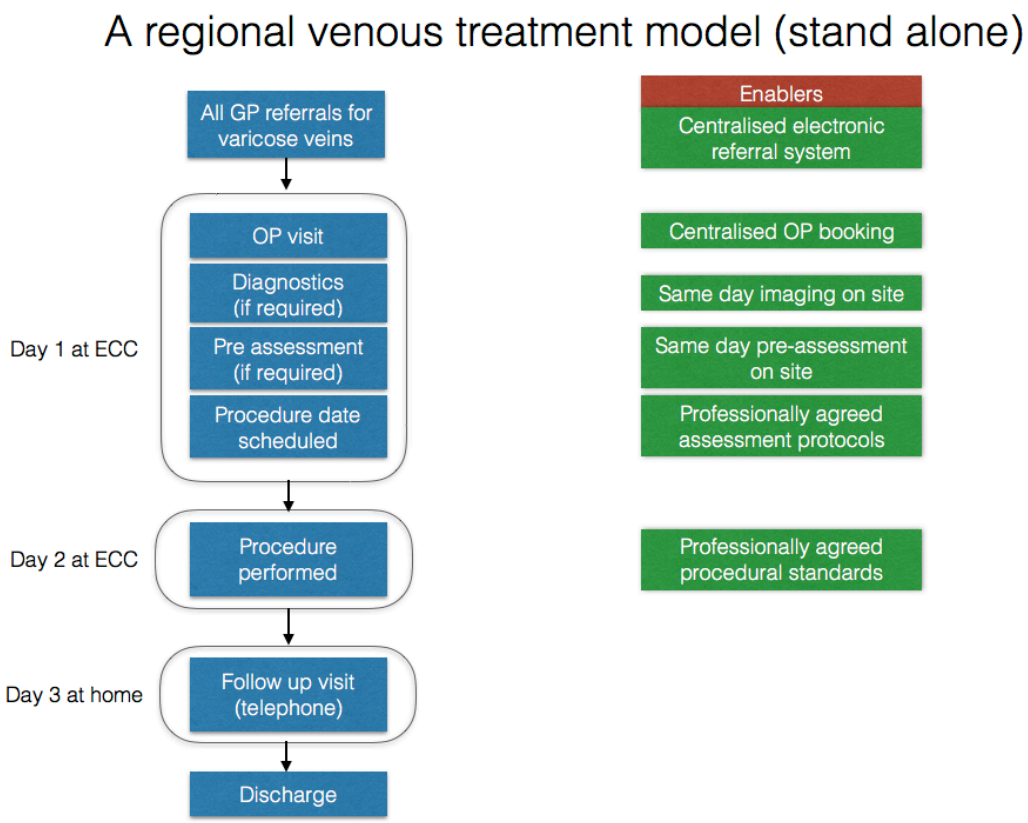



Figure 18. Potential model for assessment and treatment of patients with symptomatic varicose veins in one or two stand-alone Elective Care Centres (ECC) for the region

**Urology Workshop**

On September 27 2017, a group of Urology leads met with workstream members to explore Elective Care Centre opportunities for Urology patients (see attendees below). Separately, on October 17 2017 Mr John McKnight met with workstream members as RCP Regional Specialty Adviser for Urology

It was noted that many aspects of Urology care (including emergency care) require attention, but that a large number of patients attending Urology services could benefit from a focussed ambulatory Elective Care Centre approach

The group reviewed a summary of the regional data in order to calculate the resources required. They are summarised as follows:

- A need for approximately 23,900 ambulatory procedures per year (compared with approximately 21,400 undertaken in 2015/16)
- The estimate of approximately 12 theatre/procedure rooms' worth of activity for the region is a reasonable approximation to begin with, with an allowance for 15 minutes' turnover time between cases
- Many cases that would be suitable for a procedure room are currently done in operating theatres, because appropriate procedure rooms are not available. Hence, the exact balance between theatres and procedure rooms needs to be defined, on a procedure-by-procedure basis, in conjunction with the specialty
- Many procedures are done under local anaesthetic, administered by the urologist but some ambulatory procedures require anaesthetic support

The group agreed that the overall regional ambulatory Urology infrastructure will need to include a hybrid of stand-alone facilities and self-contained facilities on a larger hospital campus as shown previously. Reasons for the latter include:

- the relatively advanced age of the patient population
- the inevitable requirement to admit some patients post-procedure
- the potential to treat intermediate risk patients through ambulatory pathways, if optimal support is available
- the ability to avoid risk-averse case selection

There is no clinical reason why linked outpatient visits, diagnostic tests and pre-assessment cannot be undertaken at the Elective Care Centre(s). This could result in the establishment of Regional Urology Assessment and Treatment Centres for Northern Ireland as part of a broader HSC Elective Care Centre Network

For stand-alone procedures, a two-centre model seems an appropriate option. Based on urologists' previous experiences, the Mid-Ulster Hospital and Lagan Valley Hospitals were seen as good candidate stand-alone centres, assuming their facilities are configured to the appropriate standards

For self-contained centres on larger sites, the view of the specialists was that such facilities should be available at a Belfast centre (Ulster Hospital or Belfast City Hospital), Craigavon Hospital and Altnagelvin Hospital. Clearly further analysis is required to determine how many of the 23,900 procedures require this enhanced level of ambulatory care versus the number that can be performed at a stand-alone centre

There should be regionally-agreed and uniformly-applied pathways of care covering clinical assessment, diagnosis, consent, patient information and choice of treatment modality to minimise variation in care. When agreed, such pathways could ideally allow patients to be assessed by one member of the team and be treated by another, optimising the efficiency of the service

*Recommendations*

19. Two stand-alone Regional Urology Assessment and Treatment Centres should be established, probably within larger multi-specialty Elective Care Centres. There should also be provision for enhanced ambulatory procedures, delivered in at least one protected self-contained centre, co-located on a bigger hospital site
20. A total of approximately 12 theatres/procedure rooms should be provided, co-located with outpatient clinics and diagnostic testing, and with an expectation that 23,900 patients be treated annually
21. The logistical details of these centres should be developed in partnership with the Northern Ireland Urology Network and the centres should work as a collaborative entity rather than in isolation from each other

Attendance list (in addition to workstream members): Mr Brian Duggan, Mr Sam Gray (SEHSCT); Mr Mark Haynes (SHSCT); Mr David Connolly (BHSCT); Mr Colin Mulholland, Mr Alex McLeod (WHSCT); Mr David McCormack (HSCB); Mr Brian McAleer (WLCG)

Figure 19 is a diagrammatic representation of how such a service could work in practice

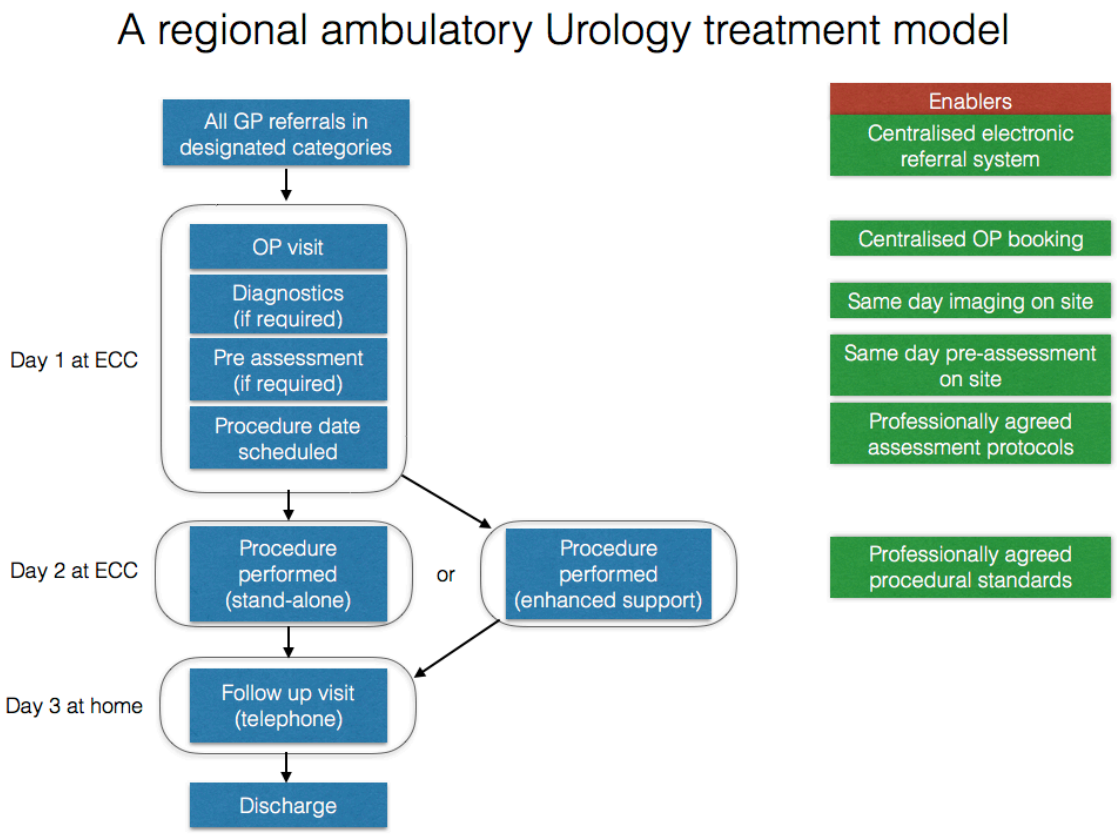



Figure 19. Potential model for assessment and treatment of patients suitable for ambulatory Urology procedures with a hybrid of stand-alone and enhanced ambulatory facilities

