



**RCSI**

ROYAL  
COLLEGE  
OF SURGEONS  
IN IRELAND

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**SURGERY FOR IRELAND**  
REPORT OF THE SHORT-LIFE  
WORKING GROUP ON THE  
PROVISION OF EMERGENCY  
SURGERY

FEBRUARY 2023



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## 1.0 PURPOSE

At the request of the President and Council of RCSI, a Short Life Working Group (SLWG) was convened to review the provision of emergency surgery in Ireland and make recommendations for the future. Professor Deborah McNamara, Chair of the RCSI Committee for Surgical Affairs (2020-2022), was invited to establish and chair the group.

## 2.0 MEMBERSHIP OF THE SLWG



**Prof Deborah McNamara** (Chair)  
Chair of Committee for Surgical Affairs (2020-2022), Co-Lead National Clinical Programme in Surgery, Consultant General and Colorectal Surgeon



**Mr Ken Mealy**  
Past President RCSI, Co-Lead National Clinical Programme in Surgery, Consultant General Surgeon



**Prof Paul Ridgway**  
National Clinical Advisor for General Surgery (NCPS), Consultant General Surgeon, Member of Council RCSI



**Ms Bridget Egan**  
Chair of Committee for Surgical Affairs (2022-2024), Member of Council RCSI and Consultant Vascular Surgeon



**Mr Paddy Kenny**  
Member of Council RCSI, Co-Lead of National Clinical Programme in Trauma and Orthopaedics and Consultant Orthopaedic Surgeon



**Mr Keith Synnott**  
Member of Council RCSI, National Clinical Lead for Trauma Services and Consultant Orthopaedic Surgeon



**Mr Kieran Ryan**  
Managing Director,  
Department of Surgical Affairs, RCSI



**Ms Ciara Hughes**  
Programme Manager for NCPS

### 3.0 INTRODUCTION

The current system of emergency surgery service provision has evolved over decades. It is timely that it is reviewed in its entirety, including important issues such as the configuration, competencies and supports required to ensure a fit-for-purpose and safe service that meets the needs of our population. The implementation of six Regional Health Areas (RHAs) results in an urgent need to review current structures for the provision of emergency surgical care (1). The future configuration must support geographic alignment between community and acute services, enable an operational service delivery framework with population-based resource allocation and ensure appropriate governance and integration of care in every region. The proposed approach preserves equitable regional access to higher-quality emergency surgical services locally, while ensuring smoother transitions of care for people who require complex emergency surgery.

Access to high quality emergency surgery is essential to provide comprehensive and appropriate care and must support the ambitions of the trauma and maternity strategies and other key health policies. Emergency access to specialists in all surgical disciplines must be enabled depending on the needs of the patient.

EQUITABLE PROVISION OF HIGH QUALITY  
AND SAFE EMERGENCY SURGERY IS AN  
IMPORTANT FUNCTION OF A PUBLICLY  
FUNDED HEALTHCARE SYSTEM



## 4.0 SUMMARY OF RECOMMENDATIONS

### GENERAL

1. Regional Health Areas should integrate emergency surgery services across hospital sites to ensure that the needs of each patient presenting with a surgical emergency can be met.
2. Emergency surgery is safest when performed during normal working hours by fully trained staff and where sufficient volumes of surgery are performed to maintain the expertise of the multi-disciplinary emergency surgery team.

### THE EMERGENCY SURGICAL NETWORK

3. Geographically-based emergency surgery networks should be developed with agreed written pathways that facilitate flow of patients between network locations depending on the needs of the patient.
4. Emergency surgery networks should be comprised of injury units, emergency surgery units and emergency surgery centres supported by an Elective Hospital (Figure 1).
  - a. Care pathways that define the roles and responsibilities of each hospital within the emergency surgical network are required.
  - b. Injury units and ASAs have an important role in the emergency surgery network and should be accessible to patients in every region.
  - c. No refusal escalation and repatriation of patients within each defined emergency network is necessary.
  - d. Hospital Groups/Regional Health Areas should ensure that patient pathways that enable prompt access to elective-only hospitals are developed and supported.
  - e. Ambulance and transportation services are critical to support all components of the emergency surgical care network, including any necessary by-pass protocols.
5. Emergency surgery centres require 24/7 access to interventional radiology services and 24/7 availability of endoscopy.
6. The workload changes of each component of the emergency surgery service should be modelled to ensure infrastructure and resourcing is available to meet patient needs.
7. Patient safety, operative volumes and changes in the surgical workforce all require that the number of hospitals providing a 24/7 emergency general surgery service is reduced.

### ROLE OF THE ACUTE SURGICAL ASSESSMENT UNIT (ASAU)

8. The ASAU plays an important role in maintaining timely access to a senior surgical decision-maker for patients presenting as an emergency. The ASAU should:
  - Act as a surgical decision-making hub for all emergency surgery patients.
  - Identify and safely transfer patients whose needs exceed the capacity of the hospital.
9. A review of current ASAU practices should be undertaken to define how its contribution can be increased. An expanded scope of practice and longer opening hours should be considered.
10. Each hospital accepting emergency surgical patients should have an ASAU that complies with published national standards (2).
11. The potential of ASAs to enable initiation, monitoring and governance of ambulatory urgent surgical care in the community should be explored.

## THE EMERGENCY SURGERY WORKFORCE

12. National agreement on the optimal staffing model for consultant surgeons who deliver emergency general surgery is required.
13. Hospitals with an emergency surgery unit require staffing to perform appropriate emergency surgery for 8-12 hours, either 5 or 7 days per week, depending on their geographic location and caseload.
14. Consultant surgeons should work across more than one hospital in the network to enable full participation by each surgeon in both emergency and scheduled care services.
15. Emergency and elective surgery should be carried out by the same consultant surgeon, ideally in high volume centres. The activity should be separate and should enable high quality surgical training to take place to ensure a sustainable service for the future.
16. Timely access of patients to UGI, HPB and colorectal specialist surgeons is critical to enable best outcomes in cancer and other complex conditions presenting as an emergency to be achieved.
17. A clear governance structure for acute surgical care, taking into account regional health area networks for delivery of acute surgery, both general and sub-specialist, is required.
18. An interdisciplinary workforce plan for emergency general surgery should include nursing, anaesthesiology, physician associates and access to diagnostics and critical care resources. Opportunities to increase advanced nurse practitioner (ANP) and physician associate (PA) participation in the emergency surgery workforce should be prioritised.
19. Policy relating to provision of emergency surgery for children should be agreed by relevant stakeholders.

