Review of Emergency Departments and
Pre-hospital Emergency Care in Cork and Kerry

The Reconfiguration Forum for Cork and Kerry established the Emergency Services Sub-group (ES Sub-group) to benchmark the Emergency Department services against international best practice and to adopt an integrated approach to academic medicine, education, teaching, training and research across the region. Within the overall context of the Horwath/Teamwork report the ES Sub-group was given 10 weeks to:

- review the current model of service delivery in all hospitals in Cork and Kerry,
- make recommendations on the most appropriate model of Emergency Service provision encompassing hospitals and pre-hospital emergency care,
- ensure the recommended model should support the delivery of care for the vast majority of patients and community as near to home as possible, and
- draw up an action plan to implement their recommendations and submit this to the Director of Reconfiguration of Acute Services Cork and Kerry and the Network Manager Southern Hospitals Group.

After completion of the report in July, five months was taken for further engagement with stakeholders and implementation of certain of our recommendations.

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1 Introduction and Executive Summary

1 Introduction

The HSE South is reconfiguring its services based on the principles outlined in the Horwath/Teamwork report and as part of the overall transformation of the Irish health services. This involves creating a single healthcare system for Cork and Kerry, concentrating complex care on one site, delivering services locally where possible and creating new governance structures involving the health services and third level institutions. Prof. John Higgins, Director of Reconfiguration, has established a Reconfiguration Forum to oversee the process. Drivers of reconfiguration include:

- Patients want the safest and most appropriate care that the State is capable of providing.
- Patients want appropriate care provided as close to their homes as possible,
- Healthcare professionals want to deliver the best care to the right patient at the right time and in the right environment. To do this they need to be supported with appropriate education and training.
- Specialisation continues to deliver better health outcomes but specialisation requires larger centres with the critical mass to sustain specialisation. This has implications for our health service which was built at a time when it made more sense to build smaller more widely dispersed hospitals to serve a larger and less mobile rural population.
- Modern healthcare is costly. Costs are more effectively controlled if healthcare is stratified between complex and less complex.
- In recent years, our health service has grown exponentially in size and complexity. It has not developed organisationally with the result that it is fragmented and disjointed. The current drive to reconfigure is aimed at bringing organisation, size and complexity into better alignment. It addresses whole systems rather than individual programmes (cancer, primary care, mental health, etc.).

This review has been conducted at the request of the Reconfiguration Forum (hereafter “the Forum”). It deals specifically with the emergency service because for many the ED is the front door of the acute hospital system and pre-hospital care – involving the ambulance and acute primary care – the threshold of that door. These two elements form the emergency medical system (EMS). The effectiveness of the EMS for the patient is influenced by many other elements – radiology, laboratory services, primary care, bed management and elective acute care – all of which will be addressed in the reconfiguration process.

Although the Forum’s brief is the reconfiguration of acute services in the Cork and Kerry region, hospitals in these counties have traditionally provided emergency care for some patients from other counties in Munster and it is important that the emergency health needs of the population in these areas continues to be supported by services in Cork and Kerry.

The purpose of this review is to ensure that the emergency system is given clear definition up front so that we can begin work immediately on creating an integrated system with better response times, better patient experiences, better outcomes and a resource base that is better focused on where it is really needed.

As part of its methodology, and to broaden the sense of ownership among all those who participated, the Emergency Services Sub-group (ES Sub-group) asked each representative to provide a SWOT analysis on its Strengths, Weaknesses, Opportunities and Threats. Chapters 4, 6, 7, 8, 9, 10 and 11 summarise these SWOTs and provide useful background profile information. At the end of these chapters, an opportunity was provided for a general comment that each might wish to make about their own service and priorities. The ES Sub-group has been guided by the principles of the Horwath/Teamwork report that in delivering a safer service, we concentrate complex care and keep less complex care as local as possible. In some cases, the concerns of the ambulance service, the individual hospitals and professional groupings have been accepted as consistent with these principles, in others not. Where resources are finite, it is not possible to say yes to everyone. However, the recommendations in Chapter 12 have been agreed by the ES Sub-group as a whole and form the basis of the executive summary above.
Throughout the weeks of work required to complete this review, there has been genuine and positive engagement on all sides. Because of limited time, consultations were necessarily limited. We have sought to strike a balance between the necessity to consult and the necessity to "get the job done", aware that the longer the job takes, the longer uncertainty will prevail. This lowers morale and makes the task of achieving "buy-in" to change more difficult. I would like to express my thanks to members of the ES Sub-group (Appendix II) and to all who have helped me in this task.

Dr. Stephen Cusack, Consultant in Emergency Medicine and Director of the Department of Emergency Medicine, Cork University Hospital.
November 2009
2 Executive Summary

The Emergency Services Review Group recommends\(^2\) a model of emergency care for the region of Cork and Kerry comprising:

1. **An integrated emergency care network** comprising Cork University Hospital, Mallow General Hospital, Mercy University Hospital and South Infirmary and Victoria University Hospital with:
   a. A single trauma centre and complex acute care 24/7 Emergency Department (ED) at Cork University Hospital (CUH),
   b. Medical Assessment and Admissions Units (MAAUs) at each of the four hospitals in the integrated network, established and run according to commonly developed functions, protocols and procedures, open 24/7 and supported by robust local diagnostic services,
   c. Urgent Care Centres\(^3\) - established according to common standards adapted to meet the particular functions and attendance patterns of each hospital - at Mallow General Hospital (MGH), Mercy University Hospital (MUH) and the South Infirmary and Victoria University Hospital (SIVUH),
   d. Ambulance bypass protocols to CUH for particularly ill or seriously injured patients;
   e. Telemedicine links for specialist surgical and/or medical opinion 24/7 should be put in place between these four hospitals. Patients requiring advanced airway care, critical care and intensive care will be managed in consultation with the CUH ED and/or other specialist acute services. Appropriate scoring systems and transfer protocols must be developed to ensure timely and seamless transfer,
   f. An efficient city wide (and Mallow) patient transport service to avoid hold-ups to minor injuries patients by serious incidents elsewhere,
   g. A single website showing average waiting times in each of the three city hospitals (and on display in each) and a “freephone” number giving the same information;
   h. Out of hours emergencies (999 calls) and complex trauma to be directed to the CUH ED while GPs may continue to refer out of hours “medical” patients to the most appropriate Medical Assessment and Admissions Unit or ward at MGH, MUH or SIVUH according to agreed protocols,
   i. A single emergency medicine (EM) consultant team with a rotating chair to develop team solutions to common problems. Pre-hospital care should be part of its remit,
   j. A co-ordinated bed management system between CUH, MGH, MUH and SIVUH to reduce waiting times for hospital admission,
   k. Linked ICT systems to improve overall co-ordination, and
   l. Patients on hospital trolleys are unacceptable and must be phased out. Reduction to zero of ED trolleys will be monitored and measured at each step of the implementation process.

2. **An additional consultant post in emergency medicine with a special interest in paediatrics** should be created to ensure a co-ordinated emergency service for children linked seamlessly to the regional paediatric service.

3. **Bantry General Hospital (BGH)** serves a remote, rural population and should continue to provide a 24/7 medical admissions function in a fully developed MAAU supported by a 12/7 Urgent Care Centre with existing radiology and laboratory services and a telemedicine link to CUH to facilitate prompt 24/7 surgical and other specialist opinion if and when required. Patients requiring advanced airway care, critical care and intensive care should be managed in consultation with CUH ED and relevant acute services using appropriate scoring systems and transfer protocols.

4. **Mallow General Hospital** should have a PACS\(^4\) link the Mercy University Hospital radiology department to enable full use of the CT scanner at Mallow.

5. **Kerry General Hospital (KGH)** should develop its existing 24/7 emergency service in and a structured relationship between the KGH ED and the regional emergency care network,

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\(^2\) A full set of detailed recommendations may be found in Chapter 12.

\(^3\) The term Urgent Care Centre has been chosen to align with standards developed for Urgent Care Centres as set out by the Irish Association for Emergency Medicine in Appendix IV (p.16-63)

\(^4\) Picture Archiving and Communications System for transferring radiological images.
including arrangements for major trauma assistance from CUH as required. Construction of the new ED should be a priority capital project.

6. Development of an integrated pre-hospital care system for the region, with overall co-ordination provided by the regional EM consultant team working in close collaboration with the ambulance service, based on:
   a. Provision of a full 24/7 ambulance service in which the present on-call service is progressively replaced by an on-duty service.
   b. A pilot project in West Cork to test Advanced Paramedic (AP) capability in the improvement of pre-hospital care. APs should participate in outreach meetings with schools and community groups to explain the new service before it is introduced.
   c. Exploration, including cost benefit analysis, logistics analysis and risk assessment of a Helicopter Emergency Medical Service (HEMS) within the framework of national policy in pre-hospital care,
   d. Development of an Emergency Response vehicle staffed by an emergency medicine doctor from CUH. In addition to on-scene medical support, on-line telemedical support should be developed and enhanced using experience already embedded through the Medico Cork and neurosurgical services based at CUH, and
   e. Development of an intermediate care vehicle (ICV) fleet to facilitate improved hospital to hospital patient transport and relieve pressure on the emergency ambulance service.

7. A “special relationship” between each Primary Care Team or GP Practice and a given Urgent Care Centre to improve services for GPs and bring about a more equal distribution of GP referrals.

8. Special arrangements should be put in place to ensure that the patient record is always available in the right place at the right time if the patient is transferred or readmitted through the emergency care system. A copy of every patient discharge or OPD letter that is typed by a medical secretary in a public hospital should be retrievable by duly authorised staff in an emergency situation.

9. Radiology and laboratory services at BGH and MGH should provide comprehensive local diagnostic services to GPs and their patients in their catchment areas.

10. The post of professor in emergency medicine should play a key role in education, training and research in emergency medicine for the whole region in line with the most up-to-date international practice.

11. There should be regular reviews of progress that will include surveys of patients, their GPs and other participants in the system, and that will analyse data and give an objective picture of where the system is working well and where it needs intervention.
2 International Best Practice

Emergency care is a key determinant of public trust in the health service and one of the building blocks of hospital based acute care. It is estimated that one in four of the population will visit the Emergency Department (ED) in any one year. In 2006-07, the figure for Ireland was 1,150,000 patients. Of these, typically 20% or 230,000 will have been admitted to an inpatient bed. In recent years, there has been a great deal of deliberation on various ways of delivering emergency care both in urban and rural contexts in Ireland. The following pages are based on a review of seven documents in addition to the Horwath/Teamwork report. These are, in date order:

4. Irish Association for Emergency Medicine: Standards for Urgent Care Centres and Minor Injury Units in Ireland, January 2007
6. Irish Association for Emergency Medicine position paper on Reconfiguration and/or Regionalisation of Emergency Services (January 2008)

This brief survey indicates modern standards to strive for, suggests some alternative ways of organising the emergency care system to address particular problems, cautions against easy solutions and stresses the importance of developing integrated systems linking primary emergency care, pre-hospital emergency care and hospital EDs. It also stresses that hospital EDs do not operate in a vacuum and much of their success depends on how their work is supported by the other parts of the hospital.

1 Staffing

- The UK College for Emergency Medicine (CEM)\(^1\) recommends that each ED should have a senior ED doctor as a clinical decision maker 24/7. Small departments should have a minimum of four consultants, medium sized departments, eight, and large departments with a heavy complex workload, 16. A minimum of 16 whole time equivalent (wte) consultants would be required to staff a 24/7 rota. This is not considered generally achievable in the UK in the short or medium term. Four wte consultants will be able to schedule clinical cover within normal working hours and three hours on Saturday and Sunday. Six wte consultants should be able to provide 12 hours daytime cover on weekdays and six hours at weekends. In small rural hospitals, a junior doctor may act as a supervised clinical decision maker and an Emergency Nurse Practitioner\(^*\) may act as a clinical decision maker for ambulatory care\(^1\).

- The Irish Association for Emergency Medicine (IAEM)\(^2\) acknowledges that a 24/7 consultant based service in Ireland is not realistic in the short or medium term. It notes that even to emulate Australia, considered the best international comparator, would require more than doubling the present 48 EM consultants to 111. Realistically it envisages a move to a 12-hour day, seven days per week model of consultant shop floor presence requiring eight wte consultants per ED providing this level of cover. To provide medical cover for a 24/7 service requires another eight middle grade doctors. The IAEM recognises a middle grade doctor as including the grades of Specialist Registrar, 

\(^*\) The equivalent in Ireland would be an Advanced Nurse Practitioner trained in emergency care
Registrar or a new grade of Associate Emergency Physician (Membership of the College of Emergency Medicine level).2

- Emergency Medicine and Acute Medicine are complementary but not interchangeable sub-specialties, e.g. Acute physicians do not have skills in the management of trauma or children which together comprises 75% of the average ED workload.1

2 Wait Times

- The CEM argues that hospitals should adopt a standard whereby 95% of patients should be admitted or discharged within four hours of their arrival1. The Emergency Department Task Force report (HSE 2007)3 recommended that Irish ED departments set an intermediate requirement of a maximum 12 hour period between arrival and discharge/admission moving to six hours as soon as possible3.
- The Way Ahead (2008-2012)1 contains a statement that “overcrowding is at its worst in the Republic of Ireland, where no meaningful access standard exists” but goes on to acknowledge that “there are also significant difficulties in sustaining the four-hour standard in many EDs in the UK. A sustainable system to eliminate delays would require an average bed occupancy of 85%.
- The IAEM4 and Task Force3 both agree that overcrowding is a symptom of a failure of the hospital and community services to support the hospital ED.
- The HSE National Service Plan 2009 proposes that all patients admitted to EDs should, within 6 hours, be either treated and discharged or treated and admitted.
3 Discharge
- Before leaving the ED, care plans for all patients with potentially serious problems, e.g. chest pain, abdominal pain or young children, should be agreed with a senior ED doctor.1

4 Children
- The CEM recommends that every ED with more than 16,000 children’s visits per annum must have a minimum of one paediatric EM-trained consultant. All EDs should have a named consultant who leads for children’s issues in the department.1

5 The 24/7 Standard for 24/7 EDs
- The Way Ahead 2008 – 2012 calls for the following by 20121:
  - Doctor trained and experienced in EM present 24 hours a day
  - Up-to-date facilities for resuscitation, emergency care and ambulatory care
  - 24/7 support from the seven key specialties – Critical Care, Acute Medicine, Diagnostic Imaging, Laboratory Services, Paediatrics, Orthopaedics and General Surgery and 24/7 support from Acute Medicine, Intensive Care/Aneasthesia, Diagnostic Imaging and Laboratory Services (including blood bank).
  - 24/7 access to x-rays, ultrasound, and computed tomography (CT).
  - Timely support from inpatient teams and efficient procedures for admission to hospital
  - A Clinical Decision Unit (CDU) / observation ward;
  - An up-to-date information technology and records system linked to hospital and community care records;
  - Education and administrative space within the ED.
- Bypass: If, for example, paediatrics, orthopaedics and general surgery are not on site, then robust and safe pathways need to be in place for the management of severe illness or injury in these groups. This may mean rapid stabilisation at the local ED prior to transfer to a more appropriate centre, or summoning/meeting a medical retrieval team if there is a long journey to the nearest appropriate facility, or bypassing the nearest ED using agreed bypass protocols.
- The IAEM believes that any hospital that is expected to provide 24 hour emergency care should have defined, acceptable standards of infrastructure, staffing and support services to allow them to carry out this function. Lack of these facilities "is no longer professionally or medico-legally defensible."5

These views provide a reliable standard against which to measure the regional ED, and any other 24/7 ED that may remain. If such standards cannot be attained, or are not justified by activity levels, then other solutions need to be considered.

