

# **Local Medical Emergency Units**

## **Learning Set Interim Report**

Edited by Durrow

Foreword by  
John Wyn Owen



**The Nuffield Trust**  
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**The Nuffield Trust**

The Nuffield Trust for research and policy studies in health services was established by Viscount Nuffield in 1940. Today the Trust acts as an independent commentator on the UK health scene and the National Health Service. It has set out to illuminate current issues through informed debate, meetings and publications and has also commissioned research and policy studies aimed at the development of policy and improvement of health services.

# Contents

<b>Foreword:</b>	John Wyn Owen	5
<b>Section I:</b>	<b>Introduction - Medical Emergencies. 'Why the NHS needs a new paradigm'</b>	7
	- extract from Durrow's initial proposition paper	
<b>Section II:</b>	<b>About the Learning Set</b>	9
<b>Section III:</b>	<b>Project Planning</b> - Durrow paper presented 29 March 99	11
<b>Section IV:</b>	<b>About the Demonstration Sites - Site Profiles &amp; Latest Presentations</b>	16
	<b>Forth Valley</b> - extracts from Dr Norman Peden's paper presented 11 July 2000	16
	<b>East Kent</b> - Anne Swan and Dr Michael Flynn's Paper presented 8 January 01	18
	<b>Witney</b> - Sarah Bright and Elizabeth Bradbury's Paper presented 8 January 01	23
	<b>Down Lisburn</b> - Internet paper published September 2000	32
<b>Section V:</b>	<b>LMEU - Prescription for Change</b> - Durrow's Interim Review Paper - Autumn 2000	41
<b>Section VI:</b>	<b>Lessons from Abroad</b> - findings from Oslo and Copenhagen Study Tour	48
<b>Section VII:</b>	<b>The Emerging Picture</b>	51
<b>Appendix:</b>	<b>Useful Contacts</b>	52



# LOCAL MEDICAL EMERGENCY UNITS (LMEUs)

## Foreword

One of the Nuffield Trust's original purposes when it was set up in 1940 was to co-ordinate hospital and local health services throughout the provinces, thus anticipating the NHS with its planning and co-ordinating objectives. In keeping with this tradition, the Trust has always contributed support at the forefront of thinking about health organisation and delivery by putting the best minds in touch with the hardest problems.

The Local Medical Emergency Unit Learning Set emerged from a series of meetings at the Trust when it was clear that staff in local situations would benefit from shared learning and analysis of some of the hard problems of the day - how to meet needs locally when there are so many drivers which push towards centralisation of activities and services. Reconfiguring the distribution of hospital services does not have easy answers because there are no easy answers as the following paper states. However, advances in communication and diagnostic technology enable the settings of care to remain local and can bring some of the tertiary-based technology into the hands of general practitioners and their team. This is the theme of a parallel Nuffield Trust publication - *The Impact of New Technologies on Future Primary Care* edited by Professor Aly Rashid.

In an ideal world every locality would have immediate access to DGH-standard medical assessment services where patients would be assessed against a background of their personal health records in close partnership with primary care professionals. This publication asks whether this is an impossible dream and poses the question of why so little work has been done to explore the costs and barriers of such an approach to patient-centred health care. It also aims to inform a process of deliberation and debate about how this ideal might become a reality by sharing the learning set's 'work in progress' and providing contact points for individuals to seek advice and exchange views.

**John Wyn Owen CB**  
**London: November 2000**



## SECTION I

### Introduction

#### **Medical Emergencies - 'Why the NHS needs a new paradigm'**

The U.K. supports around 225-250 District General Hospitals with 'traditional' planning populations of around 250,000. In 1997 the BMA published a paper<sup>1</sup> suggesting that 400,000 population might be the right planning assumption for the future. In such a scenario, perhaps 100 communities with current DGHs would be drawn into discussions about the future of their acute hospitals - of course, this process has been underway for some time. A Learning Set, sponsored by the Nuffield Trust, has been focusing attention on the implications of this scenario for medical emergencies and the possibility that locality hospitals could play a major role in their treatment.