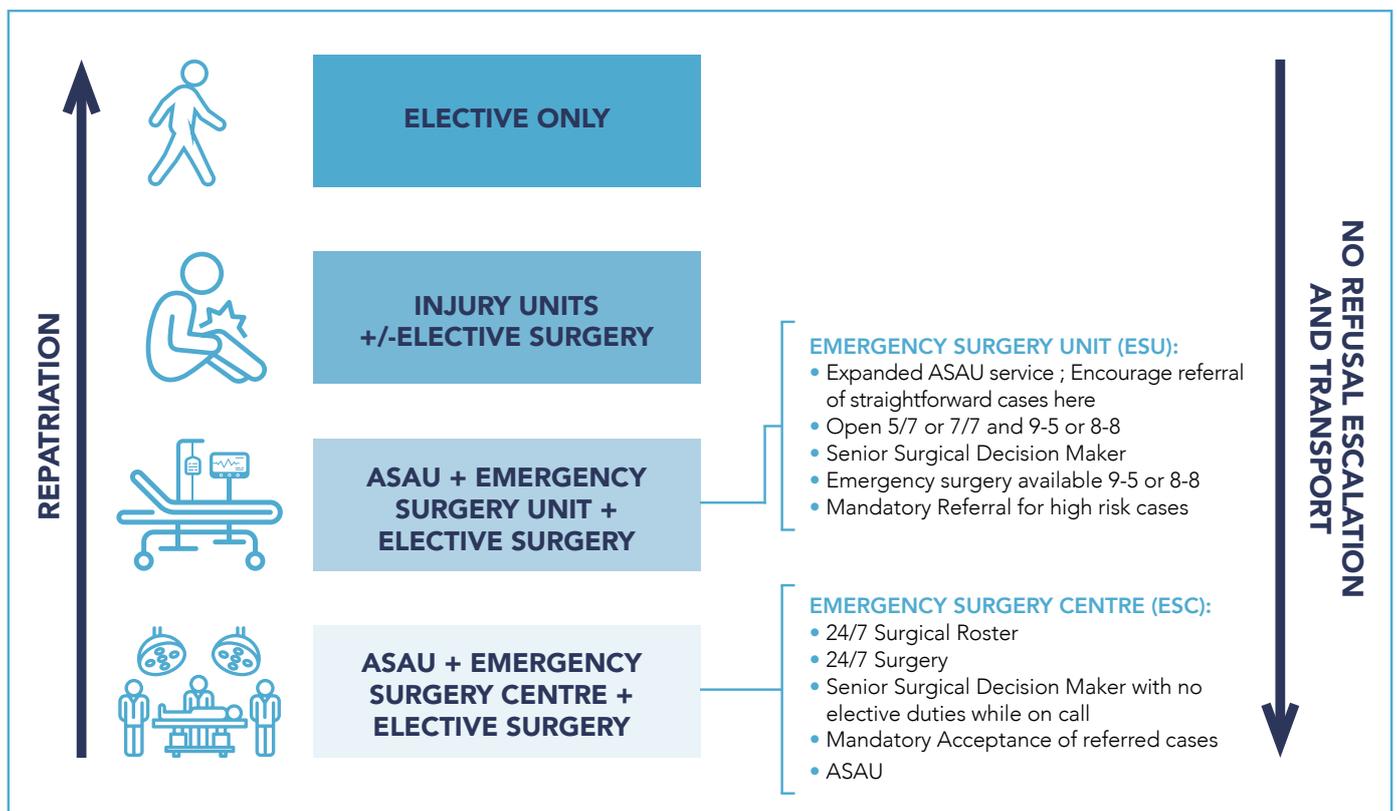


Figure 1. Proposed Emergency Surgical Networks (Four tiers aligned to existing HSE strategies)



A Model of Care for Acute Surgery, published in 2013, describes a system of care in which elective and emergency surgery are delivered as distinct entities (3) but has been incompletely implemented. As a result, in many hospitals, surgeons providing emergency surgery typically have a number of other commitments. Such commitments vary by whether the surgeon is employed in a Model 3 or Model 4 hospital and whether the hospital is an NCCP-designated cancer centre. In most hospitals, emergency surgery is just one of a range of services delivered synchronously with a range of elective adult and paediatric surgery, cancer surgery, significant volumes of endoscopy and ambulatory procedures and out-patient clinics. In the 8 cancer centres, for example, services are delivered by consultant general surgeons from a range of sub-specialties (namely breast and endocrine, upper gastrointestinal, colorectal, hepatobiliary pancreatic surgery) each of whom is also responsible for the delivery of highly specialised cancer and complex benign surgery within their area of expertise.

There is significant variation between hospitals in roster intensity, admission volume and operative complexity, and in the number of patients admitted as an emergency but not undergoing emergency surgery between hospitals (Table 1).

**Table 1.** Emergency admissions receiving general surgery, colorectal surgery or non-operative surgery by hospital group based on 2019 HIPE data extracted from NQAIS