6 Remote Rural Issues
- The CEM states that there are major challenges to providing emergency care to rural or isolated populations. A further report is promised on this issue and should provide useful guidance1.
- Reorganisation of services will generate an increasing need for retrieval medicine and support for remote departments. To minimise risks, this should be part of a well organised emergency care network. It is likely that the best model will be similar to that of paediatric ICU retrieval teams, where the main centre provides a service to the other units1.

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* see first paragraph p7-30 for a description of a CDU.
There are real challenges in sustaining an emergency service in small hospitals. In Northern Ireland, this accounts for the relatively large number of departments compared to the national average for the UK as a whole. It also results in a very high ambulance usage and a disproportionate conveyance rate. Where small/medium EDs are geographically close (within 10km), a more coherent emergency service may be possible by amalgamation. Where the next nearest ED is more than 20km away there is a strong argument for retaining an emergency service.

7 Primary Care

- The Primary, Community and Continuing Care division of the HSE (PCCC) has indicated that it is moving towards recognising the primary care team as the local focus for community based health services and health education. In relation to emergency care, its objective is the provision of reliable diagnostics and expert opinion in the local hospital to support primary care services that are appropriate, safe and meet clinical governance requirements.
- GP out-of-hours service is an area where there are new models of care being proposed. If a health community needs a primary care centre for out-of-hours work, then there is sense in co-locating such primary care centres near the ED.
- Widening access to the patient’s own primary care team would be an important step (for example, Saturday opening for urgent as well as routine appointments) in improving the urgent care system. This is especially true for the community care of the frail elderly, those with acute exacerbations of chronic disease and children with acute illness.
- There is a significant amount of evidence that the presence of NHS Direct in the UK has not reduced ED attendances. It has created a huge demand, but not from those who have serious emergency problems. A suggestion to develop a similar system in the Republic of Ireland is likely to have similar results.
- Local GP services, particularly out-of-hours GP services, need to be more formally integrated into the emergency care network, with better links to the regional ED and the ambulance service.

8 Regional Issues

- The IAEM in its position paper Reconfiguration and/or Regionalisation of Emergency Services (January 2008) calls for absolute transparency in the process of regionalisation, stating that the process needs to be done in such a way as to ensure the provision of high quality emergency care, during and after any reconfiguration. This concurs with the Horwath/Teamwork report’s statement (p85) drawing attention to the premature withdrawal of current services as a primary risk factor to the success of reconfiguration. To quote: “it is important to restate at this point the HSE’s over-riding principle that existing service pressures and risks will continue to be relieved as part of the transformation programme and that current acute services will be maintained until such time as service reconfiguration is able to provide better, safer services.”
- The Way Ahead recommends that regional/national health authorities set up active emergency care networks, preferably led by emergency medicine consultants. The networks should have real influence in process managing emergency care in the region, including the best distribution of acute care services, the organisation of regional trauma services, regional paediatric services, regional services for STEMI (acute heart attack), regional retrieval services, hub and spoke model for some services, monitoring outcomes and process measures for emergency services.

*NHS Direct is a 24/7 telephone based service that provides a wide range of health advice and assistance as well as a range of commissioned services including: out of hours support for GPs and dental services, telephone support for patients with long-term conditions, pre and post operative support for patients, 24 hour response to health scares, and remote clinics via telephone.
The IAEM\(^5\) believes properly constituted clinical care networks need to be established, to ensure that both emergency and elective care is delivered across multiple sites in an integrated fashion. These networks need to be put in place for acute medicine, acute general surgery, orthopaedic surgery, pediatrics, obstetrics and gynaecology, psychiatry and any other regional services provided e.g. oncology, haematology, ENT surgery, ophthalmology etc. and goes on to state that:

- “Any changes to the emergency care system must be planned thoroughly and be based on the best current evidence, including the clinical effectiveness and the cost effectiveness of suggested alternatives. The ED should lead local and regional emergency care networks to bring about appropriate change. The development of these care networks will necessitate the separation of acute and elective work, so that the physician/surgeon who is on-take on a given day or week will have no elective commitments which limit their or their team’s ability to respond to the needs of acute admissions”\(^5\).

- “There needs to be a significant up-skilling and improved provision of ambulance services as patients will be transported over longer distances to reach the regional centre\(^5\).”

- There is a strong case for regionalisation of services for the treatment of serious trauma and ST elevation myocardial infarcts (= serious heart attacks) even though such patients represent a small minority of ED attendances\(^5\).

- Timely management of patients with acute coronary syndromes is best achieved before the patient gets to hospital, whether by primary care practitioner or by ambulance paramedic, with consultation with the regional EM service if so required, lessening the impact of increased distance from hospital. International evidence is quoted that underscores “the core philosophy behind regionalisation – taking the patient to the closest facility most appropriate to the particular patient’s needs, rather than simply the closest facility\(^5\).”

- The IAEM proposes that those hospitals who may lose their traditional ED services should be reconfigured as local supporting hospitals where outpatient facilities, endoscopy services, day surgery, community radiology, physiotherapy etc. are provided. Nurse led Minor Injury Units (MIUs) open 12/7 with close well defined relationships to the regional ED may be provided\(^5\).

### 9 Urgent Care Centres

Standards have been drawn up by the IAEM\(^4\) and are given in full in Appendix IV. Three points are worth noting:

- Urgent Care Centres should ideally be located with EDs or if free standing should have clear links with established EDs to facilitate urgent patient transfer if required.

- Urgent Care Centres cater for the ambulant ill with localised injury or minor illness. In general, patients requiring ambulance transport will not be suitable for treatment at an Urgent Care Centre. In essence, Urgent Care Centres target patients who are likely, after expert assessment and treatment, to be discharged rather than admitted.

- International evidence confirms that Urgent Care Centres will not impact on overcrowding in the ED unless they are co-located, where patients are triaged from the ambulatory care side of the ED to the UCC. Notwithstanding their location, the international evidence clearly states that Urgent Care Centres will have no impact on the current use of trolleys in the majority of EDs in Ireland.

### 10 Acute Medical Units for Assessment and Admission\(^*\)

These units are discussed in the Comhairle na nOspidéal report on Acute Medical Units (2004)\(^6\). Specifically they are intended for *(1)* patients who are acutely medically ill and need immediate assessment and treatment, and *(2)* medical patients where there exists clinical uncertainty who

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\(^*\) The term most commonly used now is Medical Assessment and Admissions Unit (MAAU)
require further assessment and treatment”. Such units will deal with assessment and admission but the exact balance between the two will depend on local circumstances.

- Opening hours will be influenced by the balance between assessment and admission and the role of the hospital. Units providing both assessment and admission should generally be open 24/7. Assessment only units may not need to open 24/7 depending on local circumstances.
- The Comhairle report stresses that a major determinant of success of AMUs is the presence or absence of a designated consultant physician leader and the management skills of this leader.

11 An Example of Change – Flinders

The literature reviewed above mainly comprises reports and reviews with recommendations based for the most part on a combination of evidential studies from the literature and fact finding interviews/visits supplemented by local data. Studies from the literature can provide useful examples of change and how it can be achieved. A particular example is “The Flinders case study: Lean thinking across a hospital: redesigning care at the: Flinders Medical Centre” (Feb 2007). The paper illustrates a method whereby patient pathways through the ED were analysed using process engineering techniques to eliminate waste. This resulted in a new step being introduced that involved making a decision at a fairly junior level as to whether or not a patient was likely to be admitted as a long stay patient (>72 hours) or short stay patient (<72 hours). A short-stay medical-surgical ward was set up for the latter group which now accommodates about a quarter of all admissions through the ED. The same approach has introduced other changes in the wider hospital such as redesigning the provision of medication at discharge (halving the time taken to provide that medication), substantial changes to bed management processes and redesigning the flow of longer stay medical patients. This programme has reduced the average length of stay in the general medical service by around 1 day, a very significant advance.

Change can only happen when local teams work together to improve what they do within broad parameters set for the region. The recommendations in Chapter 12 provide a framework for setting those broad parameters within the context of international best practice. Delivering a better emergency service for Cork and Kerry will depend not only on the coherence of this framework but on creating a climate that will permit and support transforming change at local level, itself the result of deep questioning of existing systems and processes using established and proven methodologies. The comments and suggestions in each chapter provide signposts into this level of change.

5 Irish Association for Emergency Medicine position paper on Reconfiguration and/or Regionalisation of Emergency Services.
7 The Flinders case study: Lean thinking across a hospital: redesigning care at the: Flinders Medical Centre” by: Ben-Tovim, David I., Bassham, Jane E., Bolch, Denise, Martin, Margaret A., Dougherty, Melissa and Szwarcbord, Michael. Australian Health Review. (Feb 2007)
3  Education, Training and Research

The terms of reference provided by the Reconfiguration Forum asked the Emergency Services Sub-group to "benchmark the Emergency Department services against international best practice and adopt an integrated approach to academic medicine, education, teaching, training and research across the region."

1  Academic Health Sciences Centre

The Horwath/Teamwork report has recommended the establishment of an Academic Health Sciences Centre involving an alliance between the service providers, represented by the HSE and the voluntary agencies, and academic higher education institutions, represented by University College Cork and Institutes of Technology in Tralee and Cork. This provides a structure and mechanism for integrating health sciences education, training and research with health service practice.

There is a long tradition of strong relationships between the education institutions in Cork and the health services and health professions. An Academic Health Sciences Centre will strengthen these alliances. Such alliances in other countries have imbued the health service with a culture that combines a belief in service, education and research with a philosophy that encourages personal development, international networking and benchmarking.

In more practical language, health professionals will be able to access continuing professional development (CPD), degree, diploma, masters and clinical doctorate education from the higher education institutions and will be able to research particular issues that will be of assistance to patients, health professionals and managers. It is important to keep in mind that research is a means to solving practical problems as well as a method of gaining new knowledge. Research can improve clinical care and organizational effectiveness as well as advance our understanding of disease and further our knowledge of trauma. Research is not just something carried out in the tertiary centre for complex care: it should operate at all levels and in all locations. In this way it begins to generate an outward looking evidence aware culture that allows the health service to exploit the many advances and innovations that are constantly changing our understanding of human health and disease.

2  "Lean" methodology

The Flinders Medical Centre in Adelaide, Australia has used "Lean" methodology to improve throughput in its ED. This methodology is suitable for analysing patient pathways from the pre-hospital setting, into and through the ED, to patient discharge or admission. It puts the patient at the centre, avoiding unnecessary concentration on professional roles ("the nurse will /the doctor will/ the physio will" etc.) and maintains focus on how care is provided by, and the interactions of the patient with, the various members of care teams (GPs, paramedics, nurses, consultants, junior hospital doctors, physiotherapists, bed managers, porters and so on). It builds team and individual competencies to the benefit of the individual patient.

The Emergency Services Sub-group strongly commends adoption of “Lean” methodology as an effective and proven means of motivating teams to build continuous and iterative improvement into their way of thinking about their work.

3  Specific Training Programmes

As the recommendations in this Review are implemented, it will be necessary to provide re-training and up-skilling of front line staff involved in emergency care. These include hospital doctors, nurses, physiotherapists, GPs and Ambulance personnel.
Some short one to three day training courses are already provided locally, e.g. Resuscitation Training (Community First Responders), Advanced Cardiac Life Support (ACLS), Paediatric Advanced Life Support (EPLS), Advanced Trauma Life Support (ATLS), Acute Medical Emergencies – the Practical Approach (MediALS) and Neo-natal Resuscitation (NRP). Further such courses that have been proven to be of high educational and training value in emergency management should be introduced in the medium term e.g. Pre-hospital Trauma Life Support (PHTLS), Trauma Nursing Core Course (TNCC), Safe Transfer and Retrieval (STaR), Managing Obstetric Emergencies and Trauma (MOET) and Acute Life-threatening Event Recognition and Treatment (ALERT). The forthcoming academic appointment in emergency medicine should greatly facilitate this.

There are recognised training programmes in Canada and Australia aimed at equipping GPs working in remote rural locations with high levels of emergency care skills\(^5\). These programmes could and should be adapted for Irish use by the Academic Health Sciences Centre. The provision of specific indemnity and equipment to the GP who undertakes this specific role would need to be addressed.

There are certified training pathways for paramedics, advanced paramedics and advanced nurse practitioners\(^6\), clinical nurse specialists\(^7\) and physiotherapists. For example, postgraduate diploma programmes already exist at UCC in Emergency Nursing, Cardiac and Intensive Care Nursing and Perioperative Nursing. There is a certificate programme in Nurse Prescribing and an individual education module for Acute and Chronic Wound Care open to all health professionals. There is also a joint degree programme with the Cork Institute of Technology in Biomedical Sciences. There is a need to develop further education and training programmes for medical, nursing, paramedical and other health profession staff involved in the delivery of emergency and urgent care in the new emergency care system envisaged in this review. In the first instance these should be sought within the regional higher education institutions that will form part of the anticipated Academic Health Sciences Centre.

