GENERAL SURGICAL REVIEW WORKFORCE SUB GROUP REPORT

1. WORKFORCE GROUP

1.1. It is necessary within the context of the review of general surgery to consider the workforce so crucial to the safe and effective delivery of surgical services. To that end a Workforce group co-led by Mary Hinds and Margaret O'Hagan was established with a terms of reference to include:

i. Assessing the constituents within multi-disciplinary teams across each of the units providing general surgical services. The scope of this work stream is all staff associated to general surgery including surgeons
ii. Identifying opportunities to develop and support new / advanced practice roles by expanding and extending the multidisciplinary team.
iii. Make recommendations to support the recruitment and retention of staff required to ensure the new model is resilient.

1.2. The group were also tasked with describing clinical and multidisciplinary resource requirements when a new the service model for general surgery is identified. As this element of the task is reliant of the final proposed service model the detail is not in this report. This task will be untaken in conjunction with the Commissioner and will follow a separate report.

2. INTRODUCTION

2.1. The delivery of general surgical services depends on the skills and combined efforts of a wide range of staff, 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. If the ambitions of the future are to be realised the current composition of the general surgical workforce must be more stable, use all the talents and resources available and support continual improvement and change.

2.2. The development of a comprehensive multi-disciplinary surgical care 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 multidisciplinary team. The General Surgical Review is an opportunity 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.

2.3. This paper aims to describe a new Surgical Care Team, identifying new roles, suggesting a new model to support the commissioning of the workforce, essential for an effective person centred service that maximises the skills and talents of the whole team. The unique contribution of each professional group will be discussed with specific recommendations for future workforce made, this will include:

- The importance of organisational culture as a catalyst to influence effective change and sustained improvement.
- Factors which influence and impact on staffing, recruitment and retention of the Surgical care Team
- The unique contribution of a wide range of staff including medical, nursing, allied health professions, pharmacy and support teams including environmental hygiene, technical support and administration

2.4. The paper has been informed by reviews of evidence, meetings with Health and Social Care (HSC) Trusts, collation of information and focus group and workforce sub group discussions.

2.5. The paper aims to make recommendations which will guide the commissioning of appropriate staffing levels, illustrate new and emerging roles and make recommendations for consideration in the new model of General Surgical Services in Northern Ireland.

2.6. The wider surgical care team is illustrated below. This paper will review each separately reflecting their unique contribution and make recommendations for the whole general surgical team.

3. ORGANISATIONAL AND TEAM CULTURE

3.1 The importance of organisational culture as a catalyst to influence effective change and sustained improvement must be a key consideration in the ability to achieve successful service transformation. The Kings Fund describes the impact that leadership and culture have on patient and client care through learning from numerous inquiries (Kings Fund 2013).

3.2 There is research evidence to suggest that an organisational culture can be reviewed and assessed for effectiveness. Dimensions include:

- Values - the degree to which practices within the organisation align with the achievement of the agreed organisation values.
- Vision - degree to which people at all levels are aware of the long-term vision and direction of the organisation.
- Goals and Performance - the degree to which individuals within the organisation have clear agreed objectives which enable effective performance management.
- Quality and Innovation - the degree to which the organisation's culture is focused on quality, responds to changing requirements and is supportive of the development and implementation of new and improved ways of working.
- Team working - the degree to which effective team and inter-team working is established within the organisation.
- Compassionate Care - the degree of compassion demonstrated to patients and service users in order to implement effective, helpful actions.
- Compassionate Leadership - the degree to which people feel that leaders and managers are empathetic and supportive and the extent to which there is a culture of compassion towards staff.
- Collective Leadership - the degree to which the organisation enables collective leadership, including shared leadership across all levels and collaborative working across service areas. (West 2013)

3.3 Research also shows that the most powerful factor influencing culture is leadership. Practitioners don't often identify themselves as leaders in the provision of care, however, collective leadership, is a culture where staff at all levels are empowered as individuals, within and between teams to act to improve care within and across health and care organisations and systems – 'leadership of all, by all and for all' (DoH 2017).

3.4 Teams should have a shared purpose, values and clear objectives. Team members should be clear about their roles and responsibilities and should meet regularly to review performance and working relationships with other teams (West and Cola 2019).

3.5 The evidence of the impact of an effective multidisciplinary team has been widely published.

- The Royal College of Surgeons in its publication, *The High Performing Surgical Teams*, highlights the importance of effective team work on clinical outcomes and patient safety.
- Trainees have indicated the value of MDT meetings as a valuable tool for learning non-technical skills for surgeons. (Trivedi 2019)
- Effective team communication leads to safe and successful outcomes, as well as a productive and supportive operating room working environment. (Shi 2021)
- The Royal College of Anaesthetists, in its recent discussion document 2 emphasizes the importance of a multidisciplinary team approach to improving outcomes for patients. (RCA 2015)
- Mandatory discussion at multi-disciplinary team meetings aims to facilitate the delivery of timely management and treatment; a strong argument in favour of use within cancer services. A clear and agreed management plan can be quickly provided to the patient and streamline communication between primary, secondary and tertiary care. (Rittman 2012)

3.6 Despite this there is also evidence to suggest that attendance at multi-disciplinary team meetings from nurses and AHPs can be variable, reflecting it has been suggested the longstanding hierarchies that value contributions from medical and diagnostic perspectives above others (Lamb 2011).

3.7 The literature also shows that communication, collaboration, and teamwork do not always occur in clinical settings for a range of other factors including:

- Social, relational, and organizational structures contribute to communication failures that have been implicated as a large contributor to adverse clinical events and outcomes. (Sutcliffe 2003) (Francis 2013)
- The priorities of patient care differ between members of the health care team. (Flin 2003)
- Other evidence shows that staff behaviours can have a negative impact on staff relationships, staff satisfaction and turnover, and as a result on patient outcomes of care, including adverse events, medical errors, compromises in patient safety, poor quality care, and links to preventable patient mortality. Many of these unwanted effects can be traced back to poor communication and collaboration, and ineffective teamwork. (Rosenstein, 2005) (Rosenstein, 2006)

3.8 The Review of General Surgery provides the opportunity to reflect on the current culture and leadership in the surgical care team taking action to strengthen the contribution of individuals, individual Trust teams and teams that work across Trust through surgical networks. It is an opportunity to put in

place the building blocks for the future delivery of general surgical services in Northern Ireland.

3.9 For this to be a reality it is important that the following issues area addressed:

- Ensure the overall investment in the surgical care team is focused on ensuring the maximum benefit to the patient using the most appropriately skilled staff in the most appropriate way.
- Ensure the right mix of staff are equipped with the right skills to providing high-quality care when and where people need it.
- Commissioning the surgical care team is completed in an integrated model maximising the opportunities for role development and inter professional working.
- There is support for the development and retention of staff into surgical careers focusing on the creation and maintenance of stable teams.
- As people who learn together, work better together; through shared understanding of each other roles and an appreciation for the expertise which others bring to the team, inter-professional education and training should be supported.
- A plan for the development of the whole team is essential. This cannot be a 'one off' exercise. The impact of systemic team coaching and a programme of team development over the long-term must be factored into the long-term plans.
- There are good examples of the impact of training up individuals from within the function to act as coaches across the teams as part of a long-term commitment to personal and team development. The Neighbourhood District Nursing project implemented a senior team member who was a qualified coach and the initial results of this approach was positive and therefore may be a model which can be adopted.

Recommendations - Organisation and Team Culture

- Each Trust should have organisation development plans to support and build the general surgery care team focusing on the creation of a positive culture utilising evidence based tools such as *The Affina Cultural Assessment Tool* (ACT) to guide teams and Trusts moving forward.

- Opportunities for shared learning and training should be maximised to support and develop team members and team culture particularly in the areas such as service improvement and patient involvement.