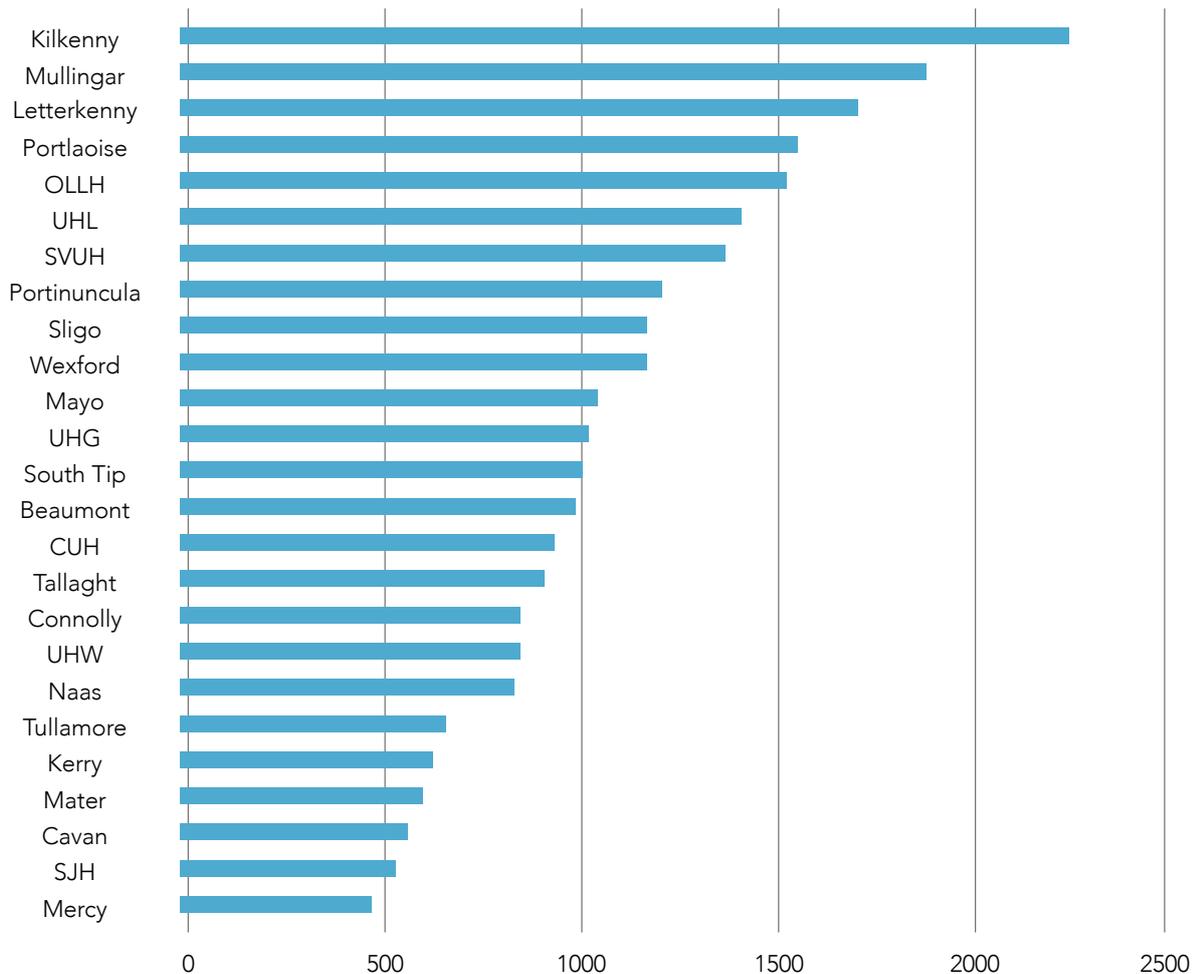
Hospital Group	General	Colorectal	Endoscopy	Other	No Procedure*	Total	%
Dublin Midlands	1,405	180	745	953	4,535	7,818	16.3
Ireland East	2,170	235	1,038	1,275	7,667	12,385	25.8
Saolta	1,708	186	598	941	6,195	9,628	20.1
South/Southwest	2,013	242	746	880	3,998	7,879	16.4
RCSI	1,756	202	607	883	4,028	7,476	15.6
University of Limerick	739	62	163	262	1,411	2,637	5.5
<b>TOTAL</b>	<b>9,791 (21%)</b>	<b>1,107 (2%)</b>	<b>3,897 (8%)</b>	<b>5,194 (11%)</b>	<b>27,834 (58%)</b>	<b>47,823</b>	

\*See Figure 3 for Hospital specific breakdown

The overall figure of emergency admissions who did not have a procedure was 58% in 2019. This is comparable to a previous study that showed 55% in 2013 so this figure has remained relatively constant (4). There is also evidence of variation in practice among hospitals in the number of patients admitted as an emergency under the care of a general surgeon who do not undergo surgery during their hospitalisation (Figure 3).

To some extent, the observed variation is an attempt to match the needs of local populations with the services available locally, especially taking into consideration challenges in access arising from waiting lists and availability of out-patient diagnostics. This data points to an urgent need to identify alternative rapid access ambulatory pathways for endoscopy, radiology and other surgical diagnostic services to avoid unnecessary admissions. Managing such patients through properly resourced ASAU's could identify alternatives to admission for a significant proportion of patients in all specialty areas.

**Figure 3.** Emergency admissions under a general surgeon who do not undergo any operation by hospital



\* Based on 2019 HIPE data extracted from NQAIS

## 6.0 DRIVERS FOR CHANGE

The Irish health service has embarked on significant structural change. The Oireachtas Committee on the Future of Healthcare, in publishing the Sláintecare Report (2017) (5), envisaged a system of integrated care delivered through appropriate care pathways, seamless transitions and timely access to care based entirely on clinical need. This will result in a healthcare system where a patient can access care at the most appropriate, cost-effective service level that will meet their needs. The designation of Regional Health Areas by the Department of Health (6) requires a new approach to configuration and delivery of emergency surgical services that delivers on the ambitions outlined in the Health System Performance Assessment Framework (7).

In addition to the overarching healthcare system context, a number of factors specific to the discipline of surgery influence the need for change.

### 6.1 CHANGING NATURE OF SPECIALTY: GENERALISM VS SUB-SPECIALISM

The field of emergency surgery has changed significantly in recent decades, particularly for general surgery. The intensity of the on-call workload has increased, a greater proportion of operations are delivered with minimally invasive surgery for patients who are older and often have greater multi-morbidity. As a result, emergency surgery decision-making has become more complex. Patients and their supporters rightly expect to be a shared partner in emergency decision-making, resulting in a need for more time to discuss and explore alternatives, as well as a greater necessity for advanced communication skills among surgeons.

Most surgeons participating in emergency general surgery rotas, especially in Model 4 hospitals and cancer centres, undertake complex specialised surgery during day-time hours. Onerous out-of-hours rotas have the potential to impact on the quality of all services. In Model 3 hospitals, the general surgeon covers initial assessment for other specialty areas such as plastic surgery, urology, vascular surgery among others. Access to specialist surgical services out-of-hours can sometimes be a challenge. As surgeons have focused more intensively on their specialist areas of interest, with undoubted benefits to patients, there has been less focus on emergency surgical presentations.

### 6.2 DELIVERING A HIGH QUALITY, SAFE SERVICE

Recent Irish research demonstrates a relationship between volume and outcome for emergency surgery in Ireland. A national analysis of Emergency Abdominal Surgery (EAS) in Irish public hospitals establishes an overall in-hospital mortality rate of 76 per 1000 discharges following EAS, a rate that is comparable to other developed countries (9). A considerable survival advantage was observed when patients were managed by higher volume surgical teams.

