Review of General Surgery in Northern Ireland

Standards and a way forward

Department of Health
An Roinn Sláinte
Männystrie O Poustie
www.health-ni.gov.uk

MINISTERIAL FOREWORD

Just over a year ago I commissioned a Review of General Surgery in Northern Ireland and set an ambitious deadline for completion of the Review by the end of June 2022.

The Review was established in response to challenges to the delivery of a safe and sustainable general surgery service for the population of Northern Ireland. As with other areas of care, there is significant variation in practice and in waiting times across the region and, specific issues relating to the requirement to maintain 24/7 rotas for emergency general surgery across multiple sites and the difficulties this creates in terms of staffing and meeting professionally mandated standards of care.

Currently we are not providing the best possible care for our patients. Whilst our surgeons and wider multi-disciplinary team do outstanding work, our systems are not providing them with the tools to do the best they can. This has led to people not receiving the care I would expect – something we must change going forward!

There is therefore an unassailable need for a new approach to ensure that general surgery, both emergency and elective, can be provided safely and sustainably.

The Bengoa report set a vision: "To create a fair and sustainable, including financially sustainable, Health and Social Care system that delivers universal, high quality, safe services that meet the Northern Ireland population's needs and which deliver world class outcomes for patients and service users."

I firmly believe that implementation of the standards and actions set out in the Review of General Surgery Report will be an important step on the journey to achieving this vision. This would mean our patients would have better services, with better outcomes for all – disregarding where they live. Implementing the standards will mean that our patients can receive a more precise diagnosis and potentially less invasive treatments.

I would like to thank all who were involved in the development of this Report – service users, clinicians and other stakeholders. I have been delighted by the level of engagement from the general surgical community which continues to be relentless in its pursuit for improved patient outcomes. This includes the Review's Chair, Professor Mark Taylor, whose enthusiasm and commitment has ensured that the challenging deadline for completion of the Review has been met.

We must now move ahead with the next phase of this journey – implementation of the standards and actions in the report. We cannot stand still. We owe it to our patients and staff to deliver the best possible general surgical service.

Robin Swann
Minister of Health

FOREWORD FROM CHAIR OF REVIEW – PROF MARK A TAYLOR

In June 2021, Minister Swann published an Elective Care Framework and commissioned an urgent review of General Surgery. Such a service review was very much in keeping with the findings of previous reports into the Health and Social Care Service in Northern Ireland.

It was a great honour to be asked to Chair this review on behalf of the Minister and Department of Health. The review process involved a project team, a number of work streams, an external critical friend, Mr Simon Patterson Brown, Consultant Surgeon Edinburgh Royal Infirmary and numerous engagements with Trust Chief Executives and other stakeholders.

It is particularly important to thank our service user representatives who have been involved with this project from its inception. Co-production is essential when addressing change and service redesign. I am extremely grateful to all the members of the service users group. Their collective voice has transferred over into actions found within this report.

In 2016, the Bengoa report "Systems not Structures" the issue of service redesign and rationalisation was discussed. The delivery of acute services in Northern Ireland, similar to many other parts of the UK, has been the focus of many previous reports. Workforce vulnerability, use of high costing locums, service user outcomes, subspecialisation, supporting services required to deliver modern emergency surgery; lack of training opportunity and the desire for a better work life balance, have all challenged the status quo. The Bengoa report summarised this as - no meaningful choice to make in terms of the redesign of acute services, the alternative is to see planned change or change prompted by crisis.

The review has been an extremely robust, evidence-based process and I am indebted to everyone involved in data collection, interpretation, evidence gathering and critical appraisal. One of the principle aims was to develop a set of standards for the delivery of emergency general surgery with the recognition that separation from elective practice greatly benefits both aspects of General Surgery. The landscape of emergency general surgery has changed in recent years within the UK. We do not have the General Surgeon of the past who was trained in all aspects of General Surgery. The future is all about subspecialisation with colleagues providing expert care in one part of General Surgery. Such subspecialisation has brought about the necessity to consider new ways of working (e.g. separating emergencies of an upper GI nature from emergencies of a lower GI nature). Similarly, modern emergency general surgery has much more dependency on the use of interventional radiology and other disciplines.

In elective surgical practice, there is an abundance of evidence for the creation of high volume centres of excellence, which are associated with a much better outcome for the individual service user and a fertile environment for training development of skills, and modernisation of practice. Another key aim of this review is therefore the creation of elective overnight stay centres of excellence. Such centres will not only address the required increase in capacity but also make significant inroads to the horrendous waiting lists.

We acknowledge from the work on day procedure centres that our public have graciously confirmed that they are willing to travel as long as they get the 'right treatment by the right person in a timely fashion'. This review also requires surgeons and other members of the multidisciplinary team to embark upon a different way of working.

This review should not be seen as a way of reducing hospital activity or lead to closure of a particular hospital. In order to deliver the very best of timely care we need our entire hospital infrastructure, whether that be an emergency centre or elective centre. The creation of a general surgical network will ensure that no matter where one lives in Northern Ireland they will have equal access to high quality care both in the emergency setting and in the elective setting.

Finally, it is critical that we as a society grasp this opportunity to use the evidence based standards and actions from this review to bring about a new system of general surgery in Northern Ireland. Such implementation has the potential to unlock the door to further reviews of surgical specialties all with the aim of ensuring that no matter where one lives in Northern Ireland they will have access to timely emergency and elective surgical care. Future proofing our health care system has never been more important.

I would like to take the opportunity to express my sincere thanks to the many individuals who have worked on the review of General surgery.

Mark A Taylor, Chair Of Review

INDEX

LIST OF ACTIONS

ACTION 1.

HSC Trusts to implement the standards for Emergency General Surgery (Annex A) at pace and work with the Department to develop co-produced implementation plans.

Primary Outcome: Regionally cohesive and comprehensive implementation with equity of provision for patients.

Consequential Outcomes: More efficient and effective service provisions, with higher activity levels and improved outputs. Better recruitment and retention of staff, improved rotas.

ACTION 2.

A). Trusts to develop a model for the delivery of complex and non-complex elective care informed by the implementation of the standards for emergency general surgery and elective surgery.

B). As part of implementation, Elective Overnight Stay Centres will be established in line with the wider elective care policy direction and the changing picture of health and social care delivery across Northern Ireland. In the initial phase – subject to Trust decision making processes and public engagement – we will consider the Mater Hospital as an initial site. We will also identify a further centre in the wider design plan intended to be published in the Autumn.

Primary Outcome: Regionally cohesive and comprehensive implementation with equity of provision for patients.

Consequential Outcomes: More efficient and effective service provisions, with higher activity levels and improved outputs.

ACTION 3.

As the model for elective general surgery is implemented there will be a focus on streamlined and consistent pre-operative assessment processes that follow best practice.

Primary Outcome: patient centred pre-operative assessment that ensures that patients are managed in the most appropriate setting to provide best patient outcomes.

Consequential Outcome: reduced elective cancellations.

ACTION 4.

PACUs will be established across Northern Ireland on a phased basis, initially in all DGHs undertaking complex surgery that meet agreed criteria. The PACUs will be ring fenced for elective care.

Primary Outcome: Better patient outcomes, shorter hospital stay, tailored care and less reliance on level 2 & 3 beds.

Consequential: Reduced elective cancellations.

ACTION 5.

BADS targets regarding the proportion of specific procedures which should be carried out as daycases will be used to compare daycase rates for specific procedures at a local and regional level and will be used to drive performance and efficiency.

Primary Outcome: Reduction in in-patient cases which will save bed days and lead to improved patient outcomes and patient satisfaction.

Consequential Outcome: Reduction in pressures on in-patient services meaning more efficient services, with an increase in the number of patients treated.

ACTION 6.

Continued regional collaboration to rebuild elective paediatric lists.

Primary Outcome: Increase in elective paediatric general surgery activity with more patients being treated.

Consequential Outcome: Better joined up working will lead to more efficient processes with higher activity levels and better patient outcomes.

ACTION 7.

Continued support for the Child Health Partnership as it develops age appropriate pathways, training opportunities and models for delivery of paediatric surgery.

Primary Outcome: Better patient outcomes as the patients are treated by those with best knowledge and skills.

Consequential Outcome: Better joined up working will lead to more efficient processes with higher activity levels and better patient outcomes.

ACTION 8.

As part of implementation of the emergency and elective standards there will be a review of current surgical services in each Trust to ensure that workforce aligns with the new service model. This will cover medical, specialist nursing, AHP and pharmacy. Consideration will be given to the optimum skills mix required to deliver the new service model.

Primary Objective: Successful and sustainable delivery of the emergency and elective general surgery standards, with better patient outcomes.

Consequential Objective: A sustainable workforce that is content with the working environment, maximising the resource potential across the health and social care system.

ACTION 9.

Establishment of a Regional General Surgery Network to drive forward a multifaceted transformation programme for general surgery at a regional level, incorporating best practice from other parts of the UK.

Primary Objective: A network to drive regional cooperation and cohesion ensuring general surgery services are available on an equitable basis ensuring consistent good outcomes for general surgery patients.

Consequential Objective: A regional tool for co-production and co-design ensuring clinical staff buy in, with resultant better cooperative working and improved morale.

ACTION 10.

The Department of Health will develop an Integrated Dashboard for General Surgery made up of on the interlinked components of Patient Experience, Quality and Safety of Care; and Activity and Access to Care.

Primary Objective: Data and information to drive decision making to make sure that every decision is in the patient's best interests and will provide value for money.

Consequential Objective: Identification of areas where Northern Ireland is strong and areas where improvement can be made. This can be used as a learning tool across Northern Ireland and wider jurisdictions.

1. INTRODUCTION

What is General Surgery?

General Surgery is a wide-ranging surgical specialty that focuses on diseases of the alimentary (digestive) tract. Over the years more sub-specialism has developed across general surgery; for example, colorectal surgery, upper gastrointestinal surgery etc. As one of the largest surgical specialties in the UK, general surgery plays a key role in the provision of elective and emergency care. As such, a sustainable general surgery service is a key element of delivering planned and unscheduled care in our acute hospitals.

Emergency general surgery relates to the treatment of patients presenting with acute abdominal pain, infections, bleeding, trauma and similar. It covers seven simultaneous areas of care:

1. undertaking emergency surgery at any time, day or night;
2. providing assessment and management of patients presenting with an acute surgical problem;
3. providing ongoing care to patients who have had surgery and to other patients in the hospital (including patients in hospital for other reasons and unexpectedly require surgical intervention);
4. undertaking further 'rescue' surgery for complications in patients who have recently undergone surgery, whether following initial planned (elective) surgery or after emergency surgery;
5. providing assessment and advice for patients referred from other areas of the hospital, other hospitals in the network and from their GP;
6. providing early and effective acute pain management and supervising out-of-hours palliative care; and
7. communicating with patients and their relatives[1].

One objective of this review is to differentiate elective surgery from emergency surgery. Elective general surgery means surgery that is planned in advance, as opposed to emergency or unplanned treatment. This can be multifaceted and the patient journey involves a number of different processes, including GP referral, outpatient appointment, diagnostic tests, pre-operative assessment, inpatient/daycase admission and outpatient post-operative review.

We also differentiate between care that is complex and less complex. Examples of less complex elective general surgery include the likes of inguinal hernia (normally a daycase surgery) and cholecystectomy (either day case or requiring a short stay in hospital). These surgeries are currently provided by all Health and Social Care Trusts. Examples of complex elective general surgery include oesophageal cancer, colorectal cancer and intestinal failure which all may require specialised equipment and teams that are not available at every hospital.

General surgery also relates to children and young people. In children, the most frequently performed emergency surgeries are appendicectomy, testicular conditions, treatment of obstructed hernias and abscesses. The most frequently performed paediatric elective surgeries are hernia repairs, testicular surgery, congenital abdominal surgery and intraabdominal cancer surgery.

1 https://www.rcseng.ac.uk/.../emergency-general-surgery.pdf

Policy Context

In October 2016 the Department of Health launched 'Health and Wellbeing 2026: Delivering Together'[2], which seeks to radically reform the way health and social care services are designed and delivered in Northern Ireland. This overarching strategy for transforming the health and social care system in Northern Ireland focuses on person-centred care, rather than on buildings and structures. Through Delivering Together we aim to improve the health of our people, improve the quality and experience of care, ensure the sustainability of our services, support and empower staff; while also recognising the challenges that need to be overcome if this is to be achieved.

Delivering Together was the Department's response to the 2016 Bengoa Report[3], 'Systems Not Structures'. This report recognised that there was clear and unambiguous evidence to show that specialised surgeries, concentrated on a smaller number of sites and dealing with a higher volume of patients, led to improved outcomes. Continuing to invest large sums of money in trying to keep unsustainable services in place will only serve to delay their collapse and represents a significant opportunity cost to reforms elsewhere in the system. More importantly, it is critical that we ensure that the quality of care in terms of surgical outcomes, accessibility, cost and performance are as equitable across Northern Ireland as possible.