**Workshop with service users and PPI panel members**

On October 26, 2017 workstream members met with a group of service users and PPI panel members at Castle Buildings, Stormont. The session was opened by Ms Sharon Gallagher, Director of Transformation at DoH and was then moderated by Dr Herity who summarised the work to date and invited discussion and comments from the attendees. There was a facility for anonymous electronic voting on a number of specific questions. A productive exchange took place and a wide range of topics were covered. Feedback on the night was positive from all who attended

*Specific findings:*

In relation to principles:

- Most agreed that day case care should be the default whenever it can be achieved safely
- Most also agreed that Elective Care Centres should have education, training and research as part of their core functions. Indeed some observed that the centres would struggle to recruit and retain staff if these were not part of the role
- Most also agreed that existing HSC buildings should be used optimally before recommending new buildings for Elective Care Centres. Some observed that development of Elective Care Centres at existing centres would send a message to the local community that the centres had a positive future role in the wider HSC system

In relation to travelling for procedures

- Most would be willing to travel some distance if it meant that they would get their procedure done more quickly or with less risk of cancellation. Most did not put a particular limit on how far they would be willing to travel within Northern Ireland
- Although there was considerable discussion about links to public transport networks, most said that if they were travelling to undergo a procedure, they would be most likely to go by private transport

In relation to Elective Care Centre logistics

- Most said that they would be happy for all aspects of their elective care pathway (initial assessment, diagnostic tests, pre-assessment and the procedure itself) to happen in the same Elective Care Centre

- Most said that they would be happy for their initial assessment to be undertaken by one member of a surgical team and to be operated on by a different member of the same surgical team. It was pointed out that this already happens in some specialties
- All said that they would be happy for any post-operative visit to be conducted by telephone or other means of communication (e.g. Skype, FaceTime) if it was considered clinically appropriate. Indeed some questioned whether a post-operative visit was required after every procedure
- In relation to what factors they considered important in a hospital, the strongest message was that patients and the public care most about the welfare of the staff, and much less about the physical characteristics of the centre
- In relation to feasibility of the overall project, the group highlighted the following challenges:

  Finding the workforce (especially surgical, anaesthetic and nursing) to undertake the work and potentially competing with existing HSC Trusts for availability of the same pool of surgeons and anaesthetists

  Developing a productivity and efficiency culture in a HSC setting, as well as using the experience of other industries to optimise reliability and productivity

  Identifying a finance and commissioning model that ensures that elective care is not seen as a convenient service to cancel when the overall healthcare system comes under pressure

  Developing a network of Elective Care Centres that works well across existing HSC Trust boundaries with the full collaboration of all existing Trusts

*Some general comments and feedback:*

- The importance of communication and high quality information were highlighted. A suggestion was that patient handbooks (hard copy or electronic format) should be developed for the different types of procedures that will be undertaken
- That doing as much work as possible by ambulatory pathways requires sufficient support in community services of all types, including GP's and patients' families
- There should be high standards of communication with those in the community so that they are aware of who has been discharged after a day case procedure, the

details of the procedure, any post-operative problems that may arise, how to deal with them and whom to contact should the need arise out of hours

- Flexible scheduling should be implemented to take account of different distances that people have to travel, as well as the time that a procedure is expected to occur. It should no longer be acceptable that all patients are admitted at the same time early in the morning, irrespective of what time their procedure is scheduled
- A general concern that the well-being of elderly people should be ensured and that consideration be given to transport solutions for those who do not have access to private transport
- An overall audit of the HSC estate and what condition it is in would be valuable

A common message was that those who attended welcomed the opportunity to contribute and they believed that they were listened to. They are supportive of this attempt to reduce waiting times for elective surgery and accept that the overall health service infrastructure will have to change from the current arrangement. They look forward to having the opportunity to contribute again

**The DoH Health Survey 2017**

During the summer of 2017, a Northern Ireland-wide public survey was undertaken by NISRA, involving interviewers travelling to people's houses and asking a series of questions about many aspects of public health

They included a series of questions covering the public's willingness and ability to travel to Elective Care Centres, if it meant quicker and more reliable access to their care. Preliminary results are shown below – they should not be regarded as final or definitive

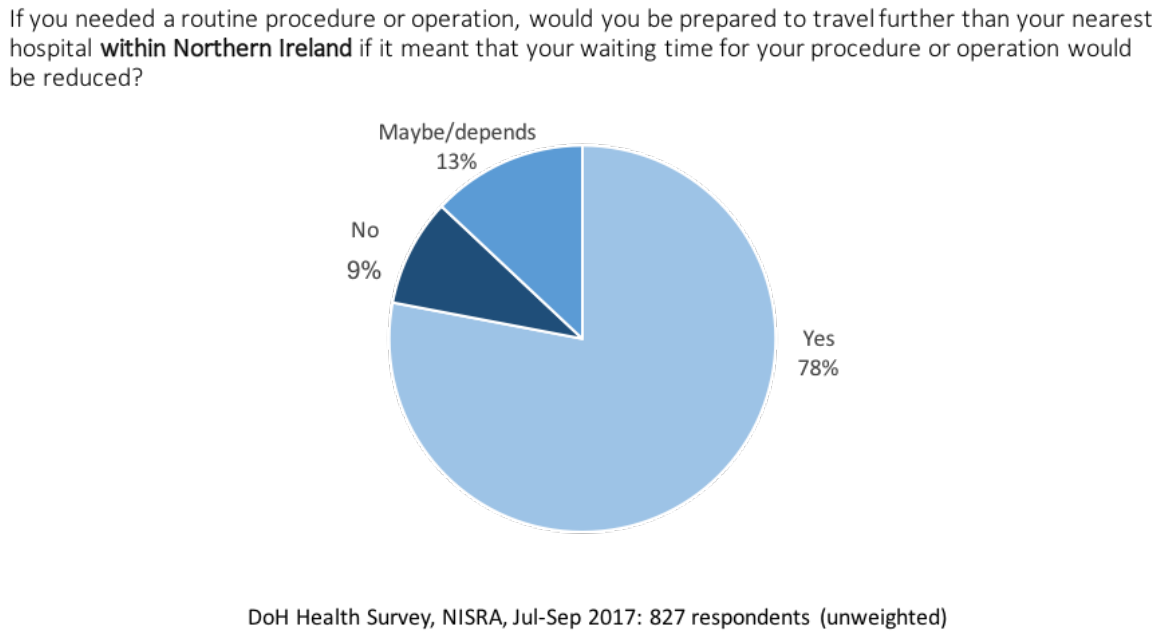



Figure 20. First question from the DoH Health Survey

When asked "*If you needed a routine procedure or operation, would you be prepared to travel further than your nearest hospital* ***within Northern Ireland*** *if it meant that your waiting time for your procedure or operation would be reduced?*", a majority said Yes (78%) or Maybe/depends (13%). This is reassuring and indicates that the public support the efforts to rationalise elective care, even if it comes with some inconvenience

For the 13% who answered Maybe/depends, Figure 21 shows the spread of factors that would influence their thinking and for the 9% who said No, Figure 22 shows the reasons why

When asked "*What do you think would be a reasonable travel time to hospital (from leaving home to arrival at hospital)?*" the commonest answer was up to 1 hour, the second commonest was up to 2 hours and the third commonest was two hours or more. Hence 83% of people were willing to travel at least up to one hour to an Elective Care Centre