4. FACTORS INFLUENCING STAFFING LEVELS

4.1 Defining optimum staffing levels is a vital 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

4.2 There is no 'one size fits all' formulae 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.

4.3 The following should be considered at the outset.

- **The Service Model**. Factors could include, whether hospital sites provide both elective and emergency care, or does the hospital provided elective care only, or a surgical assessment service. Are staff expected to work across hospital sites or Trust sites, this is important particularly where these sites are geographically distant or staff have to work in multiple teams.
- **Service demand**. The anticipated volume of activity and pattern of this demand for example by time of day.
- **Service opening hours**. These can be shaped by referral patterns for example from GPs or may reflect an assessment service on a hospital site with no on site emergency surgery. .
- **Patient acuity**. The complexity of care can influence staffing including the need to cover sub specialities particularly out of hours or the need to provide specialist tertiary services.
- **Supporting infrastructure required**. If ready access to supporting infrastructure such as diagnostics is not available or is provided at a distance there may be an impact on for example nurse and medical staffing due to the need to transfer clinically unstable patients.
- **Meeting training requirements**. Many of the staff in our acute hospital settings are staff in training at both pre-registration and post registration level. This needs to be carefully considered when agreeing staffing levels to ensure that there is an appropriate learning environment available, including consideration of regulatory requirements and other educational support staff.
- **Physical environment**, for example geographically complex physical environments and issues such as single rooms can often require additional nursing and support service staff.

4.4 All of these issues illustrate the complexity of agreeing staffing levels and the need to keep these staffing levels under constant review. Some staffing groups already have processes in place, such as Delivering Care, for nursing staff. Using the Delivering Care model, the Public Health Agency, Health and Social Care Board and Trusts come together to agree staffing guided by principles on

factors such as those described above. Others such as medical staff use professional guidance as a starting point for discussion. Some staff groups such as AHPs have yet to develop an evidence based staffing model. While it is helpful that some professional groups have guidance or processes in place it is vitally important, to ensure that appropriate consideration and attention is given to maximising the talents and ability of all staff that individual staffing process are brought together using a template such as described in Annex B to agree final staffing for the comprehensive general surgical team.

Recruitment and Retention of Staff

4.5 In addition to the need to ensure the right levels of staff are available to provide a quality service it is important to consider the issues and factors which impact on the ability of Trusts to recruit and retain staff. The crucial role of stable teams in the provision of stable services is well rehearsed. The health service in Northern Ireland faces unprecedented challenges in recruiting and retaining staff, therefore every effort must be made to support and retain staff in post.

4.6 Recruitment and retention of staff is influenced by a number of factors:

- **Rotas (and work patterns)**. The hours of work and patterns of work is material to ensuring a healthy work life balance particularly when staff are required to work outside normal working hours or on call to respond in emergency and urgent care situations. Significant variation in the impact of rotas to family life can create feels of inequity and as a result create unstable teams.
- **Organisation and team culture**. We know that coordinating and delivering surgical care depends on many personnel working in different and shared team, with different incentives, levels of power, and authority. We also know that as in every team these relationships can become strained. Developing and maintain a positive culture within any team can be challenging but is vital if teams are to be stable and happy in their work. (Shouhed et al 2021) (West and Cola 2019)
- **Staff Wellbeing**. Ensuring staff have access to supportive services such as health and wellbeing services, occupational health and psychological support is vital particularly in the often highly charged and complex environment of surgical practice.
- **Skill mix and remuneration**. There is ample evidence to show that where staff feel valued and appropriately remunerated for the roles they are happier at their work, create stable teams and help ensure that staff turnover is minimised.
- **Smooth and supportive recruitment and induction processes**. Poor or ineffective recruitment processes can result in loss of the ideal candidate, recruitment of the wrong candidate, a waste of time and a waste of money. In addition a poor candidate experience can adversely affect an organisation over time, both through reputational damage and the missed opportunity of having the right person in the right role when

the ideal candidate declines your offer. Recruitment processes should be smooth and simple to follow, should be supported by accurate job descriptions and easy access to staff already in post for further information.

- **Learning environment**. A positive learning environment is a safe and welcoming space that allows for positive and effective acquisition of knowledge. It is created by the words, actions, and attitudes of all staff. A positive learning environment will attract new staff but is just as important to remember that education and development does not come to an end once people are in the middle of their professional career, so access to and support for continuous professional development is vitally important.

4.7 Agreeing appropriate staffing levels in each Trust will vary based on the influencing factors detailed in paragraph 2.3. These factors need to be considered alongside professional and other guidance and consideration of the factors which support the recruitment and retention of staff.

4.8 To create stable effective teams where all Trusts in Northern Ireland are seen as the employer of choice, requires collective multi-disciplinary effort with commissioners, Trusts and staff side organisation and professional bodies working in partnerships.

5. MEDICAL STAFF

5.1 The medical element of the surgical care team comprises of Consultant and Staff Grades, Associate Specialists, Specialty Doctors (SAS doctors) as well as core (CTs) and higher surgical trainees (SpRs). Increasingly over the years the role of Physicians Associate has emerged within general surgery to support the medical team.

Consultant Surgeon

5.2 The consultant surgeon is a senior doctor who has overall responsibility for the care of patients in hospital. They have completed a minimum of six years training in their specialty area to gain a certificate of completion of training (CCT) and listing on the General Medical Council's specialist register. In adhering to the Royal College Surgeons standards as set out in Good Surgical Practice (RCS, 2019) surgeons provide compassionate, high-quality safe care for patients and while they cannot and do not work in isolation they are the foundation of the surgical care team.

Staff Grades, Associate Specialists and Specialty (SAS) Doctors

5.3 SAS surgeons are an integral part of the surgical care team. Responsibilities and training among SAS surgeons vary greatly. In some Trusts SAS doctors are engaged in major complex surgery while others provide minor diagnostic procedures and outpatient services. Common to all Trusts is that SAS doctors contribute heavily to the out-of-hour's rota and have significant in-patient contact.

5.4 In the past SAS doctors were appointed to staff grade or associate specialist posts. However, from 2008 both these grades have been closed to new entrants, with all new SAS doctor appointments being specialty doctors. This essentially meant that there was no career progression for these doctors and as such it was not an attractive career option. In 2021 a new SAS contract was introduced. A key element of the SAS contract reform is the introduction of a new grade, called the specialist grade. This grade is to provide an opportunity for career progression for highly experienced specialty doctors. It is considered that the introduction of this new grade will help to recruit, motivate and retain senior doctors and contribute to SAS grades being a positive and fulfilling career choice.

Surgical Training Grades

5.5 Core surgical trainees will have completed at least 2 years of foundation training before moving to surgical training. They rotate through a number of surgical specialties to include general surgery. They are a key part of the day-day functioning of the surgical team admitting emergency patients and assisting in theatre.

5.6 Higher surgical trainees (SpR) as a minimum complete 2 years of core surgical training and apply at national level for a specialty training number in general surgery. All SpRs will work under the guidance of a named consultant. Their role is to ensure the unit runs efficiently; overseeing admissions, reviewing ward patients and taking an active role in teaching and training more junior team members.

5.7 The demands on the surgical medical teams are high and growing year on year and the focus on maintaining high quality (and quantity) requires relentless focus. In Northern Ireland medical teams in each Trust provide surgical services from multiple sites within their Trust boundary utilising all facilities that were in legacy Trusts, albeit in many cases differently from before the current Trusts were established. For example, from a surgery service perspective, pre 2009 hospitals such as Lagan Valley, Mid-Ulster, etc., provided a full range of surgical services i.e. inpatient emergency and elective, day surgery where as they now are day surgery only. However, despite changes made over the past 12 years the current breadth of coverage still creates pressure on a limited workforce and current working patterns are less efficient than they could be.

5.8 For the purpose of reviewing the medical workforce for the review of general surgery, meetings have taken place with the 5 Trusts. A summary of this is detailed below. Currently, the data is too crude to draw any meaningful conclusions about Medical Workforce levels in each Trust versus workload however it does reflect the "spread" of the resource in Trusts that are providing emergency surgery from more than one site.