Non-consultant hospital doctors (NCHDs) who wish to undergo higher training in emergency medicine need to be in accredited training posts, supervised by consultants in emergency medicine in the setting of a full 24/7 ED with certain minimum levels of emergency activity. At present, almost all NCHD posts in the EDs at CUH, MUH and SIVUH are recognised for Basic Specialist Training, while three posts at CUH are recognised for Higher Specialist Training in Emergency Medicine. Permission for Specialist Registrars (SpRs) to spend a part of their training in MUH or SIVUH would almost certainly be granted by the relevant bodies (Royal College of Surgeons in Ireland and College of Emergency Medicine UK). In the future, with new ED facilities and the appropriate number of consultant and support staff, a case could be made for the establishment of a training post in Kerry General Hospital.

The ES Subgroup believes that Urgent Care Centres providing unscheduled emergency care for patients with minor injuries and/or acute illnesses which are not anticipated to be life-threatening, will, if properly led, staffed and equipped, provide a safe alternative to 24/7 EDs in our smaller hospitals. Leadership and overall clinical responsibility will be exercised by a member of the regional EM consultant team; day-to-day management and operation will typically require input

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\(^5\) Horwath/Teamwork Report p.120.

\(^6\) **Advanced nurse practitioners** are highly experienced members of the care team holding a masters level qualification who are able to diagnose and treat health care needs, refer patients to an appropriate specialist and lead the professional development of nursing and midwifery into new areas of practice.

\(^7\) **Clinical nurse specialists** (CNS) have undertaken formal recognised post-registration education relevant to their area of specialist practice at higher diploma level or equivalent. Such formal education is underpinned by extensive experience and clinical expertise in the relevant specialist area. The level of practice of a CNS is higher than that expected of a staff nurse.
from trained nursing staff at ANP and CNS level, from medical staff below the level of consultant and from physiotherapists. Physiotherapists can provide critical early assessment, advice and treatment to patients who present with musculoskeletal conditions and sports related injuries, timely treatment preventing later chronic problems. They can also facilitate safe discharge of older patients who may present to the Urgent Care Centre with mobility issues requiring physiotherapy assessment before they can be safely discharged home. Innovative developments of this kind demonstrate what best practice is all about: delivering better care in a timely way through multi-disciplinary teams working flexibly together in new ways.
4 Pre-hospital Care

The pre-hospital services include the ambulance service, GPs and the out of hours GPs in Southdoc who liaise with the ambulance service and the relevant EDs. Southdoc is the out-of-hours General Practitioner service covering counties Cork and Kerry, designed to deal with urgent problems – of a type appropriate for a GP to deal with – that require treatment before the next normal GP Surgery. Calls are triaged with a view to establishing that urgent care is both necessary and appropriately given by Southdoc. It is important to stress that GPs are not trained as emergency physicians (even though some may have a particular interest in this area) and are not indemnified on that basis. Pre-hospital services also include the Coastguard, Gardai, Army, Navy and Search and Rescue (SAR) services co-ordinated through Medico Cork, a service run by the CUH ED for co-ordinating medical care in maritime situations. Improvement in pre-hospital care is critical to any regional review of the service because of the importance of maximising life saving opportunities within the shortest timeframe. “Pre-hospital” care can be something of a misnomer because if this element of the emergency care network is properly supported and equipped, and linked through telemedicine technology to hospital personnel, many calls can be met without recourse to hospitalisation in an ED and some patients (up to 30%) can managed in their own homes, perhaps with follow up care if required.

1 The Ambulance Service

The ambulance service for Cork and Kerry provides an emergency response service and a patient transport service. In 2006, it made 38,139 emergency response calls and transported 32,695 routine patients between hospitals or between home and hospital, so almost half its workload concerns routine patient transport. The Irish ambulance service compares well with its European neighbours in terms of the standard of its fleet. All are category C vehicles, classified as mobile intensive care units, designed and equipped for the transport and advanced treatment and monitoring of patients. Sweden is our nearest comparator. The problem is we do not have dedicated Intermediate Care Vehicles (ICVs) for patient transport which means fully equipped ambulances and fully trained paramedics are used for this work. This impacts on the availability of these units to respond to emergencies and leads to unsatisfactory on call arrangements and long hours.

Calls are categorised as AS1 (most serious), AS2 (less serious) and AS3 (least serious). the distribution of AS1 cases delivered to the five Cork hospitals in 2008 are given in Table 1.

<table>
<thead>
<tr>
<th>Hospital</th>
<th>Number of AS1 cases in 2008</th>
<th>Percentage of total</th>
</tr>
</thead>
<tbody>
<tr>
<td>CUH</td>
<td>5,881</td>
<td>46%</td>
</tr>
<tr>
<td>MUH</td>
<td>3,133</td>
<td>25%</td>
</tr>
<tr>
<td>SIVUH</td>
<td>2,258</td>
<td>18%</td>
</tr>
<tr>
<td>MGH</td>
<td>737</td>
<td>6%</td>
</tr>
<tr>
<td>BGH</td>
<td>731</td>
<td>6%</td>
</tr>
<tr>
<td>Total</td>
<td>12,740</td>
<td>100%</td>
</tr>
</tbody>
</table>

There is a real challenge for CUH if all AS1 calls are to be routed there in the future.

The service is controlled from two regional centres – the centre for Cork is based at CUH and the centre for Kerry is based at KGH. All control is radio based and plans exist to consolidate this aspect of the service in the near future into one control centre for the region. The possibility of a

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single or maybe two national control centres has been mooted which would make organisational sense and is compatible with the recommendations of this review. The Horwath and Teamwork report recommends that the ambulance control centre takes responsibility for the day-to-day running of the pre-hospital phase of emergency care: "It manages all staff deployment, and is supported by real time monitoring of status, access to care and available acute beds." This represents an extension of its current field of operations and will require more formal liaison structures with hospitals and better IT systems.

The service operates from 19 local stations distributed throughout the region (Table 2).

Table 2: Local ambulance stations in Cork and Kerry

<table>
<thead>
<tr>
<th>Bantry</th>
<th>Cahirciveen</th>
<th>Castletownbere</th>
<th>Clonakilty</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cork North Lee</td>
<td>Cork South Lee</td>
<td>Dingle</td>
<td>Fermoy</td>
</tr>
<tr>
<td>Kanturk</td>
<td>Kenmare</td>
<td>Killarney</td>
<td>Listowel</td>
</tr>
<tr>
<td>Macroom</td>
<td>Mallow</td>
<td>Midleton</td>
<td>Millstreet</td>
</tr>
<tr>
<td>Skibbereen</td>
<td>Tralee</td>
<td>Youghal</td>
<td></td>
</tr>
</tbody>
</table>

Ambulances are manned by emergency care paramedics. Staff trained to a lower level are competent for transporting patients in ICVs. There also exists a more highly trained category of advanced paramedic (AP). APs are not currently deployed strategically in the network to maximise their effectiveness. APs are equipped with rapid response vehicles (RRVs) in parts of the network at present and can therefore travel to the scene independently of the ambulance and in cases not requiring hospitalisation may be able to stand down the ambulance call. Their skill-set includes but is not limited to: cardiac resuscitation, intubation (gold standard airway), IV fluid resuscitation, pain management, chest decompression, IV and IM medications, stabilisation of cardiac dysrhythmias. They also have the ability to decide the appropriate pathway for patient care and discharge at scene if required.

2 Rapid Response Doctors

This is another potentially important element in maximising outcomes. Hospital doctors – and occasionally GPs – trained in advanced life support and resuscitation can be contacted by the ambulance control centre. The doctor will either travel to the scene independently or link up with the ambulance before or after arrival. This can be particularly effective in cases where the diagnosis is not straightforward or where patients are critically ill. Currently there are a small number of volunteers who offer their services in this capacity. The CUH ED has published on some of its experience in this area of practice. There may be interest in the wider GP community in becoming involved in this area provided the necessary training, equipment and upgrading of professional indemnity can be provided. This would be supported by the Ambulance Service and should be explored. Southdoc already provides an out-of-hours service using its own vehicles but this is not part of the formal emergency care system (see the first sentence of this chapter above).

3 A Helicopter Emergency Medical Service (HEMS)

Some countries, especially but not only those dealing with remote rural populations, are beginning to invest in Helicopter Emergency Medicine Services (HEMS). This is swift but expensive and can be adversely affected by weather conditions. It is most effective in major trauma situations involving limited numbers of patients. The list of time-critical treatments is growing, however, (e.g. heart attacks and strokes) making HEMS an ever more attractive and

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10 Horwath and Teamwork report p.76
cost effective solution in certain circumstances. While the helicopter can only take one patient at a time (with a doctor and paramedic or nurse), it can transport one patient swiftly to the major centre and return for another. A more limited helicopter service can be provided where patients are brought by road to fixed bases distributed throughout the region from where they are transported to the receiving hospital. This is known as a secondary HEMS operation. The Horwath and Teamwork report\textsuperscript{12} considers a HEMS as part of the overall pre-hospital care system in the network. A HEMS staffed by a pilot, doctor and emergency nurse/paramedic and tasked by and controlled by the ambulance service will deliver timely and expert care to patients in remote locations. However, a HEMS service requires major investment so a call must be made between spending a limited resource on a helicopter system or an enhanced ambulance system. Working within national policy for pre-hospital care, the network should conduct a cost benefit analysis, logistics analysis and risk assessment for provision of a HEMS service for the network (possibly including the wider Munster region).

4 Comments (Ambulance Service)

1. 24/7 on-duty ambulance services in west, north and east Cork will improve response times.
2. Advanced paramedic pods placed across the region operating 24/7 single operator rapid response vehicles will bring an enhanced level of emergency care to incident scenes.
3. Advanced paramedic students should continue to be trained each year until supply balances demand. If the need arises an extra course may need to be scheduled specifically for the southern region. This is in keeping with international best practice and allows a rotating type roster system to be adopted.
4. For health and safety reasons and compliance with the European Working Time Directive, on-call must be eliminated from high activity bases that come within the reconfiguration programme.
5. Dedicated intermediate care vehicles need to be placed into strategic locations affected by reconfiguration. This service would be staffed by ambulance service personnel and would operate during weekday daylight hours initially. It would take a large proportion of routine cases away from acute services and improve response times immensely.
6. Doctor staffed rapid response vehicles have been successfully used in other countries. They provide added capacity for bringing medical expertise closer to incident scenes.
7. Enhance liaison between the ambulance control centre and the regional EM team.
8. On-line telemedical support for APs and doctors using Medico Cork.

If all the above recommendations were accepted it would allow the ambulance service to cope with reconfiguration and achieve its aims of:

- Improved response times to rural areas.
- Better patient outcomes.
- A high degree of safety afforded to the public and to ambulance personnel.

M Norris, Assistant Chief Ambulance Officer
Cork and Kerry

5 Hospital Emergency Care: Overview

There are six public hospitals in Cork and Kerry. All currently have emergency departments of varying sizes open 24/7. Figure I shows the distribution of 158,406 patient attendances for 2008.

Figure I: Total ED Attendances in Cork and Kerry in 2008 (PMU)

\textsuperscript{12} Horwath and Teamwork report p60.
There are two private hospitals, members of the Bon Secours group, one in Cork and one in Kerry. These do not currently provide an ED type service.

Patient flows do not change greatly over the twelve months of the year. 2008 data showed peaks in May and July at BGH and KGH, in May at MGH and in December at MUH. 2006 data for CUH shows peak activity in summer months and lowest levels of activity in December and January.

The study by Healy et al. (2009)\textsuperscript{13} of ED activity in medium to small general hospitals looked at 2007 patient charts for a range of hospitals in the country, including five out of the six public hospitals in Cork and Kerry (excluding CUH). Table 1 overleaf shows data for the percentage of minor injuries\textsuperscript{14} treated at these five hospitals (CI +/- indicates the 95% confidence interval, plus or minus)

<table>
<thead>
<tr>
<th>Hospital</th>
<th>% of minor injuries</th>
<th>(95% CI +/-)</th>
</tr>
</thead>
<tbody>
<tr>
<td>BGH</td>
<td>68%</td>
<td>(95% CI +/-5%)</td>
</tr>
<tr>
<td>MGH</td>
<td>52%</td>
<td>(95% CI +/-4%)</td>
</tr>
<tr>
<td>MUH</td>
<td>32%</td>
<td>(95% CI +/-3%)</td>
</tr>
<tr>
<td>SIVUH</td>
<td>37%</td>
<td>(95% CI +/-3%)</td>
</tr>
<tr>
<td>KGH</td>
<td>44%</td>
<td>(95% CI +/-2%)</td>
</tr>
</tbody>
</table>

The same study showed 75% of activity falls within the working week between 8.00am and 8.00pm. The busiest days are Mondays and Tuesdays. This pattern is also borne out in the bigger hospitals.

Figure II and Table 2 show for each hospital the percentage of ED patients who were admitted to a hospital bed in 2008 as a proportion of the total numbers of attendances at each ED.

\textbf{Figure II: \%age of patients admitted to each of the 6 hospitals of Cork and Kerry as a proportion of total ED attendances at each hospital in 2008}

\textsuperscript{13} Examination of Out-of-Hours (OOH) Surgery and Emergency Department (ED) Activity in Selected Hospitals by Orla Healy, 2009, Health Intelligence and Population Health Unit, HSE (unpublished)

\textsuperscript{14} Typically: cuts/grazes and lacerations, sprains and strains, suspected minor fractures of wrist/hand or ankle/foot, bites and stings, infected wounds, abscesses, minor head injuries, minor eye infections, foreign bodies & scratches
Paediatric attendances make up a large number of ED attendances. The Healy study suggests between 10% and 19% of 2007 attendances were aged 14 or under in the medium to small hospitals in the region. There is no paediatric EM consultant currently employed in Cork or Kerry. The CEM recommends one paediatric EM consultant for every 16,000 children’s visits. If the average of Dr Healy’s study is taken for the under 14s, at say 15%, then 15% of 160,000 visits would be 24,000 so it is clear that an EM consultant in the regional team with a special expertise in paediatrics is justified. The Comhairle report (2002) specifically calls for one such appointment “in each regional centre”.

Healy found that over three quarters of all activity studied occurred between the hours of 8.00am and 8.00pm in 12 medium sized hospitals in the South, North East and Mid West regions.

Table 3: %age attendances at different times at EDs in 12 medium sized hospitals in 2007 (O. Healy et. al.)