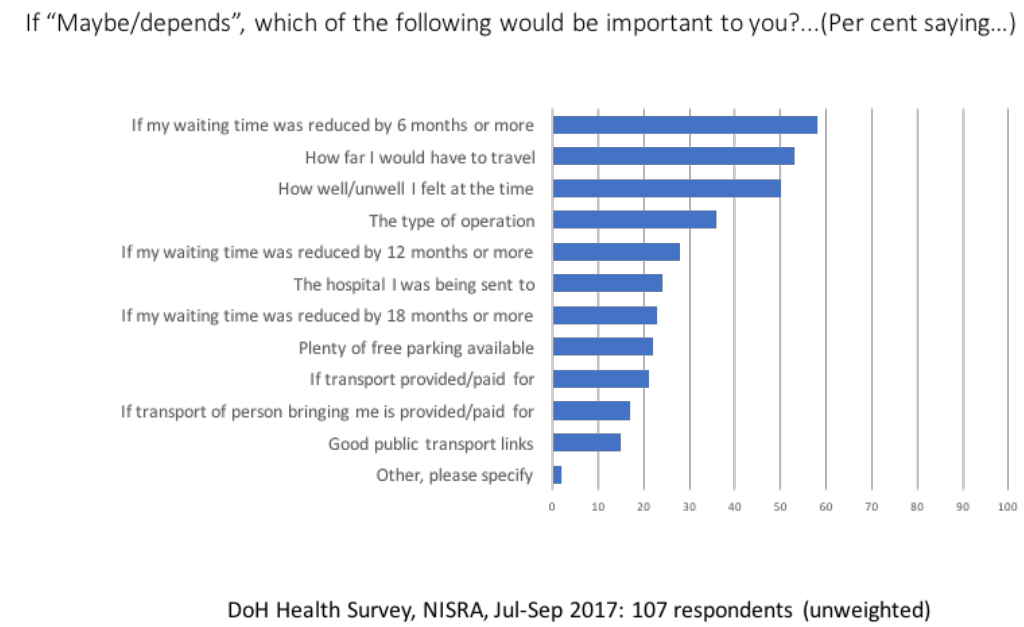



Figure 21. First follow up question from the DoH Health Survey

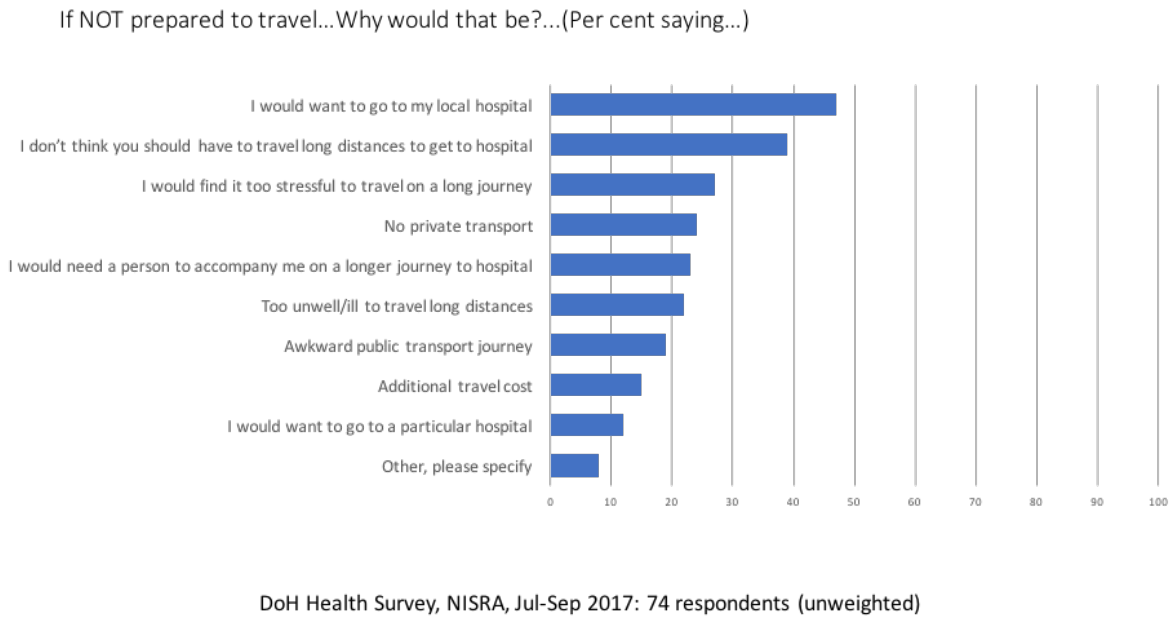



Figure 22. Second follow up question from the DoH Health Survey

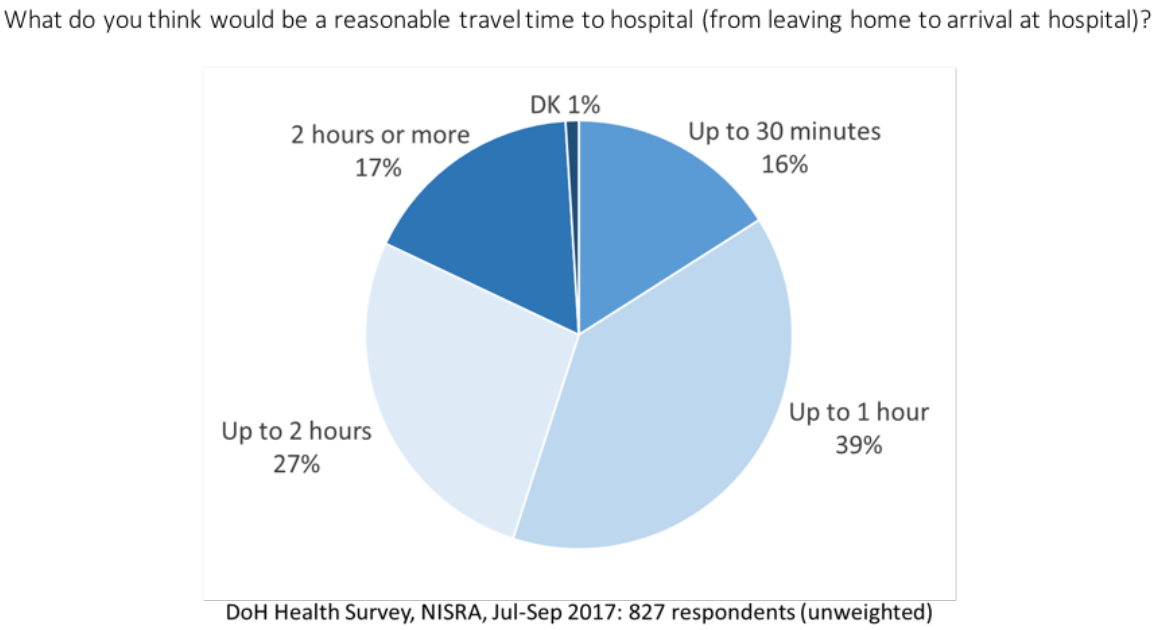



Figure 23. Final question from the DoH Health Survey

The answers to the questions are very coherent with the responses that we obtained during the workshop with service users and PPI panel members (above). The overall picture can be summarised as follows:

- A majority of participants would be willing to travel further than their local hospital in order to access elective care more quickly or more reliably
- Most would be willing to travel at least up to one hour, with many willing to travel further
- Public transport is not a decisive factor for many people – most would use some form of private transport to attend Elective Care Centres. This observation puts a focus on private transport facilities (drop off zones, car parking) rather than on public transport routes when planning such centres

**Ophthalmology workshop**

On October 20 2017, a group of regional Ophthalmology representatives met with workstream members to explore Elective Care Centre opportunities for Ophthalmology patients (see attendees below). Following on from this initial meeting Dr Herity met Ms Giuliana Silvestri, Clinical Director for Ophthalmology Services BHSCT, on November 9 2017 at the Mater Hospital

A large majority of Ophthalmology procedures (96%) were delivered on an ambulatory basis in 2015/16 and it was agreed that patients attending Ophthalmology services could benefit from a focussed ambulatory Elective Care Centre approach. Most could be treated in stand-alone centres. Indeed the specialty has already been one of the most innovative in terms of new ways to deliver services to patients in an ambulatory fashion. Examples of recent innovations in practice include

- One stop shop clinics for assessment
- The Shankill Road glaucoma centre has had an overwhelmingly positive response, with patients welcoming the continuity that results from all aspects of care being delivered in a single location
- Low procedural cancellation rates
- Imaging that can be viewed across Northern Ireland
- Specialist nurses and community optometrists delivering elements of care

A summary of the regional data was reviewed at each meeting in order to calculate the resources required:

- A need for approximately 18,542 adult ambulatory procedures per year (compared with approximately 15,436 undertaken in 2015/16)
- A need for approximately 484 paediatric ambulatory procedures per year (compared with approximately 412 undertaken in 2015/16)
- The estimate of approximately 13 theatres' or procedure rooms' worth of activity for the region is a reasonable approximation to begin with, with an allowance for 15 minutes' turnover time between cases. Ms Silvestri indicated that this may be an

overestimate, although the calculation is based on a 20% increase on procedural activity

There was general agreement that Ophthalmology patients would benefit from the development of a network of dedicated Elective Care Centres for Ophthalmology. Based on previous experiences, the OHPCC, Downe, Mid-Ulster, Mater and Lagan Valley Hospitals emerged as potential candidate stand-alone centres, assuming their facilities are configured to the appropriate standards

Other points that emerged:

- Belfast Trust currently outreaches to 12 regional units and this is in a process of being rationalised. Half of staff already work at satellite sites; increasing such commitments could make for an unattractive job which could affect recruitment and retention in the future
- Anaesthetic support requirements are variable between procedures and between surgeons
- In acute hospitals, Ophthalmology lists are often the first to get cancelled during unscheduled care pressures
- There are high levels of theatre occupancy and expansion in theatre availability is required

The general view was that Ophthalmology teams would welcome the development of a dedicated Elective Care Centre infrastructure to address the long waiting times that patients experience currently and the need for theatre/procedure room infrastructure. Further work will be required to develop the details including the most suitable centre configuration(s), most suitable locations and the specifications of the theatres and procedure rooms

*Recommendation*

22. Regional ambulatory Ophthalmology Assessment and Treatment Centres should be developed within the Elective Care Centre network. The logistical details of these

centres should be drawn up in partnership with the specialty and the centres should work as a collaborative entity rather than in isolation from each other