In June 2021 the Elective Care Framework[4] was published by Minister Swann. The framework sets out a five-year plan with firm, time bound proposals for how we will systematically tackle the backlog of patients waiting longer than Ministerial standards, and how we will invest in and transform services to allow us to meet the population demands in future.

In this review the focus has, therefore, been on the population of Northern Ireland. We have focused on how we can improve outcomes – to ensure a healthier population in general and to deliver high quality general surgery. As such, this review has been driven by systems, not structures.

2 Health and Wellbeing 2026 - Delivering Together | Department of Health (health-ni.gov.uk)
3 Systems, Not Structures - Changing Health and Social Care - Full Report | Department of Health (health-ni.gov.uk)
4 Elective Care Framework - Restart, Recovery and Redesign | Department of Health (health-ni.gov.uk)

Where General Surgery is currently delivered in Northern Ireland

Adults presenting with acute and emergency general surgical symptoms are seen across Northern Ireland's five Health and Social Care Trusts. Prior to March 2022, there were emergency surgical units in eight hospital sites across these Trusts as highlighted in the map below. In March 2022, emergency surgical services were suspended at Daisy Hill Hospital (Southern HSC Trust), due to issues sustaining a consultant surgical rota. Emergency general surgical services are currently provided at all the remaining seven sites.

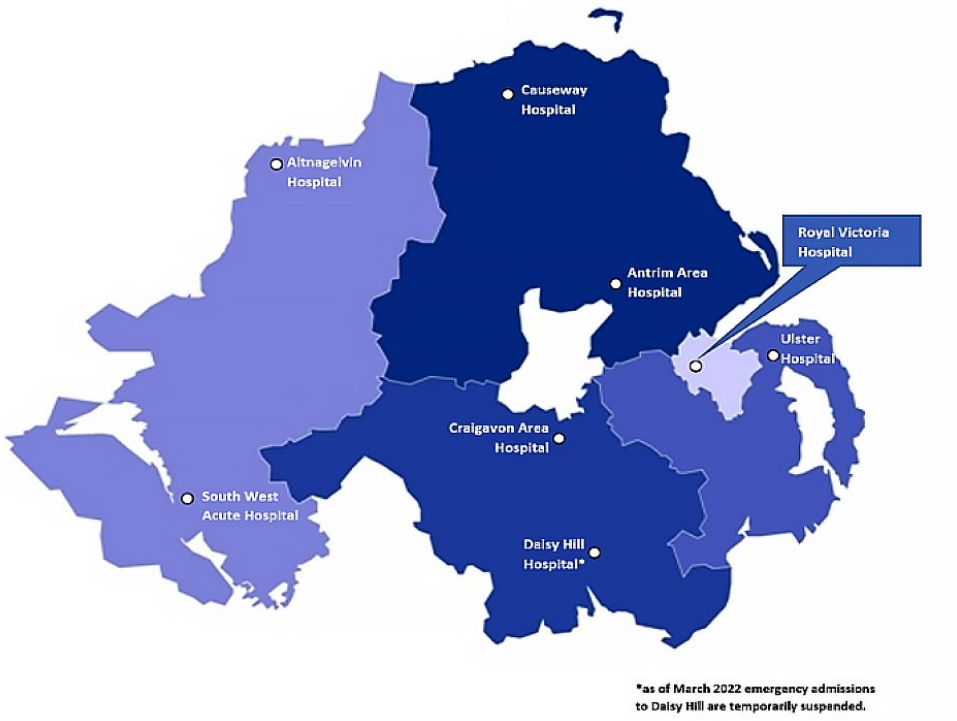


Figure 1: Map of hospitals admitting adult emergency general surgery admissions

Adult elective inpatient activity is undertaken in the larger hospital sites across the five Trusts. The Northern, Western and Southern Trusts have two inpatients sites in their catchment area – Antrim Area Hospital (AAH), Causeway Hospital (CAU), Altnagelvin Hospital (ALT), South West Acute Hospital (SWAH), Craigavon Area Hospital (CAH) and Daisy Hill Hospital (DHH) respectively, while the South Eastern Trust carries out its inpatient activity at the Ulster Hospital (UHD) site. The infrastructure of the Belfast Trust changed during the COVID-19 pandemic with inpatient services temporarily moving from the Mater Hospital (MIH) to Belfast City Hospital (BCH), leaving BCH as the primary elective inpatient site for the Trust.

Daycase activity also includes endoscopy and is provided on multiple sites across each Trust. Larger estates such as CAH, UHD and ALT have daycase procedure units on site, while other centres are used solely as daycase centres within each Trust – for example, Lagan Valley Hospital and Omagh Hospital are two sites which are used as regional daycase centres.

The management of acute and emergency paediatric patients is dependent on the age of the child and Trust of admission. There is, however, some variation across HSC Trusts. The Royal Belfast Hospital for Sick Children (RBHSC) accepts children of any age up to 16 with a surgical issue that cannot be managed at a local level. Approximately 80% of paediatric elective activity is daycase, the majority of which is undertaken in the Belfast and South Eastern Trusts, with inpatient activity predominantly taking place in RBHSC.

Table 1: Hospital sites and services provided for Adult General Surgery as of March 2022

Trust	Site	Emergency surgery	Elective Inpatient surgery	Daycase Procedures (Including endoscopy)	Surgical Outpatients
Belfast	RVH	X		X	X
	BCH		X	X	X
	MIH			X	X
Northern	AAH	X	X	X	X
	CAU	X	X	X	X
	WAH			X	X
	MUH			X	X
South Eastern	UHD	X	X	X	X
	LVH			X	X
	Downe			X	X
	Ards				X
Southern	CAH	X	X	X	X
	DHH		X	X	X
	STH			X	X
	Banbridge				X
Western	ALT	X	X	X	X
	SWAH	X	X	X	X
	Omagh			X	

Table 2: Hospital sites and services provided for Paediatric general surgery

Trust	Site	Emergency admissions			Inpatient surgery	Daycase Procedures	Paediatric Surgical Outpatients
		0-5 y/o	5-14 y/o	14-16 y/o			
Belfast	RVH			X			X*
	RBHSC	X	X	X	X	X	X
Northern	AAH		X	X			
	CAU		X	X		X	X
South Eastern	UHD			X		X	X
Southern	CAH		X	X			
	DHH						X
Western	ALT		X	X		X	X
	SWAH		X	X		X+	

* 14-16 year olds

+ from May 2022

2. THE BURNING PLATFORM FOR GENERAL SURGERY – THE CASE FOR CHANGE

Northern Ireland has the worst waiting lists for surgery in the United Kingdom, with general surgery patients being in the top four of both those waiting longest, and the number of people waiting. The reasons for this are many and are not limited to general surgery – with waiting lists unacceptably long across all elective care services in Northern Ireland.

One of the underlying causes is the co-existence of elective and emergency/unscheduled care. It is, unfortunately, standard operational practice for elective surgery to be cancelled when there is an escalation of emergency/unscheduled service pressures in hospitals in which both elective and emergency/unscheduled services co-exist. There is evidence that cancellations occur in significant numbers of cases because:

- the bed for the elective patient is taken during the night by the emergency patient;
- there are no critical care beds available for the elective care patient; and/or
- the operating surgeon is unable to carry out elective surgery as they have been up all night dealing with an emergency.

Also, the changing management of the emergency/unscheduled patient, with greater reliance on interventional radiology, endoscopy and non-operative management has led to inequalities in the delivery of emergency general surgery, depending on where the individual lives and what capabilities the local hospital has. Other changes that impact on how services are delivered include focused specialisms, workforce challenges, increases in demand and infrastructure changes.

The Changing Landscape

There have been major changes in general surgery over the last two decades with delivery of care becoming much more sub-specialised and focused. With sub-specialisation, nearly every surgeon has a specific area of interest in their elective practice (for example, colorectal surgery, upper gastrointestinal surgery, endocrine surgery etc). Some general surgeons provide regional specialised surgery (e.g. oesophagogastric cancer surgery, hepatobiliary and pancreatic surgery, intestinal failure surgery), whilst others focus on the delivery of local elective and emergency general surgery.

The changing landscape of sub-specialisation has also influenced emergency surgery, with some centres splitting the emergency take into patients with upper gastro-intestinal (GI) conditions being looked after by upper GI surgeons, and patients with lower GI conditions being looked after by colorectal surgeons. Whilst this provides challenges, there are also benefits to the patients. For example, evidence exists that patients are more likely to avoid a long-term stoma when operated on by a colorectal surgeon.

Modern radiological intervention has also led to a greater multidisciplinary management of surgical patients – with enhanced patient outcomes. However, as a result, there is greater dependency on the interventional radiology service, 24-hour imaging, gastroenterology, anaesthesia, critical care, allied health professionals and clinical nurse specialists. This has led to shifting practices, where the management of some acute conditions has moved away from the option of major surgery, to alternative procedures such as radiological insertion of drains or stents (e.g. tube cholecystostomy, perforated colon abscess drain, colonic stents).

Traditionally managed by surgical teams, gastrointestinal bleeding has now become the domain of gastroenterologists, with improvements in endoscopic management leading to the creation of bleeding rotas in some hospitals. Such advanced therapeutic endoscopic interventions, and the number of procedures required, have resulted in challenges for surgical trainees acquiring the recommended experience. Such issues will ultimately influence the future management of gastrointestinal bleeding.

Vascular and breast surgery were traditionally also the responsibility of general surgeons, but vascular surgeons have now formed their own specialty advisory committee (SAC). Increasingly in most Trusts, breast surgeons no longer take part in the general surgical take in rota, which has resulted in reductions in the numbers available for the cover of such rotas.

This significantly changes the staffing requirements when providing cover for 24 hour emergency/unscheduled care services – which in the past one general surgeon could do, now may require a combination of surgeons with different areas of interest. Similarly, seeking to achieve this balance through a reliance on e.g. the regular use of temporary locum staff, is neither sustainable nor resilient.

Workforce Challenges

Many general surgeons have specialised their practice in order to concentrate on treating particular conditions (for example breast and upper or lower gastrointestinal surgery). While this has resulted in improved outcomes for patients requiring planned specialist intervention, it has also created difficulties in having an appropriately trained and available surgical workforce for the treatment and management of emergency/unscheduled patients. Changes to the intercollegiate surgical curriculum, and the certificate of completion of training, have led to newly appointed consultants having less exposure to the generality of surgery, particularly in areas out with their specialised training.

The changing nature of surgical speciality means delivering emergency/unscheduled general surgery across multiple smaller sites with a lower patient turnover is becoming increasingly difficult in terms of rotas, succession planning, skill mix, supporting services and disciplines, best practice and maintaining quality care.

The problem of having a sufficiently skilled workforce at sites providing emergency/unscheduled care is not restricted to the smaller hospital sites, as larger sites are also experiencing difficulties maintaining rotas, albeit on a more limited level. Adding to the challenge, there are other specialties that often require input from emergency general surgery, such as gynaecology, gastroenterology and emergency medicine.

Sectors of the service have experienced significant challenges in the recruitment of staff and hence a heavy reliance on expensive locum and agency staff. Whilst such staff can provide excellent care, they invariably bring inconsistencies, can cause difficulties in continuity of care to patients, and can lead to problems with surgical training.

Another factor impacting on the workforce is a greater understanding of the importance of maintaining a healthy work life balance, and this has been supported by the implementation of the European Working Time Directive. Whilst this change in working practices is likely to create a healthier and better workforce, it also leads to challenges in surgical cover. It also provides issues for the training of new general surgeons. Currently trainees declare a sub-specialist interest as their training progresses (generally three years before the end of their training); however, compared to the past there is a reduction in overall training hours. This combination has resulted in newly appointed surgeons being less experienced in managing surgical emergencies outside their chosen sub-specialty. Therefore, for a newly appointed consultant it is important to be part of a cohesive surgical unit with good support and mentoring across a wide range of sub-specialities.

Fragmentation of the workforce is also an issue. Despite many attempts to break down silos, the workforce is still fragmented by organisational and professional boundaries. In the past decade, there have been numerous examples of one Trust recruiting to fill vacancies, only for the successful candidate to come from a neighbouring Trust, thereby creating another vacancy in the service. In practice, this simply serves to move the problem around Northern Ireland, rather than offering any additional capacity. To ensure good patient outcomes through a sustainable service, in the future there needs to be a greater level of regional planning when tackling workforce issues. The move to a single HSC employer as described in the Health & Social Care Workforce Strategy 2026 would be a key enabler for these changes.

Case study - Daisy Hill Hospital, Southern HSC Trust

As a result of ongoing consultant recruitment difficulties at Daisy Hill Hospital (DHH), in March 2022 the Southern HSC Trust determined that it would not be possible to deliver a safe emergency general surgery service on the site and that contingency arrangements would be needed. In response the Trust moved the delivery of emergency general surgery services from the DHH site to the Craigavon Area Hospital site.

This was an emergency temporary service change to ensure the delivery of safe and sustainable services. In developing plans for sustainable services, the Trust are considering the challenges noted in this chapter, and it is expected that the outcomes will align with this review.

The issue of retaining a consultant workforce is not unique to Daisy Hill Hospital as other hospitals across Northern Ireland are experiencing similar challenges. It is therefore more important now than ever to have a cohesive approach to general surgery with clear regional priorities and plans.