<table>
<thead>
<tr>
<th>Time</th>
<th>8am - 8pm</th>
<th>8pm - 10pm</th>
<th>10pm – 12pm</th>
<th>12pm -8am</th>
</tr>
</thead>
<tbody>
<tr>
<td>&gt;75%</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5% to 10%</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>9% to 12%</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>&lt; 13%</td>
<td></td>
<td></td>
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<td></td>
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</tbody>
</table>

The same study provides data on surgical procedures from simple wound care to more complex procedures, numbers and time of day and night, during the week and at weekends. Data from the Performance Monitoring Unit also provides a useful source of reliable information (Table 4).

Table 4: Patient statistics for 2008 (PMU)

<table>
<thead>
<tr>
<th>HOSPITAL</th>
<th>Inpatient Discharges</th>
<th>Day Case Discharges</th>
<th>OPD Attendances</th>
<th>Births</th>
<th>Emergency Presentations</th>
<th>Emergency Admissions</th>
</tr>
</thead>
<tbody>
<tr>
<td>BGH</td>
<td>2,953</td>
<td>1,249</td>
<td>11,302</td>
<td>-</td>
<td>n.a.</td>
<td>n.a.</td>
</tr>
<tr>
<td>CUH</td>
<td>25,631</td>
<td>46,104</td>
<td>134,470</td>
<td>-</td>
<td>58,247</td>
<td>18,561</td>
</tr>
<tr>
<td>*CUMH</td>
<td>15,589</td>
<td>4,347</td>
<td>66,108</td>
<td>8,791</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>KGH</td>
<td>14,721</td>
<td>6,918</td>
<td>56,613</td>
<td>1,861</td>
<td>34,230</td>
<td>10,156</td>
</tr>
<tr>
<td>MGH</td>
<td>4,413</td>
<td>2,336</td>
<td>10,979</td>
<td>-</td>
<td>n.a.</td>
<td>n.a.</td>
</tr>
<tr>
<td>MUH</td>
<td>9,584</td>
<td>16,425</td>
<td>37,955</td>
<td>-</td>
<td>24,184</td>
<td>7,314</td>
</tr>
<tr>
<td>SIVUH</td>
<td>9,078</td>
<td>20,524</td>
<td>55,415</td>
<td>-</td>
<td>22,497</td>
<td>4,567</td>
</tr>
</tbody>
</table>

Source: Performance Monitoring Unit, Department of Health and Children. No computerised records are yet available in BGH or MGH but manually gathered data is available.  *CUMH=Cork University Maternity Hospital
6 Bantry General Hospital

Bantry General Hospital is a small rural hospital of 33 medical, 32 surgical, eight rehabilitation and four intensive care beds situated 113Km from CUH and 110Km from KGH and serving a scattered West Cork and South Kerry population of 50,000 that can double with tourist numbers in the summer months. The populations of the Mizen, Sheeps Head and Beara peninsulas are among the most remote in the country. The Reconfiguration Forum regards Bantry as serving a remote rural community.

1 Activity
Data for 2008 record 6,447 attendances at the ED. Of these, 798 patients were seen in the MAU and 624 of these were admitted to an in-patient bed. In the same period, there were 11,299 outpatient appointments (including 2,697 attendances at a Warfarin Clinic), 1,252 day cases and 2,953 in-patient discharges. The Healy study found about 16% of ED attendances were aged 14 or under and 20% were over 60.

2 Staffing Profile (full hospital)
Three consultant physicians in general internal medicine (including 1 locum)
One consultant surgeon (locum)
One consultant anaesthetist (locum)
0.6 wte consultant radiologist (shared with KGH) and 1 sonographer
12 medical NCHDs,
Six surgical NCHDs – in-patients and emergency work.
One clinical nurse manager – surgical in-patients and emergency care.
9.5 wte nurses – surgical in-patients and emergency care
1.4 wte clerical staff – surgical in-patients and emergency care.

The laboratory provides services in biochemistry, haematology and transfusion. Microbiology and pathology are provided by CUH. A full time cardiac technician provides ECHO, EST, Holter- and BP monitoring. There is a physiotherapy team of six, an occupational therapist and a speech and language therapist. In-house medical expertise in gastroenterology, general medicine/diabetes, geriatrics and neurology is provided by the three consultant physicians and is supported by outreach services in obstetrics, dermatology, general day surgery, orthopaedics, paediatrics, gynaecology day surgery, palliative care, urology, orthoptics and plastic surgery.
3 Facilities Profile
The ED space is really a minor injuries clinic comprising a small room with an even smaller waiting area. Medical emergencies are redirected into the MAU bed for assessment. This is supported by four intensive care beds. Radiology provides CT, contrast CT (3 days/week) ultrasound and plain X-ray. The laboratory provides blood testing, cardiac investigations and endoscopy. There is a helipad that could be used for a HEMS service.

The top 5 good things about the current arrangements that should not be lost:
1. The Medical Assessment Unit should be reconfigured to a Medical Assessment and Admissions Unit functioning at least 5/7 from 10.00am to 6.00pm supported by laboratory and radiology, including 5/7 contrast CT
2. Urgent Care Centre should continue on a 7/7 8.00am to 8.00pm basis staffed by an Advanced Nurse Practitioner with medical oversight and/or a hospital/community(GP) physician.
3. Relations with local GPs are excellent and provide both a model and a real life “laboratory” for developing innovative primary care services in remote and rural settings.
4. Existing services should remain until new, tried and tested services are ready to commence.
5. Outreach patient services are well developed and links with PCCC are good. Many BGH patients are elderly and need home support.

The top problems to be addressed in any reconfigured regional service:
1. The Ambulance Service needs to be upgraded to provide two fully equipped ambulances and teams, a rapid response vehicle manned by an advanced paramedic and an intermediate care vehicle for hospital to hospital patient transport.
2. Loss of a surgical service would create problems in many areas – elective surgery, acute surgery, emergency surgical opinion and support for training and mentoring in the development of primary care surgery.
3. Recognition of training posts.
4. OT intubation in acute emergencies.

The top challenges to be addressed in any reconfigured regional service:
1. Day case surgery will require anaesthetic support. Medical emergencies require the availability of intubation and pain management. These challenges could be met by adding new anaesthetist appointments to the regional anaesthetics team to provide day surgery support and 24/7 cover for acute medical cases.
2. Tighter clinical links with KGH and CUH including explicit transfer and referral protocols.
3. Better rapid transfer arrangements for acute trauma/medical patients.

4 What can others in the network do to help?
1. Provision of prompt surgical opinion on acutely ill medical patients. This can be ensured if visiting surgeons (two days per week) can contractually commit to provision of a surgical opinion on medical in-patients on a rota basis.
2. Provision of good ICT would link the hospital and its patient systems more closely with others in the region. This would include a telemedicine link.
3. South Doc headquarters could move to the hospital site.
4. Provision of advanced airways support and advanced life support from the regional centre.

5 Suggest 3 or 4 changes in practice that would bring about improvements
1. Early opening of MAAU.
2. Provision of contrast CT on a Monday to Friday basis, CT brain 24/7, offsite (from CUH or other hospital) prescription of contrast and reading of scans where necessary.
3. Telelinks to attend conferences/meetings/CME for good time management.

6 Comments (BGH)

Bantry is located within a huge and sparsely populated catchment area with a population of about 50,000 people that can almost double in the summer months due to tourism and inward migration. It provides a vital service for patients and GPs in its catchment population. Many are elderly and require to be treated locally. An acute medical service must be retained. A minor injuries unit could be led by an advanced nurse practitioner under medical supervision. Pre-hospital services must be improved and operate with well defined bypass protocols. Any changes to existing services must first be tested and proven effective and safe before being introduced. Medical emergencies should be treated in a redeveloped MAAU with telemedicine links to CUH and clearly defined procedures for accessing specialist surgical opinion when required. Safe 24/7 intubation facilities must be in place, however or by whomsoever they are to be provided. Bantry could provide certain carefully circumscribed elective surgery services for a wider population base and this would then justify resident surgeons and anaesthetists. This suggestion needs to be considered in the overall reconfiguration process.

(on behalf of) Dr Peter Wieneke,
Consultant Physician, BGH

7 Cork University Hospital

Cork University Hospital is 30 years old and is one of the largest hospitals in the country with a bed capacity of 999 including 117 beds at St Mary’s Orthopaedic Hospital. CUH ED is a busy general and paediatric ED that recorded 58,247 attendances in 2008. Ophthalmic emergency cases made up about 10,000 of these attendances. It will shortly open a new cardiac renal unit which will take direct cardiac ambulance admissions.

1 Activity

From 2002 to 2006, attendances (excluding eye cases) rose by 15% from 39,874 to 45,674. Total attendances are now levelling off at around 55,000 but admissions to hospital beds as a proportion of total attendances are still growing as shown by the following: total new attendances in the first 5 months of 2008 (Jan-May) were 21,210; this figure was almost unchanged for the same period in 2009 but total admissions grew by 6.6% from 5823 to 6206. As a consequence, average total time in the ED rose from 5.63 hours in the Jan-May period for 2008 to 6.14 hours in 2009 due to rising numbers of patients awaiting beds (“Boarders”). Managing total demand and managing patient admissions are key challenges for CUH.

The Crowley study\textsuperscript{16} of ED performance in CUH looked back over 5 years of data. It notes that the ED has increasingly become the most influential patient admission pathway to the modern acute hospital in most western societies but “particularly…within the Irish public hospital network” and suggests that the following factors have contributed to this trend:

1. Greater public awareness of, and willingness to use, this option.
2. Decreased availability of GP services outside of regular hours.
3. A significantly increasing national population in Ireland.
4. Rapid development in the staff and facility resources within many EDs throughout the country.

\textsuperscript{16} Strategy towards Optimisation based on data – The Emergency Department at Cork University Hospital” by Michael Crowley, Claire Devereux and Paul O’Leary (2009) unpublished
In an attempt to respond to these pressures, CUH opened a new ED in 2005 designed to cater for up to 60,000 attendances per year. Staffing in many grades was increased to run the facility.

Some key findings that came from this study include the following:

- 58% of attendees are male and the bulk of these patients are aged 10-30 years. 37% of patients attend as a result of “Limb Trauma” of varying severity. Certainly a proportion of these cases are caused by substance abuse and other behavioural maledictions, but the majority of limb trauma cases are caused by sports injuries arising from greater participation in physical sporting activities in the young.

- The busiest month of the year is May (137 visits per day), while the quietest is December (110 per day). The busiest days of the week are Monday and Tuesday. 36% of patients are referred by GPs, and 50% of patients attending during the afternoon/evening (12noon-8pm) have been referred by GPs. The number of GP referrals falls during out of hours periods and at weekends, while the numbers of self-referrals increase at these times.

- 63% of patients are triage categories 1-3\(^\text{17}\). Triage category of attendees does not show much variation from day to day or between GP and self-referrals. There is a trend towards higher triage category (score 1 and 2) out of hours. Up to 80% of patients are triaged within 30 minutes. The system of triage is widely practiced in the English speaking world but not necessarily elsewhere. There are other ways of managing patient assessment and throughput, so the time it takes to triage, like every other step in emergency patient pathways needs to be measured and kept under review.

- In 2006, 67% of patients spent less than six hours in total in the ED. Statistics demonstrate that the more elderly a patient is, the longer they will spend in the ED. This is likely to be related to the increased likelihood of admission (with its attendant waiting time for an inpatient bed) and the greater complexity of diagnosis.

- 27% of patients will be admitted to a hospital bed and a further 20% will be brought back to an OPD appointment (mainly orthopaedics). This activity is remarkably constant throughout the week.

- 49% of admitted patients spend two days or less as inpatients. 27% of admitted patients spend more than seven days as inpatients. Around two patients are admitted to the intensive therapy unit from the ED each day. 63 patients died in the ED in 2006. One in seven patients admitted to CUH from the ED have no definite discharge diagnosis when finally discharged from in-patient care. This highlights the degrees of uncertainty faced by clinical staff when dealing with acutely unwell patients.

About 2000 patients per year are admitted to and treated in the Clinical Decision Unit (CDU). This is a 12 bedded unit, admission to which is determined by an EM consultant for patients who require a short period of observation or treatment, typically for a maximum of 24 hours. This contributes significantly to reducing the problem of bed waiting times manifested by “the corridor trolley”. There is a broad spread of admission diagnoses (acute headache, head injury, poisoning and soft tissue infection are the top four). The average length of stay is 16 hours. Just over 6% of all attendances are seen again at the ED review clinic.

2 **Five best measures of activity available**

- Time from arrival to triage (and category)
- Time to be seen by doctor

\(^{17}\) There are five recognized triage categories from 1 (most severe) to 5 (least severe)
3 Staffing Profile (ED only)

- 3 WTE consultants
- 18 NCHDs (incl. 1 Medico Cork Registrar and 3 SpRs)
- 65 WTE nursing (incl. 1 ANP) +1 CNM3 +1 Nurse Services Manager
- 1 GP liaison nurse
- 14 clerical
- 1 wte physiotherapy
- 1 wte MSW
- Portering, Nursing Assistants, Domestic

4 Facilities Profile

The ED at CUH was conceived and designed to function as a unit with a capacity of 60,000 attendances per year in a situation where there were to be two other 24 hour EDs working in the city. Staff numbers, patient numbers and their profile, reconfiguration and teaching and training workloads demand that there would be significant investment in infrastructural upgrade. For example the paediatric facilities (e.g. up to 20,000 children per year currently attend the EDs in CUH, MUH and SIVUH), teaching facilities, patient waiting areas, radiology infrastructure and office accommodation would all require significant enlargement and upgrading. Whether or not these must all be located on the CUH ED site needs further discussion with EDs in MUH and SIVUH.

The top 5 good things about the current arrangements that should not be lost:
- Recent build which needs to be enhanced as described above.
- Good diagnostics support with enhancement of PACS and ICT connectivity to peripheral units.
- Wide specialty base: there needs to be ‘buy in’ from all specialities to the concept of a strong central hub that is responsive to patient needs.
- CDU which sees and treats around 2000 patients per year who would otherwise occupy in-patient beds. All patients are seen by a consultant in Emergency Medicine. A considerable amount of this work is classed as Acute Medical Unit work in other hospitals.
- Teaching and training.
- Medico Cork and links to UCC/CIT/NMCI*

The top problems to be addressed in any reconfigured regional service:
- Crowding
- Staffing (numbers and profile)
- ICT and systems
- Paediatric facilities and support
- Built for 60,000
- Insufficient office, meeting and teaching space

The top challenges to be addressed in any reconfigured regional service:
Major challenges to achieving smooth reconfiguration will be:
- Crowding - department and institution
- Industrial Relations

* National Maritime College of Ireland
5 What can others in the network do to help?