Anaesthetists as part of the surgical care team

5.9 Anaesthetists play a crucial part of the wider health care team but the surgical care team in particular. The role of the anaesthetist in the surgical care team involves providing preoperative, intraoperative, and postoperative care, including pain management.

- Preoperative assessment enables patients to be fully informed, reducing stress and anxiety, leading to early recovery, whilst also creating the opportunity for optimisation of medical conditions prior to surgery, which will help to reduce cancellations and the incidence of complications.
- Perioperative care involved the sedation and provision of anaesthetic services patients undergoing surgery. Despite the benefits of rapidly advancing therapeutic and diagnostic possibilities, the perioperative setting still exposes patients to significant risks of adverse events and harm. Anaesthetists make significant contributions to patient safety and patient outcomes.(Wacker 2014)
- Post-operative services. Anaesthetists are increasingly involved in post-operative pain management and the treatment of acute complications in the immediate, but also later post-operative phases. This work is often

focused in High Dependency and critical care units and more recently in Post-Operative Care Units PACU).

5.10 A surgical service cannot exist without the skills of the anaesthetic team. This team as with other medical teams consists of both consultant, and/or SAS grade and/or anaesthetists-in-training plus the dedicated support of an anaesthetic nurse or Operating Department Practitioner.

5.11 While this workforce report does not attempt to complete a comprehensive review of anaesthetic services as this would entail a review of the current provision of a wider range of issues such as for example the role of anaesthetists in critical care, paediatrics, obstetrics and mental health services, it is important that the pressures on the current workforce is reflected.

5.12 The recent UK State of the Nation Report completed by the Royal College of Anaesthetists indicates the Northern Ireland faces a significant and growing shortages of anaesthetists. (Royal College of Anaesthetists 2022)

Number of unfilled consultant and SAS/trust doctors posts and shortfalls which need to be filled to meet demand	
	Northern Ireland
Current number of consultant anaesthetists	279
Unfilled consultant anaesthetists posts[1]	31
Current number of SAS/trust anaesthetists	48
Unfilled SAS/trust anaesthetists posts[1]	33

Source: RCoA Medical Workforce Census 2020

5.13 In the report 'Respected, valued, retained – working together to improve retention in anaesthesia', (RCoA 2021) the Royal College of Anaesthetists identifies issues which impact on the ability to recruit and retain staff are identified such as:

- The inability to manage a reasonable work-life balance, with workloads that are unsustainable.
- Flexibility in working arrangements and appropriate job planning are not consistently available. These, together with issues relating to pension tax are leading to early retirement of some anaesthetists.

5.14 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. However - given the connections between anaesthetics to areas other than just surgery, such as critical care, obstetrics and emergency services - a comprehensive review of anaesthetic services in NI is required.

[1] This includes funded and aspirational gaps. The 'funded gap' refers to vacant posts that a trust has the money for, but is unable to fill due to factors such as lack of suitable applicants. The aspirational gap is additional anaesthetic posts that a trust needs, even if it doesn't currently have the money for them

Physician Associates

5.15 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 (RCS, 2022)

5.16 Physician Associates complete an intensive 2-year Masters programme following which they must pass a "Physician Associate National Exam" and do so every 6 years to retain professional practice. While not current subject to regulation the General Medical Council aims to introduce regulation across all four UK countries by 2023. To support the PA and their clinical supervisors the GMC have published Interim Guidance which will come into effect when regulation commences. (GMC 2021)

5.17 Physicians Associates currently work in a wide range of surgical environments in England including; Trauma and Orthopaedics, General surgery, neurosurgery and paediatrics.

5.18 The Royal College of Surgeons recognise the role and the value it could bring to the delivery of surgical services as part of the wider surgical care team. They describe the role of a PA in the surgical environment to include for example:

- Formulate and document a diagnosis, having taken a history and completed a physical examination
- Develop a comprehensive patient management plan on behalf of the supervising physician while the patient travels through a complete episode of care
- Request and interpret diagnostic studies and undertake patient education, counselling and health promotion
- Run clinics (i.e. sexual health, family planning or minor surgery)

5.19 It should be noted that the full potential of this role cannot be reached until the PA role is regulated. For example, without the role being established within a regulatory body and individual being on a professional register they cannot undertake duties such as request and interpret diagnostic studies or prescribe medication.

5.20 All Trusts in Northern Ireland have PA students rotating through surgery as part of their work based placement and a number Trusts have "qualified" PAs working in surgery contributing to ward based care of surgical patients. However this is a small number as the approach to utilising this role more consistently in the workplace is adhoc and not comprehensive across general surgery in Northern Ireland.

5.21 The Department of Health have referenced the role of the PA in the *Health and Social Care Workforce Strategy 2026* (DoH, 2016) and have committed to a funding a training programme in the Ulster University. At Trust level appears to be difficulty getting traction on the role which, in part is due to the challenges in securing recurrent funding. However there appears to be no specific strategy, including a funding plan, setting out how this role is to be embedded in service to maximise any opportunities to strengthen the medical workforce which undoubtedly contributes to the current situation. In order to get value from the substantial investment in training this plan is required otherwise Northern Ireland trained PAs will seek employment elsewhere in the UK and will be lost to Health and Social Care in Northern Ireland.

5.22 From a workload perspective "point-in-time" data is available of the elective workload per Trust in terms of backlog and work is ongoing to predict future demand. The information gathered with regard to emergency admissions in the 5 Trusts remains unrefined. This is counted only in terms of the number of emergency admissions. However, so much work takes place to prevent admission to hospital with emergency patients receiving ambulatory services counting admissions only is not an accurate metric. Furthermore, due to the complexity of the constituent parts of the workload of the general surgical "take" for those patient who must be admitted it is difficult to draw accurate conclusions. Therefore, to develop a sense of the extent and intensity of workload / activity a number of surrogate markers are used. These are:

- Trust's population catchment;
- Number of emergency surgical admissions for 2019/20;
- Number of the following emergency surgeries carried out in same year
  - Colorectal
  - Appendectomies and
  - "Other" – EUA including abscess drainage, upper GI procedures & small bowel procedures.

5.23 On review of the literature the evidence / detail on the requisite size of general surgical teams / rotas is limited. The standard suggested by the Association of Surgeons of Great Britain and Ireland (ASGBI) for general surgery consultant workforce ratio of per head of population being 1:25,000 (ASGBI, 2010) remains. This has yet to be undated despite the more complex needs of the higher risk patient being very clear (RCS & DOH, 2011), (ASGBI 2015) (RCS, 2018), significant change in surgical practice, for example "Getting It Right First Time" (GIRFT, 2017) and the clear evidence regarding the requirement and benefits of a seven-day consultant presence (Academy of Medical Royal Colleges 2012).

5.24 On the basis of this standard Northern Ireland has a gap in the number of general surgeons required to cover the demand for general surgery. This requires further attention by the commissioner within the context of a new

service model for general surgery and also the new Integrated Care System and the Strategic Outcomes Framework which will focus on population health and more local needs assessment.

5.25 In relation to out-of-hours rotas, there is no standard or census evidence as to an appropriate number of consultant to make up the rota. What is clear is that the surgical consultant team (and middle-grade team 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 (RCS, 2018).

5.26 To note at this juncture that the Public Health Agency as part of an ongoing medical workforce review has recently commissioned a review of the general surgery workforce. This commenced in February 2022 and expected to take approx. 12 weeks to complete.

5.27 A summary of general surgery medical staff in Trusts (core trainees are not included) and associated 2019/2020 emergency activity in table 1 below. To note, the numbers do not include breast surgeons except for Altnagelvin where the breast surgeons remain on the general surgery out of hours rota.

Recommendations – Medical Staff

- There should be a review of each Trust's general surgery medical team numbers (consultant and SAS staff) within the context of a new service model for general surgery and also the new Integrated Care System and the Strategic Outcomes Framework which will focus on population health and more local needs assessment..

- Team job plans in general surgery should reflect consultant-led emergency services 7 days a week. This may require investment to ensure this model is deliverable without a negative impact on elective surgery.