Separation of Scheduled and Unscheduled Care

There is invariably a conflict between scheduled (elective) and unscheduled (emergency) care. By nature scheduled care can be rescheduled if there is urgent need for unscheduled care. The effect where this manifests, results in long waiting lists and sub-optimal outcomes for patients requiring elective general surgery.

Before surgery can be carried out, a range of resources have to be brought together at the right time and the right place to ensure good patient outcomes which includes surgical staff, nursing staff, anaesthetic staff, theatre space and recovery/ward beds. Remove any one of these components and the surgery has to be cancelled. Where the same staff and resources are required to be available for both unscheduled and elective care, unscheduled care will always take precedence, with the inevitable result of cancellation for the elective patient.

Locally, nationally, and internationally, there are multiple working examples of how efficiently elective care can be provided where there is no competition from unscheduled pressures. Going forward finding solutions that avoid this conflict will be a priority.

Due to the interdependencies with other specialist services, such as critical care, it is difficult to fully separate the most complex elective general surgery from emergency/unscheduled care. However, every effort must be made to protect the beds associated with the elective practice. For the less

complex surgery to be as efficient as possible, there is a strong case for attempting to insulate the services from unscheduled care pressures within completely ring fenced environments.

In the COVID-19 environment the benefits of separating elective and unscheduled care for infection control purposes was even starker. The Elective Care Framework published in June 2021 outlines a series of actions to expand the implementation of 'green pathways and sites.' These pathways and sites strive to protect staff and patients from the potential risk of catching COVID-19. Examples of green pathways and sites, such as the Day Procedure Centre in Lagan Valley Hospital (LVH) demonstrated benefits for the wider system. While other sites had to downturn elective cases throughout each surge period, the Day Procedure Centre at LVH, continued to provide a range of priority surgical and diagnostic procedures for the region. This ensures good patient outcomes even in the most difficult of times.

Lack of appropriate Infrastructure

As general surgery has evolved, the need for a wider range of supporting infrastructure has developed. Some of our hospitals that are currently providing emergency/unscheduled general surgery may not have the supporting infrastructure to ensure the best patient outcomes. This may mean their continued provision of emergency general surgery may become unsustainable. For example, lack of access to 24/7 emergency CEPOD (Confidential Enquiry into Patient Outcome and Death) theatres, a lack of critical care capacity and limited access to diagnostic and interventional radiology support (particularly out of hours), often means that patients require transfer to larger hospital sites pre or post-surgery to meet their clinical needs. Delays in carrying out such activity may have an impact on the care delivered to the patient and the clinical outcomes. Such transfers may also lead to further demand on the Northern Ireland Ambulance Service (NIAS) and associated support services – further providing challenges to sustainability.

In some of our hospitals the delivery of emergency general surgery is also constrained by the available infrastructure – lack of beds, competition for emergency theatres and pressures of other specialties' clinical requirements (e.g. fractures, acute medicine, ward space and office accommodation). Going forward, appropriate reconfiguration of services and investment in infrastructure is required to optimise the space available for the delivery of a high-quality emergency general surgery service.

Increasing demands for service

Our population is changing, with increasing demand for hospital based services due to demographic changes, particularly an aged population with more chronic health problems and complex health needs. In simple terms, the longer we live, the more likely we are to require hospital treatment at some point in our lives. Demand for care has been outstripping the ability of the system to meet it for many years. Unless we take action to increase capacity – both in terms of activity and efficiency – we will not be able to meet the future needs of our population.

Before the pandemic there was already a significant shortfall in the capacity of the health and social care system in Northern Ireland to meet the demand for elective care services which was reflected in the unacceptably long waiting times. The spread of COVID-19 has caused serious disruption to our health and social care system and it was unavoidable that elective care activity would reduce due to the need to redeploy staff to address rising unscheduled/COVID-19 demand.

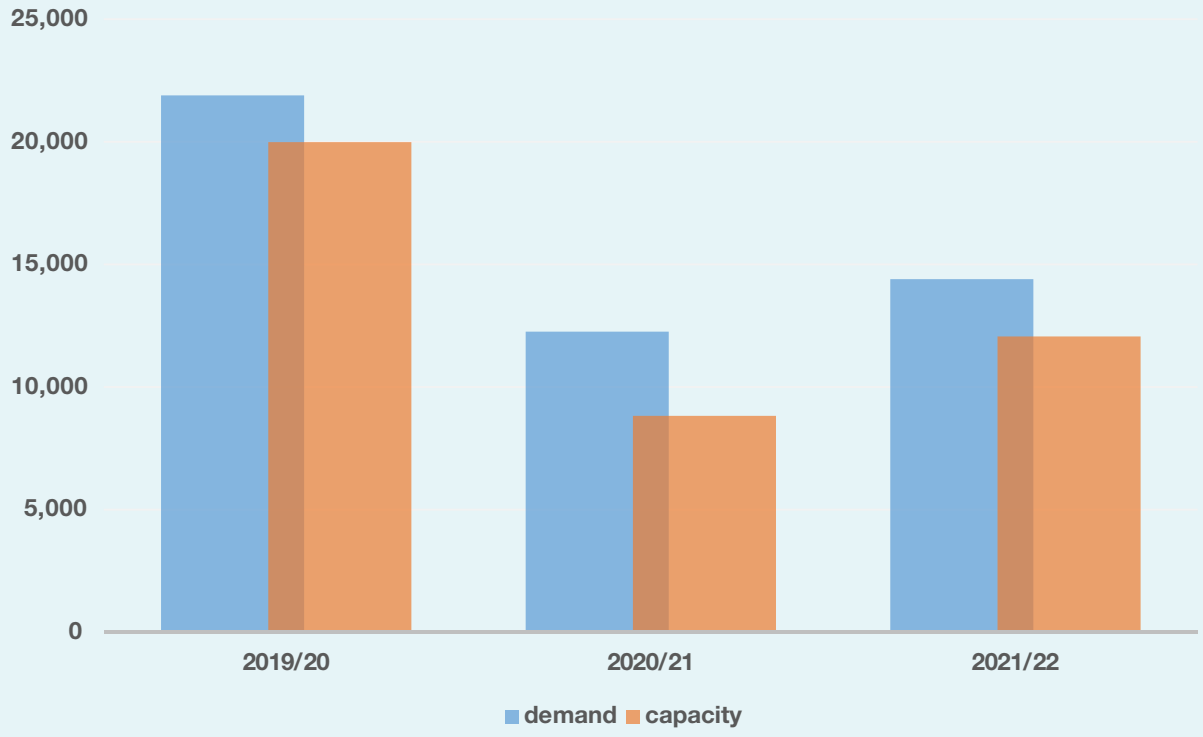
At the same time, our urgent and emergency services are continuing to face significant pressures and the number of acutely ill patients presenting to emergency departments and likely to require admission, is also increasing. Every emergency surgical service is experiencing an increase in

admission of patients with ostensibly surgical disease who will not have an operation, as it is not appropriate given their circumstances (e.g. a bowel perforation in a very frail elderly patient in which best supportive care is required). Such pressure in the system results in planned elective surgeries being cancelled because hospital theatres, beds or staff are needed for urgent and emergency cases. The increasing waiting lists are also placing a burden on emergency departments as patients on these long lists present with complications relating to the condition that they are awaiting surgery for (e.g. recurring acute cholecystitis waiting for gallbladder surgery).

Over the last three years the number of people waiting for a general surgery outpatient appointment has grown by almost 70% from 28,400 to 48,000. Assuming demand has not increased since 2019/20 (the last full year before the pandemic) our general surgery outpatient activity has to increase by 140% just to ensure the waiting lists do not increase (using 2021/22 activity levels).

Similarly, the number of people needing inpatient day case general surgery far outstrip the available capacity. In 2021/22 there were over 2,300 patients more needing treatment than there was capacity – building on the already long waiting times. Comparing capacity in 2021/22 with pre-COVID demand the picture is even more serious, with 2021/22 capacity at 55% of 2019/20 demand – meaning a shortfall of 9,800 treatment sessions.

Figure 2 -Inpatient day case demand/capacity 2019/20-2021/22



Patient Pathways and Models of Care

Our data shows that almost 40% of people admitted for emergency general surgery go on to have no surgery. This raises the possibility that a proportion of patients could be managed through an alternative model of care not requiring admission. This would lead to better outcomes for patients, and would save bed days. A range of models exist across the UK, some have been in place for many years - others are more recent, and one size does not fit all. There are different terms that are used describe these models of care – surgical assessment, ambulatory, hot clinics and similar. This is used to describe the investigation, care, and treatment of patients on the same day who otherwise would have been admitted to hospital for one night or more[5].

There are some examples of such practice evolving in Northern Ireland but at different pace and scale depending on the Trust concerned. Therefore, even in terms of new models of care there is great variation. Going forward, we must ensure that there is consistency of practice throughout Northern Ireland and that only patients who need hospital inpatient care are in a hospital bed.

Case study

The Emergency Surgical Ambulatory Clinic was set up at the Royal United Hospitals Bath NHS Foundation Trust (RUH) for patients suffering from acute surgical problems to facilitate rapid diagnosis and access to surgery.

It operates as a clinic five days a week and provides a more ad hoc service at the weekend.

A pilot that took place in 2013 identified that 71% of patients were seen by a designated emergency consultant, diagnosed and discharged on the same day with a planned operating date. Only 5% of patients seen required admission. The consultant-delivered service reduces unnecessary hospital admissions and lengthy inpatient stays which has released approximately 90 bed days per month.

Patient satisfaction is high with 99% reporting they would be extremely likely or likely to recommend the service to friends and family if they needed similar care or treatment.

There have been no adverse clinical incidents in patients being managed on an ambulant basis.

5 www.ambulatoryemergencycare.org.uk

Case study

The Emergency Surgical Unit (EmSU) at Antrim Area Hospital (AAH) was established in March 2020 to reduce inefficiencies and improve patient safety and experience in Emergency Surgical Care. It provides a 24/7 service for hospital and GP referrals and is using an electronic booking system to concentrate work in weekday daylight hours to facilitate effective planning of staffing resources.

The EmSU includes a consultant led ambulatory hot clinic between 09.30 and 12.30 5 days a week which has also provided medical students with learning opportunities and increased contact with consultants.

Data on staff and patient experience is not available yet however the indications are that the EmSU has been well received by staff and patients. The EmSU has increased patient outcomes and produced significant efficiencies including improving zero day length of stay from 5% to 35 % and a 48 hour reduction in average length of stay.

Why do we need to change?

The current model for delivering general surgery in Northern Ireland is neither sustainable nor providing uniformly high-quality care. Going forward we need to ensure that the system is person centred with a focus on patient outcomes – with services structured around the needs of those who require care and treatment.

The Bengoa report and Delivering Together clearly stated that the stark options facing our health and social care system was to either resist change and see services deteriorate to the point of collapse over time – with poor patient outcomes – or embrace transformation and work to create a modern, sustainable service that is properly equipped to help people stay as healthy as possible and to provide them with the right type of care when they need it – with improved patient outcomes as a result. The latter is already happening in general surgery and we need to ensure, through this review, that it continues to do so.

Going forward, we must accept that the current approach does not provide the best care for patients and is inefficient. Stretching staff resources to maintain emergency surgery on too many sites leads to an over-reliance on locums, increased pressure on small teams, short term decision making and services vulnerable to collapse at short notice. This puts further pressure on health and social care services and impacts on our ability to deliver safe and effective care to our population.

Going forward, it may be necessary to focus resources on specialist sites – to ensure that the patient need is always at the centre. This means:

- Patients are seen in the right place and by the right person as soon as possible – thus improving the patient outcomes;
- Staff have the necessary support and equipment to allow them to deliver the highest quality care to patients – thus improving patient outcomes;
- It is possible to attract and recruit sufficient staff to deliver a safe, high quality, 24/7 service – thus maintaining patient outcomes;

- The services are more stable and there is a better environment for patients and staff; there are the right conditions for professional development, quality improvement, leadership, teaching and other activities that are essential to a vibrant workforce expert in delivering care to acutely unwell patients – thus improving patient outcomes;
- There is capacity for research and a greater ability to engage with academia and industry in generating new solutions and accelerating testing, adoption and introduction of existing solutions – thus improving patient outcomes; and,
- This achieves the triple aim of better population health, better quality care and better use of resources – thus improving patient outcomes[6]

It is also clear that any changes to service configuration must be carefully planned, through joined up implementation projects which are fully co-produced and subject to public scrutiny, as they may have implications for other services in hospitals. The availability of, or access to, 24/7 surgical services is a key aspect of the safe provision of acute adult and paediatric services. While this underlines the importance of sustainable general surgery teams at District General Hospitals, it also underlines that the unplanned collapse of a vulnerable general surgery service could have implications across other hospital services. If services remain vulnerable to short term collapse, there is therefore a cumulative risk with regard to the impact this could have on other services.