The first step towards implementing a successful move to a new system of care for patients will require a more responsive ambulance service, backed by a well mapped distribution of pods of APs who are, in turn, supported both ‘online’ (telemedically) and physically by a doctor staffed rapid response vehicle based at CUH. GPs will be needed to play a role in pre-hospital care on a more formal footing, possibly using the existing Southdoc network. These doctors will require ongoing training and support from the central emergency medicine service.

Other hospitals will have to develop/maintain Urgent Care Centres and MAAUs which provide a service up to 12 hours per day, 7 days a week (depending on patient numbers and attendance patterns). In addition these supporting hospitals will have to have receiving acute medical units and 7 day medical wards which will deal with the majority of the spectrum of unselected medical illness in the local population. GPs will have to have prompt, appropriate access to diagnostic services currently provided through acute hospitals’ services (plain X-ray, ultrasound and laboratory).

6 Suggest 3 or 4 changes in practice that would bring about improvements

1. The following should be available immediately (within 5 minutes) from elsewhere in the hospital to attend in the ED if requested:
   - Medical registrar/consultant
   - General surgical registrar/consultant
   - Orthopaedic registrar/consultant
   - Neurosurgical registrar/consultant
   - Cardiology registrar/consultant
   - Anaesthetic registrar/consultant
   - Paediatric registrar/consultant
   - Geriatric registrar/consultant
   - Obstetric registrar/consultant

2. The CUH ED would also require timely support (within 30 minutes) of all the other specialist services at registrar level if it is to function as a ‘regional’ service.

3. The expansion of 24 hour ambulance services in West Cork will result in early and immediate improvements in response times in that area.

4. Currently the ambulance service has a cohort of trained APs who are engaged in low grade, inappropriate work for their skill levels and their skill set is deteriorating as a result. Concentrating APs in pods will allow these highly trained staff to more appropriately use their skills which will be of significant benefit to patients.

5. Readjusting CT scan availability in BGH and MGH should have measurable effects on patient care in terms of reducing inappropriate patient transportation, and thereby improve patient care locally, improve ambulance availability and reduce inconvenience and discomfort for patients.

6. CUH ED should re-evaluate its triage system with a view to reducing patient waiting times to triage. This can be done by looking again at processes (does BP need to be recorded as often as it is for example?) in the ‘Manchester Triage System’ currently in use or by introducing alternate evidenced based triage systems (such as the Cape System currently in use in the MUH).
7 Comments (CUH)

The fundamental challenge for CUH is to provide a well organised ED service for the city and region integrating in the most efficient way the existing facilities of all three city hospitals and Mallow into a unified service with the trauma centre and complex acute care functions concentrated at CUH. If this can be achieved by collective effort, then that city service can become a true regional centre for emergencies. The reason for thinking in terms of a city service is that no one hospital as currently configured is capable of absorbing the admissions that we can expect to be generated by the regional emergency service.

Dr. Stephen Cusack, Consultant in Emergency Medicine and Director of the Department of Emergency Medicine, Cork University Hospital.
8 Kerry General Hospital

1 Activity
KGH is a 354 bed general hospital located on a large site on the edge of Tralee. These beds include 50 for in-patient psychiatry and 37 for acute day cases. Data for 2008 record 34,230 attendances at the ED. Of these, 10,156 (23%) were admitted as in-patients and 99 were critical cases admitted to the Intensive Care Unit. In the same period, there were 56,613 outpatient appointments, 6,918 day cases and 14,721 in-patient discharges. KGH obstetrics department recorded 1,861 births in 2008. About 70% of all in-patients are admitted through the ED. ED attendances are second only to CUH. The Healy study found about a quarter of ED attendances were aged 14 or under. The hospital is 114Km from CUH, 102Km from Limerick Regional Hospital and 110Km from Bantry General Hospital. The private Bon Secours Hospital Tralee is within 10 minutes by car and provides a cardiology and neurology service to KGH. There is a good radiology service and a well functioning laboratory with PoCT support. The medical assessment unit (MAU) has become a de facto way of dealing with delayed outpatient appointments and needs to be reorganised to fulfil its originally intended function.

2 Staffing profile (ED only)
There is one EM consultant post – currently filled by a locum but with permission to recruit a permanent consultant – supported by six SHOs. The nursing staff comprise six wte senior managers, 2.4 wte senior staff nurses and 20.3 wte staff nurses. There are 18 other wtes of which most are clerical or portering staff. The MAU is staffed with a registrar and a staff nurse. There are no significant trolley waits in the ED and there is a good spread of supporting specialties on call for a major trauma event. Therefore the hospital is reasonably self-sufficient though activity levels are high for the staffing complement and as a result, morale is low. It is therefore of critical importance that the necessary facilities are put in place to maximise the effectiveness of existing staff and improve their communication with medical colleagues in the region.

3 Facilities profile
Facilities for an ED with this level of activity are poor. Plans are in place for a new ED that will be built on to the existing ED frontage. These plans have been awaiting funding for a number of years. Support from radiology and laboratory services is adequate though investment in IT is badly needed to enhance processes within the hospital and improve communications with other hospitals. There is a functioning helipad in the grounds of the hospital.

The top 5 good things about the current arrangements that should not be lost:
1. Significant spread of specialties
2. Reasonably robust radiology service
3. Functioning laboratory and PoCT support
4. No significant ‘trolley waits’
5. Helipad

The top problems to be addressed in any reconfigured regional service:
1. MAU not functioning to full potential and should be closed and reconstituted as a MAAU with specific protocols under the specified supervision of a consultant physician.
2. The consultant in emergency medicine post is currently occupied by a locum appointment on a one-in-one rota. Additional posts are urgently required.
3. Expanded ED plans are subject to the Government capital projects embargo. This project is urgently required and should commence immediately.
4. ICT connectivity with other hospitals in the network must be improved.
6. Front line staffing has for a long time been under-resourced with respect to larger centres of population.

The top challenges to be addressed in any reconfigured regional service:
1. To complete the building of a new ED without delay.
2. To recruit an emergency medicine consultant with effective links to other consultants in the regional emergency care network.
3. To remodel the Medical Assessment Unit, which is not functioning properly, into a MAAU.

4 What can others in the network do to help?
Assist in developing practical links to the rest of the network that will ensure successful recruitment of an emergency medicine consultant.

5 Suggest 3 or 4 changes in practice that would bring about improvements
1. Establish the MAAU according to new principles and strongly linked to other such units in the region.
2. Reorganisation of regional cardiac services
3. Improvement in pre-hospital ambulance service beginning with an AP pod and a strengthened ambulance team.

6 Comments (KGH)
Kerry General Hospital has a medium sized ED that recorded 34,230 attendances in 2008. It has deficiencies in infrastructure and staffing, especially at medical level with a consequent absence of clinical leadership and integration to the wider hospital network. The hospital seeks to have its infrastructural deficiencies urgently addressed and wishes to engage with HSE management and the emergency medicine consultant team with regard to addressing medical staffing. When these deficits are rectified the ED will be well positioned to provide a smooth, efficient and reliable emergency service to the people of Kerry and transient visitors.

(on behalf of:) Mr Fionan O’Carroll,
Consultant Orthopaedic Surgeon, KGH
9 Mallow General Hospital

Mallow General Hospital was built in 1936 and opened as a general hospital in 1957. It is situated on the outskirts of Mallow town 40km from CUH and within 30 minutes driving time. It is within easy driving distance on second class roads of the main towns of North Cork – Millstreet, Kanturk, Charleville, Fermoy and Mitchelstown. The hospital has 84 beds, 36 medical, 32 surgical, four ENT, four ICU, five day ward beds and three trolleys in ED. The most recent average length of stay is 5.9 days.

1 Activity

In 2008, the ED at MGH saw 12,801 patients of which 11,636 (90%) were new attendees and 3,510 (27%) were admitted to an inpatient bed. 56% of attendees were classified as surgical cases and 44% as medical cases. Within the total of 12,801 attendances, 202 were admitted to ICU from the ED. A further 1,650 were treated for wound management elsewhere in the hospital. There is no triage stage in the assessment of newly arrived patients. In the first five months of 2009, 522 patients were brought to the ED by ambulance. One ambulance is based at the hospital operating 24/7 on an on-call basis. The department deals with small numbers of paediatric cases, mainly surgical and ENT, and occasional medical cases requiring rapid resuscitation prior to transfer (e.g. meningitis). The Healy study showed 12-13% of 2007 attendances were under 14 years of age, but the same study showed the highest number of patients over 60 years of all the hospitals in Cork and Kerry (~19%). Outreach services are provided from CUH in obstetrics, psychiatry, paediatrics, and palliative care.

2 Staffing Profile

Full hospital
Three consultant physicians in general internal medicine (including 1 locum)
Three consultant surgeons (including 1 locum)
Three consultant anaesthetists
One consultant radiologist
Nine medical and six surgical NCHDs

Emergency department only
One clinical nurse manager
9.5 wte nurses
1.4 wte clerical staff

After 5pm and at weekends, patients are seen by staff on-call. Consultant cover is provided by the surgeon or physician on-call for that day. Any uncertain/difficult diagnoses are referred immediately to the senior physician or surgeon on-call and a decision is made. This provides prompt same day clinical decision making and largely avoids over-night stays on hospital trolleys. In addition a radiographer is on-call 24/7, laboratory services are on-call 9.00am to midnight only (after which all hospital specimens are sent by taxi to CUH). The radiologist is available Monday to Friday 9.00am to 5.00pm for rapid reporting/discussion and ultrasound scanning if necessary. There is no occupational therapy, speech and language therapy, physiotherapy or dietitian service. There are no portering staff assigned to the ED.

3 Facilities Profile

The department comprises three rooms, a waiting room of 110sqft, a reception area of 42sqft and a treatment room with three cubicles of 380sqft. The department has access to a radiology service with plain X-ray and CT scanner but the CT is not available because of staffing shortages such that many patients have to be transferred to CUH for CT scans. It has the capacity to scan
20 – 30 per day if fully functional. Plans exist to create an ambulance bay at the back of the hospital adjacent to the ED. This would give very superior access for ambulance patients and could be completed at low cost. There is a helipad on the grounds a short distance away.

Recently, a professional assessment of the ED by the National Council for the Professional Development of Nursing and Midwifery resulted in approval for an ANP post. Recruitment awaits funding from the HSE.

**The top 5 good things** about the current arrangements that should not be lost:

1. Central location in North Cork with easy access from Millstreet, Kanturk, Charleville, Fermoy and Mitchelstown.
2. Within half an hour travel time of Cork city for additional support if required.
3. Public support and confidence in the ED.
4. Accessibility of consultants
5. Highly skilled nursing staff

**The top problems** to be addressed in any reconfigured regional service:

1. Lack of resources in respect to physical infrastructure and staffing

**The top challenges** to be addressed in any reconfigured regional service:

1. To find a means to upgrade the resources of the ED in the context of a regional emergency service. The hospital’s location makes it an ideal spoke to provide emergency care for the population of North Cork and thereby filter out the less complex cases from adding to the burdens of the city EDs. Bypass protocols could be developed for major trauma or difficult acute medical cases.
2. Ensuring similar or better out-of-hours emergency care if an Urgent Care Centre only operates for 12 hours per day.

4 **What can others in the network do to help?**

1. Immediate access to tertiary care at CUH or one of the other city hospitals for appropriate patients. System changes are needed to streamline current procedures of referral.
2. Proper access to CT 5/7 9.00am to 5.00pm.
3. Provision of adequate staffing.
4. Provision of a well functioning MAAU.

5 **Suggest 3 or 4 changes in practice that would bring about improvements**

1. The assistance of a porter or attendant to accompany patients to e.g. X-ray.
2. Provision of a replacement nurse for the wound-care nurse when she goes on leave. At present patients revert to the ED.

6 **Comments (MGH)**

Mallow General Hospital welcomes the reconfiguration of emergency services if this process redresses some of the problems caused by a lack of adequate resources down the years and provides more effective support from Cork city hospitals. As an example, the hospital has recently been assessed and approved by the National Council for Professional Development of Nursing and Midwifery for the appointment of an ANP to its emergency department but awaits the resources to make this appointment. It has the resources for an additional wte consultant radiologist but has been unsuccessful in making an appointment in part because of the lack of clear and structured links with radiologists and radiology facilities in Cork city. The hospital needs an Urgent Care Centre and Medical Assessment and Admissions Unit staffed and resourced in a comparable way to others in the region and linked firmly with the larger city hospitals. This would go a long way to enable it to deliver a much strengthened local emergency service to the people of North Cork.
10 Mercy University Hospital

1 Activity
The Mercy University Hospital, situated in the heart of Cork city, was founded by the Mercy order in 1857 and has a bed capacity of 350 beds. Like the SIVUH, it is a voluntary hospital governed by its own board. It has excellent imaging and diagnostic facilities including laboratories with rapid access for GPs. A purpose built ED was opened in 2008 and has room for additional capacity of between 10 and 20 patients per day but critical care bed numbers would be a limiting factor to the expansion of acutely ill patient numbers. Patients are mostly from the inner city or rural GP referrals. There are also tourists, refugees, homeless people, youthful “clubbers” and older substance abusers. In 2008 it recorded 24,166 ED attendances. 78% of these were treated in the ED and discharged. 22% (5,457) were admitted as inpatients to the hospital. In the hospital as a whole, there were 9,582 inpatient admissions utilising 60,000 plus bed days, 16,423 day cases and 38,247 out patient attendances. Healy’s study of the 2007 data recorded 18% of ED attendances aged 14 or under. Emergency and urgent in-patient paediatric cases are currently admitted through the ED. The hospital has a strong academic and teaching role and reputation.