Attendance list on 20/10/17 (in addition to workstream members): Raymond Curran (HSCB), David Galloway (RNIB Northern Ireland), Louise O'Dalaigh (WHSCT) and Mary Hanrahan (BHSCT)

**ENT workshops**

On October 17 2017, Mr Robin Adair attended a workstream meeting in his role as Regional Specialty Advisor for ENT Surgery of the Royal College of Surgeons of England. This was followed by a presentation from Dr Herity to the regional ENT audit meeting at the Templeton Hotel, Templepatrick on November 15 2017 followed by a short discussion

On each occasion, the groups reviewed a summary of the regional data in order to calculate the resources required. They are summarised as follows:

- A need for approximately 6,667 ambulatory procedures per year for adults and approximately 3,780 for children (compared with approximately 4,567 and 3,077 respectively undertaken in 2015/16)
- The estimate of approximately 5.2 adult and 2.3 paediatric theatre/procedure rooms' worth of activity for the region, assuming an allowance for 15 minutes' turnover time between patients
- It was generally accepted that a high proportion of ENT procedures are suitable for day-case management. Of the commonest ENT procedures performed in Northern Ireland, the BADS Directory[13] indicates that the top-performing 5% of centres achieve either 99% or 100% day case rates for every procedure (Table 9 above)
- The exact balance between theatres and procedure rooms should be defined, on a procedure-by-procedure basis, in conjunction with the specialty

Mr Adair cited the example of the previous Dufferin Hospital at Belfast City Hospital as a self-contained centre that worked efficiently for patients. Although on a larger site, the number of patients transferred out because of an emergency was very low. Hence, the potential value of a stand-alone type facility to ENT patients has already been demonstrated

Other examples of successful previous and current efforts by ENT surgeons to deliver ambulatory surgery were Daisy Hill Hospital, Lagan Valley Hospital, Downe Hospital and the Ulster Hospital

Workforce was cited as a potential barrier to success, along with the recognition that it is not just ambulatory surgery services that are required for patients – outpatient clinics and inpatient facilities for more complex procedures are also required

The link with ENT-specific anaesthetists was also highlighted as a critical factor, particularly in terms of selection of patients and procedures that are suitable for Elective Care Centres

There was reference to an RCS guideline that post-tonsillectomy patients should be accommodated within 45 minutes of a 24/7 ENT centre, for management of a primary post-operative haemorrhage if required. This may not necessarily require hospital accommodation and opens the possibility of hotel accommodation for selected patients

The general view was that ENT surgeons would welcome the development of a dedicated Elective Care Centre infrastructure to address the long waiting times that patients experience currently. The importance of maintaining the training role of these centres was emphasised. Further focussed workshops will be required to develop the necessary details including the most suitable centre configuration(s), most suitable locations and the specifications of the theatres and procedure rooms

*Recommendation*

23. Regional ambulatory ENT Assessment and Treatment Centres should be developed within the Elective Care Centre network. The logistical details of these centres should be drawn up in partnership with the specialty and the centres should work as a collaborative entity rather than in isolation from each other

**Orthopaedic Surgery workshops**

On April 25 2017, Mr Gavan McAlinden attended a workstream meeting in his role as Regional Specialty Advisor for Orthopaedic surgery of the Royal College of Surgeons of England. This was followed by a meeting between Dr Herity and representatives of SHSCT and BHSCT Orthopaedic Surgery services on November 16 2017. Representatives of the WHSCT service were unable to attend

On both occasions, the groups reviewed a summary of the regional data in order to calculate the resources required. They are summarised as follows:

- A need for approximately 12,808 ambulatory procedures per year compared with approximately 5,380 undertaken in 2015/16. This represents the largest gap between actual need and current provision of any specialty
- The estimate of approximately 10 theatre/procedure rooms' worth of activity for the region, assuming an allowance for 15 minutes' turnover time between patients
- It was generally accepted that a large number of orthopaedic procedures are suitable for day-case management. Of the commonest procedures performed in Northern Ireland, the BADS Directory[13] indicates that the top-performing 5% of centres achieve between 90% and 100% day case rates for many procedures (Table 8 above)
- A specialised ambulatory centre could open up opportunities for ambulatory fracture management, with the potential to offload some pressure on unscheduled care services
- The exact balance between theatres and procedure rooms should be defined, on a procedure-by-procedure basis, in conjunction with the specialty

Orthopaedic surgery is a technology-heavy specialty, both in terms of theatre equipment and consumables. Hence, an ambulatory Orthopaedic service should not be fragmented across many centres. Examples of successful previous and current efforts by Orthopaedic surgeons to deliver ambulatory surgery were listed: Musgrave Park Hospital, Daisy Hill Hospital, Craigavon Hospital and South Tyrone Hospital. The Omagh Hospital and Primary Care Complex was also cited as a potential option although this was in the absence of WHSCT representatives

Workforce was cited as a potential barrier to success, along with the recognition that it is not just ambulatory surgery services that are required for patients – inpatient facilities for more complex procedures are also required

The general view was that Orthopaedic surgeons would welcome the development of a dedicated Elective Care Centre infrastructure to address the long waiting times that patients experience currently. Further focussed workshops will be required to develop the necessary details including the most suitable centre configuration(s), most suitable locations and the specifications of the theatres and procedure rooms

*Recommendation*

24. Regional ambulatory Orthopaedic Assessment and Treatment Centres should be developed as part of the Elective Care Centre network. The logistical details of these centres should be drawn up in partnership with the specialty and the centres should work as a collaborative entity rather than in isolation from each other

Attendance list (in addition to workstream members): Mr Ronan McKeown, Mrs Brigeen Kelly (SHSCT); Mr Gavan McAlinden, Ms Julie Milligan (by telephone) (BHSCT)

**Gynaecology workshop**

On November 27 2017, workstream members met with representatives of Gynaecology services from the five hospital Trusts. The group reviewed a summary of the regional data in order to calculate the resources required. It was agreed that the majority of Gynaecology procedures (8,504 out of a total of 12,945 adult procedures in 2015/16) were delivered on an ambulatory basis and that patients attending Gynaecology services could benefit from a focussed ambulatory Elective Care Centre approach. The data are summarised as follows:

- A need for approximately 9,495 ambulatory procedures per year compared with approximately 8,504 undertaken in 2015/16
- The estimate of approximately 6 theatre/procedure rooms' worth of activity for the region, assuming an allowance for 15 minutes' turnover time between patients
- Of the commonest procedures performed in Northern Ireland, the BADS Directory[13] indicates that the top-performing 5% of centres achieve between 90% and 100% day case rates for many procedures (Table 10 above)
- Many procedures are suitable for outpatient-with-procedure management if the appropriate facilities are available
- Gynaecology has often found itself getting lower priority for facilities such as theatre access compared with other specialties. No-one is clear why this should be the case although it was noted that Gynaecology services are often operationally linked with Obstetrics rather than with other surgical specialties
- There have been examples of stand-alone centres that have worked well in the past and currently, such as Lagan Valley and OHPCC. In some cases, stand-alone centres have struggled to attract sufficient caseload with patients being diverted preferentially to more partly embedded centres on bigger sites
- In some cases, pre-operative risk assessment has led patients to be managed away from stand-alone centres. Obesity is seen as a growing problem. However it was also observed that the Gynaecology patient population is younger than most and hence would not be expected to have as high a risk profile as that seen by many other specialties

- As with other specialties, a hybrid mix of stand-alone facilities and self-contained facilities on a larger site would be optimal. The latter would accommodate higher risk patients but would also encourage expansion of day case management to procedures currently undertaken as inpatients
- The exact balance between theatres and procedure rooms should be defined, on a procedure-by-procedure basis, in conjunction with the specialty
- Currently elective Gynaecology services are linked with Obstetric services. These links should be considered when planning the more elective parts of the service

*Recommendation*

25. Regional ambulatory Gynaecology Assessment and Treatment Centres should be developed as part of the Elective Care Centre network. The logistical details of these centres should be drawn up in partnership with the specialty and the centres should work as a collaborative entity rather than in isolation from each other

Attendance list (in addition to workstream members): Dr Ian Harley (BHSCT); Dr Leah McGuckin (SEHSCT), Ms David Robinson (SEHSCT); Ms Fionnuala McCluskey (SEHSCT); Ms Caroline Keown (NHSCT); Ms Heather Trouton (SHSCT) and Ms Maureen Miller (WHSCT)

**Further workshops**

The outcomes of the workshops described so far give cause for some optimism that Elective Care centres are regarded as feasible by several surgical specialties. Furthermore, there is consensus that self-contained centres need to be developed and there is a general optimism that this development would be beneficial for patients

To complete this phase of work, we are in the process of engaging with the following groups:

- Gastrointestinal endoscopy – General Surgery +/- Gastroenterology
- General Surgery (procedures other than endoscopy)
- Ophthalmology (WHSCT)

We propose to summarise the outcomes of these engagements in a supplement to the current report, in order to allow phased implementation to progress while these workshops are being scheduled and conducted