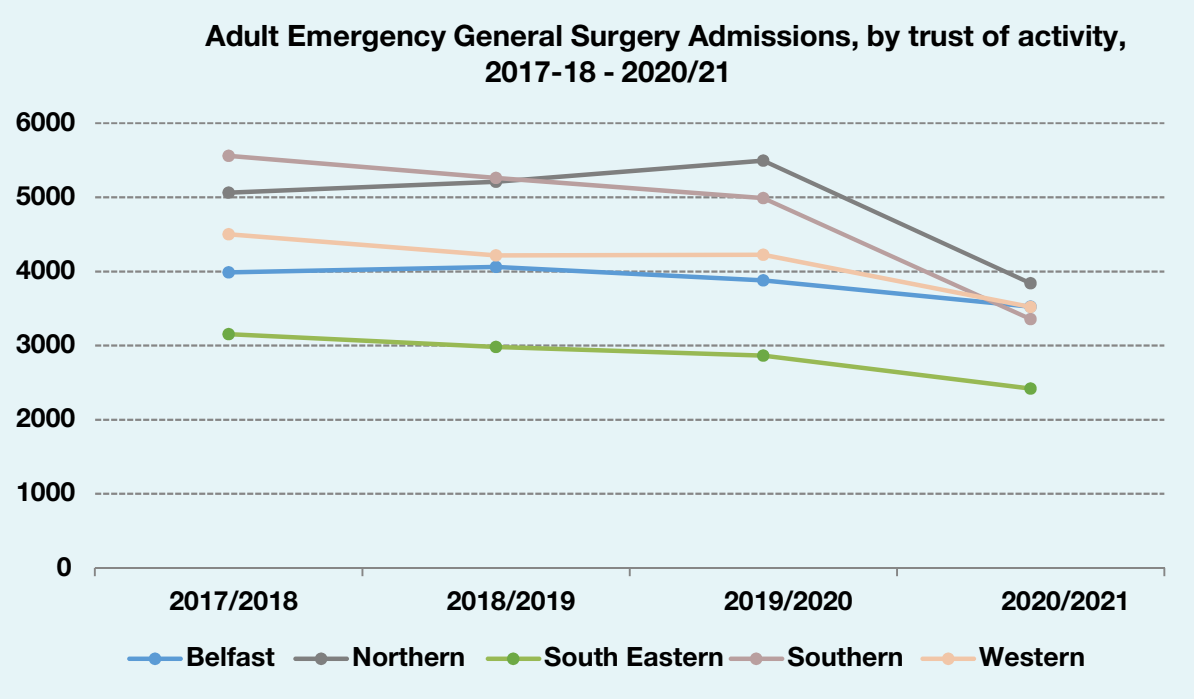
If there are changes to service reconfiguration as part of implementation of this review, it is essential that we learn from the experience of reforms in other regions in terms of how other non-surgical acute services can be retained, and how we get the best out of our hospitals – whether they retain emergency general surgery or become specialist elective sites supported by general surgeons but without surgical emergencies.

6 Systems, not structures - Changing health and social care - Full Report (health-ni.gov.uk)

3. EMERGENCY/UNSCHEDULED GENERAL SURGERY

In the years 2017/18 – 2019/20 there were approximately 21,800 emergency adult general surgery admissions per year across Northern Ireland. Emergency general surgery services continued to be accessible throughout the COVID-19 pandemic. However, despite this it should be noted that during the COVID-19 pandemic there was a decrease in admissions. Figure 3 shows the number of admissions per year in each Trust.

Figure 3: Number of adult emergency general surgery admissions by trust of activity, 2017/18 - 2020/21



The most common emergency general surgery 'procedure' is CT imaging (and this is an investigation not surgery), which accounted for 27% of all procedures. The most common surgery was appendicectomy, which accounted for 6% of all procedures. Approximately 35-40% of people admitted under emergency general surgery have no surgical procedure. Table 1 shows the most commonly performed emergency general surgical procedures in 2020/21 across all Trusts.

	Total	
Procedure	No.	%
No procedure*	6144	37%
CT scan	4376	27%
Appendicectomy	1055	6%
MRCP	673	4%
Upper GI endoscopy	465	3%
Drainage of perineal or perianal abscess	414	3%
Excision of gall bladder	328	2%
Hernia repair	314	2%
ERCP	250	2%
Lower GI endoscopy - sigmoidoscopy	240	1%
Drainage of skin lesion	182	1%

Table 3: Primary procedures carried out during adult emergency general surgery admissions, all trusts, 2020/21. *Excludes laboratory and ultrasound investigation

Reviewing the Evidence and Setting Standards

In this document we have highlighted the burning platform for general surgery in Northern Ireland and articulated the clear case for changing the way in which we deliver both emergency and elective general surgery. This is needed to ensure good patient outcomes.

We have highlighted the workforce issues associated with maintaining expertise across multiple sites and, in particular, the impact that this has had in the Southern HSC Trust where emergency general surgery has been temporarily removed from Daisy Hill Hospital to ensure patient safety through safe and sustainable service provision. The deficiencies in the perioperative nursing workforce also compound the difficulties faced.

We have set out the need for an elective/emergency split to drive efficiency and we have articulated the changing landscape for delivering general surgery and the interdependencies that are required to deliver a safe service. Our data also shows that our current emergency general surgery service delivery model is not efficient and around 40% of patients do not go on to have surgery.

We have highlighted the need for alternative pathways such as surgical assessment and ambulatory clinics to save bed days and improve patient outcomes.

Case study

A frail 87 year old lady with multiple co-morbidities including heart and kidney disease and poorly controlled diabetes is admitted into the surgical ward with a diagnosis of acute cholecystitis (inflammation of the gallbladder). She is extremely sore and has a high pulse rate and temperature.

Ultrasound shows a very thickened gallbladder with a large stone in it. There is definite evidence of severe acute cholecystitis.

She is not fit for emergency surgery to remove her gallbladder and it is clear from the findings that she requires an urgent tube cholecystostomy (interventional radiological (IR) insertion of a tube into the gallbladder to relieve infection) as well as prompt intravenous antibiotics.

Unfortunately the hospital in which she was admitted to does not have IR support which limits the options to: a) attempt surgery which is extremely high risk; b) arrange transfer to another site for IR tube cholecystostomy placement, which is also high risk; or c) attempt to manage this situation with antibiotics alone with high risk of a poor outcome.

The lack of appropriate services does not serve the patient's need effectively, and is evidence of services focused on structures, not systems and good patient outcomes.

The evidence base for this review has been established with reference to guidance from the Royal Colleges, Association of Surgeons of Great Britain and Ireland (ASGBI), CEPOD, Nuffield Trust and NHS organisations including Getting It Right First Time (GIRFT), regulatory bodies and benchmarking programmes.

The evidence articulates the standards required for a safe and effective emergency general surgical service, as well as describing the restructuring of general surgical services in Trusts across the UK.

We have used this evidence as the basis to develop a set of clinical standards for the delivery of emergency general surgery in Northern Ireland. In light of the challenges articulated in this review, going forward these standards must be in place in hospitals receiving emergency general and paediatric surgery patients to ensure safe outcomes for patients through the delivery of high quality, sustainable and equitable care for the people of Northern Ireland wherever they live.

These evidence based standards have been developed and refined with input from all general surgeons in Northern Ireland, other clinicians, HSC Trusts, managers and service users.

The standards are built around six areas, and are attached at Annex A.

1

Model of Emergency Surgical Care

The model for how emergency general surgery must be delivered on a hospital site to provide a safe and efficient service for patients and to optimise patient outcomes.

2

Clinical Infrastructure

The resources, equipment and services required to deliver a safe and efficient emergency general surgery service for patients and optimise patient outcomes.

3

Clinical Interdependencies

The services that must be in place to support the delivery of a safe and efficient emergency general surgery service for patients and optimise patient outcomes.

4

Workforce

The emergency general surgery rota must be of a sufficient size and be sustainable with access to sufficient training opportunities.

5

Process and Protocols

The process and protocols that must consistently be in place on or across hospital sites to deliver a safe and efficient emergency general surgery service for patients and optimise patient outcomes.

6

Quality Assurance

The assurance processes that must be in place to monitor and measure a range of indicators to drive a safe and efficient emergency general surgery service for patients and optimise patient outcomes.

What is the Impact of these Standards?

The standards must be used to drive regional and local decisions on the future delivery of emergency general surgery in Northern Ireland.

Some hospitals will be able to meet these standards with developments within their existing footprints and within existing budgets. However, some hospitals will not meet these standards as currently configured. This means a higher standard of care will be delivered by reconfiguration of service delivery and cross-organisational working. The result may be a change in provisions – to ensure better patient outcomes.

More detail on the effects of introducing the standards is set out at Annex B.

Implementation of the Standards

The Department will work closely with Trusts to implement the standards and to develop reconfiguration/implementation plans where required. This work will be fully co-produced and will include consultation and engagement as necessary.

Service users have been part of the review process from the outset and their continued involvement will be pivotal as implementation progresses.

Implementation will be informed by data, including case numbers, surgical procedures and associated bed days to model and understand the impact of proposed changes on other hospital sites and Trusts.

The implementation of the standards will also drive forward changes to ways of working at a regional level. For example, during the engagement on standards, clinicians raised the need for a regionally agreed protocol on the treatment of head injuries for both adults and children. As a consequence of this, work is now underway to develop a regional paediatric head injury pathway. The standards also provide an opportunity for work at a regional level to explore and streamline the interfaces between emergency general surgery and other specialties such as trauma and orthopaedics, urology etc.

The development of the standards also flagged the need for the HSC to join the National Emergency Laparotomy Audit (NELA). This is a data gathering audit that collects data on compliance with standards, and provides trusts with benchmarked reports on their compliance and performance. The findings of this audit therefore drive patient safety and quality. This has now been taken forward and regional membership of NELA is being progressed.

The growing demand for elective general surgery procedures means that any reconfiguration cannot mean a reduction in bed capacity. The review is not seeking any hospital or bed closure – merely to ensure best patient outcomes, even if this may mean some change in how services are provided.

Simon Paterson-Brown (Consultant General Surgeon in Scotland), who was involved in the re-organisation of emergency general surgical services in Lothian several years ago and who is a 'critical friend' to the review, has often quoted that "fixing the emergency surgical service will automatically lead to an enhanced elective surgical service". Therefore, implementation of these standards will also shape how elective general surgery is delivered in Northern Ireland. Going forward, implementing the standards will facilitate the separation of emergency and elective surgery and, as such, will create and protect more capacity for elective care – with better patient outcomes across the whole general surgery spectrum.

ACTION 1.

HSC Trusts to implement the standards for Emergency General Surgery (Annex A) at pace and work with the Department to develop co-produced implementation plans.

Primary Outcome: Regionally cohesive and comprehensive implementation with equity of provision for patients.

Consequential Outcome: More efficient and effective service provisions, with higher activity levels and improved outputs. Better recruitment and retention of staff, improved rotas.

Case Study

Over the period 2000 – 2005 the Lothian Region in Scotland improved surgical services by introducing infrastructural changes which addressed rota, recruitment, retention, and training problems. Three of its four hospitals provided 24 hour on call cover.

This was reduced to two with the third site retaining A&E and a surgical presence from Monday to Friday for daycase/elective overnight stay procedures, clinics, endoscopy and GP/A&E. Triage criteria was established with patients requiring surgical admission transferred to one of the two main hospitals and ambulances bypassing smaller hospitals with trauma and obvious surgical problems.

This reconfiguration has provided a better environment for training and retention of expertise for consultants, better care of complex patients, and better access to day surgery in outreach sites.

The introduction of a hot clinic for acute referrals has led to a significant reduction in patients requiring admission to hospital. Only about 40-50% of surgical referrals need admission and only 25% of admissions require surgery.

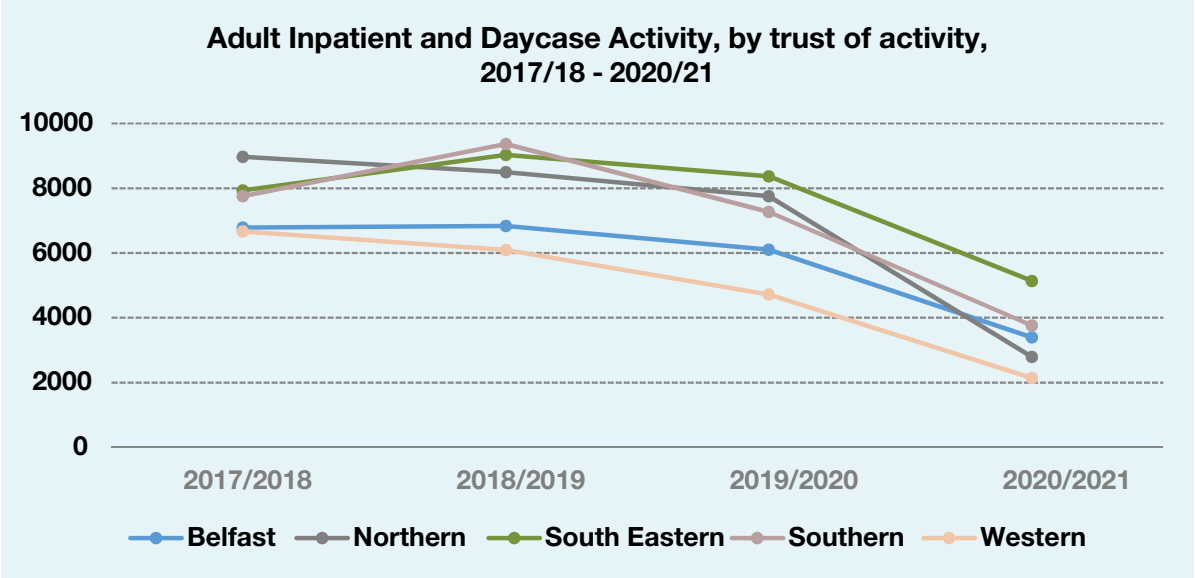
4. ELECTIVE GENERAL SURGERY

There is a significant shortfall in the capacity of the HSC in Northern Ireland to meet the current demand for elective care services and this is reflected in the unacceptably long waiting times.