2 Five best measures of activity available
1. New attendances
2. Attendances by triage category
3. Age profile for attendances/admissions
4. Overall hospital casemix measurement index for inpatients and day cases
5. Number of AS1 category ambulance borne cases

3 Staffing Profile (ED only)
Two of the CUH EM consultants have substantial commitments to the MUH ED (providing 11 assigned consultant sessions) and supervise the work of 10 NCHDs, of whom five are at registrar level. There are 27 nursing wtes of whom one (about to be appointed) is at ANP level and eight are at clinical nurse manager level. There are four healthcare assistants and 10.5 other posts, mainly porter and clerical. Cleaning and security are by contract. This makes a total of 51.5 wtes running a unit that recorded 24,166 attendances in 2008 – which is almost identical to CUH staff to workload ratios. The main challenge of this profile is inadequate ED consultant cover out-of-hours. Supporting specialties include strong surgical and medical services and exceptional expertise in the areas of vascular, urology and GIT surgery, gastroenterology, neurology respiratory, geriatrics, oncology, haematology, pathology, cardiology, paediatrics, pain management, interventional radiology and MRI, many of which provide a regional and supra-regional service. There is no on-site orthopaedics, plastics, maxillofacial or liaison psychiatry (psychiatric consultation services available from the psychiatric unit).

4 Facilities Profile
The ED comprises a state-of-the-art department opened in 2008. The department has been designed to minimise difficulties in patient flow, inter-staff communication and patient discomfort. Patients are streamed according to acuity and the need for ambulatory versus trolley or critical care. The ED has access to a superb PACS / radiology service and a similar standard of IT.

18 Examination of Out-of-Hours (OOH) Surgery and Emergency Department (ED) Activity in Selected Hospitals by Orla Healy, 2009, Health Intelligence and Population Health Unit, HSE (unpublished)
support as in CUH. Additionally, ICT at MUH is about to link with CUH. Plain radiography is done within the department while the main radiology department is located about 200 meters from the ED and provides plain radiography, nuclear medicine, CT, ultrasound, interventional radiology, and MRI scanning, all of which are utilised liberally by the ED staff. Laboratory facilities provide comprehensive tests on a floor directly above the ED, and sample transport is by suction tubing.

**The top 5 good things** about the current arrangements that should not be lost:
1. A new purpose-built department, which offers an excellent working and patient environment
2. Excellent imaging service / PACS
3. Skilled medical and nursing profile including dedicated consultant staff, an ANP (shortly to be appointed) and a clinical nursing facilitator. 63% of the nursing staff have a specific ED qualification.
4. High level expertise in a broad range of medical and surgical specialties, especially gastroenterology respiratory, oncology, haematology, paediatrics, pathology, cardiology, pain care, urology and dedicated and specialist nurses.
5. Combined adult/paediatric unit.

**The top problems** to be addressed in any reconfigured regional service:
1. ED radiography staffing constraints mean frequent delays in obtaining X-rays and create difficulty in the evolving rapid access service to GP and fast-tracking ambulatory patients
2. Limited bed availability due to ward closure as cost containment measure can lead to over-crowding within the ED
3. Inadequate out-of-hours ED consultant cover
4. Inadequate Liaison Psychiatry availability
5. Poor parking facilities for patients and visitors

**The top 3 or 4 challenges** in any reconfigured regional service:
1. Dealing with the inevitable change in caseload and the implications for staff training and accreditation for training (and hence recruitment and retention)
2. Developing public and staff trust in new arrangements
3. Dealing with the inevitable challenge to the hospital’s reputation, staff morale and recruitment in the event of reduced hours of acute patient service
4. Gaining proper recognition for the hospital’s existing and continuing role as a major provider of traditionally acute services.

5 **What can others do to help?**

1. GPs can filter patient referrals to the MUH according to clear-cut criteria (e.g. ambulatory cases involving deferred care / investigation of ambulatory trauma, suspected inter-vertebral disc lesions and possible deep venous thrombosis). Deferred hospital attendance (by appointment) could greatly reduce waste in terms of unnecessary referral and attendance delay, by offering scheduled consultant care of such patients.
2. The ambulance service can filter cases according to agreed criteria so that an inappropriate case-mix can be avoided and patients can attend the institution best suited to their medical needs.
3. The emergency medicine consultant community can offer consensus about care.
4. Emergency medicine consultants must provide clinical responsibility for patients during the hours Urgent Care Centre patients are in the department until specialty teams take them over.
6 **Suggest 3 or 4 changes in practice that would bring about improvements**

1. Increase the number of ambulatory and scheduled patients by encouraging GPs to refer certain cases to the rapid access consultant service (focusing on patients with little or no likelihood of needing hospital admission)
2. Improve radiographer staffing to enable more rapid throughput
3. Instigate an out-of-hours radiology protocol to reduce unnecessary on-call volume.
4. Institute improved discharge practice driven by national policy.

7 **Comments (MUH)**

1. Mercy University Hospital has recently published a 5-10 year strategic plan with patient care as its primary focus. In the plan it proposes a reconfigured Accident and Emergency department within the overall context of regional reconfiguration. The Hospital supports a transparent reconfiguration planning and management process based upon the philosophy of parity of esteem between hospitals.
2. CUH may not have sufficient capacity alone to deal with all major and ambulance borne casualties (especially more than doubling the number of AS1 category patients) and will require support from MUH, which has additional physical capacity available to increase the volume of urgent service.
3. MUH believes that the reconfiguration of emergency services must be planned in relation to the wider service context.
4. The MUH strategic plan proposes:
   - To open an accident department on a seven day basis 8am – 10pm with Emergency Consultant supervision;
   - To maintain the weekday fast track ED consultant clinic for ambulatory patients which it is currently providing with considerable success;
   - To open a Consultant led Medical Assessment and Admission Unit at MUH, and;
   - To establish an out of hours admission pathway to MUH for GPs.
5. It is essential to maintain or expand at MUH a high quality, high volume, multi-specialty radiology service; together with Point of Care testing and rapid access to ‘Hot’ laboratory processes plus effective telemedicine links and transport processes to CUH. ICT linkages to CUH are in the process of being provided.
6. The Hospital is prepared to engage in joint planning of a bed management process which is operated on a joint basis with a core tri-hospital decision making process and a defined tri-hospital cohort of beds falling under its control.

Mr J Corbett Deputy CEO, Mercy University Hospital
Dr C Henry Clinical Director, Mercy University Hospital
15 July 2009
11 South Infirmary Victoria University Hospital

The SIVUH is a city centre hospital with a distinguished tradition situated on the south side of the river Lee. It has already seen a merging of two separate hospitals, the South Infirmary and Victoria Hospitals, in 1988 and has traditionally served the population of East Cork and city suburbs such as Douglas, Blackrock, Ballintemple and Mahon. In recent years it has demonstrated a progressive approach to service developments, particularly in the area of short stay and day surgery. In 2008 it recorded 22,388 day cases and 60,000 out patient attendances. These are large numbers for a hospital of this size. The regional ENT service is based at SIVUH and deals with up to 8,000 emergency cases per year. The hospital will be seriously affected by the move of the symptomatic breast service to CUH under the National Cancer Control Plan and the pending consolidation of cardiology in the new cardiac renal building at CUH. Remaining medical specialties will be dermatology, rheumatology and endocrinology. There are good arguments for moving the ophthalmology service to the SIVUH but this will be decided later within the wider context of reconfiguration.

1 Activity

The ED recorded 22,497 attendances (ENT emergencies not included in this total) in 2008 of which 4,567 (20%) were admitted. There is not and never has been a trolley problem. The SIVUH believes this is a reflection of real executive authority being given to the bed manager. The unit does not encourage paediatric medical attendances because of the lack of in-patient paediatrics in SIVUH. Ambulance bypass protocols for paediatric patients have been in operation for several years. Similarly, ambulance-borne patients with acute mental health problems are diverted to MUH or CUH which have the city’s acute psychiatric units. In the Healy study, 20% of cases were categorised as acute emergency, about 68% were either minor injury or non-acute medical assessment and 12% were categorised as “other”.

2 Staffing Profile (ED only)

- 11 sessions, consultant in emergency medicine (2 x 0.5 wte)
- Two registrars and six SHOs
- Eight clinical nurse managers
- 9.5 wte nurses
- Two wte care assistants
- 9.37 wte clerical and portering staff
- Cleaning and security is contracted.

3 Facilities Profile

The ED comprises five examination cubicles, a nurse triage cubicle, a small resuscitation room and an adjoining wound care area (three chairs) which can double as a minor injuries area when staffing allows and patient numbers demand. A review clinic is held in the OPD. The ED has PACS and a similar standard of IT support as CUH. Radiology is adjacent and includes plain film CT, MRI and ultrasound. A lot of PoCT lab testing (Point of Care) is done in the department and other work goes to CUH.

The top 5 good things about the current arrangements that should not be lost:

1. The SIVUH ED is centrally located, immediately adjacent to the outpatients department and a minute’s walk from diagnostic imaging, operating theatre, ICU, wards and bed management office.
2. Trolley patients awaiting in-patient beds are almost unheard of which allows optimum use of the relatively small clinical space in the ED.
3. Other consultant staff have always been fully accepting of the need to support the ED throughout the day and week.
4. There is an experienced and enthusiastic team of nurses.
5. Support from the consultant provided radiology service is widely acknowledged as superb.

**The top problems** to be addressed in any reconfigured regional service:
1. It is possible for a first year SHO to be the most senior doctor in the ED in the middle of the night.
2. There is no in-patient medical paediatrics.
3. Uncertainty about the future is beginning to affect staff morale.
4. Inability to influence turnaround time of those laboratory tests not covered by PoCT affects timely clinical decision making for a small number of patients.

**The top challenges** to be addressed in any reconfigured regional service:
1. To eliminate paediatric emergency attendances as much as possible while ensuring safe management of those who remain.
2. To facilitate expert psychiatric assessment of patients who present to the ED with acute mental health problems.
3. To ensure smooth and efficient transport of patients whose emergency needs cannot be met at SIVUH.
4. To maintain the skills and experience of staff on site in the light of the proposed transfer of services.

4 **What can others in the network do to help?**
1. Each primary care team/GP practice should be allocated a “special relationship” with one ED whereby those patients who need onward referral and meet pre-defined criteria can be spread between the hospitals rather than overcrowding one particular unit. Alternatively, a more limited system could be arranged with respect to MUH and SIVUH to relieve congestion at CUH.
2. A single website showing average real time waiting times in each of the three city hospitals would probably divert some patients from attending the unit under most pressure.
3. Prior agreement between the city hospitals would facilitate transport (e.g. by minibus) of patients from one department to another to relieve overcrowding. A serious multi-casualty incident at CUH can often result in lack of movement in the “minors” queue for a few hours.
4. Priority availability of an emergency ambulance for certain groups of patients needing urgent inter-hospital transfer (e.g. heart attack for stenting; head injury for neurosurgery; thrombolysis for stroke and vascular emergencies) as per the time critical policy already in place.

5 **Suggest 3 or 4 changes in practice that would bring about improvements**
1. A GP referral letter clearly stating that an X-ray of a specific body part is required in a patient with an isolated limb injury can be accepted directly from triage for X-ray. Significant abnormalities noted on the red dot system will result in direct referral of the patient to the ED.
2. The trolleys currently beside the nurses’ station in ED will be replaced with appropriate chairs to facilitate the particular examination needs of patients with isolated limb trauma.
3. A direct specialty review will be initiated for patients re-attending the ED post discharge within an agreed period of time.
4. Expand the role of the nurse e.g. in the prescribing of X-ray.

6 Comments (SIVUH)

“The Board of Directors and EMB of the hospital wish to see a 12 hour ED service. This will complement a 24 hour ENT emergency service. There is scope to develop closer links with GP services (enhanced access to consultants and diagnostics). The ED is well supported by all consultants and other clinical staff in the hospital. We are currently treating over 22,000 emergency patients per year and recording a further 8,000 ENT attendances. Additional patients in the appropriate triage category could be treated, thus relieving pressure on the CUH ED. Our ED staff are experienced and flexible. This is reflected in our easily accessible service and shorter waiting times for patients. We rarely have any patients waiting on trolleys overnight. We have no doubt that the service that we currently provide and that which we plan to provide will suit the needs of our patients and maintain their dignity into the future.”

From SIVUH submission to ED sub group (June 2009)
12 Recommendations

A. The Pre Hospital System
A.1 The ambulance service should move as soon as feasible from the present on-call basis to an on-duty basis (two duty teams providing 24/7 cover) at local ambulance stations throughout the region.

A.2 There should be a single command and control centre for Cork and Kerry that has a close working relationship with the EM consultant team. (The possibility of a single national control centre is fully compatible with this recommendation.)

A.3 Community First Responder training for other emergency services - Gardai, Fire Service and Coastguards – should be utilised systematically in the interests of providing the highest probability of trained first responder intervention at any emergency in the region.

A.4 The role for APs should be tested by means of a pilot project focusing on a single pod of APs at Bantry or Skibbereen acting in support of the ambulance service, particularly for out-of-hours incidents. APs should participate in outreach meetings with schools and community groups to explain the new service before it is introduced.

A.5 The role of a rapid response vehicle at CUH must be developed. This vehicle would be staffed by a doctor (experienced middle grade or consultant) working out of CUH to support the ambulance service APs in Bantry and West Cork.

A.6 There is a role for Medico Cork in providing advice on online telemedical systems for doctors and APs in the pre-hospital arena.

A.7 A Helicopter Emergency Medical Service (HEMS) staffed by a pilot, doctor and paramedic (or trained emergency nurse) to provide primary and secondary response capability throughout the region should be explored with respect to cost benefit, logistics, risk assessment and national policy objectives in pre-hospital care.

A.8 A separate Patient Transportation Service should be developed using appropriately staffed intermediate care vehicles (ICVs), thus freeing up ambulances for front line AS1 and AS2 missions.

A.9 Pilot Programmes to chart the best way forward should be undertaken to establish which combination of the above provides the most effective regional and local solutions. These should be developed by the ambulance service, the EM regional team, GPs and PCCC working together and in consultation with the six hospitals.

B. Bantry General Hospital
B.1 Bantry Hospital serves a remote, rural population. It should therefore continue to provide a 24/7 medical admissions function supported by an Urgent Care Centre with existing radiology and laboratory services.

B.2 Provision of an Urgent Care Centre open up to 12 hours per day (depending on patient numbers and attendance patterns) seven days per week linked to a mobile rapid response doctor and/or Advanced Paramedic. There should be bypass protocols to CUH and telemedicine links to facilitate emergency surgical opinion.
B.3 The Southdoc base should ideally relocate to the hospital site to facilitate patients who may need hospital services out-of-hours.

B.4 The BGH radiology service should continue as currently staffed to provide diagnostic services (X-ray, ultrasound and CT) for the hospital catchment area and should maximise their support of the new MAAU by extending the working day. PACS technology should link BGH/KGH/CUH.