## SECTION 8

## POPULATION COVERAGE ACHIEVABLE FROM CANDIDATE ELECTIVE CARE CENTRES

Preliminary results from the DoH Health Survey and our PPI Engagement event indicate that most participants would be willing to travel for up to an hour to attend an Elective Care Centre in order to access care more quickly and more reliably

In section 6 we identified seven potential stand-alone Elective Care Centre locations for Northern Ireland. For each of these centres we sought to evaluate the percentage of the Northern Ireland population that could be accommodated within a 30-minute and 60-minute journey time, as well as a visual representation of the area that would be covered within these isochrones. Figures 24 through 30 show these maps in alphabetical order, and Figure 31 summarises the overall picture. The individual stand-alone centres that would achieve the greatest population coverage are Lagan Valley, Musgrave Park and Whiteabbey Hospitals

At this stage we have chosen not to display the population coverage achieved by different *combinations* of these centres, but this can be done and will provide a useful way to assess the coverage achieved by different centre combinations among the preferences expressed by different specialties

## Downe Hospital

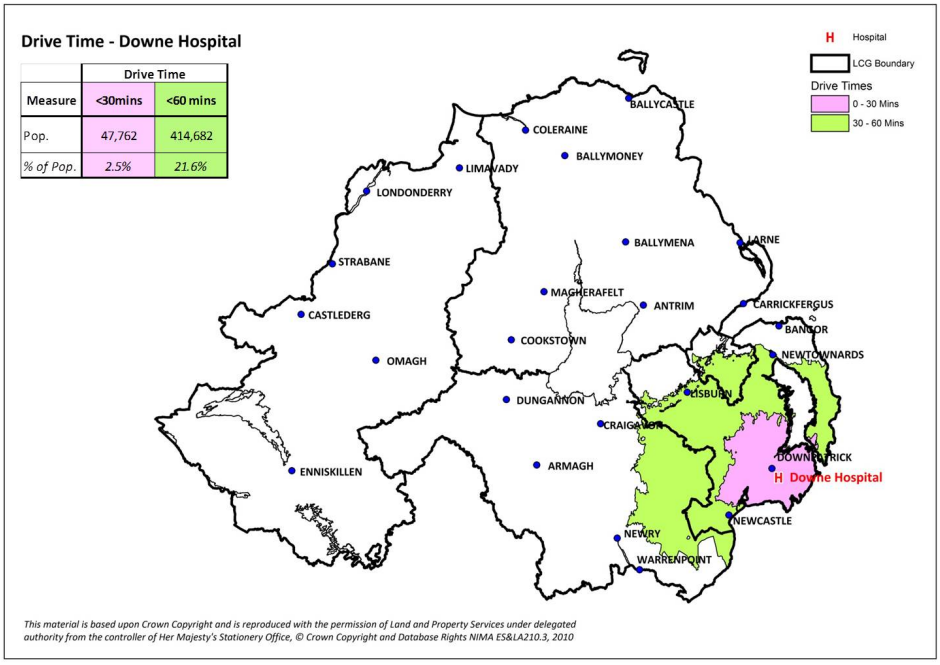



Figure 24. 30 and 60 minute isochrones from Downe Hospital. Source: HSCB

# Lagan Valley Hospital

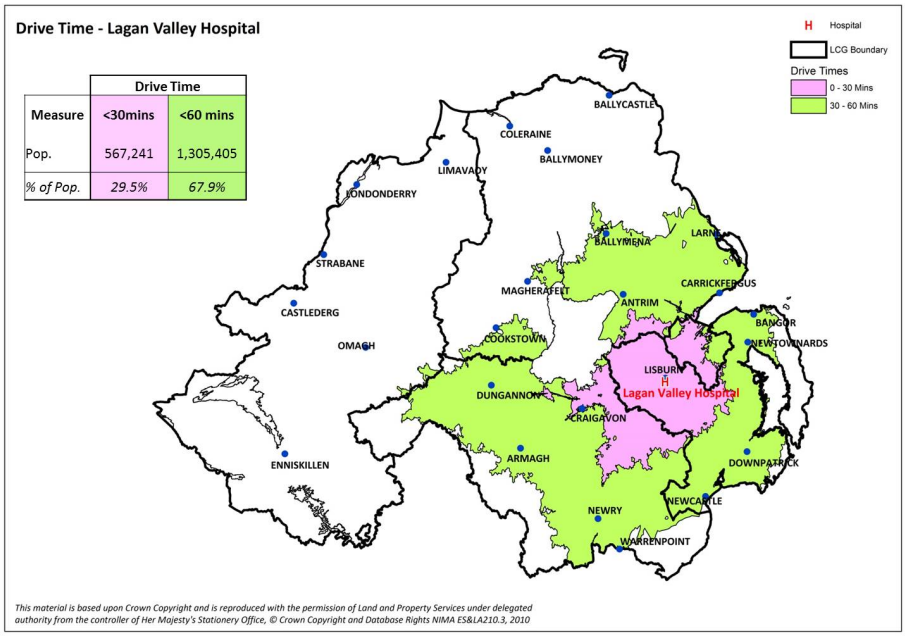



Figure 25. 30 and 60 minute isochrones from Lagan Valley Hospital. Source: HSCB

# Mid-Ulster Hospital

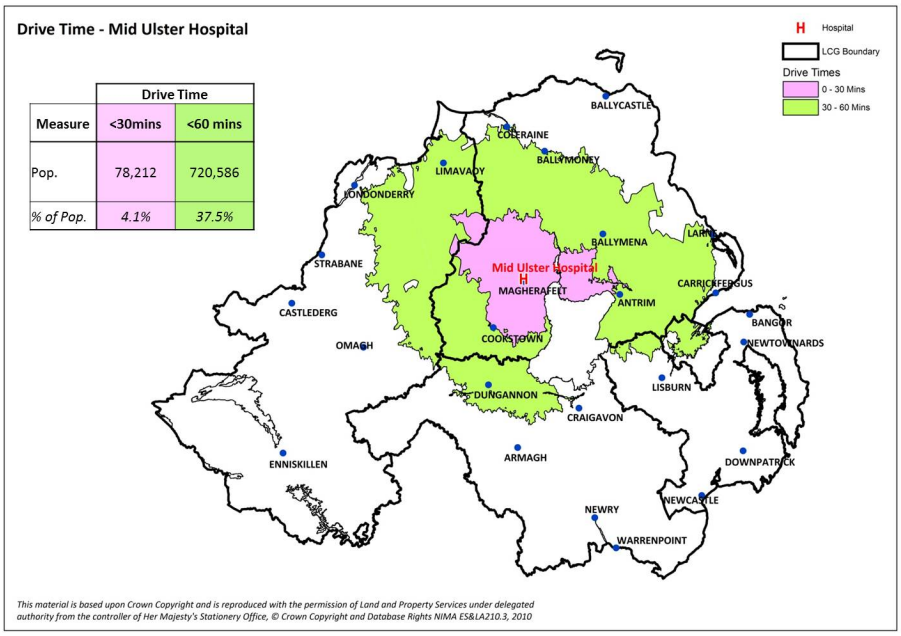



Figure 26. 30 and 60 minute isochrones from Mid Ulster Hospital. Source: HSCB

# Musgrave Park Hospital

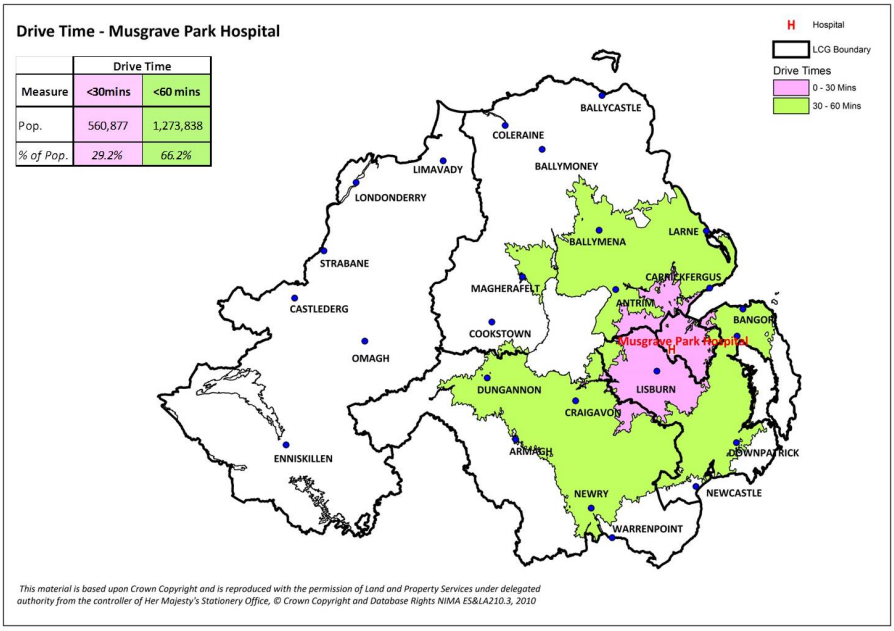



Figure 27. 30 and 60 minute isochrones from Musgrave Park Hospital. Source: HSCB

# Omagh Hospital & Primary Care Complex

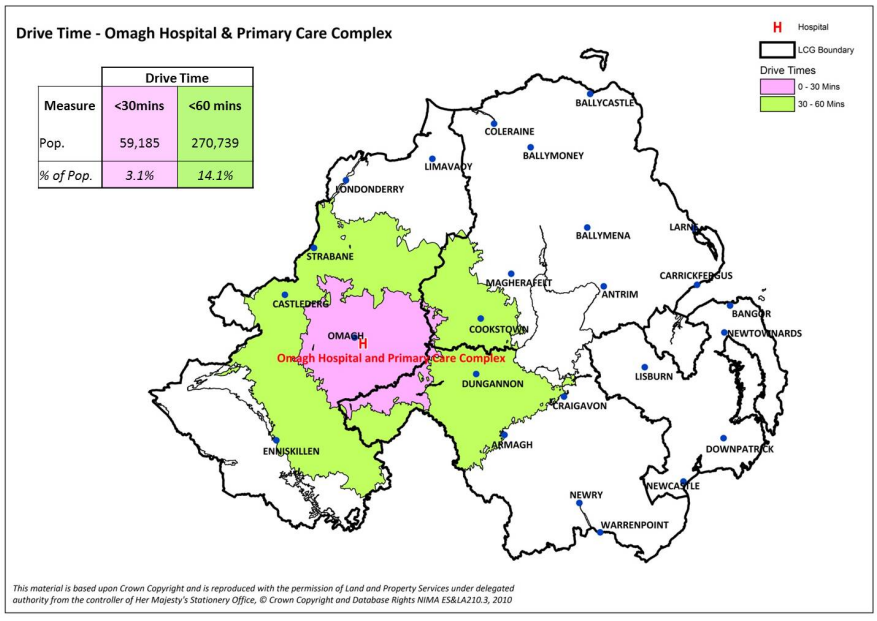



Figure 28. 30 and 60 minute isochrones from OHPCC. Source: HSCB

# South Tyrone Hospital

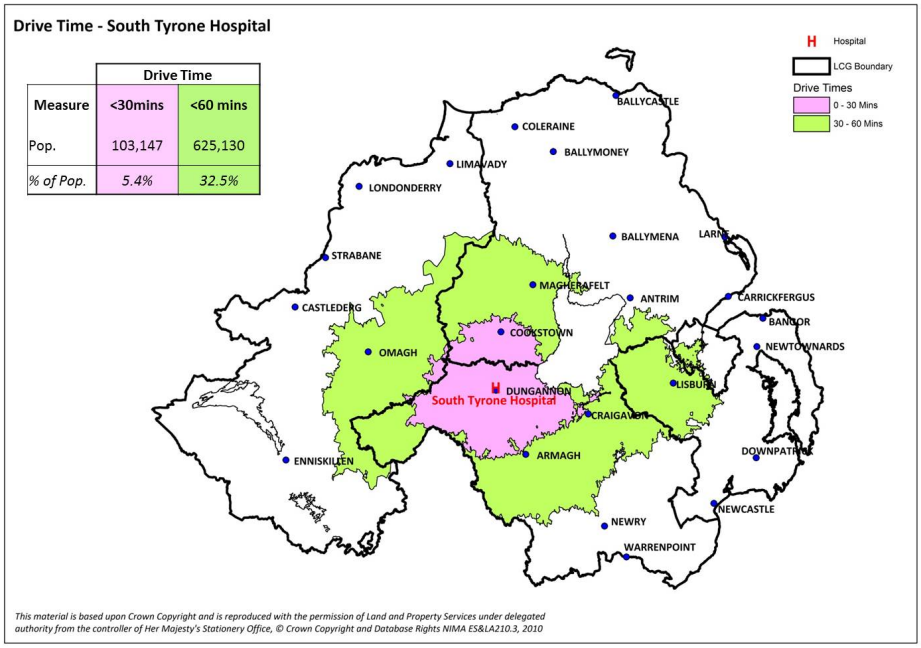



Figure 29. 30 and 60 minute isochrones from South Tyrone Hospital. Source: HSCB

# Whiteabbey Hospital

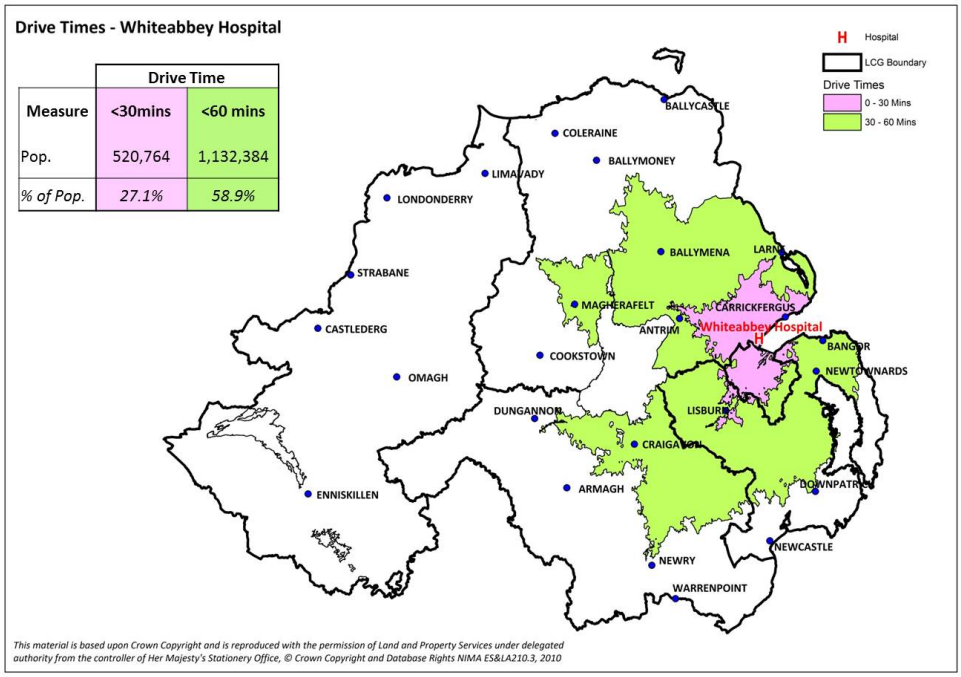



Figure 30. 30 and 60 minute isochrones from Whiteabbey Hospital. Source: HSCB

# Summary

The following is a summary of the drive times for the 7 hospital sites included (population is the NI population and is based on 2016 postcode data):

| | | Drive Time | |
|---|---|---|---|
| **Hospitals** | **Measure** | **<30mins** | **<60 mins** |
| Downe Hospital | Pop. | 47,762 | 414,682 |
| | *% of Pop.* | *2.5%* | *21.6%* |
| Lagan Valley Hospital | Pop. | 567,241 | 1,305,405 |