- Local implementation of the new model for general surgery should ensure surgical trainees have access to training is delivered in a supportive environment with appropriate, graded, consultant supervision and have access to sufficient volume and diversity of emergency and elective surgical practice necessary to meet all required competences in general surgery

- A joint Departmental / Commissioner / Trust group, with contribution for the Medical Royal Colleges, should be established to articulate the strategy and develop (and oversee) an implementation plan for using PAs to compliment the medical workforce in Northern Ireland.

Table 1: Summary of

Belfast Trust – Population Catchment – 340,000[2]								
General Surgery Inpatient Sites (Emergency and / or Elective)								
	Con Posts	SAS	SpRs Assigned	OOHs rotas	Emergency Admissions 19/20	16+ Operations as proxy for workload		
						Appendix	Colorectal	Other[3]
Royal BCH Mater	21	3	13	CR 1:8 HPB 1:6.5 UGI 1:4	3500	240	98	200
Totals	**21**	**3**	**13**	**3**	**3500**	**240**	**98**	**200**

Northern Trust - Population Catchment – 479,000								
General Surgery Inpatient Sites (Emergency and / or Elective)								
	Con Post	SAS	SpRs Assigned	OOHs rotas	Emergency Admissions 19/20	16+ Operations as proxy for workload		
						Appendix	Colorectal	Other
Antrim	8	7	2	1:9[4]	3709	232	86	124
Causeway	6	5	3	1:6	1783	74	35	38
Totals	**14**	**12**	**5**	**2**	**5492**	**306**	**121**	**162**

South Eastern Trust - Population Catchment – 345,000								
General Surgery Inpatient Sites (Emergency and / or Elective)								
	Con Posts	SAS	SpRs Assigned	OOHs rotas	Emergency Admissions 19/20	16+ Operations as proxy for workload		
						Appendix	Colorectal	Other
UHD	11	3	5	1:10[5]	2862	194	63	115
Totals	**11**	**3**	**5**	**1**	**2862**	**194**	**63**	**115**

Southern Trust - Population Catchment – 384,000								
General Surgery Inpatient Sites (Emergency and / or Elective)								
	Con Post	SAS	SpRs Assigned	OOHs rotas	Emergency Admissions 19/20	16+ Operations as proxy for workload		
						Appendix	Colorectal	Other
CAH	9	3	4	1:9	3217	140	68	126
Daisy Hill	6	5	3	1:6[6]	1985	76	14	51
Totals	**15**	**8**	**7**	**2**	**5152**	**216**	**82**	**177**

Western Trust - Population Catchment – 300,000								
General Surgery Inpatient Sites (Emergency and / or Elective)								
	Con Posts	SAS	SpRs Assigned	OOHs rotas	Emergency Admissions 19/20	16+ Operations as proxy for workload		
						Appendix	Colorectal	Other
Altnagelvin	8	5	3	1:8[7]	2438	121	30	73
SWAH	6	5	0	1:6[8]	1783	94	31	51
Totals	**14**	**10**	**3**	**2**	**4221**	**215**	**61**	**124**

[2] Serves a wider population as is an integral element of the regional trauma service
[3] "Other" operations includes EUA including abscess drainage, upper GI procedures & small bowel procedures
[4] To respond to demand unfunded locum employed to make up a 9th consultant for the emergency service
[5] Normally 1:11 rota but a surgeon on long term sick leave has resulted in a 1:10 rota
[6] Only one substantive consultant in post –5 gaps in rota filled by locums and CAH surgeons - model temporarily changing on 28/2/22
[7] Three of the 8 posts are breast surgeons providing OOH on-call for general surgery
[8] Three substantive consultant in post – 3 gaps in the rota filled by locums

6. NURSING

6.1 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.

6.2 Progress has been in the area of perioperative nursing with the recent publication of the Review of Perioperative Nursing (DoH 2022) which has a wide range of recommendations to strengthen the contribution of nursing in perioperative services.

6.3 There are also other areas under review by a range of groups including the work led by the endoscopy and workforce sub groups of the cancer strategy. The work of the General Surgical Review will not duplicate these efforts.

6.4 The aim of this section is to explore the evidence associated with specialist and advanced practice in general surgical nursing focusing on surgical assessment units and inpatient hospital services, including Post-Operative Care Units.

General Surgical Ward Nursing

6.5 The impact of the availability of medical and nurse staffing on positive patient outcomes has been well evidenced. (Ozdemir et al 2015) There is a clear relationship between nurse staffing levels, patient safety, theatre productivity and ultimately the management of waiting lists and risk. (Aiken et al. 2002, Rafferty et al. 2007, Van den Heede et al. 2007)

6.6 In Northern Ireland the general surgical ward nursing establishments were the first to be reviewed through the *Delivering Care Phase One*, a process which established consistent evidence based staffing levels reflective of a range of influencing factors.(DoH 2014) Phase one of Delivering Care is currently under review, reflecting the passage of time, the change both in clinical and nursing practice and new and increasing demands on the general surgical teams. This review will be completed in 2022.

6.7 The creation of a positive learning environment for all of the surgical care team is crucial if clinical and care practice is to be delivered in an evidence based way. This requires resources and time but also a supportive engaging culture with the commitment of and support for the whole surgical care team. Creating a positive learning environment includes the importance of supervision and the appropriate time allocated to this role from the core nursing team. (Crafoord 2018)

6.8 Since the implementation of *Delivering Care Phase One* Trusts have identified the importance of clinical educator roles. These post holders support ward nursing staff, both newly qualified staff and those new to the general surgical nursing environment. While these roles are well established in areas of specialist practice such as the Emergency Departments they are relatively new

in the general surgical environment, dispute this there is significant evidence that they make a significant contribution to recruitment, retention and development of nursing staff.

Specialist Practice Nursing

6.9 The role of specialist and advanced nursing practice. This paper will explore the current and potential roles these advanced roles could play in a new model for general surgical practice in Northern Ireland.

6.10 Specialist practice in the surgical environment in Northern Ireland is limited focusing currently on specialist nurses who are often cancer or condition specific specialist nurses e.g. stoma nurse however there is scope for this level of practice in general surgical ward nursing also.

6.11 Specialist practice in nursing involves a number of key components where the nurse exercises higher levels of judgement, discretion and decision making, focusing on:

- Clinical practice;
- Care and programme management;
- Clinical practice development and
- Clinical practice leadership.

6.12 Alongside their primary registered qualification specialist nurse are expected to have hold an NMC recorded Specialist Practice qualification. (NMC 2001 under review)

6.13 Currently there is no “title protection” for specialist nurses leading to the creation of multiple professional titles and roles, throughout the UK and in Northern Ireland. This can lead to increased variations in scope of practice, education and training. As a result teams across NI vary.

6.14 To support the development of specialist nurses in Northern Ireland the Northern Ireland Practice and Education Council (NIPEC) on behalf of the Chief Nursing Officer (CNO) have developed a Career Framework and core job description for specialist nurses in Northern Ireland.(NIPEC 2018) The Career Framework sets out the core generic skills, knowledge and behaviours expected of a specialist nurse with detailed career pathways developed for specialist nurses such as palliative care, diabetes and cancer specialist nursing.