B.5 The BGH laboratory services should continue as presently staffed to provide diagnostic services to the hospital catchment area. The laboratory should maximise support of the MAAU by extending the working day.

B.6 The full time cardiac technician should be retained.

B.7 The Medical Assessment Unit should be developed into a MAAU Medical Assessment and Admissions Unit with opening hours best suited to the attendance patterns of the hospital but accessible for medical emergencies 24/7 facilitated by appropriate hospital out-of-hours rosters. It should be established and run according to commonly developed functions, protocols and procedures, and supported by robust local diagnostic services open from 10am to 6pm but accessible for medical emergencies 24/7 facilitated by appropriate hospital out-of-hours rosters. Patients requiring advanced airway care, critical care and intensive care should be managed in consultation with CUH ED and relevant acute services using appropriate scoring systems and transfer protocols. Surgical and anaesthetic services should be provided on a day case basis from regional teams of general surgeons and anaesthetists. Thrombolysis should be available for early intervention for STEMI*, Non STEMI* and Stroke. A clinical lead should be appointed to ensure smooth roll out, consistency of staffing, facilities and operating protocols in MAAUs throughout the region.

B.8 A new telemedicine link with CUH, with agreed arrangements for surgical visiting, should be put in place to provide reliable surgical opinion for medical in-patients and ED patients. This service should be supported by in-house CT with defined protocols for 24 hour use.

C. Kerry General Hospital

C.1 KGH will retain its full ED for the foreseeable future. Construction of the new ED should begin as soon as possible.

C.2 The new EM consultant to be funded through a redeployment of existing resources must be linked in with the regional EM team in a structured way and play an active part in supporting the regional emergency care service. The consultant should also play a role with other members of the EM consultant team in supporting local EDs elsewhere in the region according to agreed structured arrangements. The regional EM consultant team should consider this matter with the hospital authorities and advise the Director of Reconfiguration on the best way of structuring and resourcing consultant staffing in the KGH ED.

C.3 Other key staff in KGH ED should be linked to CUH ED to improve communication and develop common approaches to common problems.

C.4 The existing MAU should cease and re-start as a new MAAU under revised principles and procedures to be agreed for the region as a whole.

* Different forms of heart attack
* Different forms of heart attack
**D. Primary, Community and Continuing Care (PCCC)**

**D.1** PCCC should support ED departments with effective arrangements for rapid near-to-home step down beds and community based rehabilitation support. Any measure that will improve patient discharge from acute hospitals will have a positive effect on ED throughput.

**D.2** The HSE should work on a collaborative basis with GPs to develop effective systems for GP referrals. Each primary care team and GP practice should have a referral relationship with a named hospital Urgent Care Centre for patients presenting with pre-defined criteria during the normal working week, thus spreading the non-complex caseload more equally among Urgent Care Centres and developing a relationship that will yield better access to diagnostics.

**D.3** Patient pathways into and through the ED should be studied in detail with a view to eliminating unnecessary delays and inefficiencies (e.g. a single point of contact for GPs making emergency referrals and an end to the ‘chain of doctors’ currently involved in the referral process in the ED).

**D.4** A role for interested GPs in emergency care should be explored by PCCC addressing issues of training, indemnity and equipment.

**E. Mallow General Hospital**

**E.1** An MAAU should be established with opening hours best suited to the attendance patterns of the hospital but accessible for medical emergencies 24/7 facilitated by appropriate hospital out-of-hours rosters. Patients requiring advanced airway care, critical care and intensive care should be managed in consultation with CUH ED and relevant acute services using appropriate scoring systems and transfer protocols. Surgical and anaesthetic services should be provided on a day case basis from regional teams of general surgeons and anaesthetists. Thrombolysis should be available for early intervention for STEMI*, Non STEMI* and Stroke. A clinical lead should be appointed to ensure smooth roll out, consistency of staffing, facilities and operating protocols in MAAUs throughout the region.

**E.2** Provision of an Urgent Care Centre open up to 12 hours per day (depending on patient numbers and attendance patterns) seven days per week linked to a mobile rapid response doctor and/or AP. There should be bypass protocols to CUH and telemedicine links to facilitate emergency surgical opinion.

**E.3** The radiology department should operate to its full capacity with appropriate staffing and structured links to Cork city hospitals so that patient transport to and from Cork city hospitals is kept to an absolute minimum. A PACS link to the Mercy University Hospital would provide radiology advice and strengthen the hospital radiological service.

**E.4** The MGH laboratory services should continue to provide local diagnostic services to the hospital catchment area.

**E.5** Capital investment to develop a separate ambulance entrance to the ED should go ahead, if possible with support from the Friends of Mallow Hospital group. This will facilitate the development of the MAAU and the Urgent Care Centre.

* Different forms of heart attack

* Different forms of heart attack
**F. Cork University Hospital, Mallow General Hospital, Mercy University Hospital and South Infirmary and Victoria University Hospital**

**F.1 An integrated emergency care network** should be developed for Cork city and North Cork. These four hospitals currently provide emergency care for over 120,000 patient attendances per year. As much as possible of routine, non life-threatening emergency care should be taken out of CUH and dealt with by MGH, MUH and SIVUH, whilst allowing ease of transfer for the patient whose care requirements turn out to be greater than first estimated. If these four hospitals can set up shared systems for management of emergency care they will have made an enormous advance towards international best practice over the present fragmented and poorly co-ordinated system. Specific co-ordination measures should include:

a. **A single trauma centre and complex acute care 24/7 ED at Cork University Hospital**;

b. **Urgent Care Centres** - established according to common standards adapted to meet the particular functions and attendance patterns of each hospital - at Mallow General Hospital, Mercy University Hospital and the South Infirmary and Victoria University Hospital;

c. **Ambulance bypass protocols** to CUH for particularly ill or seriously injured patients;

d. **Telemedicine links** between these four hospitals should facilitate the availability of specialist surgical and/or medical opinion 24/7. Patients requiring advanced airway care, critical care and intensive care will be managed in consultation with the CUH ED and/or other specialist acute services. Appropriate scoring systems and transfer protocols must be developed to ensure timely and seamless transfer. Arrangements should be put in place for stabilising heart attack and stroke patients before transferring such patients to CUH;

e. **An efficient city wide (and Mallow) patient transport service** to avoid hold-ups to minor injuries patients by serious incidents elsewhere;

f. **A single website showing average waiting times** in each of the three city hospitals (and on display in each) and a freephone number giving the same information;

g. **Out-of-hours emergencies** (999 calls) and complex trauma to be directed to CUH ED while GPs may continue to refer out of hours medical patients to the most appropriate MAAU or ward at MGH, MUH or SIVUH according to agreed protocols;

h. **A single emergency medicine consultant team** with a rotating chair will develop team solutions to common problems. Pre-hospital care should be part of their remit;

i. **A co-ordinated bed management system** between CUH, MGH, MUH and SIVUH to reduce waiting times for hospital admission;

j. **Medical Assessment and Admissions Units** should be established at each of the four hospitals (CUH, MGH, MUH, SIVUH), with opening hours best suited to the attendance patterns of each hospital but accessible for medical emergencies 24/7 facilitated by appropriate hospital out-of-hours rosters. These units should be established and run according to commonly developed functions, protocols and procedures, and supported by robust local diagnostic services.

k. **Linked ICT systems** to improve overall co-ordination.

l. **Patients on hospital trolleys** are unacceptable and must be phased out. Reduction to zero of ED trolleys will be monitored and measured at each step of the implementation process.

**F.2 A consultant post in emergency medicine with a special interest in paediatrics** should be created to ensure a co-ordinated emergency service for children links seamlessly to the regional paediatric service.

**F.3 A “special relationship” should be formed between each primary care team/GP practice and a given Urgent Care Centre** to improve services for GPs and bring about a more equal distribution of GP referrals.
F.4 Special measures should be taken to ensure that the patient record is always available in the right place at the right time if the patient is transferred or readmitted through the emergency care system. A copy of every patient discharge or OPD letter that is typed by a medical secretary in a public hospital should be retrievable by duly authorised staff in an emergency situation.

F.5 The new post of academic consultant in emergency medicine to be recruited by UCC should play a key role in education training and research in emergency medicine for the whole region in line with the most up-to-date international practice.

F.6 These recommendations should be sequenced in a co-ordinated programme of implementation providing gradual transition to the new systems after testing and risk proofing.

G. Review

G.1 The recommendations in this review should themselves be reviewed at six monthly intervals and appropriate adjustments made in the light of experience. These reviews should include a survey of users, including patients and their GPs, putting such questions as “the three things that really worked” and “the three things you would like changed” and an analysis of data collected during the two year period recording patient usage of the system, activity levels, wastage assessments (time, facilities, mis-directed patients, compensation claims, wrong deployment of staff etc.) and other relevant data.
13 Implementation

The ES Subgroup was requested to draw up an action plan as part of its work. Factors that have to be borne in mind include the following:

- Emergency services are only a part, though an important one, of the broad map of acute services reconfiguration. Final decisions on some elements can only be made when the overall planning is complete.
- Many of our recommendations will require resources. Some of these will be within our control and will arise from redeployment of posts and elimination of wasteful practices. Some will not, such as, for example, the government capital projects embargo. Others have implications for training budgets or will require accreditation/approval from professional bodies.
- Redeployment of existing staff will have industrial relations implications.
- The Review will nevertheless provide a framework for action, and within this framework, certain recommendations are more urgent than others, and certain things need to be in place before others. An important part of implementation will be the setting of achievable targets and reviewing of progress. Planning should be straightforward and able to adjust to circumstances. Above all it should energise and motivate. The following indicative plan should be approached in that light.

Action over the six months August 2009 to January 2010 on the most important 10 items:

1. Pre-hospital system [Quarter 3 2009; Quarter 4 2009]
   - Put in place the first AP personnel in West Cork in October. Responsibility: Director of Reconfiguration (DoR) and Ambulance Service.
   - Promote the new service with a public information campaign in advance of “going live”. Responsibility: Ambulance Service and HSE Communications Department.
   - Test the new service in October with timed scenarios. Responsibility: EM team and Ambulance Service.
   - Commence ICV service (first vehicles and drivers should be in place by November). Responsibility: Ambulance Service.
   - Produce a costed plan, logistics and risk analysis for a HEMS and explore with respect to national policy objectives for pre-hospital care. Responsibility: EM consultant team.
2. Capital projects [Q4 2009; Q1 2010; Q2 2010]
   - Work towards lifting the capital embargo and co-operate with local support groups to initiate capital building and refurbishment projects in KGH (new ED), Bantry (refurbishment) and Mallow (ambulance port). Responsibility: DoR and Regional Director HSE South.

3. Kerry EM consultant staffing [Q4 2009]
   - Agree an EM consultant staffing plan for Kerry, including identification of posts, resourcing and linkages to the regional team. Responsibility: EM consultant team, KGH Clinical Director and Manager.

4. Medical Assessment and Admissions Units [Q4 2009; Q1 2010; Q2 2010]
   - Engage an external clinical leader to draw up an appropriate model for MAAUs and agree with each hospital the particular specification for that hospital including staffing, equipment, operating and bypass protocols and linkages to hospital rosters. Responsibility: DoR.

   a. Draft specific plan for each Urgent Care Centre including opening hours, staffing, bypass protocols and linkages with hospital rosters.
   b. Prepare CUH ED for additional out of hours trauma work.
   c. Introduce city wide inter-hospital transport to enable greater integration of new urgent care centres with CUH 24/7 ED.
   d. Introduce Urgent Care Centres sequentially, monitoring ability of CUH ED to absorb out of hours trauma work and making any necessary adjustments. Responsibility: EM consultant team.

6. GP Liaison [Q2 2010]
   - Establish a GP Liaison group to draw up plans for liaison between the pre-hospital system and hospital EDs and Urgent Care Centres. Responsibility: GPs and EM consultant team.

7. Mallow Radiology [Q1 2010]
   - Secure resources that will ensure the efficient operation of CT scanner at Mallow. Responsibility: DoR, Regional Director HSE South and MGH management.
8. **Telemedicine [Q1 2010]**

9. **Co-ordinated bed management [Q3 2010; Q4 2010]**
   - The first phase for closer co-operation between CUH, MGH, MUH and SIVUH should be agreed, including a plan for patient transport, patient record handling, improved emergency admissions and sharing of data on bed occupancy. Responsibility: EM consultant team and bed managers.

10. **Training and Data Gathering [Q1 2010]**
    Training requirements/budgets for staff of MAAUs and Urgent Care Centres. Data gathering for future monitoring of progress. Responsibility: DoR and Regional Director HSE South in consultation with higher education institutions and EM team.

**First Review – December 2009:**
- First intermediate review of progress (patient satisfaction surveys, staff consultations, target reviews and problem analysis) and setting of next 10 objectives for June 2010 which might include:
  1. Continued roll out of APs, on-duty ambulance teams and ICVs.
  2. Single command and control centre for the region or nationally.
  3. Formal rapid response teams in place based at CUH.
  4. First MAAUs and Urgent Care Centres in place (BGH and MGH) after staff training, performance testing and risk proofing (medical, nursing, other health professions).
  5. Change over from resident surgical service at Bantry to the new regional outreach service directed from CUH.
  6. New consultant appointments in train – KGH consultant, academic consultant, consultant with paediatric special interest.
  7. Increased PCCC step down beds available to relieve pressures on the emergency care system.
  8. Each Urgent Care Centre to have its linked primary care teams/GP practices in place by opening.
  10. Live waiting time website with screens in each hospital.

**Second Review – July 2010:**
- Second intermediate review of progress (as above) and setting of next 10 objectives for December 2010.