With regards to general surgery, as of March 2022 there were approximately 5,500 patients awaiting inpatient elective surgery, 66% waiting more than 52 weeks. As of March 2022 there were almost 19,000 patients awaiting daycase elective surgery, 57% waiting more than 52 weeks. As of March 2022 there were 24,000 patients awaiting a new consultant-led outpatient appointment, 49% waiting more than 52 weeks.

During the COVID-19 pandemic, elective and diagnostic services were curtailed as staff and resources were necessarily redeployed to support unscheduled/COVID-19 pressures, with adverse impacts on our existing waiting lists. Figure 4 shows the decline in the number of Inpatient and Daycase (IPDC) cases per Trust in adults over the pandemic.

Figure 4 Number of adult inpatient and daycase attendances, by Trust of activity, 2017/18 - 2020/21



Delivery of Elective Care

A key component of ensuring good patient outcomes and an efficient, cost effective, high quality, patient centred elective surgical service is the principle that the patient is treated in the most appropriate setting, at the right time, by the right person, with as short a stay as possible. All elective care patients should therefore be cared for in a setting appropriate to their clinical needs. No matter where they live in Northern Ireland, patients require equitable access to all levels of elective general surgery in a hospital facility that has the appropriate infrastructure to meet clinical need.

Across the region, this includes models for:

- Complex inpatient surgery and surgery for patients with a high risk of morbidity and mortality – where patients require a longer recovery period and a lengthier stay in hospital;
- High Volume, Intermediate Complexity surgery at elective overnight stay centres - where the nature of the surgery or the patients' clinical circumstances mean they may require one (or more) overnight stay in hospital; and
- High Volume Daycase Surgery - at day procedure centres - for lower complexity procedures and lower risk patients that do not require an overnight stay.

Case Study

A patient needs their gallbladder removed for biliary colic. They are a 35 year old female weighing 65kg and have no other medical conditions.

They are considered clinically suitable for a laparoscopic cholecystectomy (a minimally invasive surgery to remove the gallbladder).

They have been pre-operatively assessed as suitable for daycase surgery. They undergo the surgery with no complication and are discharged on the same day.

Case Study

A patient needs their gallbladder removed for recurrent cholecystitis. They are a 69 year old female with a BMI of 35 and they are an ex-smoker.

They have been reviewed in a surgical outpatient clinic and are suitable for a laparoscopic cholecystectomy. They have been pre-assessed and given their weight and smoking history were felt too high risk for daycase surgery and a period of observation following anaesthesia was advised.

They underwent their surgery in a facility providing 24 hour care. The surgery itself was uncomplicated and the patient had a planned overnight stay for observation. They were reviewed the following morning and were suitable for discharge.

Case Study

A patient needs their gallbladder removed due to cancer of the gallbladder. They are a 54 year old female with a normal BMI and mild hypertension.

They have been reviewed in the surgical outpatient clinic, discussed at a regional MDT and undergone pre-assessment.

Due to the nature of surgery required and the specialist input needed this patient requires an inpatient admission. They undergo their surgery and are suitable for discharge on day 3 post-op.

The current approach to delivery of elective care in Northern Ireland is inefficient, and elective surgery is often a casualty of this, as resources are channelled into responding to unscheduled demand resulting in last minute cancellations.

Elective Care Centres are designed to provide a dedicated resource for planned surgery/procedures and are a means to increase productivity, efficiency and reliability of the service. Crucially, they operate separately from emergency hospital care – meaning they will not be competing for operating rooms, staff and other resources, leading to fewer cancellations of operations. These centres can be in hospitals away from the emergency/complex elective surgery work.

Regional day procedure centres (DPC) providing general surgery are already in place at Lagan Valley Hospital and, more recently, Omagh Hospital. Since October 2020 the DPC has treated over 2500 regional patients across a range of specialties including plastic surgery, Ear Nose & Throat, General Surgery, Breast Surgery, Urology and Ophthalmology. Going forward we will expand the centre model to also include regional elective overnight stay centres.

Standards for Elective General Surgery

In line with the Emergency General Surgery Standards, we have developed a set of standards to help inform planning and to shape the delivery of elective general surgery. There is more flexibility around these standards as they relate to both complex and non-complex elective surgery across the range of elective settings.

The standards are attached at Annex A and are built around similar areas to the standards for emergency general surgery.

1

Model of Care

The model for how elective general surgery must be delivered on a hospital site to provide a safe and efficient service for patients and to optimise patient outcomes.

2

Clinical Infrastructure

The resources, equipment and services required to deliver a safe and efficient elective general surgery service for patients and optimise patient outcomes.

3

Clinical Interdependencies

The services that must be in place to support the delivery of a safe and efficient elective general surgery service for patients and optimise patient outcomes.

4

Workforce

The workforce that must be in place to support elective general surgery and access to sufficient training opportunities.

5

Process and Protocols

The process and protocols that must consistently be in place on or across hospital sites to deliver a safe and efficient elective general surgery service for patients and optimise patient outcomes.

As Trusts develop their plans to implement the standards for emergency general surgery this will drive and inform decisions around elective general surgery. For example, a hospital that does not provide a 24hr emergency general surgical services can still have an emergency department and be a busy elective centre. Therefore, a higher standard of care can be delivered by reconfiguration of service delivery and cross-organisational working and lead to better patient outcomes.

Case Studies

Hospital A has a 24/7 Emergency Department (ED). While it provides elective general surgery it does not have a 24/7 emergency general surgical service. The emergency general surgical service is located at Hospital B.

Patient A is a 36y/o male, he is a cyclist who had fallen off his bike onto his left side. He had initially felt well but became increasingly unwell at home and was taken to ED at Hospital A via ambulance. He was acutely unwell on arrival and found to be in shock. He remained unstable despite fluid resuscitation and was deemed not fit for transfer to Hospital B for emergency surgery. The elective surgical team are contacted in theatre and alerted to the patient in ED requiring urgent attention. The patient is reviewed on site and the elective list is paused to facilitate emergency surgery for this patient. He undergoes surgery and once stable post-op he is transferred to hospital B for ongoing emergency general surgical care.

Patient B is 45y/o female who presents to Hospital A with sudden onset abdominal pain. The patient is discussed with the surgical team in Hospital B and they believe she has a likely perforated ulcer requiring urgent attention. She is transferred by blue light ambulance directly to theatre in Hospital B. The surgical team proceed to surgery and repair of a perforated ulcer.

Patient C is a 73y/o female who had colon cancer 5 years ago. She presents to Hospital A with vomiting and mild abdominal pain. She is discussed with the surgical team at Hospital B and proceeds to a CT scan which shows likely small bowel obstruction. She has a tube inserted and is transferred to Hospital B were she is successfully managed without surgery.

ACTION 2.

A). Trusts to develop a model for the delivery of complex and non-complex elective care informed by the implementation of the standards for emergency general surgery and elective surgery.

B). As part of implementation, Elective Overnight Stay Centres will be established in line with the wider elective care policy direction and the changing picture of health and social care delivery across Northern Ireland. In the initial phase – subject to Trust decision making processes and public engagement – we will consider the Mater Hospital as an initial site. We will also identify a further centre in the wider design plan intended to be published in the Autumn.

Primary Outcome: Regionally cohesive and comprehensive implementation with equity of provision for patients.

Consequential Outcomes: More efficient and effective service provisions, with higher activity levels and improved outputs.

5. PRE-OPERATIVE AND POST-OPERATIVE CARE

All patients are different and to ensure the best possible outcomes we need a patient centred approach across the whole service model. In particular, patients who have co-morbidities come with a higher level of risk than those who do not. Going forward this needs to be managed in the most appropriate setting to provide the best patient outcomes and efficient use of resources.

Pre-operative assessment provides a comprehensive evaluation for each surgery, which allows the development of an agreed perioperative plan based on patient need after discussion with the patient and, if appropriate, their families about the risks involved. At present, high quality pre-operative assessment is delivered across all Trusts in Northern Ireland and the service has risen to the challenges of the COVID-19 pandemic with innovative developments, including virtual assessments and support of the regional day procedure centres. However, to meet the increasing demand for services, the new ways of working and to ensure consistency of approach across the region, significant workforce expansion, enhanced digital infrastructure and collaborative working across specialities is required. This is to not only stabilise and streamline the pre-operative assessment service, but to expand the delivery of pre-operative assessment in conjunction with the necessary increase in elective care provision required to resolve the significant waiting times across all Trusts. The roll out of Encompass will facilitate such delivery of pre-operative services and will have a single repository for each person, ensuring timely transfer of all data and 'live' checking of results prior to the procedure. Such a system will result in a reduction of last minute cancellations.

ACTION 3.

As the model for elective general surgery is implemented there will be a focus on streamlined and consistent pre-operative assessment processes that follow best practice.

Primary Outcome: patient centred pre-operative assessment that ensures that patients are managed in the most appropriate setting to provide best patient outcomes.

Consequential Outcome: reduced elective cancellations.

The Development of Post Anaesthetic Care Units (PACU) for Northern Ireland

Going forward, we must not only improve the pre-operative care, but we must also provide better post-operative care to ensure good patient outcomes.

Enhanced Perioperative Care is part of the planned surgical patient pathway and is not unique to general surgery. It supports the delivery of holistic, high-quality care to surgical patients at increased risk of adverse outcomes. Enhanced care services should provide benefit to patients (reduced likelihood of cancellation and postoperative complications) and to systems (more efficient care, reduced length of stay and reduced pressures on critical care services). Learning from the COVID-19 pandemic, there are obvious benefits of creating Enhanced Perioperative Care Services, to deliver the best quality care, even when critical care units are at or above their baseline capacity. We can do this by establishing Post Anaesthetic Care Units (PACU).

PACUs are an intermediate level of care where a higher degree of observation, monitoring and interventions can be provided for patients (who do not require HDU/organ support) than in a general ward. PACU beds are for patients who do not meet the criteria of a high dependency (HDU) or intensive care (ICU) bed, but who could use more enhanced care than in a ward. PACU is a time limited intervention, with the expectation that the majority of patients will be discharged from a PACU facility within 12-24 hours, with a small number staying for a maximum of 48-72 hours.

As well improving the quality of care and safety of high-risk surgical patients, the development of PACU will also release critical care capacity previously used to support initial postoperative care for high-risk patients. This means that there will be increased protection of surgical capacity during times of increased critical care activity, such as during emergency surges or winter pressures. In addition, it will reduce 'last minute' cancellation of inpatient surgery, for which one of the biggest risk factors is patients requiring postoperative critical care[7]. This will provide better outcomes for individual patients and for services as a whole.

National, Regional and Local Context

PACUs are not a new concept and have been evidenced as providing a positive impact to the management of high-risk surgical patients in the UK. The role of a PACU as part of a patient's integrated surgical pathway has been evidenced by a range of professional bodies[8]:

However, with the exception of Belfast City Hospital, where a PACU service is currently being piloted, these units have not been developed within Northern Ireland.

Using NCEPOD Surgical Outcome Risk Tool (SORT) methodology it has been possible to determine PACU bed requirements across our hospital sites. The establishment of PACUs will be taken forward on a phased basis from 2023 with 21 PACU beds across Northern Ireland in hospitals providing complex surgery that meet the criteria. Funding for the PACU beds has been secured on a recurrent basis. The implementation of phase 1 will be underpinned by robust performance and efficiency metrics that will inform further phases.

ACTION 4.

PACUs will be established across Northern Ireland on a phased basis, initially in all DGHs undertaking complex surgery that meet agreed criteria. The PACUs will be ring fenced for elective care.

Primary Outcome: Better patient outcomes, shorter hospital stay, tailored care and less reliance on level 2 & 3 beds.

Consequential: Reduced elective cancellations.