Evidence of Impact of Specialist Nursing

6.15 The evidence of the positive impact of specialist nursing practice has been well documented for example:

- In the management and control of pain and other distressing symptoms in palliative care patients. (Patton et al 2021)
- Policy-makers believed that specialist and advanced practice roles resulted in better continuity of care, improved patient/client outcomes and a more holistic approach.(Begley et al 2014)

- Specialist nursing heart failure care results in higher rates of optimal prescribing, in primary and secondary care.(Archana and Walsh 2004)
- Cancer Nurse Specialits (CNS) improve access to care, drive care coordination, provide staff mentorship through expert-level nursing, and impact the economics of health care through reimbursement. CNSs provide outcomes-based solutions for healthcare systems in the management of patients with chronic conditions. (Hansen 2019)
- The interventions of the Stoma nurse has positive influence on the patient adjustment to the stoma, and its contribution is significant six months after hospital discharge. (Sousa 2020)
- A community specialist nurse-led admission-avoidance service can be a safe and cost-effective model of care for managing patients experiencing acute exacerbations of COPD. (Cox 2017)

6.16 Information provided by Trusts indicate that in the general surgical environment the following roles are established:

- Enhanced Recovery after Surgery (ERAS) Nurse. These staff work as part of the multidisciplinary team to pathways for a surgical specialty to optimise the patient's physiologic function, and facilitate recovery. Nursing plays a key role in the implementation of enhance recovery protocol. The higher the compliance with the pathway, the lower the burden for the nurses. (Hübner 2015)
- Colorectal Nursing (including Stoma Nursing).
- Upper Gastrointestinal Nursing
- Surgical Nurse Practitioner. These posts tend to focus on maximising the efficiency of general surgical service through for example effective and timely discharge and transfer of care processes.
- Post Anaesthetic Care Unit. Nurses with specialist post anaesthetic recovery skills, these staff often had background in anaesthetic nursing or critical acre nursing.

6.17 As with other parts of the UK specialist practice has not been developed in a consistent and planned way. Titles vary as do job descriptions and roles causing confusion, which can be particularly unhelpful to surgical trainees who move across NI as part of their training programme.

6.18 Access to post registration education and development programmes for general surgical nurses is also limited, due in part to a lack of an overall strategic direction for this service.

6.19 The contribution of specialist nursing in general surgical services in Northern Ireland could be enhanced in areas such as:

- Care coordination including expediting admission and discharge arrangements, improving the efficiency of the general surgical team and maximising available capacity.
- Improved adherence to pathways of care, improving adherence to standards and protocols impacting on safety and efficiency.

Advanced Practice Nursing

6.20 The Nursing and Midwifery Council defined advanced practice in Nursing as, *'A registered nurse who has command of an expert knowledge base and clinical competence, is able to make complex clinical decisions using expert clinical judgment, is an essential member of an interdependent healthcare team and whose role is determined by the context in which they practices'* (Nursing and Midwifery Council, 2005)

6.21 In Northern Ireland the role, function and educational requirements of an Advanced Nurse Practitioner (ANP) is described in the Advanced Nursing Practice Framework. (NIPEC 2016)

6.22 The ANP will undertake comprehensive health assessments, and will manage a range of illnesses and conditions that frequently present in the care settings within which the individual works. S/he will:

- Practise autonomously within an expanded scope of practice
- Demonstrate a person-centred approach to care delivery
- Develop and sustain partnerships and networks to influence and improve
- Healthcare outcomes and healthcare delivery
- Educate, supervise or mentor nursing colleagues and others in the healthcare
- Team
- Contribute to and undertake activities, including research, that monitor and
- Improve the quality of healthcare and the effectiveness of practice (NIPEC 2016)

6.23 An ANP in NI is required to have completed a Master's programme in the relevant area of practice and have NMC recorded Non-Medical Prescribing V300.

6.24 While many of these roles have developed in direct response to the reduction in junior doctors hours, the characteristics and titles have been shaped by the context and country where they practice as a result the role of the advanced nurse practitioner is not readily understood by members of the multidisciplinary team. (Griffin and Melby 2006) (Smith 2003)

6.25 Studies which explore the effectiveness of these roles suggest that ANPs:

- Maintain a caring and holistic outlook and given their familiarity with working systems within wards, they are able to initial treatment faster. (Rushforth et al 1998)
- Provide costs savings through reduced length of stays (Scott 1999) (Jarrett 2009)
- Improved clinical practice and service delivery and greater clinical leadership. (Begley et al 2013)
- Report improvements in patient outcomes. (Kinley, 2001; Caine et al, 2002; Laurant et al, 2004; Marsden and Street, 2004)
- Improve staff knowledge, skills and competence and enhanced quality of working life, distribution of workload and team-working.

- Work effectively as part of a team were responsibilities are clear and there is a coordination of roles and tasks such as in hospital at night teams. (Dalton 2010)
- Hoffman et al found that teams who included an ANP reported decreased length of ICU admissions, decreased hospital length of stay, and improved discharge documentation. ANP-managed patients were mobilized more quickly, had less skin breakdown, and a reduced frequency of urinary tract infections. (Hoffam et al 2003)
- Advanced practice nurses have consistently provided cost-effective, holistic health care.(Hoffman et al 2004)

6.26 In Northern Ireland ANPs have developed rapidly in recent years with a focus on primary care, paediatrics, medicine including care of older people and emergency care. To date there has been no ANP programme for surgical nursing commissioned locally.

6.27 Currently there is one ANP employed in general surgery in Northern Ireland, in the Northern Health and Social Care Trust. This post holder provides holistic care working as part of the general surgical team. The role embraces all of the key elements as described in paragraph 3.25.

6.28 This role has a number of key features:

- Participation in the general surgical teams' response to emergency referrals.
- Support for the middle tier rota working outside normal working hours, responding to changing demands.
- Instigation and coordination of investigations and referrals to other services such as frailty assessments. Independent initiation of some investigations is currently limited.
- Support to ward staff particularly in response to National Early Warning Scores and the deteriorating patient.
- Delivery of holistic care with improved continuity of care.

6.29 Having reviewed the evidence and impact of the role of an ANP it is clear that this role could support both emergency, elective and general surgical assessment services. The role of the ANP could positively impact on the provision of services to 'semi urgent' patients who given current emergency demands on medical teams can be subject to delayed assessment. The ANP provides a much needed consistent and stable voice at the 'middle tier' of the surgical care team.

6.30 For the impact of the role to be maximised issues such as independent referral to the full range of investigative and diagnostic procedures should be resolved.

6.31 There are a range of other care environments where specialist and advanced nursing roles could positively impact on outcomes for patients and alongside improving the services response to increasing demands. These include, Emergency Surgical Assessment Units and Post anaesthetic Care Units (PACU).

6.32 **Emergency Surgical Assessments Units**: The use of an assessment or short-stay unit is an increasingly common initiative to streamline the management of acute surgical admissions. The vast majority of published research evaluates medical assessment units, illustrating a reduction in length of stay, reduced emergency department waiting times, no increase in readmissions, no increase in mortality and reduced numbers of outliers. While the body of evidence on the impact of surgical assessments units is more limited studies do show that the establishment of a Surgical Assessment Unit has improved patient flow with potential benefits to patient care, for example, greater numbers of patients seen and discharged directly from the assessment area, and greater numbers of patients directed to the theatre admission area rather than ward admission for minor surgical procedures which results in same day discharge, therefore decreasing burden on inpatient surgical ward beds. (Jacobson 2016) The role of nursing either at specialist or advanced practice levels is crucial to the delivery of this service. A sample surgical care team staffing for a Surgical Assessment unit is available at Annex A.

6.33 **Post anaesthetic Care Units (PACU)** – Nursing roles during this phase of care focuses on providing post anaesthesia care to the patient in the immediate post anaesthesia period and transitioning them to the inpatient setting, or to an intensive care setting for continued care. This service ensure that surgical patients receive optional care. The number of nursing staff required varies with the acuity of patients but is generally a mixture of 1;1, 1:2 and 1:3 nurse to patient ratios. Where ANPs have been integrated as part of the PACU care team they have developed skills in anaesthesiology, critical care, pain management and advanced life support. (Federico 2007) A sample care team staffing for a PACU is available at Annex A. The PACU sub group report provides further details including clinical services appropriate to the unit.

Recommendations – Nursing Staff

- There should be a review of Phase 1 Delivering Care as it pertains to general surgery taking into account the new service model including acute surgical assessment, surgical ambulatory emergency care service and elective inpatient wards. This review should include the role of the ward based clinical educator to support recruitment, retention and staff development and the role of nurse educators in the clinical environment.

- To support retention of surgical nursing staff a career pathway should be developed to maximise the contribution of nursing to the general surgical environment including elective centres, surgical assessment units and ward environments at general, specialist and advanced practice levels.