Over the coming two months this indicative plan should be developed with relevant groups into an agreed action plan, integrated with the wider reconfiguration project, which then forms the basis for sequenced actions in 2010. These are reviewed in December 2010, and a new six month plan is agreed taking into account lessons learnt in the previous phase. An implementation group should be established to oversee this process.
### Appendix I

#### Abbreviations used in this Review

<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Description</th>
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<tbody>
<tr>
<td>A&amp;E</td>
<td>Accident &amp; Emergency</td>
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<tr>
<td>AMU</td>
<td>Acute Medical Unit</td>
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<td>ANP</td>
<td>Advanced Nurse Practitioner (definition – footnote 5, p3-16)</td>
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<tr>
<td>AP</td>
<td>Advanced Paramedic</td>
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<tr>
<td>BGH</td>
<td>Bantry General Hospital</td>
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<tr>
<td>CDU</td>
<td>Clinical Decision Unit</td>
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<td>CEM</td>
<td>College of Emergency Medicine</td>
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<tr>
<td>CIT</td>
<td>Cork Institute of Technology</td>
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<tr>
<td>CNM</td>
<td>Clinical Nurse Manager</td>
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<tr>
<td>CNS</td>
<td>Clinical Nurse Specialist (definition – footnote 6, p3-16)</td>
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<tr>
<td>CT</td>
<td>Computed Tomography</td>
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<td>CUH</td>
<td>Cork University Hospital</td>
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<td>ED</td>
<td>Emergency Department</td>
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<td>EM</td>
<td>Emergency Medicine</td>
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<td>EMB</td>
<td>Executive Management Board</td>
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<td>EMS</td>
<td>Emergency Medicine Service</td>
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<td>ENT</td>
<td>Ear Nose and Throat</td>
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<td>EP</td>
<td>Emergency Physician</td>
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<td>ESS</td>
<td>Emergency Services Sub-group</td>
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<td>GP</td>
<td>General Practitioner</td>
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<td>HEMS</td>
<td>Helicopter Emergency Medical Service</td>
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<tr>
<td>IAEM</td>
<td>Irish Association for Emergency Medicine</td>
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<tr>
<td>ICT</td>
<td>Information and Communications Technology</td>
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<tr>
<td>ICU</td>
<td>Intensive Care Unit</td>
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<td>ICV</td>
<td>Intermediate Care Vehicle</td>
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<tr>
<td>ITT</td>
<td>Institute of Technology, Tralee</td>
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<tr>
<td>ITU</td>
<td>Intensive Therapy Unit (interchangeable with ICU)</td>
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<td>KGH</td>
<td>Kerry General Hospital</td>
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<tr>
<td>MAAU</td>
<td>Medical Assessment and Admission Unit</td>
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<td>MAU</td>
<td>Medical Assessment Unit</td>
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<tr>
<td>MGH</td>
<td>Mallow General Hospital</td>
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<tr>
<td>MI</td>
<td>Myocardial Infarction (Heart Attack)</td>
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<td>MIU</td>
<td>Minor Injury Unit (footnote 14, p5-22)</td>
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<td>MUH</td>
<td>Mercy University Hospital</td>
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<td>NCCP</td>
<td>National Cancer Control Plan</td>
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<td>NCHD</td>
<td>Non consultant hospital doctor</td>
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<td>NMCI</td>
<td>National Maritime College of Ireland</td>
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<tr>
<td>OOH</td>
<td>Out of Hours</td>
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<tr>
<td>OPD</td>
<td>Out Patients Department</td>
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<td>OT</td>
<td>Occupational Therapy</td>
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<tr>
<td>PACS</td>
<td>Picture Archiving and Communication System</td>
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<td>PCCC</td>
<td>Primary, Continuing and Community Care</td>
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<td>PMU</td>
<td>Performance Monitoring Unit, Dept of Health and Children</td>
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<tr>
<td>PoCT</td>
<td>Point of Care Testing</td>
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<tr>
<td>PT</td>
<td>Physiotherapy</td>
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<tr>
<td>RRV</td>
<td>Rapid Response Vehicle</td>
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<tr>
<td>SAR</td>
<td>Search and Rescue</td>
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<tr>
<td>SHO</td>
<td>Senior House Officer</td>
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<tr>
<td>SIVUH</td>
<td>South Infirmary and Victoria University Hospital</td>
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</tbody>
</table>
SLT  |  Speech & Language Therapy
SpR  |  Specialist Registrar
STEMI |  S.T. (represents two particular points on an electrocardiograph) Elevated Myocardial Infarction
Non STEMI |  Non S.T. Elevated Myocardial Infarction
UCC  |  University College Cork\textsuperscript{19}
WTE  |  Whole Time Equivalent

\textsuperscript{19} Not to be confused with Urgent Care Centre, which is always written in full in this review.
14 Appendix II

Membership of the Emergency Services Subgroup

Dr Stephen Cusack, Consultant in Emergency Medicine and Director of the CUH ED
Dr Raymond Barry, Consultant Paediatrician, MUH
Dr Ronan Boland, General Practitioner
Ms Gretta Crowley, Local Health Office Manager, South Lee, HSE South (PCCC)
Ms Helen Donovan, Director of Nursing, SIVUH
Mr M Hanna, Clinical Development Advisor, University College Cork (assigned to Reconfiguration Team)
Professor John Higgins, Consultant Obstetrician and Director of Reconfiguration
Ms Anne Keating, Bed Manager, CUH
Ms Geraldine Keohane, Director of Midwifery, CUMH
Dr Christopher Luke, Consultant in Emergency Medicine, MUH
Dr Joan Lynch, General Practitioner
Dr Gerard McCarthy, Consultant in Emergency Medicine, SIVUH
Mr Michael Norris, Assistant Chief Ambulance Officer, National Ambulance Service
Mr F O’Carroll, Consultant Orthopaedic Surgeon, KGH
Mr G O’Dwyer, Hospital Network Manager, HSE South (NHO)
Dr B Payne, General Practitioner
Ms M Topham, General Manager, SIVUH (assigned to Reconfiguration Team)
Mr A Twomey, Consultant Surgeon, MGH
Dr P Wieneke, Consultant Physician, BGH
15 Appendix III

Submissions received in the preparation of this Review

Many submissions and emails were received in the course of preparing this Review, among which were the following:

Ambulance Service, HSE South – Mr M Norris
Ambulance Service SWOT – Mr M Norris
Bantry General Hospital response – Dr P Wiencke
Bantry Hospital SWOT – Dr S Cusack
Cork University Hospital SWOT – Dr S Cusack
Data from the PMU and other sources – Ms M Topham and Mr E Harrington
Drivers of Reconfiguration – Dr S Cusack
General Practice perspectives – Dr J Lynch, Dr R Boland and Dr B Payne
Kerry General Hospital SWOT – Dr S Cusack
Mallow General Hospital SWOT – Mr A Twomey
Mercy University Hospital response – Mr P Madden and Dr C Henry
Mercy University Hospital SWOT – Dr C Luke
Nursing in a reconfigured emergency care system – Ms A Keating and Ms H Donovan
Nursing roles in emergency care – Ms G Keohane, assisted by Siobhan Scanlon and Norma Sullivan
Patient perspectives – Ms M Murphy
PCCC and Reconfiguration – Ms G Crowley
Physiotherapy – Ms S Glennon
Southdoc – Dr B Payne
South Infirmary and Victoria University Hospital response – Dr C McCarthy & Ms H Donovan
South Infirmary and Victoria University Hospital SWOT – Ms H Donovan
16 Appendix IV

IAEM Position Paper on Urgent Care Centres, January 2007

Standards for Urgent Care Centres and Minor Injury Units in Ireland

1. Definition
Urgent Care Centres provide episodic unscheduled care to patients with acute illnesses and minor injuries, which are not anticipated to be life-threatening in nature. The term Urgent Care Centre (UCC) is preferred to Minor Injury Unit as these facilities often deal with non-life threatening medical and surgical problems as well as injury.

2. Introduction
Urgent care Centres are convenient for patients, but are not a substitute for conventional emergency care, a solution to Emergency Department overcrowding nor are they a substitute for having a General Practitioner or an appropriate Primary Care infrastructure. Within the last year a number of centres, variably matching this definition have opened in the Dublin area. However, some of these units are staffed by doctors with limited training and with little or no supervision by trained specialists. It is anticipated that further units will open in the near future and indeed the development of such facilities was called for in The Accident & Emergency Ten Point Plan (HSE 2005). It is essential therefore that appropriate clinical standards be in place given their current and future development. As the representative association for Emergency Medicine in Ireland, the Irish Association for Emergency Medicine (IAEM) feels compelled to recommend minimum standards so that these units can provide a safe service for patients. The development of Urgent Care Centres does not absolve the HSE from ensuring that hospital Emergency Departments are properly resourced with appropriate staffing and adequate space to deal with the same categories of patient, should they present to the hospital Emergency Department.

3. Overview
In Ireland, Emergency medical care has traditionally been provided by doctors and nurses in public Emergency Departments (EDs) and by General Practitioners. Current standards for EDs dictate that each department should be under the clinical supervision of fully trained and accredited Consultant(s) in Emergency Medicine, thus providing the best clinical outcome for patients. In addition the Consultant and hospital are responsible for ensuring that best clinical standards are met and appropriate staff are available. Furthermore general Health Services Executive (HSE) standards apply in relation to staff recruitment, salaries, working conditions and training, quality assurance including risk management, complaints management, clinical audit and service development. Emergency departments are expected to provide an integrated service with local Primary Care and Community Care services. The majority of patients attending Emergency Departments are discharged after treatment. In excess of 50% of Emergency Department visits are estimated to be by patients who can be considered as ambulant ill or injured i.e. patients with a recent injury or a medical condition that leads to their discharge rather than hospital admission. These patients have conditions, some of which fall within the spectrum of care proposed by Urgent Care Centres and therefore a proportion of this ambulant ill or injured population could be treated safely at an Urgent Care Centre, provided that such a care centre was designed, staffed and run to the highest standards. Indeed, there is an established model for the management of this patient group as a separate care stream, within a public Emergency Department, delivered in specially designated and appropriately staffed clinical areas. This model maximises efficiency of

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20 The term Urgent Care Centre is always used in full in this Review to avoid confusing it with the commonly used shorthand for University College Cork (UCC)
care and minimises patient delays. This service is not widely available in Ireland due to the inadequate infrastructure and resourcing of public EDs. To date Urgent Care Centres have only been developed by the private sector in Ireland. Early Irish Urgent Care Centre models have been staffed by doctors of varying experience with little supervision from specialists. This is a return to the old “Casualty” model that has been universally discredited. If these units are to be developed in Ireland and to offer a safe alternative service to patients they must be led and supervised by fully trained specialists. At the present time. Consultants in Emergency Medicine are the most appropriate specialists to undertake this role, as they have extensive training and experience in managing this cohort of patients.

4. Standards

4.1 Facilities
4.1.1 Location
Urgent Care Centres should ideally be co-located with EDs or if free standing should have clear links with established EDs to facilitate urgent patient transfer if required.

4.1.2 Resuscitation
All units must have adequate facilities, with appropriately trained staff, for the initial resuscitation and stabilisation of any critically ill patient who may inadvertently arrive at the facility or clinically deteriorate while there.

4.1.3 Diagnostics
The facility needs on-site access to plain X-ray and point of care blood tests. Critical to the success of an Urgent Care Centre is the ease with which patients can access the radiology and laboratory services. Complex diagnostic facilities such as CT scanning and MRI should be easily available without competing with the limited public facilities available.

4.1.4 Clinical Space
The overall size of the clinical area will be dependent on the anticipated workload. However there should be sufficient space to ensure that a high degree of patient privacy and dignity is maintained. The area must be compliant with current and future Health and Safety regulations and Infection Control standards.

4.2 Patient profile
Urgent Care Centres cater for the ambulant ill with localised injury or minor illness. In general, patients requiring ambulance transport will not be suitable for treatment at an Urgent Care Centre. In essence the Urgent Care Centre targets patients who are likely, after expert assessment and treatment, to be discharged rather than admitted.

4.2.1 Mode of referral
Most patients will self-refer to the facility. However some may be referred by their General Practitioner or another healthcare professional.

4.2.2 Suitable conditions
It is difficult to be prescriptive about all the conditions that could be safely managed in these units. This will be dependent on the level of facilities available and the experience of the staff. However provided they are led by fully trained specialists they should be able to safely manage a wide variety of medical and trauma related conditions. That said, these units are not suitable for ill patients who require hospital admission.

4.3 Relationship with Hospital Service
There must be clearly defined protocols for the management of patients who require hospitalisation. These patients should not be transferred to the local Emergency Department unless they require resuscitation. Similarly arrangements must be in place for patients who require specialist outpatient follow-up (e.g. fracture clinic) rather than such patients being sent to Emergency Departments to facilitate this.

4.4 Staffing
In order to maintain clinical standards equal to those in a hospital Emergency Department it is essential that Urgent Care Centres are led by fully trained and accredited Consultants in Emergency Medicine who must be on the Specialist Register in Emergency Medicine, maintained by the Medical Council. The service should be delivered by appropriately trained doctors and nurses under the clinical supervision of a Consultant in Emergency Medicine.

4.5 Quality Standards
The Consultant(s) in charge of the Urgent Care Centre should be responsible for producing clinical guidelines and care pathways. The Consultant(s) will also be responsible for ongoing clinical audit and implementation of risk management strategies. It is envisaged that a consolidated set of national Urgent Care Standards will be developed in the future.

4.6 Integration with existing Primary Care
There must be full communication with patients’ Primary Care doctors to ensure continuity of care and prevent duplication of services. In keeping with the aspiration of the HSE to develop Primary Care Teams and universal patient registration with a General Practitioner, it is important that patients are encouraged to attend their GP for follow up, rather than repeatedly using Urgent Care Centres for their ongoing healthcare needs.

4.7 Public Health issues
Urgent Care Centres will need to participate in disease surveillance activities as Emergency Departments and Primary Care Services currently do. The place of Urgent Care Centres in regional Emergency Planning in the case of a major incident or disaster needs to be defined.

5. Paediatric Services
Specific standards for the care of children attending Urgent Care Centres are required. The American College of Paediatrics standards, modified for local factors, could be used as a basis for the development of such standards until definitive Irish standards are produced.3

6. Impact on existing services
International evidence confirms that these units will not impact on overcrowding in Emergency Departments unless they are co-located with an ED, where patients are triaged from the ambulatory care side of the ED to the UCC.4,5,6,7 Notwithstanding their location the international evidence clearly indicates that Urgent Care Centres will have no impact on the current problem of Boarded Inpatients experienced by the majority of Emergency Departments in Ireland. These units are not a substitute for conventional emergency care. They provide a convenient service for patients, with minor medical or trauma related conditions that cannot access their usual source of medical care. Urgent Care Centres require highly trained medical, nursing and paramedical staff, with emergency care and resuscitation skills. The development of Urgent Care Centres is likely to draw such staff from the public emergency care system and may cause staff retention and recruitment problems in public EDs to the detriment of overall patient care.

7. References