The relationship between hospital volume and outcome is more complex. On one hand, observational data from Ireland (9) and elsewhere showed no difference in 30-day mortality based on hospital volume (10). In contrast, a series of 69,490 emergency general surgery (EGS) patients showed that for patients undergoing emergency surgery, mortality outcomes varied with volume, with patients receiving care in middle volume hospitals (defined as those with 3000-4000 emergency surgical admissions per year) doing best (11).

Irish data suggests that, in fact, surgeon volume influences in-hospital mortality; EAS performed by surgical teams with low volumes is associated with higher in-hospital mortality than EAS performed by high volume teams (9). This observation is independent of individual hospital volume and led to the following comment by the authors: "Two distinct groups require particular consideration: high volume surgeons in low volume hospitals and low volume surgeons in

high volume hospitals. Although high volume surgeons are more likely to work in high volume institutions some surgeons in low volume hospitals perform a similar or greater number of EAS per annum than colleagues in high volume centres due to more frequent on-call commitments. These surgeons can achieve comparable mortality outcomes despite working in lower volume hospitals. In contrast, patients of low volume surgeons in higher volume centres had relatively poorer outcomes despite the availability of enhanced perioperative support and salvage services that are demonstrated to improve outcomes.”

The variability in observed outcomes at high volume hospitals requires attention and highlights the importance of effective clinical governance of emergency surgery. At the hospital level, recognised factors including perioperative care pathways, timely availability of senior decision-makers, emergency theatre access, critical care resources and access to interventional radiology all influence outcome. Training and specialisation among EAS surgeons is a factor with a survival advantage and improved outcomes reported when emergency colorectal surgery is performed by a colorectal specialist (12)(13)(14). Timely access of patients to upper gastrointestinal and colorectal specialist surgeons is critical if best outcomes in cancer and other complex conditions presenting as an emergency are to be achieved.

### **6.3 WORKFORCE CHALLENGES AND SUSTAINABILITY OF SERVICE**

The European Working Time Directive (EWTD) as well as the increased intensity of modern surgical practice means that historic 24-hour roster arrangements of 1:3 and 1:4 are neither practicable nor acceptable. Such rotas are a significant factor in the consultant recruitment challenges in smaller hospitals and cannot be sustained. A recent RCSI publication makes a number of recommendations regarding the components of the weekly practice plan for new consultant surgeon appointments (Appendix A: Guidance for Developing Job Descriptions for New Consultant Surgeon Posts. Discussion document developed jointly by NCPS and NCPTO January 2021 (V1)). The NCPS are working with the NDTP to develop a workforce plan for surgery, taking into consideration the need to support high quality recruitment and retention. A description of the proposed future state is critical to enable workforce planning and is a key driver behind proposed changes.

### **6.4 EQUITABLE ACCESS TO EMERGENCY SURGERY ACROSS THE COUNTRY**

Challenges in accessing care are noted in remote and rural populations globally. Equitable provision of high quality and safe emergency surgery is an important function of a publicly-funded healthcare system. The typical acute onset of symptoms requires an urgent unplanned visit to the nearest hospital, sometimes with a life-threatening illness requiring surgery. Patients and their families need to know that everything possible is done to ensure that the care they receive will be of the highest quality. In situations where the patient’s needs exceed the services that are available locally, it is necessary for clear care pathways to exist that allow safe and efficient escalation of care. Delivery of an equitable, safe and high-quality emergency surgery service is an important component of public health and must be a national priority.

## **6.5 NEED TO DEFINE FUTURE STATE FOR TRAINING AND WORKFORCE PLANNING PURPOSES**

The Intercollegiate Surgical Curriculum Programme (ISCP) emphasises the need of surgery trainees to be “day 1 consultant” ready and emphasises the development of general and emergency surgery skills to a greater extent than specialist practice. Ireland needs to be self-sufficient in training the next generation of surgeons to meet the patient needs. Implementing the curriculum and training future surgeons requires visibility of the proposed future state of hospital configuration to enable training and succession planning.