- To meet the gap in service need, the role of General Surgical Nurse Practitioners and Advanced Nurse Practitioner should be utilised particularly in acute surgical assessment pathways and in-patient ward based services

- Alongside a recruitment drive to employ ANPs an educational programme for ANPs in general surgical nursing should be commissioned in 2022/23 to

ensure that there are sufficient ANPs available to support the new model of General Surgical Services in Northern Ireland including elective, emergency and assessment services. Solutions to support the capacity of ANPs to order a full range of investigations should be resolved.

- In the development of all specialist and advanced practice roles, job descriptions and job titles should be agreed regionally to avoid unnecessary confusion and ensure consistency of approach.

- Where this General Surgical Review identifies key areas were specialist practice would benefit patients such as in Post-Operative Care Units (PACU) regionally agreed job descriptions should be developed and educational opportunities made available to ensure these roles are delivered.

- Current education programmes for anaesthetic nursing should be reviewed to ensure they meet the needs of those nurses working in the PACU environment.

7. ALLIED HEALTH PROFESSIONS

7.1 Allied Health professionals (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. Practical interventions from AHPs are often significant in enabling people to recover movement and mobility, psychological wellbeing, overcome visual problems, improve nutritional status, swallowing/ dysphagia management, develop communication strategies, achieve independence and everyday living skills including return to vocation/leisure, thus allowing them to sustain and enjoy quality of life even when faced with life-limiting conditions.

7.2 This section was developed with contributions from HSC Trust AHP Leads, Regional Professional Forums, the relevant Professional Bodies and recent published research.

7.3 There are 15 different professions included in the umbrella term of the Allied Health Professions regulated by the Health and Care Professionals Council (HCPC) many of which have an active role in the treatment and care of the general surgical patient. For the purpose of this paper the focus is on the AHPs who have a substantial input in the pre and /or post-operative pathway for patients namely surgical these patients, i.e.:

a. Physiotherapy,
b. Dietetics;
c. Speech and Language Therapy;
d. Radiography;
e. Occupational Therapy.

7.4 The contribution and opportunities for AHPs in general surgery will be addressed under the following headings: Pre-operative Service; Anaesthetic and Intra-operative Services and Post-operative Services. It also explores the opportunities for AHPs to take up advanced practice roles in the care of patients on the surgical pathway.

7.5 Operating Department Practitioners are also regulated by the HCPC. This profession will be considered in a separate section of this paper.

AHP Services Working Pattern

7.6 Unlike their nursing colleagues, outside normal working hours AHPs generally provide a limited or on call emergency service. Due to the changing profile of demand of services and the need to ensure that inpatient facilities are used effectively there is strong public support for acute hospital services to move to fully commissioned 7-day models, with senior clinical decision makers available at all times, and multidisciplinary team assessment of all newly admitted patients occurring within 14 hrs of admission (Academy of Medical Royal Colleges 2012; Christie et al., 2013; Hawkes 2013; NHS Improving Quality 2013).

7.7 Patients admitted on a Friday afternoon can face delays up to 72 hrs before assessment and treatment, leading to *"extended periods of bed rest, decreased functional levels, reduced rehabilitation potential, limited discharge planning, and ultimately an increased length of stay"* (Robinson et al., 2013).

7.8 There is a growing body of indirect evidence indicating that provision of earlier and higher intensities of particular allied health services improves health outcomes for a range of hospital patient populations (Peiris et al., 2011; Schweickert et al., 2009; Brusco et al., 2007).There is also evidence that delayed access to some allied health services could result in higher rates of adverse events (Haines et al., 2013; Keenan et al., 2011).

7.9 Currently in some Trust areas, AHPs offer non-commissioned weekend cover from an existing workforce, spreading their 5-day-week pool of staff more thinly across a 7 day period. A recent qualitative study undertaken by O'Brien et al., (2017), found that all staff on acute wards expressed the belief that the presence of weekend allied health services positively contributed to patient flow through the hospital, reducing length of stay. Reducing length of stay is viewed as being important to reduce the cost of service delivery, to enhance the ability of other patients to access acute care services and to prevent poorer health outcomes associated with longer length of stay (Peiris et al., 2013; Brusco et al., 2007).

7.10 In addition, the potential for new ways of working to manage the increased waiting lists should be considered. These may include altered shift patterns for theatre mid-week that maximises use of available theatre slots and the importance of having a targeted AHP workforce across a 12 hour day to ensure day 0 interventions for patients post-surgery in the evening as well as weekend.

Pre-Operative AHP Services

7.11 Pre Op optimisation of respiratory function, nutrition and physical activity will enhance recovery post operatively. Physiotherapists, radiographers and dieticians are an integral part of any surgical care team whether through a pre op assessment clinic or as a member of the ward based team.

Physiotherapy

7.12 Physiotherapists play a key educational role in the preparation of a person's physical and respiratory function prior to undergoing surgery. Abdominal surgery often results in respiratory changes that can lead to post-operative hypo ventilation, associated with high risk of pulmonary complications. However, pre-operative physiotherapy interventions such as exercise training and breathing strategies (offered remotely or face-to-face) can reduce post-operative respiratory complications such as pneumonia by 50%. (Jones, 2018)

7.13 There is a growing evidence base to support pre-operative physiotherapy investment in sustaining positive effects of surgery and promoting recovery:

- Pre-operative exercise in patients scheduled for cardiovascular, thoracic, abdominal and major joint replacement surgery to be well tolerated and effective (Hoogeboom et al. 2014).
- Patients who receive pre-operative physiotherapy are six times more likely to remember breathing exercises post-surgery (Boden et al 2018)
- Pre-operative physiotherapy reduces the rate of lung complications up to 14 days after surgery and the effect has shown to be maintained for a further 12 months (Jones, 2018)
- Pre-operative physiotherapy is effective in reducing post-operative pulmonary complications (PPC) and improving quality life years after major abdominal surgery. (Boden et al 2020)

7.14 A key factor to successful intervention is the communication between the physiotherapist and patient. Optimal outcomes are provided when pre-operative physiotherapy intervention targets both training in breathing techniques pre surgery and empowering the patient to self-direct these interventions immediately after surgery.

Radiography

7.15 From the outset of the patients journey access to early and accurate diagnostics is key. A higher proportion of patients requiring general surgical interventions are now elderly. Clinical diagnosis in this population is increasingly complex due to multiple comorbidities, polypharmacy, insufficient patient details and atypical presentations, (Martinez and Mattu, 2006; Samaras et al., 2010).

7.16 Abdominal computed tomography (CT) undertaken by radiographers can provide early and accurate diagnosis, even in the presence of incomplete clinical and biological findings, (Millet et al., 2013). For elderly patients who present with acute symptoms, the use of early CT not only influences clinical decision making but also significantly reduces length of hospital stay and discharge time, (Gardner et al., 2015 & Radwan et al., 2018).

7.17 The role of the radiographer both at specialist and advanced practice levels is crucial to positive patient outcomes and the smooth management of patient flow and therefore efficiency of the service.

Dietetics

7.18 Pre-operative nutrition therapy is increasingly recognised as an essential component of surgical care with the primary nutrition goals being to:

- evaluate the patient for pre-existing malnutrition
- treat malnutrition to optimise surgical readiness
- minimise starvation
- prevent postoperative malnutrition and
- support anabolism for recovery (Weimann et al 2017)

7.19 Dietitians are best placed to provide specialist advice and intervention to support the patients' nutritional needs. They provide holistic and comprehensive nutritional assessments and associated treatment plans for patients and provide advice which is tailored to their individual nutritional issues and needs. Dietitians advise on the need for alternative sources of nutrition such as use of oral nutritional supplements and enteral feeds and throughout their involvement with patient care, will monitor the response to interventions, making adjustments based on clinical needs.

Post-Operative AHP Intervention

7.20 Research has shown that the earlier a person gets out of bed and starts walking, eating and drinking after having an operation, the shorter their recovery time will be. AHPs are required to provide support to surgical patients across a 7 day week, on both an inpatient and outpatient basis and this should be taken into account when any future commissioning of services/review of existing services is undertaken.