| | *% of Pop.* | *29.5%* | *67.9%* |
| Mid Ulster Hospital | Pop. | 78,212 | 720,586 |
| | *% of Pop.* | *4.1%* | *37.5%* |
| Musgrave Park Hospital | Pop. | 560,877 | 1,273,838 |
| | *% of Pop.* | *29.2%* | *66.2%* |

| | | Drive Time | |
|---|---|---|---|
| **Hospitals** | **Measure** | **<30mins** | **<60 mins** |
| Omagh Hospital and Primary Care Complex | Pop. | 59,185 | 270,739 |
| | *% of Pop.* | *3.1%* | *14.1%* |
| South Tyrone Hospital | Pop. | 103,147 | 625,130 |
| | *% of Pop.* | *5.4%* | *32.5%* |
| Whiteabbey Hospital | Pop. | 520,764 | 1,132,384 |
| | *% of Pop.* | *27.1%* | *58.9%* |

Figure 31. Summary of information from Figures 24 through 30

## SECTION 9

## BARRIERS, RISKS AND SOME POTENTIAL SOLUTIONS

Through the course of this work, we have presented the concept of a small number of specialised ambulatory Elective Care Centres with many groups, including patients and the public, clinical professionals and health service managers. The commonest response has been positive, with a general agreement that this would be an appropriate way to deal with the current difficulties in elective care delivery

Several potential logistical barriers were identified and discussed openly and frankly. We have listed them below, along with suggestions as to how such barriers might be overcome

## 1. Workforce

By some distance, this was the commonest concern expressed and most often referred to existing shortages of surgical, anaesthetic and nursing staff that could be exacerbated by the development of Elective Care Centres. Concerns centred around

- the extra procedural activity required to close the gap between the calculated needs of the population versus what is commissioned currently. By implication extra activity will require investment in the extra staff to deliver it
- initiating work on new additional elective care sites may spread the existing workforce more thinly than is currently the case
- many surgical and anaesthetic teams have existing unscheduled care responsibilities at acute hospitals which also need to be covered
- using staff time in travelling to Elective Care Centres – time which could otherwise be spent delivering clinical activity at a base hospital

We recognise these concerns and share them, as did the authors of the Expert Panel report[1]

> *"Health and social care systems in Northern Ireland and in other jurisdictions, are reporting severe difficulties in recruiting and retaining staff. There is a growing doomsday scenario of not having enough GP's, hospital consultants and junior doctors, nurses, Allied Health Professionals, and social care staff that will inevitably lead to people not receiving the care they need"*