7 Guidance on Establishing and Delivering Enhanced Perioperative Care Services, October 2020, The Faculty of Intensive Care Medicine and Centre for Perioperative Care. https://www.ficm.ac.uk/standardssafetyguidelinescriticalfutures/enhanced-perioperative-care

8 Royal College of Anaesthetists - 21075 RCoA Audit Recipe Book_12 Section B.3_p131-154_AW.pdf
Association of Surgeons of Great Britain and Ireland
Royal College of Surgeons
National Institute for Health and Care Guidance (NICE) - Perioperative care in adults (nice.org.uk)
Centre for Perioperative Care - Perceptions of perioperative care - rapid review.pdf (cpoc.org.uk)

Variation in Care

Across Northern Ireland, there is wide variation in performance across surgical specialties both with regard to time spent in hospital and the levels of surgery carried out as daycase. Belfast HSC Trust and the Western HSC Trust manage a higher proportion of cases as inpatients (26-30% pre-2020/21) compared to the Northern, Southern and South Eastern HSC Trusts (<15% pre-2021/21).

There may be clinical, cultural or infrastructural reasons as to why a surgery is carried out in a particular way. However, if we put the patient first, we must understand such variations to ensure we get the best patient outcomes. Further, given the pressures on our system, it is unacceptable that we continue to admit patients into hospital unnecessarily. We need to understand this significant variation, scale up best practice and standardise patient pathways to ensure consistency and equity of service provision.

The British Association of Day Surgery (BADS) produces a directory of procedures that includes targets for daycase surgery rates. Achieving the targets set by BADS would improve patient outcomes by minimising the intervention in patients lives and generate potential efficiencies that would be manifested in saved bed days releasing beds so that more patients can be treated, and reducing overcrowding and long waits in emergency departments.

ACTION 5.

BADS targets regarding the proportion of specific procedures which should be carried out as daycases will be used to compare daycase rates for specific procedures at a local and regional level and will be used to drive performance and efficiency.

Primary Outcome: Reduction in in-patient cases which will save bed days and lead to improved patient outcomes and patient satisfaction.

Consequential Outcome: Reduction in pressures on in-patient services meaning more efficient services, with an increase in the number of patients treated.

6. PAEDIATRIC GENERAL SURGERY

In May 2010, the Department of Health introduced standards for general paediatric surgery; 'Improving Services for General Paediatric Surgery – Policy and Standards of Care for General Paediatric Surgery in Northern Ireland' . The Department's 10 year strategy, 'A Strategy for Paediatric Healthcare Services Provided in Hospitals and in the Community', was published in 2016. As part of the remit of the overall Paediatric Strategy, a Child Health Partnership (CHP) was created. Its primary role is to oversee delivery of the Paediatric Strategy and improve working relations within Paediatric and Child Health Services.

In 2019, RQIA published a Review of General Paediatric Surgery. This review assessed arrangements for the provision of general paediatric surgery in Northern Ireland against the 2010 Standards and it proposed a future service model aligned to the 2016 strategy published by DoH . The review made a total of 13 recommendations which aim to improve general paediatric surgical services across Northern Ireland.

It is not the intention of the Review of General Surgery to duplicate the work of the RQIA review. The Review of General Surgery fully supports the RQIA recommendations being implemented at pace.

Emergency Paediatric General Surgery

While some emergency paediatric general surgery is undertaken at District General Hospitals (DGHs), feedback from the Trusts indicates that in some areas adult general surgeons are becoming increasingly reluctant to perform emergency surgery for children, particularly within younger age groups. This is due to concerns around appropriate training and skills set, particularly with regard to fluid management in the perioperative period. With the low volume of surgeries performed in DGHs it is difficult for adult general surgeons to sustain the required experience and maintain their skills and competence.

Paediatric General Surgery cases that are time critical, such as testicular torsion, should be performed in the DGH. All general surgery of childhood, such as emergency appendicectomy, management of abscesses and minor injuries in children over the age of 5 should be managed in the local DGH. Children under the age of five requiring surgery should all be transferred to RBHSC unless time sensitive and the local team have the appropriate surgical and anaesthetic skills.

Training for consultants, trainees and permanent members of staff in DGHs is therefore paramount for the success of the regional delivery of these services, and consultants in DGHs must have protected time in their job plan to support the delivery of paediatric surgery.

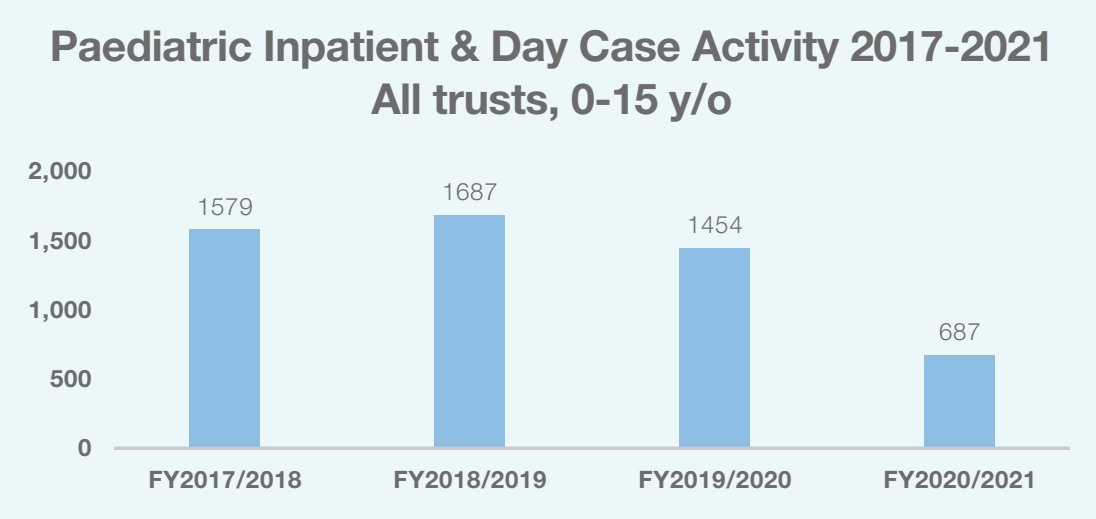
This Review supports the work of the Child Health Partnership (CHP) as it champions access to support from both the RBHSC and local paediatricians to ensure the safe delivery of paediatric services, in an age appropriate setting, ensuring that appropriate training opportunities are embedded in pathways. Shared care between a paediatrician and an adult general surgery should be central to the ongoing management of emergency procedures in District General Hospitals.

9 Improving Services for General Paediatric Surgery - Policy and Standards of Care for General Paediatric Surgery in Northern Ireland
10 RQIA Review of General Paediatric Surgery in Northern Ireland

Elective Paediatric General Surgery

The waiting list for a paediatric general surgery outpatient appointment is in excess of 2,000 patients, with over 800 patients waiting over 52 weeks and there is a wide regional variation in how long children are waiting for new outpatient visits.

Over 1,000 children are waiting on surgery, with 484 waiting over 52 weeks at February 2022. The majority of these cases are suitable for daycase surgery. Since 2019/20 there has been over a 50% reduction in paediatric inpatient and daycase activity.



Elective paediatric general surgery activity has been significantly impacted by the pandemic with dramatic reductions in patient throughput and potential adverse outcomes for patients. These surgeries are often not considered urgent from a strictly physical/ surgery perspective. However, they are often time sensitive in terms of the impact on the development and long term wellbeing of the child. To ensure good patient outcomes, we need to increase elective paediatric general surgery activity.

Prior to the pandemic there were commissioned paediatric daycase lists in the Ulster Hospital and regular activity in the children's hospital in Belfast. Arrangements across the other hospitals were less formal, but in place nonetheless. These lists were reduced during the pandemic as a consequence of the severe pressures on the health and social care system.

We are clear that re-establishment of the commissioned paediatric lists in the Ulster Hospital and two paediatric daycase lists per month in the DGHs, in addition to Belfast Trust returning to pre-pandemic capacity, would facilitate the clearance of the longest waiting daycase patients for paediatric general surgery within one year.

On that basis, the Department has been working with Trusts to ensure that commissioned paediatric daycase procedure theatre lists for general surgery were re-established as a priority, with procedures in place that ensures that these lists are normally not cancelled due to other pressures. Further, Trusts without commissioned lists were asked to prioritise two paediatric daycase procedure lists per month.

ACTION 6.

Continued regional collaboration to rebuild elective paediatric lists.

Primary Outcome: Increase in elective paediatric general surgery activity with more patients being treated.

Consequential Outcome: Better joined up working will lead to more efficient processes with higher activity levels and better patient outcomes.

ACTION 7.

Continued support for the Child Health Partnership as it develops age appropriate pathways, training opportunities and models for delivery of paediatric surgery.

Primary Outcome: Better patient outcomes as the patients are treated by those with best knowledge and skills.

Consequential Outcome: Better joined up working will lead to more efficient processes with higher activity levels and better patient outcomes.

7. WORKFORCE

The delivery of general surgical services depends on the skills and combined efforts of a wide range of staff comprising the Surgical Care Team. This team has changed over the years and now includes a wide range of health care professionals and vital support staff, working together in new ways, often reflective of advances in technology and clinical practice and changing standards of care and service.

The development of a comprehensive multi-disciplinary team in the general surgical environment in Northern Ireland has progressed at a slower pace than in other parts of the United Kingdom, particularly in the development of the wider multi-disciplinary team. Going forward we need to not only strengthen the core team, but ensure that the contribution of the wider comprehensive surgical care team is maximised to improve outcomes, efficiency and safety for patients.

The wider surgical care team is illustrated below:

Staffing levels

Defining optimum staffing levels is a first step in designing a surgical care team, as each staff group is often dependent on colleagues if their contribution is to be maximised. For example, using clinically expert staff to carry out roles where this expertise is not required is potentially a waste of scarce resource. However, there is no 'one size fits all' formula for staffing numbers, but a range of factors which should be included when developing and commissioning the right staffing model for the services to be delivered, including

- Service Model
- Service Demand
- Hours of Service
- Patient Acuity
- Supporting Infrastructure Required
- Training Requirements.
- Physical Environment.

The Medical workforce

Evidence on the requisite size of general surgical teams / rotas is limited and outdated. In relation to out-of-hours rotas, there is also no standard or evidence as to an appropriate number of consultants to make up the rota. What is clear is that the surgical consultant team (and specialty trainee teams also) should be of sufficient size to deal with the demand for emergency and elective general surgery and provide safe and sustainable services for the patient, while maintaining a work/life balance for the surgical care team[11]. Such a system also provides improved opportunities for surgical training, with such a unit attracting more trainees and subsequently leading to better recruitment of Consultants.

A recent UK State of the Nation Report completed by the Royal College of Anaesthetists indicates that Northern Ireland faces a significant and growing shortages of anaesthetists[12]. There can be no development of general surgical services without consideration of the role of the anaesthetist as part of the integrated Surgical Care team.

The Nursing Workforce

The scope of practice and range of roles nurses execute in the general surgical environment is extensive, ranging from surgical inpatient nursing and pre-operative assessment, perioperative practice, post-operative care and a range of specialist and advanced practice roles.

Delivering Care 2014 and the more recent work on Perioperative Nursing indicates that there are significant nursing workforce challenges. Vacancies are a consistent problem, with a lack of opportunity for career development and continued challenges, both when giving nursing students the opportunity to experience the perioperative environment and when recruiting new staff. Both reports set out a series of actions and recommendations to address these challenges. It is not our intention to duplicate these actions/ recommendations, but rather suggest that they should be implemented at pace.

11 RCS 2018
12 Royal College of Anaesthetists 2022

Skills Mix

Despite actions taken to date to address the challenge of recruiting and retaining nurses and surgeons they have not had the significant or sustainable impact anticipated. It is therefore important that we consider opportunities to develop a multi-skilled workforce that is both flexible and sustainable. This is essential for the delivery of high-quality care.

Developing new roles can enhance multi-disciplinary team working, free up others' workloads and reduce agency spend on hard to recruit to positions. The issue of workforce skills mix is not unique to general surgery. However, there are some roles that merit further consideration in the context of the delivery of general surgery.

A Physician Associate (PA) is a new healthcare professional who, while not a doctor, works to the medical model, with the attitudes, skills and knowledge base to deliver holistic care and treatment within the general medical and/or general practice team under defined levels of supervision.

The role of the Advanced Nurse Practitioners (ANP) complements the wider medical team and will undertake comprehensive health assessments and manage a range of illnesses and conditions. To date there has been no ANP programme for surgical nursing commissioned in Northern Ireland.

Operating Department Practitioner (ODPs) are the only non-medical profession specifically educated for perioperative care. They can work in the operating theatre in the three phases of care during surgery – anaesthetics, surgery and recovery, and more recently have contributed to the management of the COVID-19 pandemic through redeployment to critical care units.

Training

The review of general surgery in Northern Ireland will influence the type of training placements available at various hospitals and will therefore guide the allocation of surgical trainees to hospitals in the province.

As described in the burning platform there are a number of challenges relating to surgical training in Northern Ireland. The present number of general surgical training places in Northern Ireland will need to be carefully reviewed in view of these challenges and to ensure that we meet that we meet the future demands of general surgery on a sustainable basis. Workforce planning will be required to ensure adequate numbers of trainees are trained to take up consultant posts. This is to ensure that the 'Surgical Care Team' is adequately resourced to cope with the demands of general surgery in Northern Ireland.

ACTION 8.