Physiotherapy

7.21 Physiotherapists provide assessment and intervention for a range of acute and chronic respiratory pathology, including the prevention, support, and resolution of respiratory failure. Physiotherapy has a prominent role in the prevention and management of post-operative pulmonary complications, as well as supporting physical recovery following major surgery. Importantly, physiotherapists promote early mobilisation and prevention of deconditioning during periods of acute illness, in addition to providing specialist rehabilitation following critical illness or severe injury. (GPICSv2 2019)

7.22 Surgery can cause major stress for patients both physically and psychologically. In tracheotomised patients, physiotherapists can offer respiratory care and clearance in addition to pulmonary rehabilitation. They administer therapy that includes manual hyperinflation, passive positive pressure breaths, clearance of sputum, and recruitment of collapsed or dependent areas of the lung.

7.23 Early mobilisation reduces respiratory and thromboembolic post-surgical complications, which are associated with bedrest (Burgess et al 2019). It has been shown to reduce length of stay by an average of 3.09 days following emergency abdominal surgery (Hajibandeh et al 2020) and 4 days following pancreatic cancer resections (Agarwal et al, 2018).

- Postoperative exercise promotes muscle hypertrophy and the return to function after major surgery (ERAS Society 2017).
- Early postoperative mobilisation has been shown to reduce the rate of morbidity and length of stay following major surgery (Epstein 2014; Kehlet and Wilmore 2008)
- Early mobilisation has been evidenced to reduce the rate of postoperative pulmonary complications, venous thromboembolism and infection (Epstein 2014).

- Physiotherapy intervention will also be required to address urgent respiratory needs in the out of hours period. 24hr / 365 days a year on call service must be factored into any workforce modelling.

Speech and Language Therapy

7.24 Speech and Language Therapists provide life-improving treatment, support and care for adults who have difficulties with communication, eating, drinking or swallowing and are key professionals for patients with oro-pharyngeal dysphagia or communication difficulties including dysphonia. Advanced SLT skills in tracheostomy management and weaning, instrumental assessments of videofluoroscopy and fiberoptic endoscopic evaluation of swallowing (FEES) are essential when managing patients following complex surgeries or with post-op complications.

7.25 Speech and Language Therapists are integral in supporting patients within ICU and on general surgical wards following discharge from critical care. They are experts in tracheostomy care, as their assessment and therapy may dictate the type of tubes required, such as changing a cuffed tube to an uncuffed tube, etc.

7.26 Studies show that where speech and language therapists offer early augmented communication methods to tracheostomy patients, motivation is increased, decannulation rates increased and length of hospital stay decreased (Alabdah et al, 2018).

7.27 Tracheostomy-related complications are further minimized and outcomes improved when there is a multidisciplinary, ward-based approach to tracheostomy care (Speed et al, 2017) with the general surgical team and / or ICU team being supported by ENT specialists.

Dietetics

7.28 The dietitian is best placed to provide nutritional advice to the multi-professional team on the optimal way to manage the nutritional needs of patients post-surgery. The dietitian has the knowledge and skills to manage complex cases, in partnership with other members of the MDT, patients and carers. This includes advising on the most appropriate nutrition regimen and providing ongoing monitoring to ensure patient safety and demonstrate outcome benefit.

7.29 Evidence now clearly suggests that, when required, early Enteral Nutrition through oral or nasogastric feeding should be initiated as early as possible after surgery (Weimann et al 2017 and Wischmeyer et al, 2018). Initiation of Enteral Nutrition at day 1, post op, may be possible in up to 90% of patients (Gündogdu et al, 2019). Early Enteral Nutrition can reduce length of hospital stay by 1.44 days (Willcuttset al 2019) and significantly reduce risk of complications (Greco et al., 2014). Recent research has associated these findings with economic cost savings (Wischmeyer et al, 2018).

Occupational Therapy

7.30 Experienced Occupational Therapists are a key component of the multi-disciplinary team to ensure delivery of meaningful, functional interventions which address patients' complex physical, cognitive, psychological and social needs to support safe hospital discharges.

7.31 Early Occupational therapy assessment post-surgery is key to promote mobility and functional activity. Collaborative early mobility decreases length of stay by helping to improve function, mitigate sedative use, and improve respiratory status in patients who are critically ill (Needham et al., 2010).

7.32 Ward based occupational therapists can ensure a safe discharge home through timely assessment, targeted interventions, recommendations and caregiver training (Fisher & Friesema, 2013; Rogers et al., 2017).

7.33 Occupational Therapists can reduce hospital length of stay and readmission for adults with complex healthcare needs through self-management strategies, provision of assistive technology, adaptation of the environment alongside patient/caregiver education (Steiner & Friedman, 2013; Corcoran et al., 2017).

Advanced Practice

7.34 The agreed NI definition of advanced practice for AHPs is (DoH 2019): Demonstrable, relevant education is recommended for entry level to the advanced practice role which is to be at MSc level or equivalent and which meets the education, training and Continuous Professional Development (CPD) requirements for Advanced Clinical Practitioners (ACP) as identified within the framework.' (Adapted from National Leadership and Innovation Agency for Healthcare, 2010 and NHS England, 2015).

7.35 There are a number of areas where AHPs already have demonstrated advanced or extended practice including:

- Tracheostomy management
- Fibrotic Endoscopic Evaluation of Swallowing (FEES) (Speech and Language Therapy)
- Physiotherapy, Pharmacy and Dietitians undertaking the training as Advanced Clinical Practitioners (ACPs) in a range of settings including critical care, ED and acute wards.
- Advanced practice in radiography improving efficiency in CT imaging, supporting differentiation between normal and abnormal ultrasound appearances.

7.36 Nationally there are a wide range of programmes supporting the development of advanced practice some targeting AHPs and other combining access to HPs and Nurses.

Recommendations – Allied Health Professions

- Within the context of a new service model for general surgery and also the new Integrated Care System and the Strategic Outcomes Framework which will focus on population health and more local needs assessment, there should be a review of each Trust AHP (Physiotherapy, Dietetics; Speech and Language Therapy, Radiography, Occupational Therapy) pre-operative and post-operative service include the commissioning of the above AHP surgical service to provide 7-day cover for post-operative / ward based care where this currently does not exist.

- A career framework should be developed which supports and provides a pathway for AHPs maximising opportunities for advanced and specialist practice in general surgical services.

- Advanced practice in AHPs should be further developed and consideration given to shared training and educational opportunities with nursing colleagues.

8. OPERATING DEPARTMENT PRACTITIONERS

8.1 The Lewin Report (DHSS 1970), a response to a shortage of theatre nurses which had led to increased waiting lists, created the role of the Operating Department Assistant (ODA). These ODAs drew their membership from theatre technicians and were supported by a national training program. In 1991 a new practitioner emerged, the Operating Department Practitioner (ODP).This new practitioner was required to complete the National Vocational Qualification (NVQ) in Operating Department Practice NVQ level 3.

8.2 By 2003 ODPs were integrated within the regulation of other allied health professions, bringing them under the Health and Care Professions Council (HCPC).

8.3 On 1 July 2021 following public consultation the HCPC took a decision to increase the threshold level of qualification to the Register (SET 1) for Operating Department Practitioners (ODP) to degree level. This means that, from 2024, the HCPC will only approve ODP education programmes at degree level. This decision will not affect currently registered ODPs, or any ODP who completes a diploma level programme before 2024.

8.4 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.

8.5 Today the HPCP indicate that there are twenty-six ODPs registered whose home address is Northern Ireland. There are approximately 13.5 ODPs employed in HSC Trusts in NI employed on a permanent basis.