## **6.6 THE EVOLVING SPECIALTY OF BREAST AND GENERAL SURGERY**

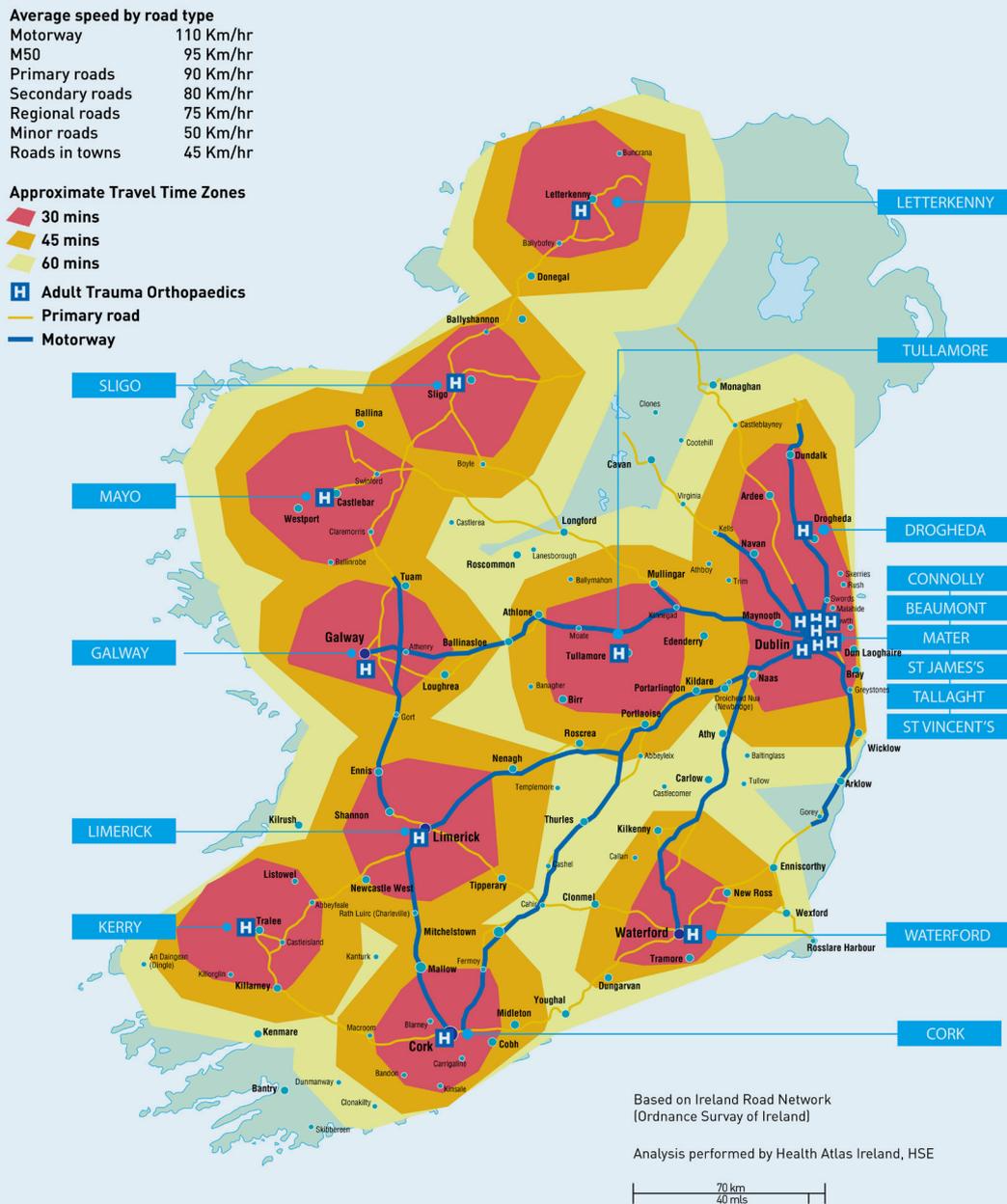
A significant percentage of the existing emergency general surgery service is delivered by breast surgeons. Some current consultant breast surgeons wish to discontinue, or have already ceased, emergency general surgery duties, in keeping with practice in the UK and other jurisdictions. Factors relevant to this issue have been explored by a National Clinical Programme in Surgery (NCPS) short life working group (SLWG) (Appendix B). This report describes current breast surgery practice, and how consultant breast and general surgeons who continue their current practice can be supported. It proposes factors that should be considered by employers if a general and breast surgeon wishes to change their scope of practice. The report outlines factors to be taken into consideration to enable this change to occur in a planned way while mitigating adverse consequences for patients and the health service.

Arising from specialty engagement by the working group, two important issues arose. Firstly, the safety of existing emergency general surgery services in a rapidly changing discipline was flagged as a matter of concern. Secondly, the absence of a specific mechanism that enables implementation of a change in scope of practice was highlighted. The ability of existing consultant surgeons to alter their scope of practice is subject to a contractual relationship between the individual surgeon and their employer. Planning for future emergency general surgery care provisions must acknowledge that in the future consultant breast surgeons are unlikely to participate in staffing such rosters.

## 6.7 FACTORS RELATING TO IMPLEMENTATION OF A TRAUMA SYSTEM FOR IRELAND

Decisions relating to the sites of the major trauma centre and trauma units will have an impact on the need for other services, as envisaged in the Trauma System for Ireland report (15). Fifteen adult trauma units have been specified and outlined in Figure 4 (Figure 10 in original document).

**Figure 4.** Road Travel times to potential trauma units (reproduced from Trauma Report, HSE 2014)



The document indicates that each trauma unit and major trauma centre will require activities with protected time, but this policy change has not yet been fully resourced or implemented (15). National agreement on the optimal staffing model for consultant surgeons who deliver emergency general surgery is required to support the trauma strategy and the provision of general surgery as a whole.

### **6.8 ENSURING AVAILABILITY OF APPROPRIATELY TRAINED AND QUALIFIED SURGEONS AND OTHER HEALTHCARE WORKERS WHO CAN MEET THE NEEDS OF THE POPULATION**

A high-quality service requires a workforce that not only includes consultant surgeons but also a range of other trained staff, like advanced nurse practitioners and physician associates. Understanding the needs of our population for emergency surgical services will enable planning for the future workforce. Training surgeons takes many years and requires clarity about the future service configuration to ensure that new surgeons are appropriately skilled to meet the demands of the health service. Close collaboration with colleagues in emergency medicine and anaesthesiology is essential. A reduction in the number of hospitals providing 24/7 emergency surgery is required. Access to emergency surgery can be preserved in a large number of hospitals, for example from 8am to 8pm, without the requirement for availability of overnight surgical activities. Ensuring that surgeons are members of well-functioning emergency surgery networks offers the best chance of addressing the recruitment and retention challenges that are currently experienced by many of our hospitals.

### **6.9 BALANCING THE DELIVERY OF SCHEDULED AND UNSCHEDULED SURGICAL CARE TO OUR POPULATION**

The aftermath of the pandemic has resulted in unprecedented, and unacceptable, waiting times for scheduled surgery. The delivery of unscheduled and scheduled services are two sides of the same coin with both requiring adequate surgical staffing, infrastructure, beds and a well-functioning system. At present, waiting times for scheduled surgery strongly indicate that there are inadequate resources for surgery in our health service. Identifying necessary changes to unscheduled services must not reduce the number of hospitals presently delivering surgical services. In fact, delivering out-of-hours unscheduled surgery at fewer hospital sites is critical to enable our health service to address the unmet need for scheduled surgery.

### **6.10 INTEGRATION WITH EXISTING POLICY**

In addition to the documents previously cited, a number of other relevant policies were carefully studied in developing these recommendations, notably the smaller hospital framework published in 2013 (16), the Model of Care for Acute Surgery 2013 (3) and the Elective Surgery Model of Care (17) both published by the National Clinical Programme in Surgery. An NCPS report on Emergency General Surgery that was presented to RCSI Charter Day Meeting on 13.2.2020 was also reviewed (report available on request). Policy relating to provision of emergency surgery for children should be formulated by relevant stakeholders.