As part of implementation of the emergency and elective standards there will be a review of current surgical services in each Trust to ensure that workforce aligns with the new service model. This will cover medical, specialist nursing, AHP and pharmacy. Consideration will be given to the optimum skills mix required to deliver the new service model.

Primary Objective: Successful and sustainable delivery of the emergency and elective general surgery standards, with better patient outcomes.

Consequential Objective: A sustainable workforce that is content with the working environment, maximising the resource potential across the health and social care system.

8. MAKING THIS HAPPEN

During the pandemic we have seen first-hand the benefits of Trusts working collaboratively to deliver services for patients across the region. This has included the development of the DPC at Lagan Valley as a resource for the region for high priority cases and the establishment of a Regional Prioritisation Oversight Group (RPOG) to ensure a clinically led network approach to the optimisation of all available theatre capacity during the pandemic.

An Elective Care Management Team has also been established to lead a strategic, whole system, integrated approach to the delivery of elective care in general and specific actions - as articulated in the Elective Care Framework in particular, including elective care centres. In practice this will mean governance and organisational structures to ensure better services for patients, with reduced waiting times and improved quality and outcomes.

Learning from these initiatives, it is clear that delivery of an equitable and sustainable model for general surgery across Northern Ireland will require a combination of intra and inter-Trust working. While regional collaboration will be essential, each Trust has a unique set of circumstance for change in terms of drivers, constraints, challenges and opportunities that are rightly dealt with at a local level.

Trust teams will be required to work within Trust boundaries, maximising workforce and facilities, as well as working as part of a "Regional General Surgery Network" to oversee the transformation and reconfiguration of Emergency General Surgery at a regional level, and to develop proposals for surgical hubs for short stay inpatient and daycase surgery which will build on the work already in progress for Elective Care Centres.

The NI Ambulance Service (NIAS) and GPs will also play a key role in the reconfiguration of services to ensure appropriate access arrangements, protocols, bypass and transfer arrangements are in place.

The delivery of complex elective care will also benefit from regional oversight to improve equity of access to services, to improve outcomes for patients and to drive efficiency. The network will also work as a mechanism to ensure that pathways for new service developments are evidence based, fully encompassing and established in response to regional need. The network is expected to report to the Elective Care Management Team to ensure a cohesive structure across the wider health and social care work.

ACTION 9.

Establishment of a Regional General Surgery Network to drive forward a multifaceted transformation programme for general surgery at a regional level, incorporating best practice from other parts of the UK.

Primary Objective: A network to drive regional cooperation and cohesion ensuring general surgery services are available on an equitable basis ensuring consistent good outcomes for general surgery patients.

Consequential Objective: A regional tool for co-production and co-design ensuring clinical staff buy in, with resultant better cooperative working and improved morale.

9. MONITORING THE IMPACT

As we implement the actions from this review we will draw on a broad range of information and data from across the health and social care system to ensure delivery of a patient centred, high quality, value for money service. Analysis of this information will provide an opportunity to identify and share best practice, identify and address variation in practice and identify areas of performance that require improvement.

An Integrated Dashboard will be developed that consist of three components: Patient Experience; Quality and Safety of Care; and Activity and Access to Care.

Patient Experience

The input of our service users is central to shaping a high quality service. HSC Care Opinion launched in 2020 and is an online user feedback system that enables service users, and their families, to give feedback on their care and share their stories with others.

Care Opinion has the ability to analyse patient experiences, identifiable by Trust and by treatment category. Analysis of this data will be used at a local level by Trusts and at a regional level by the network to identify any common or emerging themes, inform targeted action and ultimately improve outcomes for our patients.

Quality and Safety of Care

In line with the standards for Emergency General Surgery it is important that there are mechanisms in place at a local and regional level to audit performance against a set of recognised quality and performance indicators.

There is a wealth of valuable UK benchmarking data and National Audits that are already available to the HSC, including but not limited to; Getting it Right First Time (GIRFT), CHKS (a leading provider of healthcare intelligence and quality improvement services), the National Emergency Laparotomy Audit and the National Hiatal Surgery database.

The HSC currently has a contract with CHKS, and CHKS will gather data in support of mortality, flow and efficiency, and safety and quality metrics. Reports will be provided on a monthly basis to assess and track safety and quality indicators. This information will then be used to identify areas where performance falls below expected levels and targeted action can be taken to address the underlying issues.

Activity and Access to Care

The Department has developed an extensive, interactive data set covering activity and access to care that is updated on a regular basis. This will be interrogated for aspects of demand, activity and performance for inpatients and outpatients, and can be filtered at regional, Trust, and hospital level. This data will be used to inform the development of services models and to understand the impact of any proposed changes to service delivery.

ACTION 10.

The Department of Health will develop an Integrated Dashboard for General Surgery made up of on the interlinked components of Patient Experience, Quality and Safety of Care; and Activity and Access to Care.

Primary Objective: Data and information to drive decision making to make sure that every decision is in the patient's best interests and will provide value for money.

Consequential Objective: Identification of areas where Northern Ireland is strong and areas where improvement can be made. This can be used as a learning tool across Northern Ireland and wider jurisdictions.

10. NEXT STEPS AND FUNDING THE IMPLEMENTATION

Implementation of the actions in this Review Report will require significant work. A number of work-streams will be required and the support of all stakeholders will be essential. The Department is fully committed to implementing the actions based on the principles in Delivering Together and the Bengoa Report, with the overall aim of ensuring better outcomes for the people in Northern Ireland who require general surgery, their friends and family and others affected. As such the Department is fully committed that the implementation will be fully co-designed and co-produced. This will include service users, clinicians, managers, HSC Trusts, the Department and anyone else who has a stake in the implementation of the actions.

As we move forward, it is important that we acknowledge the difficult financial situation in which this review is being published. There is a demand for extra funding across many areas of health and social care. At the time of publication of this report the cost to implement each action has been considered, with the only significant cost identified in the creation of PACU. To fund 21 PACU beds is expected to cost approximately £3.5m recurrently per year. However, funding for this development has already been secured and approved, with money being available at the start of the 2023/24 financial year. Implementation planning for this action is already underway.

There may be further, minor, costs around the implementation of other actions, depending on how they are implemented. This may include change planning and project management. These costs are also funded through the development of more effective services as part of the Elective Care Framework.

There is undoubtedly a long term need to increase service provisions across general surgery. However, the quantification of this need is not possible before detailed implementation planning, and costing of such increase in provisions are therefore not possible at the time of publication. This is, however, not a barrier for implementation of the actions as increase in service provisions would be over and above what is currently being delivered, and even without increase in provisions it is expected that the implementation of the actions will create both better outcomes for patients, and a more efficient and effective general surgery service.

Where additional resources are identified – as additional service provisions – it is currently not possible to fund these within the existing expenditure of the Department, and such additional service provisions would therefore be dependent on the provision of significant additional funding for the Department. Where this is not possible, the Department will also seek to release resources through service efficiencies and reconfiguration – both of which are areas which this reports provides actions on.

ANNEX A – STANDARDS FOR EMERGENCY AND ELECTIVE GENERAL SURGERY

Emergency General Surgery – Standards

The standards are a product of an extensive review of evidence which scrutinised guidance, standards, best practice, and reviews published by expert stakeholders such as the Royal Colleges, other professional bodies, NHS organisations including Getting It Right First Time, regulatory bodies and benchmarking programmes.

They are presented under 6 categories:

1. Model of Emergency Surgical Care
2. Clinical Infrastructure
3. Clinical Interdependencies
4. Workforce
5. Process and protocols
6. Quality Assurance

1. Model of Emergency Surgical Care

1.1 Given their clinical interdependencies, emergency and high risk elective surgery will co-exist on a hospital site; however, there must be a separation of emergency and elective general surgery pathways in terms of teams, time and facilities to ensure safety and access for all.

1.2 In a hospital with emergency surgical admissions, the consultant and their team must be available and fully focused on emergency general surgery and be free from elective and Independent Sector commitments.

1.3 Consultant surgeons covering emergencies must not cover, nor be expected to be in attendance, on more than one site.

1.4 In a hospital where emergency surgery patients are admitted the responsible consultant must be available during day time hours and there must be an out of hours (OOHs) on call rota.

1.5 The emergency inpatient surgical model must have the following in place to provide a safe and effective service, as well as reduce the demand for inpatient beds and improve patient flow:

- Processes for direct clinical assessment of emergency surgical patients by a senior surgical decision maker (ST3 and above);
- Processes for the admittance of patients to an inpatient surgical ward; and
- Processes to see and treat patients in an ambulatory setting as an alternative to hospital admission when clinically appropriate to do so.

1.6 When a hospital has a functioning Emergency Department and an acute inpatient medical service but does not have an emergency surgery inpatient service, there must be clear pathways for access to the off-site emergency general surgical team for advice, assessment and agreed protocols for ambulance by-pass and / or transfer of patients as required, to a surgical inpatient facility.

2. Clinical Infrastructure

2.1 The hospital with emergency inpatient surgery must have the required resources and equipment to stabilise and resuscitate the emergency surgical patient at all times.

2.2 The hospital with emergency inpatient surgery must have access to a fully staffed emergency theatre available 24/7 (National Confidential Enquiry into Patient Outcome and Death [NCEPOD]). A scheduling process must be in place to maximise the utilisation and efficiency of this emergency theatre.

2.3 The hospital with emergency inpatient surgery must have access to critical care services including 24/7 access to level 3 and level 2 care beds and a critical care outreach team.

3. Clinical Interdependencies

3.1 Radiology (diagnostic) – All hospitals admitting surgical emergency patients must have 24 hours a day access to diagnostic services such as plain film x-ray, computerised tomography (CT) and timely access to MRI and ultrasound scanning on-site.

3.2 Radiology (interventional) - All hospitals admitting surgical emergency patients must have on-site access to simple interventional radiological procedures such as drainage, ideally 7 days per week but a minimum of 5 (Mon-Fri). More complex IR procedures must be accessed either onsite or through a formalised network.

3.3 Hospitals with emergency inpatient surgery must have clinically appropriate access to laboratory services, either on-site or through a formalised network.

3.4 The hospital admitting surgical emergency patients must have access to a gastroenterology service and an on-site “bleeding rota” with the ability to undertake urgent upper and/or lower endoscopy on emergency surgery patients as required for diagnostic and therapeutic purposes.

3.5 A hospital admitting paediatric emergency surgical patients must have a local and networked model of care in place that involves advice and input from paediatricians and/or paediatric surgeons as required.

3.6 The hospital admitting surgical emergency patients must have access to timely assessment / review from other clinical specialities such as cardiology, renal, diabetes, care of the elderly, etc.

4. Surgical Workforce

4.1 The emergency surgical service must be delivered by a 24/7 emergency surgical team led by a consultant surgeon. Day time working and OOHs rotas (consultant and junior) to be constructed and working practices in place to maximise continuity of care for emergency surgery inpatients.

4.2 Consultant rotas must be of sufficient size, with [the majority] of posts occupied by substantive post-holders, to deal with the demand for emergency general surgery and provide a safe and sustainable service.

4.3 Surgical Trainees must have access to training that is delivered in a supportive environment and have access to sufficient volume and diversity of emergency surgical practice necessary to meet required competences in emergency surgery.

5. Process and Protocols

5.1 The hospital admitting surgical emergency patients must have in place ward based early warning scoring protocols for adults and children, including escalation processes to identify and treat the deteriorating patient.

5.2 In hospitals where children are admitted for emergency surgery they must be admitted to an age appropriate environment and care must reflect paediatric protocols and clinical guidelines

5.3 To identify the high risk patient and direct clinical decision making, the hospital admitting emergency surgical patients must have a process for predicting post-operative morbidity and mortality and ensure the patient and their family are fully informed of potential outcomes.

5.4 There must be a morning meeting to facilitate the handover of patients from the overnight emergency team to the consultant surgeon responsible that day for the emergency service.

5.5 There must also be a handover of patients from the emergency day team to the on call emergency team.

5.6 There must be a policy for review of all inpatient emergency surgery patients by a consultant, every day including weekends, whilst they remain under the care of the emergency team.

5.7 Patients not considered high risk should be seen by a senior decision maker (ST3 and above) within 12 hours from admission and timing of the ward rounds must be that patients are generally seen by a consultant within 24 hours.

5.8 In a hospital where head injuries, fractures, trauma, urology conditions are admitted under emergency general surgery, there must be protocols in place for management of these patients, with appropriate and sustainable networking and support arrangements in place.