	BHSCT	**SEHSCT**	**NHSCT**	**SHSCT**	**WHSCT**
Operating Department Practitioners	2 wte Permanent	9.5 wte Permanent	0	2 Agency staff	2 Permanent

8.6 The workforce leads met with 7 ODPs and 2 service managers to gain a better understanding of the role and the experience of working in the ODP role in Northern Ireland. The following observations were made:

- Feedback indicated that, in most Trusts, there was limited understanding and awareness about the role particularly in terms of its scope and the potential for development.
- Some post holders indicated they felt that this lack of understanding often meant that their contribution to the wider team was marginalised creating lost opportunities to improve patient care. In addition this lack of understanding at times caused tensions between ODPs and perioperative nursing teams.

- ODPs indicated that their education prepared them for roles in the three areas of perioperative care, anaesthetics, scrub and recovery and that they all enjoyed the variety. The OPDs described how their education provided not only the clinical aspect of the service but also the technical understanding of the complex technology used in the perioperative setting.
- A number of ODPs described how they had been redeployed to critical care during the pandemic, reinforcing their skills in caring for level 3 ventilated patients.
- All except one of the ODPs currently practicing in Northern Ireland gained their qualification and initially practiced in England. One OPD undertook an NVQ in Northern Ireland a number of years ago when it was available (which it no longer is).
- All expressed frustration at lack of opportunity for career progression within their speciality.
- Due to a lack of understanding and awareness the potential for a valuable contribution of ODPs to this “difficult to recruit to” perioperative service has been lost.

8.7 There is no locally provided ODP education program. While there are over 20 universities offering this programme in mainland UK, only one offers the programme on a part time basis. In addition there is an increased focus on offering degree level ODP programme as part of an apprenticeship model. This is not yet available in Northern Ireland.

8.8 Distance learning programmes are also very limited for example, the University of West Scotland, Operating Department Practice, Diploma of Higher Education (DipHE). This combines online and work-based learning. This program was commissioned by NHS Scotland and led by the Chief Nursing Office. It is a two year diploma programme, which will move to a three year degree program by 2024.

8.9 The students are employed to the Scottish Board (equivalent to Trusts) and are paid while in training. In additional each regional has a regional educator employed by NHS Education for Scotland (NES). These staff are responsible for coordination of practice placements, elements of face to face education and training and organisation of specific skills days. The students are supported with local mentors who themselves are supported by NES.

8.10 In terms of recurrent and retention; despite the majority of perioperative posts are advertised throughout the UK are seeking registered Nurses and/or ODPs for the same post, NI has failed to attract and keep significant numbers of ODPs.

Recommendations – Operating Department Practitioners

➢ Develop a strategy for the education, development and support for Operating Department Practitioners, specifically for the perioperative environment, including for example:

- Clear description of the role of ODPs as part of the perioperative team.

- A workforce plan which maximises the opportunities ODPs have to improve patient care.
- Improved access to diploma and degree programmes.
- Development of a career pathway.

9. PHARMACY

9.1 General surgical pathways rely on pharmaceutical interventions such as anticoagulants; parenteral nutrition; fluid balance; antimicrobials before, during and after surgery.

9.2 The pharmacy team, which includes pharmacy technicians and pharmacists within pharmacy responsible for dispensing and supply; as well as more specialist pharmacy staff with patient facing roles within clinical teams play key role in optimising all aspects of the surgical service for patients. For example, advising patients on medicines to start and stop before surgery, medicines management support to ensure appropriate range and presentation of medicines during procedures, post-operative nausea and vomiting management and optimising analgesia control.

9.3 Historically the focus has been on pre and post-operative services. Developments in pharmacy interventions in the perioperative environment are more recent articulated for example in the publication of the ASHP Guidelines: Minimum Standard for Pharmacies in Hospitals which describes the essential roles of the perioperative pharmacist or pharmacy team include the following:

- Medication procurement, preparation, distribution and flow
- Promotion of safe medication use according to regulations and institutional policies
- Controlled substance management and surveillance
- Preoperative and post anaesthesia care unit (PACU) order review
- Provision of drug information and education
- Performance improvement and quality assurance
- Leadership duties and professional service
- Financial management (ASHP 2013) (Gourang 2020)

9.4 While clinical pharmacy in the ward setting while not comprehensively commissioned is widely understood and established. The role of pharmacist in the perioperative environment in Northern Ireland is however limited and generally restricted to complex and often tertiary surgery. The experience of COVID has highlighted the contribution of pharmacy teams within clinical settings in proving direct support for the preparation and administration of medicines releasing other staff from these duties

Recommendations - Pharmacy

- There should be a review of each Trust pharmacy service for pre-operative and post-operative service including, where this currently does not exist, the commissioning a clinical pharmacy service in surgery to provide 7-day cover for post-operative / ward based care taking into consideration the new service model for general surgery.

10. PARAMEDICS AND EMERGENCY MEDICAL TECHNICIANS

10.1 While not strictly part of the surgical care teams Northern Ireland Ambulance Service (NIAS) plays a crucial part of the delivery of health and care services in Northern Ireland. The impact of the final outcome of the review of general surgery and any changes made by Trusts locally must consider any implications for NIAS.

10.2 The recently published joint report by NHS Providers and the Association of Ambulance Chief Executives (AACE) illustrates not only the pressures faced by service with demand for emergency care reaching record levels, complicated further with high rates of handover delays despite the best efforts of staff. The report also highlights how ambulance trusts also face severe workforce shortages and high rates of burnout. (Foundation Trust Network 2021)

10.3 The staff who provide these services include:

- Paramedics
- Emergency Medical Technicians
- Ambulance Care Attendants
- Volunteers

10.4 NIAS has a responsibility to respond to both urgent and emergency surgical patients and ensure patients have access to non-emergency patient transport services including scheduled attendances and inter facility transfers. To ensure an integrated approach to service development and workforce planning NIAS must be involved and engaged in regional and local service transformation. (NIAS 2020).

Recommendations - Paramedics and Emergency Medical Technicians

- To ensure effective workforce planning for the ambulance service NIAS must be involved and engaged in the outcome of a new model of general surgery as it is implemented at a local Trust level.

11. KEY NON-CLINICAL SURGICAL CARE TEAM MEMBERS

11.1 For the surgical care team to be effective and efficient it is crucial that the skills and capacity of the whole care team is utilised. This section will address the specific challenges and opportunities that impact on some key roles:

- Operational Management
- Administration and Clerical roles
- Domestic Services / Environmental Hygiene roles
- Portering / Transport roles

11.2 In developing a new model for general surgical services it is vital that there is sufficient attention and resources made available to these roles.

Management and Administration

11.3 Essential to the smooth running of a surgical care team is the role of service management. The service manager is usually responsible for the management of having systems and process in place to measure and demonstrate a high level of clinical service, finance / budget control and performance management all necessary elements of proving a health service.

11.4 There is overwhelming evidence that access to skilled and adequate clerical and administrative support benefits clinical staff such as nurses and doctors. (Ford 2018) (Somerville 2018) The impact of effective administrative and clerical support include, (a) improved nurse unit manager well-being; (b) more time to undertake clinical leadership; (c) greater efficiencies in finance, payroll and HR processes; (d) improved capacity for strategic leadership; (e) increased staff satisfaction and improved unit culture; and (f) improved succession planning.(El Haddad 2019) In planning for the future workforce for a new model of general surgical services consideration must be given to ensuring adequate support for clinical teams and by extending the normal working day of these key staff to maximise their impact on patient care.

Domestic and environmental hygiene staff

11.5 Domestic and environmental hygiene staff are crucial to patient safety and infection prevention and control measures. Despite their importance those tasked with the role of ensuring a safe and clean environment often go unrecognised as members of the healthcare workforce. (Dancer 2009) Staff who keep facilities clean area vital in breaking the chain of transmission of infections in hospital. In planning for the future workforce for a new model of general surgical services consideration must be given to developing the workforce responsible for environmental hygienic and ensuring that they are available to meet growing demand in all care settings.

Portering

11.6 While transporting patients between departments in hospital has been well established the importance of these staff I the management of patient flow and the overall efficiency of units has had little attention. Portering teams do more than move people and goods through the system of care, they are key to patient safety and good patient experience, often being one of the first people our patients and families meet.