## 7.0 VISION FOR CHANGE – EMERGENCY SURGERY NETWORK DESCRIPTION

Emergency surgery is safest when performed during normal working hours by fully trained staff and where sufficient volumes of surgery are performed to maintain the expertise of the multidisciplinary emergency surgery team. A networked system of emergency surgical care enables most emergency surgical care to be delivered as near as possible to the patient's home while ensuring equitable access to complex care when required. Each emergency surgical network will need to take into consideration availability of local infrastructure, including not just hospitals but also the road network in the region and the population density. Ambulance services already operate by-pass systems for certain surgical conditions, such as fractures, and should be included in discussions about operationalising emergency surgery networks. We recommend that emergency surgery networks should be comprised of injury units, emergency surgery units and emergency surgery centres. Each network should ideally be supported by an elective hospital to create new pathways for timely access to urgent surgery, thereby avoiding emergency admission. This principle is well established in orthopaedic surgery with the concept of 'cold' trauma and could equally be applied to certain conditions in urology, plastic surgery and general surgery.

### 7.1 TRANSPORT MEDICINE: PRE AND POST HOSPITAL CARE

Geographically based emergency surgery networks, aligned to Regional Health Areas, should be developed with agreed written pathways that facilitate flow of patients between components depending on the needs of the patient. Care pathways that define the roles and responsibilities of each hospital within an emergency surgical network are required. The Acute Surgical Assessment Unit (ASAU) could play an important role as a decision-making hub supporting safe streaming of patients to the service that best meets their needs. Mandatory acceptance between hospitals within a network, without delay, is a necessary enabler. Patients requiring complex surgery (such as emergency laparotomy) and those who need to access a specialist service as an emergency require appropriate and timely transportation. The possibility that ambulance infrastructure and staffing which support the Trauma System for Ireland could also support all components of emergency surgical care should be considered. Transfer is a two-way process. In a networked approach, 'no refusal' repatriation of patients who need ongoing medical or rehabilitation care to a hospital nearer their home is necessary. In geographically appropriate areas, patients who present to an emergency surgery centre with appropriate conditions (such as appendicitis) could be streamed to attend an emergency surgery unit instead. In addition to facilitating such transfers from the Emergency Department, education of general practitioners and the public about ASAU services in the first instance could assist. It is anticipated that consultant surgeons would work across more than one site in the network to enable full participation in both emergency and scheduled care duties.

### 7.2 ELECTIVE-ONLY HOSPITALS

Elective-only hospitals are an important resource to deliver scheduled surgery in a planned, efficient manner and their utilisation should be maximised. Appropriate use of elective-only facilities can ensure prompt treatment of conditions that may otherwise result in repeated ED attendance, like gallstones. Similarly, guaranteed access to elective hospitals can enable a proportion of emergency surgical cases to be referred from an ASAU or ED directly to an elective facility where planned, urgent theatre access is ring-fenced. A good example of this is referral of selected 'cold' trauma cases (like tendon repairs, fractures and hand injuries) for treatment in an elective-only hospital within days of ASAU or ED attendance. Similarly, the majority of patients diagnosed with ureteric stones could be scheduled directly for treatment in an elective hospital, avoiding an emergency admission. Hospital Groups, or the new RHAs once established, should ensure patient pathways that enable prompt access to elective-only hospitals are developed and supported.

### **7.3 INJURY UNITS**

There are currently 11 injury units in Ireland for the treatment of patients with minor injuries who are unlikely to need admission to hospital. Some of these units are standalone facilities, whilst others are co-located with elective hospitals. Supported by clear guidance issued by the Emergency Medicine Programme around what these facilities can and cannot treat, they offer care to adults and children over the age of 5 for a range of injuries such as suspected broken bones, sprains, wounds, scalds etc. Patients, for example, with abdominal pain are not suitable for injury units and should attend or be directed to the local Emergency Department or Acute Surgical Assessment Unit if available. (The full list of suitable criteria for injury units can be found [here](#) or on the HSE website).

### **7.4 THE ROLE OF THE ACUTE SURGICAL ASSESSMENT UNIT (ASAU) IN EMERGENCY SURGERY**

ASAU's enable acutely ill surgical patients to access care safely and efficiently (Table 2). A key characteristic is that each patient has prompt access to a senior surgical decision-maker. Treatment may be either on the spot, by ambulatory or outpatient care, or require admission. Patients who require admission may sometimes require transfer to a hospital that can better meet their needs.

ASAU's do not replace Emergency Departments. Instead, they act as an additional resource within the hospital with proven benefits in reducing patient experience time (PET) and a high degree of patient acceptability (18). ASAU's are designed to deal with a significant throughput of acutely unwell surgical patients, but they do not manage patients who are unwell to the level where they require active resuscitation. An ASAU provides the potential to stream less acute patients from the streaming hub (usually triage), directly to specialty decision-makers. Importantly, ASAU's preserve and expand prompt access to senior surgical decision-makers in a large number of hospitals across all geographic areas.

Through the process of the ASAU Board visiting the units, an understanding emerges of the strengths and limitations of the current system of ASAU's. A review of current ASAU practices should be undertaken to define how its contribution to the emergency surgical service can be increased. Expansion of the current scope of practice could substantially increase the effectiveness and impact of ASAU's. A key strength of the ASAU construct is the preservation of timely and local access to senior surgical decision-makers. Depending on local factors, this role may be filled by a practitioner that can be either:

- A Surgical Consultant
- A Registrar (ST3 or equivalent)
- A Non-Training Grade Doctor, with appropriate experience
- A trained Advanced Nurse Practitioner
- A regulated Health and Social Care Professional for specific disorders, e.g. Physiotherapist

There is scope to increase the range of patients who can be safely managed in the ASAU, to include not just general surgical patients but also those with ENT, urology or plastic surgery presentations. The ASAU senior decision-maker could also perform an important role in prompt surgical decision-making for emergency surgery patients, especially in helping to safely identify and transfer those patients whose needs exceed the capacity of the hospital. This function is especially important as a safeguard in hospitals with an emergency surgery unit service as opposed to an emergency surgery centre.