5.9 Discharge – All admitted patients must have an estimated discharge date as part of their management plan.

6. Quality Assurance

6.1 Subject to funding, all Trusts' emergency surgical care teams must submit data to National Emergency Laparotomy Audit (NELA) and also audit practice against a range of local indicators such as:

- Activity:
    - Acute assessments - includes ED referrals, direct GP referrals and other inpatient speciality referrals
    - Number of emergency surgery inpatient admissions
    - Emergency Surgery operation (NCEPOD theatre activity)
    - Hot Clinic attendances
    - Ambulatory treatments (including ambulatory theatre activity)
- Return to theatre
- Emergency surgery inpatient length of stay parameters
- Readmission rates (7 day & 28 day)
- Patient Experience

Standards for Elective General Surgery

	Complex Elective Inpatient Surgery	Short Stay Inpatient & Day Surgery (to be adapted according to setting)
Model of Care	• There must be a separate stream from emergency surgery provision in terms of working patterns, access to theatre, critical care and dedicated ring-fenced beds	• There must be a separate stream from emergency surgery provision in terms of working patterns, access to theatre and dedicated ring-fenced beds • There must be agreed protocols in place for transfer of patients who require a higher level of care
Clinical Infrastructure	• There must be access to a fully staffed theatre available 24/7. A scheduling process must be in place to maximise the utilisation and efficiency of this theatre. • There must be 24/7 access to an anaesthetic service • There must be a Post Anaesthetic Care Unit (PACU) • There must be access to critical care services including 24/7 access to level 3 and level 2 care beds and a critical care outreach team.	• There must be daytime and OOH access to an anaesthetic service • There must be access to emergency theatre with transfer protocols if required • There must appropriate facilities for day surgery and minor / intermediate inpatient surgery to ensure care is delivered in the appropriate setting
Clinical Interdependencies	• There must be 24 hours a day access to diagnostic services such as plain film x-ray, computerised tomography (CT) and timely access to MRI and ultrasound scanning on site. • There must be on-site access to simple interventional radiological procedures such as drainage, ideally 7 days per week but a minimum of 5 (Mon-Fri). More complex IR procedures must be accessed either on-site or through a formalised network. • There must be access (on-site where appropriate) to timely assessment / review from other clinical specialities such as cardiology, renal, diabetes, care of the elderly, etc. • A hospital admitting complex elective paediatric surgical patients must have a local and networked model of care in place that involves advice and input from paediatricians and/ or paediatric surgeons as required.	• A hospital admitting paediatric elective inpatients must have a local and networked model of care in place that involves advice and input from paediatricians and paediatric surgeons as required

Workforce	• There must be a separate stream from emergency surgery provision in terms of working patterns, access to theatre, critical care and dedicated ring-fenced beds	• There must be a separate stream from emergency surgery provision in terms of working patterns, access to theatre and dedicated ring-fenced beds • There must be agreed protocols in place for transfer of patients who require a higher level of care
Process and protocols	• Clinical protocols must be in place that are in line with best practice for perioperative care for complex inpatient surgery and high risk patients • In hospitals where children are admitted for elective surgery they must be admitted to an age appropriate environment and care must reflect paediatric protocols and clinical guidelines	• Clinical protocols must be in place that are in line with best practice for perioperative care for day surgery and minor / intermediate inpatient surgery • In hospitals where children are admitted for elective surgery they must be admitted to an age appropriate environment and care must reflect paediatric protocols and clinical guidelines

ANNEX B – EFFECTS OF INTRODUCING NEW STANDARDS FOR GENERAL SURGERY

An Expert Panel, led by Professor Rafael Bengoa, recommended criteria for assessing the sustainability of HSC services. The criteria, proposed by the Panel, were the subject of public consultation in 2017. These criteria must be at the heart of informing decisions about reconfiguring HSC services that are not able to meet the standard and experience of care we all rightly expect, with the potential to replace these services with new models of care delivering better health and wellbeing outcomes for patients.

Criteria for Reconfiguring HSC Services

Criterion 1: There is evidence that the outcomes for people using HSC services are below standards recognised by the Department of Health, or statutory requirements are not met, or safety concerns are evident and impact on the long term sustainability of services.

Criterion 2: There are clear pathways for the patient and client population at local and region wide levels.

Criterion 3: The service cannot meet professional standards or minimum volumes of activity, as recognised by the Department of Health, that are needed to maintain expertise.

Criterion 4: The workforce required to safely and sustainably deliver the service is not available/cannot be recruited, developed or retained, or can only be secured with high levels of agency/locum staff.

Criterion 5: There are effective alternative care models as recognised by the Department of Health in place.

Criterion 6: The delivery of the service to the required standard is costing significantly more than that of peers or of alternative models due to a combination of the above factors

As part of the development of the emergency standards, each HSC Trust was asked to apply the standards to existing services. If the standards were applied without new investment it is clear that services could not be delivered across all current sites that currently deliver emergency general surgery.

Some standards, such as implementation of NELA, are expected to take place regionally, meaning that all sites across all Trusts will meet the quality assurance standards.

Two out of the eight hospitals currently meet the standards (Ulster Hospital and Royal Victoria Hospital). Three hospitals (Antrim Area Hospital, Craigavon Area Hospital and Altnagelvin Hospital) do not fully meet the standards, however, they could be met by putting the necessary processes or resource in place. The remaining hospitals (Causeway Hospital, Daisy Hill Hospital and South West Acute Hospital) require more fundamental changes in a number of areas to meet the standards.

It will be for each Trust to consider what the response to the standards will be. However, there is an expectation that following implementation that all sites that deliver emergency general surgery will meet the standards. This means Trusts will have to consider if there has to be service reconfiguration as a result of implementation of the standards.

As a consequence there would also need to be changes to elective general surgery. Whilst these standards are more flexible, as the patient flow and demand can be controlled, a reconfiguration could be required. The implementation of the emergency standards could potentially inform decisions around elective care.

However, as the purpose of the general surgery review is to ensure good patient outcomes and efficient delivery of services, the decision making on potential reconfiguration of services would need to be taken by each HSC Trust, in collaboration with the new General Surgery Network and the Elective Care Management Team. It is expected – as always – that where any reconfiguration proposals would mean change in delivery method or change delivery place, each HSC Trust would have to consider how to engage with the public, including consideration for public consultation.

GLOSSARY OF TERMS

24 hour imaging

This is the provision of a 24-hour diagnostic radiology service.

Allied Health Professions

Allied Health Professions (AHPs) are a diverse group of clinicians who deliver high-quality care to patients and clients across a wide range of care pathways and in a variety of different settings. They play an important role in modern health and social care services. Their focus is on prevention and improvement of health and wellbeing to maximise the potential for individuals to live full and active lives within their family circles, social networks, education/training and the workplace.

Ambulatory clinics

Ambulatory clinics offer same day care to patients at the hospital. This means that patients are assessed, diagnosed, treated and are able to go home the same day, without being admitted into hospital overnight.

Anaesthesia

Medicines that cause anaesthesia are called anaesthetics. Anaesthetics are used during tests and surgical operations to numb sensation in certain areas of the body or induce sleep.

Appendicectomy (appendectomy)

Removal of the appendix is carried out under general anaesthetic using either keyhole or open surgery.

CEPOD theatres

In 1987 a joint venture between surgical and anaesthetic specialties named the Confidential Enquiry into Perioperative Deaths (CEPOD) was initiated. In 1988 the National Confidential Enquiry into Perioperative Deaths (NCEPOD) was then established.

Since then NCEPOD has moved away from reviewing the care of surgical patients only and now covers all specialties and its name changed to National Confidential Enquiry into Patient Outcome and Death. Historical NCEPOD recommendations relating to early reviews of surgical mortality resulted in dedicated emergency theatres called 'CEPOD' theatres which are now a prominent feature of many UK hospitals.

Cholecystectomy

A cholecystectomy is gallbladder removal surgery and is a very common procedure. Laparoscopic (keyhole) cholecystectomy is more common, but open cholecystectomy also is performed.

Cholecystitis

Acute cholecystitis is inflammation of the gallbladder. It usually happens when a gallstone blocks the cystic duct.

Chronic pancreatitis

Chronic pancreatitis is a condition where the pancreas has become permanently damaged from inflammation and stops working properly.

Clinical Nurse Specialists

A Clinical Nurse Specialist (CNS) provides direct care to patients in one of a range of specialties, such as paediatrics, geriatrics, emergency care and oncology.

Colorectal surgery

Colorectal surgery covers operations to the colon and rectum and includes the treatment of colitis and rectal inflammation, haemorrhoids, anorectal disorders and colorectal cancer.

Congenital abdominal procedures

Abdominal surgery on conditions that are present from birth.

Critical care

Critical care units are specialist hospital wards that treat patients who are seriously ill and need constant monitoring. These units are staffed by specially trained health care professionals who deliver intensive levels of care and treatment.

CT scan

A computerised tomography (CT) scan uses X-rays and a computer to create detailed images of the inside of the body. CT scans are sometimes referred to as CAT scans or computed tomography scans.

Diagnostic radiology

Diagnostic radiology involves undertaking a range of imaging procedures to obtain images of the inside of the body. The diagnostic radiologist then carefully interprets these images to diagnose illness and injury. Diagnostic radiology is at the core of clinical decision-making in modern medicine.

Elective care

Care that is planned in advance is known as elective care. It involves specialist clinical care or surgery, generally following a referral from a GP or community health professional.

Emergency medicine

Emergency medicine is the medical speciality concerned with the care of illnesses or injuries requiring immediate medical attention. Emergency physicians continuously learn to care for unscheduled and undifferentiated patients of all ages

Endocrine surgery

Endocrine surgery is a subspecialty of general surgery that focuses on diseases of the thyroid, parathyroid, and adrenal glands.

ERCP (Endoscopic retrograde cholangio-pancreatography)

ERCP is a procedure that can be used to remove gallstones from the bile duct.

Endoscopy

An endoscopy is a test to look inside your body by which a long, thin tube with a small camera inside, called an endoscope, is passed into your body through a natural opening such as your mouth.

There are different types of endoscopy that look at different parts of the body and the type of endoscopy you have will depend on your symptoms.

Gastroenterology

Gastroenterology is the branch of medicine that looks at diseases of the oesophagus (gullet), stomach, small and large intestines (bowel), liver, gallbladder and pancreas.

Gynaecology

Gynaecology is the area of medicine that involves the treatment of women's diseases, especially those of the reproductive organs.

Hepatobiliary and pancreatic surgery

Hepatobiliary and pancreatic surgery consists of surgical procedures to treat cancer and other disorders that affect the liver, bile ducts, gallbladder and pancreas.

Hernia

A hernia occurs when an internal part of the body pushes through a weakness in the muscle or surrounding tissue wall. A hernia usually develops between your chest and hips. In many cases, it causes no or very few symptoms, although you may notice a swelling or lump in your abdomen or groin.

Inguinal hernia

An inguinal hernia is the most common type of hernia and can appear as a swelling or lump in your groin, or as an enlarged scrotum.

Interventional radiology

Interventional radiology refers to minimally invasive, image-guided medical treatments. Procedures use real-time imaging techniques, including X-rays and ultrasound, to guide the operator. It can be used as a quicker and safer alternative to many types of traditional surgery, resulting in better outcomes for patients and shorter stays in hospital.

Intestinal failure

Bowel or intestinal failure means a person's bowel is not able to absorb enough nutrients from food. Treatment will depend on the severity of the damage done to the intestines.

Intra abdominal cancer surgery

Intra abdominal cancer surgery is any cancer related procedure that needs to be done within the abdominal cavity.

Locum

A locum doctor is one who temporarily fills a rota gap within a hospital, clinic or practice. This can often be on a relatively short-term basis, although in the healthcare sector, it is not uncommon for locums to hold their post as part of a practice's core medical team for more extended periods.

MRCP (Magnetic resonance cholangio-pancreatography)

MRCP is a special type of magnetic resonance imaging (MRI) exam that produces detailed images of the hepatobiliary and pancreatic systems, including the liver, gallbladder, bile ducts, pancreas and pancreatic duct.

MRI

Magnetic resonance imaging (MRI) is a type of scan that uses strong magnetic fields and radio waves to produce detailed images of the inside of the body.

Oesophageal cancer

Oesophageal cancer is a cancer that's found anywhere in the oesophagus, sometimes called the gullet or food pipe. The term oesophagogastric refers to cancers of the oesophagus and stomach.

Ophthalmology

Ophthalmology is the branch of medicine concerned with the study and treatment of disorders and diseases of the eye.

Perianal abscess

A perianal abscess is a superficial infection that appears as a tender red lump under the skin near the anus.

Perineal abscess

A perineal abscess is an infection that causes a painful lump in the perineum.

Sigmoidoscopy

A sigmoidoscopy is a diagnostic test used to check the sigmoid colon, which is the lower part of your colon or large intestine.

ST (Specialty Trainee)

Specialty Trainee means a doctor in training after completion of the Foundation programme for a Foundation Doctor in Training, applying to trainees who have undertaken a specialty training programme approved by the GMC**.**

Stoma

A colostomy is an operation to divert one end of the colon (part of the bowel) through an opening in the stomach. The opening is called a stoma.

Testicular torsion

Testicular torsion is an emergency condition which happens when the spermatic cord, which provides blood flow to the testicle, rotates and becomes twisted.

Upper gastrointestinal (G.I.) surgery

Upper gastrointestinal surgery provides care for patients with problems affecting the oesophagus (gullet), stomach, gallbladder, bile ducts and pancreas.

Urology

Urology is the branch of medicine that focuses on surgical and medical diseases of the female urinary system and the male genitourinary tract, as well as disorders of the kidneys, ureters, bladder, prostate and male reproductive organs.

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