However these staff shortages reflect an existing workforce currently distributed across a system that has been repeatedly assessed as unsuitable, unsustainable and unaffordable[1]

> *"The Panel has found that one of the major flaws of the current medical workforce mix is that it is focused on filling rotas and maintaining existing services, even where there are clear signs that these are not sustainable, rather than on detailed forecasting of demography and need. As one professional put it, "we are currently papering over the cracks in the current system, rather than investing in long term strategic change …*
>
> *In only five years, the amount the HSC spends on agency and locum cover has increased by 78%. The panel has even been presented with anecdotal evidence that for some junior doctors, the benefits of taking on locum work have superseded the benefits of having a permanent position"*

Therefore we see that the broader HSC Transformation process is an essential pre-requisite to free up appropriately skilled staff to work in Elective Care Centres. It is accepted widely that Northern Ireland has too many hospitals trying to provide care across a 168-hour working week, competing with each other for the available staff to do so. When HSC staff are not available, expensive locum and agency staff have become the accepted solution[1]. It is also accepted widely that there are too many hospitals trying to deliver unscheduled care services for a population of 1.8 million people, with estimates of the appropriate number varying from 4 to 7 in previous reports. For every such centre that transforms from delivering unscheduled care across a 168-hour week to one which delivers high quality elective care across, as an example, an 84-hour week (e.g. 7am to 9pm, 6 days per week), a sizeable resource of staff time becomes available. This type of transformation would provide a credible and predictable solution to the workforce difficulties that have been described above. As noted by the Expert Panel[1]:

> *"As a panel, we agree that it will absolutely be necessary to rationalise the provision of some specialist acute services as part of changing the service delivery model. As identified by Hayes, Compton and Donaldson, the current configuration of acute services is simply not sustainable in the short to medium term. As part of the transformation process, it will be necessary to reorganise services in such a way that*

*resources are freed up from some parts of the existing model in order to allow them to be used for implementing new models that will offer higher value care"*

Finally, some surgeons pointed out that their current job plans do not provide as much operating time in their working week as they consider appropriate. Many expressed frustration that they would be willing to work 4 operating sessions per week but are only allocated 2 or 3 sessions because of shortage of operating theatre space. It is clearly in the interests of the entire HSC system for skilled professionals of all types to be using their skills as often as possible, within the limits of what is safe for themselves and their patients, and the entire system should facilitate them to do so

## 2. Commissioning and financial models

The US and UK ambulatory care centres that we have cited as successful precedents demonstrate operating models with several common factors. We think it helpful to highlight those success factors:

- A culture and ethos predicated on the provision of planned care, increasing value to the health system through the efficient provision of a predictable high volume workload with minimal cancellations
- Care delivered by dedicated clinical teams in modern environments, enabled by equipment and technology (including management systems)
- Providers who are part of a competitive market, selected at an individual patient level or by a commissioning organisation. Criteria for selection include access times, patient preference and sometimes on cost
- Providers recover their costs and make a profit through a tariff per procedure journey, based on delivery performance, with a range of outcomes that are measured and monitored as part of a contract management process

Given that most of these aspects of the Elective Care Centre model are replicated across the UK, are common in large Elective Care Centres in the USA, and are also seen in the local independent sector (IS) market, it is important to consider to what extent they can be applied to a Northern Ireland Health and Social Care (NI HSC) Elective Care Centre model

*Commissioning considerations:*

The establishment of NI Elective Care Centres will take strategic long term planning by HSC, with clear "fixed points" enabling HSC to effectively plan for the transition and manage the new model of provision, once established. Decisions about the numbers of centres per specialty, their locations, and the total profile of projected provision will be essential early requirements of an implementation programme

There is the potential to implement a tariff-based system, a successful element of the UK, US and IS Elective Care Centre models, driving performance management to a pure organisational level. The combination of this with a settled and committed activity profile commissioned over a long horizon with each centre, gives a stable basis for planning, establishing, consolidating and improving new Elective Care Centres in Northern Ireland

We have also considered the different system management issues which will be faced by HSC in establishing and managing a new model of elective delivery

Development of Elective Care Centres within existing Trusts would result in all five Trusts being providers of elective services to all other Trusts. Furthermore the scarcest and most valuable resources (the staff) would have employment and management processes to overlay on this, so Elective Care Centre providers could be dependent on one or two other Trusts for critical resources to deliver services to all Trusts. It is not difficult to see how staffing shortages in one Trust could result in those staff being withheld from Elective Care Centres in another Trust, perpetuating the problems that HSC is facing today

Underperformance, especially in terms of cancellations or underutilisation of sessions, will impact the delivery of the entire Elective Care Centre plan. Under the arrangement described above, meaningful accountability processes would require a framework involving all Trusts in assessing and addressing underperformance. Without a commissioning body, HSC collectively would be required to hold individual HSC organisations to account for actual underperformance, or for causing that underperformance. This would create a complex landscape for commissioning and performance management

A potential solution is to move away from the concept of individual Elective Care Centres embedded in Trust operations, and to establish a HSC organisation responsible for delivery of the required outcomes. The simplified planning, commissioning and accountability processes are attractive, although they may be offset by the required

undertakings for assets (infrastructure) and staffing which would be needed by a separate and distinct organisation. This approach would serve one of our key principles which is to separate planned from scheduled care, and would lock it in structurally. It may also be a compelling approach if the Elective Care Centre model is expanded beyond ambulatory surgery, and is a feature of some elective inpatient care centres which are embedded on NHS Trust sites

*Financial considerations:*

In our principles we agreed that HSC should work to use current HSC physical infrastructure and assets optimally before recommending new buildings for elective care delivery. There should be a recognition that this will require "sunk costs" to continue to be borne by Trusts; in particular those associated with physical assets or other assets which cannot be reconfigured in support of the new model of Elective Care Centres. Trusts must continue to be financially supported for these assets, whether or not they form part of the new model of delivery. It is likely that much day case activity will exit the sites most affected by unscheduled care demand. The impact of withdrawing this day case capacity over time will need to be considered when such work migrates to new Elective Care Centres

The most fundamental difference between currently commissioned work from HSC and that from IS Elective Care Centres is the use of tariff payments for the activity that is delivered. HSC is accustomed to the use of tariff payments for IS and in-house waiting list additionality, and this would be a sound approach if Elective Care Centres are to be established in their early phase based on "additionality", enabling a step change in the capacity available to HSC to address waiting lists. If however, the early establishment phase is based on migration of existing resources to an ambulatory Elective Care Centre, to use existing capacity more efficiently through "substitution", a more sophisticated financial approach will be required, as work "exits" the current model progressively and moves elsewhere within the HSC

In addition, any shift to a tariff payment model may require re-consideration of the current financial model for both unscheduled and complex scheduled care for any specialty, both of which would remain within the Trust unscheduled delivery centre

*Risks and Opportunities:*

We have accepted that the optimal model of future Elective Care Centres is predicated on the utilisation of existing and new clinical workforce using a collective management model. This will operate as a "pooling" of staff resources between Elective Care Centres and (where relevant) unscheduled sites and services. Employment responsibility will be held by a single Trust, and at times of significant pressure on services, HSC does not have a good track record of managing these resources to assure equitable delivery across Trust boundaries. Therefore this aspect of the plan needs considerable work to find a management model which will be effective when pressures are in play in unscheduled or other core Trust services.

The new HSC Performance and accountability framework describes the probable role of an enhanced Public Health Agency (PHA) and direct lines of accountability between DoH and Trusts. This will operate effectively in the current service configuration, where (with the exception of regional services) there are limited inter-Trust services. The introduction of Elective Care Centres will see inter-Trust service provision eventually operate at scale, and the Framework to manage accountability will need to be overhauled to reflect this new landscape. Alternatively, HSC can consider a structural solution to the reconfiguration of services, which would simplify financial flows, commissioning and accountability for Trusts and DoH/PHA. Regardless, HSC would be required to expect some degradation of elective services during the period of transition to the new Elective Care Centres and this would need to feature in the long-term plan to establish the new model

Finally, the Elective Care Centre model could offer opportunities for HSC income generation in due course. Eventually Elective Care Centres could form part of the "market" for paying patients in NI and could offer provision to patients in the Republic of Ireland or further afield. These opportunities would need to be carefully balanced against the importance of focussing on optimising core performance on elective care to HSC patients.