**Table 2.** Guiding principles of an acute surgical assessment unit

<b>1</b>	The primary aim of an ASAU is to deliver Senior Decision Making early in the pathway of selected acute surgical patients.
<b>2</b>	The main quality measures are to reduce Patient Experience Times (PET) <sup>[1]</sup> and reduce inappropriate admissions thus providing better patient care.
<b>3</b>	Additional gains should include savings in average length of stay (AvLOS), increased patient satisfaction, and decreased time to diagnostics and surgery.
<b>4</b>	There should be a critical referral population size in order to deliver cost and other efficiencies.
<b>5</b>	The ASAU should have robust Clinical Governance and ongoing support of the Hospital Senior Management Team.
<b>6</b>	The ASAU must be in a designated area distinct from other Units <sup>[2]</sup> .
<b>7</b>	ASAU patients must have formally agreed access to a dedicated emergency theatre, diagnostics and, in the case of Evolving and Mature ASAUs, inpatient beds.
<b>8</b>	A review clinic to facilitate admission avoidance and interface with ambulatory care must be available to ASAU patients.
<b>9</b>	An ASAU may contain bespoke elements to provide for specific regional or local needs.
<b>10</b>	Evolving and Mature ASAUs should consider additional referral patterns (GP referrals) and associated designated bed stocks (Acute Surgical Wards/Units).

<sup>[1]</sup> PET in this document refers to registration to disposition from ASAU

<sup>[2]</sup> In smaller Units, merging with an Acute Medical Assessment Unit [AMAU] may be considered

## **7.5 EMERGENCY SURGERY UNIT**

Emergency surgery is safest when performed during normal working hours by fully trained staff. Based on NQAIS data, it is clear that the majority of surgical presentations can be safely managed in an emergency surgery unit. Nonetheless, an important function of a hospital with an emergency surgery unit is to support rapid access to a surgical senior decision-maker to ensure early identification of patients whose needs exceed the capacity of the hospital. For that reason, it is recommended that each hospital with an emergency surgery unit should have an ASAU.

Emergency surgery unit hospitals require staffing to perform appropriate emergency surgery for 8-12 hours, either 5 or 7 days per week, depending on their geographic location and caseload. The range of conditions managed in an emergency surgery unit should be defined by the network in a written policy that is reviewed at least annually. General practitioners should be encouraged to refer appropriate conditions such as appendicitis in healthy patients to ASAUs in the nearest emergency surgery unit. This could be facilitated by the development of referral criteria, supported by a phone triage service. While the majority of patients requiring emergency surgery can be safely treated in hospitals with an emergency surgery unit, patients who require an emergency laparotomy, those whose condition is sufficiently critical that an out-of-hours operation is required and patients with significant co-morbidity should be transferred as an emergency to the affiliated emergency surgery centre. Each network should define protocols and pathways to standardise such transfers to ensure an efficient, safe service.

Well-established risk scoring systems for emergency surgical conditions should be routinely used. It is critical that emergency surgery patient escalation is not delayed while awaiting a vacant bed in the receiving emergency centre. They must operate a no-refusal policy for incoming referrals and treat them with the same priority as patients presenting to their own emergency department.

## **7.6 EMERGENCY SURGERY CENTRE**

Each emergency surgery centre should accept unselected emergency surgery patients presenting directly, as well as all patients transferred for emergency surgical care from predefined hospitals within their emergency surgery network. Emergency surgery centres require staffing to safely provide 24/7 emergency surgery, including all necessary general and specialist rotas, infrastructure, diagnostics and adjuncts. These requirements are clearly outlined in the Model of Care for Acute Surgery (3). The ASAU standards document indicates a minimum requirement of a consultant on call rota for general surgery of no less than 1:4 but ideally 1:8, with the actual rota highly dependent on volume of activity. The National Emergency Laparotomy Audit in the UK (19) strongly recommends involvement of consultant surgeons in all emergency laparotomies, an onerous responsibility in high volume centres. When the emergency surgery network is fully operational, surgeons working in an emergency surgery centre should not have other synchronous scheduled responsibilities. They should have protected access to an emergency operating theatre, an endoscopy list and guaranteed same-day diagnostics. The workload changes of each emergency surgery centre should be modelled to ensure infrastructure and resourcing is available to meet patient needs.

Emergency surgery centres require 24/7 access to interventional radiology services and 24/7 availability of endoscopy.

Emergency surgery centres must accept patients from within their network on a no-refusal basis and should not defer transfers due to bed pressures: patients in any facility in the network should have the same access to services as patients presenting directly to the emergency surgery centre. The network should develop and implement repatriation policies to ensure optimal patient flow within the network.

## 8. EMERGENCY SURGERY WORKFORCE

The drivers of change identified in this report point to a compelling need to develop a new workforce plan for surgery, and most particularly for emergency general surgery. The current ad hoc arrangement whereby each hospital designates the participants on the emergency general surgery rota results in a highly variable service. In some hospitals, all general surgeons participate in the emergency on call rota equally; in others, emergency general surgeons are appointed to provide this service.

Across all, a significant reliance on locum staff is observed. These factors result in a paucity of clinical leadership in emergency general surgery at hospital level and leads to a lack of clarity among surgical trainees about their career trajectory and responsibilities. In addition, clarity about the preferred workforce model is required to ensure training meets the needs of the service. Recruitment and retention of adequate numbers of trained surgeons to deliver 24/7 surgical rosters at every hospital significantly influences the number of staff required to maintain services. The proposed network model reduces demands on staff during night-time hours with clear benefits to both the quality of life and value for money of the surgical workforce.

Optimal staffing of emergency surgery networks should ensure that every staff member contributes to the extent of their ability and training. It is anticipated that consultant surgeons would work across more than one site in the network to enable full participation in both emergency and scheduled care duties. With appropriate policies and safeguards, senior surgical decision-maker rosters at emergency surgery units could include not only consultant surgeons but also surgical trainees, non-training grade doctors, advanced nurse practitioners and other health and social care professionals. Opportunities to increase ANP and PA participation in the emergency surgery workforce should be explored. Planned rotations of all staff grades between sites within the emergency surgery network, could improve and standardise care as well as enhance recruitment and retention. A properly structured network for emergency surgery increases opportunities for learning and staff development, creating an environment with additional training and improvement opportunities.

## 9. CONCLUSION

Population demographics suggest that the requirement for emergency surgery will increase against a backdrop of an aging population with increased complexities and co-morbidities. The current system, where surgeons are not exclusively responsible for emergency surgery as part of their normal working week, results in insufficient senior attention to these complex patients and must be addressed in a workforce plan. A coordinated system of care, education and resources, aligned to the Regional Health Areas and integrated with the Trauma and Maternity strategies, will improve patient outcomes. The networked approach that is described will deliver a higher quality service to patients and will preserve access across the country to senior surgical decision-makers while creating a working environment that is optimal for training, recruitment and retention of staff.

## 10. REFERENCES

1. DOH DoH. Sláintecare Regional Health Areas (RHAs) 2022 [Available from: <https://www.gov.ie/en/publication/4eda4-slaintecare-regional-health-areas-rhas/>].
2. NCPS. Minimum Standards for an Acute Surgical Assessment Unit (ASAU) in Ireland 2017 [Available from: <https://www.rcsi.com/surgery/practice/national-clinical-programmes/surgery>].
3. NCPS. Model of Care for Acute Surgery 2013 [Available from: <https://www.hse.ie/eng/services/publications/clinical-strategy-and-programmes/model-of-care-for-acute-surgery.pdf>].
4. Ryan M, Kelliher G, Mealy K, Keane F. Characteristics of patients who are acutely admitted to hospital under surgical care and do not have a surgical procedure - Is there an alternative to admission? The surgeon : journal of the Royal Colleges of Surgeons of Edinburgh and Ireland. 2017;15(5):259-66.
5. Oireachtas Hot. Committee on the Future of Healthcare - Sláintecare Report 2017 [Available from: [https://data.oireachtas.ie/ie/oireachtas/committee/dail/32/committee\\_on\\_the\\_future\\_of\\_healthcare/reports/2017/2017-05-30\\_slaintecare-report\\_en.pdf](https://data.oireachtas.ie/ie/oireachtas/committee/dail/32/committee_on_the_future_of_healthcare/reports/2017/2017-05-30_slaintecare-report_en.pdf)].
6. Health Do. Map of Six new Regional Health Areas 2022 [Available from: <https://assets.gov.ie/19412/f5c574463ffa4059bc9e734c82297608.pdf>].
7. Health Do. Business Case for the Implementation of Regional Health Areas (RHAs) 2022 [Available from: <https://assets.gov.ie/220582/178975ac-74de-40ee-8131-37db61c64612.pdf>].
8. McCann A, Sorensen J, Nally D, Kavanagh D, McNamara DA. Discharge outcomes among elderly patients undergoing emergency abdominal surgery: registry study of discharge data from Irish public hospitals. BMC Geriatrics. 2020;20(1):72.
9. Nally DM, Sørensen J, Valentelyte G, Hammond L, McNamara D, Kavanagh DO, et al. Volume and in-hospital mortality after emergency abdominal surgery: a national population-based study. 2019;9(11):e032183.
10. Tan BHL, Mytton J, Al-Khyatt W, Aquina CT, Evison F, Fleming FJ, et al. A Comparison of Mortality Following Emergency Laparotomy Between Populations From New York State and England. Annals of surgery. 2017;266(2):280-6.
11. Chana P, Joy M, Casey N, Chang D, Burns EM, Arora S, et al. Cohort analysis of outcomes in 69 490 emergency general surgical admissions across an international benchmarking collaborative. BMJ open. 2017;7(3):e014484.
12. Birkmeyer JD, Stukel TA, Siewers AE, Goodney PP, Wennberg DE, Lucas FL. Surgeon Volume and Operative Mortality in the United States. 2003;349(22):2117-27.
13. Boyd-Carson H, Doleman B, Herrod PJJ, Anderson ID, Williams JP, Lund JN, et al. Association between surgeon special interest and mortality after emergency laparotomy. The British journal of surgery. 2019;106(7):940-8.
14. Brown LR, McLean RC, Perren D, O'Loughlin P, McCallum IJ. Evaluating the effects of surgical subspecialisation on patient outcomes following emergency laparotomy: A retrospective cohort study. International journal of surgery (London, England). 2019;62:67-73.
15. HSE. A Trauma System for Ireland 2018 [Available from: <https://www.hse.ie/eng/about/who/acute-hospitals-division/trauma-services/further-information-and-documentation/>].
16. DOH/HSE. Securing the Future of Smaller Hospital - A framework for development. 2013.
17. NCPS. Model of Care for Elective Surgery 2011 [Available from: <https://www.hse.ie/eng/services/publications/clinical-strategy-and-programmes/model-of-care-for-elective-surgery.pdf>].
18. NCPS. ASAU Patient Experience Report 2019 [Available from: <https://www.rcsi.com/surgery/practice/national-clinical-programmes/surgery>].
19. National Emergency Laparotomy Audit (NELA) Report available from <https://www.nela.org.uk/reports>

## 11. TERMS OF REFERENCE

- **The SLWG will agree and develop a document outlining:**
  - A review of the provision of emergency surgery in the Republic of Ireland
  - Factors relevant to the future of emergency surgery provision
  - Proposals for the future
- Proposals should take into consideration existing national policy. Views of stakeholders including the National Clinical Programmes in Surgery, Trauma and Orthopaedics and Emergency Medicine should be sought.
- The document will be submitted to the Committee for Surgical Affairs and the President and Council of RCSI for approval.
- **The members of the SLWG commit to:**
  - Attend all meetings; where a member is unavailable and cannot attend a meeting, apologies should be sent as early as possible
  - Make timely decisions and take action to support SLWG progress
  - Notify the SLWG of matters arising which may affect the activity or output of the group
  - Maintain confidentiality of documents pending approval by RCSI Council
- **The members of the SLWG expect to be:**
  - Provided with timely, complete and accurate information
  - Given reasonable time to make key decisions
  - Welcomed to contribute to open and objective discussions

## 12. APPENDICES

**A) RCSI – Consultant Working Week Recommendations**

<https://www.rcsi.com/surgery/practice/publications-and-guidelines>

**B) Report of the SLWG on Breast and General Surgery**

<https://www.rcsi.com/surgery/practice/publications-and-guidelines>

**C) Report of the Trauma Steering Group – A Trauma System for Ireland**

<https://assets.gov.ie/10116/70fd408b9ddd47f581d8e50f7f10d7c6.pdf>

**D) National Maternity Strategy - Creating a better future together 2016 - 2026.**

<https://www.gov.ie/en/publication/0ac5a8-national-maternity-strategy-creating-a-better-future-together-2016-2/>

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**Mr Dermot Pierse** - National Clinical Advisor for OMFS

**Mr Martin Feely** - National Clinical Advisor for Vascular Surgery

**Prof Ronan O'Connell** - Past President RCSI

**Prof Laura Viani** - President RCSI

**RCSI Council Members**

**National Office for Trauma Services**





**RCSI**