**A business culture**

A recurring theme in workstream discussions and in conversations with the public and specialty teams was the need to bring business principles to the delivery of elective care. Most if not all staff we spoke to expressed a desire to work in centres that facilitate them to be as effective and productive as possible. They also described demoralisation and

frustration when system factors get in the way of productivity and efficiency. All too often, adverse system factors are a daily part of life in HSC hospitals

The overall Transformation process provides the opportunity to define and implement such business principles. Of all types of care delivery, Elective Care Centres give the clearest opportunity because they bear most similarity to other industries including manufacturing, hospitality and transport. In particular, the re-designation of currently multifunctional hospitals as specialised Elective Care Centres allows them to focus on achieving excellence in a single area, and provides a finite number of metrics by which they can measure and benchmark their performance:

- A streamlined overall patient journey
- Active monitoring of theatre start times, turnover times and finish times with a drive to make turnover times as short as is consistent with high quality safe care
- Robust, reliable pre-assessment
- Use of IT solutions that enhance efficiency
- A major focus on patient experience and patient and relative feedback
- The ability to incentivise staff to be as productive as possible

**Cancellations**

The contemporary rates of elective surgical cancellations presented in Section 3 demonstrate a non-clinical cancellation rate that is marginally higher than NHS Scotland and considerably higher than NHS England. Cancellations for clinical, patient-related and other reasons are more than twice as common as non-clinical cancellations despite the fact that the latter occupy a much higher profile in the minds of clinicians, the media and the public

Possible explanations for clinical and patient cancellations may include the following:

- Long waiting times between initial pre-assessment and scheduling the procedure resulting in deterioration of the patient's overall clinical condition, such that they are deemed unfit for surgery when the procedure is eventually scheduled
- Pre-assessment procedures that are not sufficiently accurate

- Patients may have been scheduled for a procedure at a different centre from that where they are originally seen and pre-assessed, resulting in multiple, poorly-integrated clinical pathways as opposed to a single consistent clinical pathway
- The planned locations for surgery may not have the full confidence and support of the relevant surgical and anaesthetic teams nor of the patients
- At a broader level, cancellations may be seen as an inconvenient part of normal business rather than each cancellation being seen as a systems failure and being investigated as such. This in turn may reflect the lack of a direct financial penalty for each individual cancellation

Irrespective of the causes, it is clearly in the interests of all Elective Care Centres to achieve total cancellation rates that are as low as possible and examples of successful practice should be shared and adopted across the Elective Care Centre network. Reducing elective care cancellations would be an ideal Quality Improvement initiative

**Physical estate**

Perhaps surprisingly, the physical infrastructure of existing HSC hospitals did not emerge as a major source of concern among clinicians, managers, patients or the public. Indeed recent impressive hospital developments were noted more frequently than examples of wholly inadequate physical estate

Nonetheless, the future designation of a limited number of highly specialised Elective Care Centres is likely to highlight some imperfections in aspects of their current physical characteristics including:

- the number of operating theatres, endoscopy rooms or other procedure rooms
- the specialised equipment required by different specialties
- the pre-procedure or post-procedure patient facilities
- facilities for relatives
- facilities for staff
- car parking
- the drop-off and pick-up zone
- others

In particular, it is likely that capital funding will be required to convert existing multifunctional hospitals into Elective Care Centres of excellence. The total number of operating theatres and procedure rooms across existing stand-alone centres, and more self-contained centres on bigger sites, will be short of what we have calculated to be required. The final composition of the Elective Care Centre network will allow this shortfall to be counted and for the required theatres, procedure rooms and endoscopy rooms to be built and equipped. We are confident that there is enough local expertise and experience, as well as enough familiarity with precedents from elsewhere, to design excellent Elective Care Centres

**Others**

Beyond those factors mentioned above, it is worth reiterating key success factors that have been identified in guideline documents and in conversations through this process:

- A positive patient experience
- A positive staff experience
- Clinical leadership
- Non-clinical leadership
- Clinical governance
- Robust, agreed clinical pathways and protocols
- A culture of innovation

**SECTION 10**

**APPENDICES**

**APPENDIX 1**

The membership of the Elective Care Centre workstream, in alphabetical order, was as follows:

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|---|---|
| Dr Stephen Austin | Consultant anaesthetist and Chair of Division for Anaesthesia, Critical Care, Theatres and Sterile Services, BHSCT |
| Mr Alastair Campbell | (Acting) Director of Secondary Care, DoH |
| Dr Bríd Farrell | Consultant in Public Health Medicine, Public Health Agency |
| Dr Niall Herity (Chair) | Consultant Cardiologist, BHSCT |
| Mr Kourosh Khosraviani | Consultant surgeon, BHSCT and Head of School of Surgery, NIMDTA |
| Mrs Lisa McWilliams | Assistant Director of Scheduled Care, Performance Management and Service Improvement, HSCB |
| Mrs Teresa Molloy | Director of Performance and Service Improvement, WHSCT |
| Mrs Siobhán Morgan | Principal Statistician, DoH |
| Mr Fred Mullan | Consultant surgeon, NHSCT |
| Mrs Nicki Patterson | Director of Primary Care, Older People and Executive Director of Nursing, SEHSCT |
| Mr Mark Taylor | Consultant surgeon, BHSCT and member of Transformation Implementation Group (TIG) |
| Mr Aaron Thompson | Project Manager, DoH |
| Dr Paddy Woods | Deputy Chief Medical Officer, DoH |

**APPENDIX 2**

The dates of meetings and consultations were as follows:

1. March 21 2017

   Workstream meeting

2. March 28 2017

   Workstream meeting

3. April 4 2017

   Workstream meeting

4. April 11 2017

   Workstream meeting attended by Ms Susan Kelly (NI RCS) and Dr Rosemary Hogg (consultant anaesthetist with experience in the design and running of an ambulatory surgical centre)

5. April 25 2017

   Workstream meeting attended by selected Regional Specialty Advisors of the Royal College of Surgeons of England (Mr Chris Hill, Plastic Surgery; Mr Gavin McAlinden, Orthopaedic Surgery; Mr Dennis Harkin, Vascular Surgery; Mr John Moorehead, General Surgery)

6. May 2 2017

   Workstream meeting attended by senior managers and clinicians from South-Eastern Trust, Western Trust, Northern Trust and Southern Trust

7. May 9 2017

   Workstream meeting

8. May 17 2017

   NH update to Transformation Implementation Group (TIG)

9. May 30 2017

   Workstream visit to Emersons Green ISTC, Bristol

10. June 6 2017

    Workstream meeting

11. June 15 2017

    Two workshops with surgical and anaesthetic clinicians and managers from across the HSC held at Mossley Mill, Glengormley

12. June 20 2017

    Workstream meeting

13. June 27 2017

    Workstream meeting

14. August 31 2017

    Workstream meeting with regional vascular surgery teams

15. September 27 2017

    Workstream meeting with regional Urology teams

16. October 17 2017

    Workstream meeting attended by selected Regional Specialty Advisors of the Royal College of Surgeons of England (Mr Ged Smith, Oral and Maxillofacial Surgery Surgery; Mr Robin Adair, ENT Surgery; Mr John McKnight, Urology)

17. October 20 2017

    Workstream meeting with regional Ophthalmology teams and RNIB representative

18. October 24 2017

    Workstream meeting

19. October 26 2017

    Workstream meeting with PPI Forum representatives

20. November 9 2017

    NH meeting with Miss Giuliana Silvestri, clinical director of Ophthalmology, BHSCT

21. November 14 2017

    Workstream meeting

22. November 15 2017

    NH attendance at regional ENT audit meeting, Templeton Hotel, Templepatrick

23. November 16 2017

    Workstream meeting with available regional Orthopaedics teams

24. November 27 2017

    Workstream meeting with available regional Gynaecology teams

25. November 28 2017

    Workstream meeting with Transformation Implementation Group (TIG)

## APPENDIX 3

Alphabetical list of abbreviations

| | |
|---|---|
| AAGBI | Association of Anaesthetists of Great Britain and Ireland |
| BADS | British Association of Day Surgery |
| BCH | Belfast City Hospital |
| BHSCT | Belfast Health and Social Care Trust |
| DHH | Daisy Hill Hospital |
| DoH | Department of Health |
| DPU | Day procedure unit |
| DSU | Day surgery unit |
| ECC | Elective Care Centre |
| ED | Emergency Department |
| ENT | Ear, nose and throat surgery |
| GP | General practitioner |
| HDU | High-dependency unit |
| HSC | Health and Social Care |
| HSCB | Health and Social Care Board |
| ICU | Intensive care unit |
| IS | Independent sector |
| IT | Information technology |
| LCG | Local commissioning group |
| LVH | Lagan Valley Hospital |
| MIH | Mater Infirmorum Hospital |
| MPH | Musgrave Park Hospital |
| MUH | Mid-Ulster Hospital |
| NHS | National Health Service |
| NHSCT | Northern Health and Social Care Trust |
| NI | Northern Ireland |
| NIMDTA | Northern Ireland Medical and Dental Training Agency |
| NISRA | Northern Ireland Statistics and Research Agency |
| OHPCC | Omagh Hospital and Primary Care Complex |

| | |
|---|---|
| PHA | Public Health Agency |
| PoC | Programme of Care |
| PPI | Personal and Public Involvement |
| RNIB | Royal National Institute for the Blind |
| RVH | Royal Victoria Hospital |
| SEHSCT | South-Eastern Health and Social Care Trust |
| SHSCT | Southern Health and Social Care Trust |
| STH | South Tyrone Hospital |
| SWAH | South-West Acute Hospital |
| TCH | Tyrone County Hospital |
| TIG | Transformation Implementation Group |
| UHD | Ulster Hospital, Dundonald |
| UK | United Kingdom |
| USA | United States of America |
| WAH | Whiteabbey Hospital |
| WHSCT | Western Health and Social Care Trust |