Whilst the bigger general hospital policy may pay-off for the organisation of emergency surgery and for the future organisation of senior medical staff, it is problematic for routine emergency medical cases, many of whom are elderly.

Hospital rationalisation plans are capable of generating high levels of political controversy (viz. Edgeware et al) and this political discordance carries with it a high overhead management cost.

The 'Hub and Spoke' model is seen by the proponents of the new policy as the answer, but this may not be seen as sufficiently attractive at 'spoke' level to engender enthusiasm for change. The Learning Set believes that management effort at the planning stage to develop new models of care for medical emergencies at locality level will ensure that they are cost effective, safe and desirable to clinical staff and the communities they serve.

The general public, the news media, politicians and health professions alike are concerned by the unrelenting problems associated with admitting emergencies to hospital, but two important points remain understated:

- At least 15% of all emergency admissions will be found to be inappropriate measured by criteria set by the Royal College of Physicians.<sup>2</sup>
- One third of all acute bed days will be occupied by patients who have already been in an acute bed for a week.

What many at operational level know is that attempting to arrange patient discharge to a distant address is more difficult than to the hinterland of the hospital where strong relationships with primary care and social services have been forged. The inefficiency and high transaction cost of organising the discharge of patients at arm's length is an, as yet, hidden cost of DGH rationalisation.

If the objectives of Health Authorities are to reduce the gross number of admissions from the community to hospital and to reduce the overall length of stay of each case admitted,

then it can be seen that the traditional DGH fails to some degree on both. The evidence<sup>3</sup> is that at least one in seven patients admitted as an emergency did not require admission on medical grounds. In addition, a significant number of hospital bed days are occupied by patients for whom alternative forms of care would be more appropriate.

Hitherto there has been an assumption that all of the acute functions of the DGH must be handled together. However, the Learning Set has started to address the proposition that it might be advantageous to plan medicine and surgery against different principles. Questions that need to be answered are:

- Can the **full** clinical functionality of the DGH be created for medical emergencies at locality level such that they can be admitted direct and treated?
- Can it be done at the same or less cost than a conventional DGH?

If it were possible to prove that the answers to these key questions were affirmative it would certainly be a desirable model in sociological terms. The logistical sequence of admission would be shorter, the interface with primary care and social services would be stronger and the visiting convenience to the patients' relatives would be tangible. For elderly patients, the disorientation would be less and the threat to their sometimes fragile support networks would be reduced.

The ability to provide big hospital security and diagnostics with local access may seem fanciful now, but in the expected life cycle of a large new hospital investment of 30-60 years it is less so. Two important developments have yet to see their full impact in health service organisation:

- The ability to source clinical images as binary code and to transmit, reconstruct and manipulate them across distance.
- The ability to conduct clinical examinations remotely and to tele-consult with colleagues.

The other key factor is the shortage of senior medical staff forcing the need to reposition this essential but scarce resource. There appear to be compelling arguments for larger clinical teams. However, it is not clear that this objective requires centralisation of services and the co-location of staff. The organisation of senior medical staff into larger teams which also serve several sites requires careful evaluation.

The Local Medical Emergency Unit Learning Set has been working together to consider these far reaching questions and pooling experience from four very different demonstration sites across the U.K. This interim report seeks to share more widely what has been learnt by the group during the first year of research and planning.

## References

- <sup>1</sup> Leaner & Fitter - What future model of delivery for acute hospital services BMA October 1997.
- <sup>2</sup> The appropriateness evaluation protocol: a technique for assessing unnecessary days of hospital care. Med Care 1981; Gertman P, Restuccia J.
- <sup>3</sup> Audit Commission 1995, Lying in Wait.

## SECTION II

### About the Learning Set

The Learning Set was formed in January 1999 to examine and test the proposition:

*"Can undifferentiated medical emergencies be managed at local level?"*

#### Membership

The group consists of fifteen senior NHS managers drawn from NHS Trusts, Health Authorities and Regional Offices in England, Scotland, Wales and Northern Ireland.

During the first year four implementation sites have been identified; two are in England, one in Scotland and one in Northern Ireland.

#### Objectives

The Learning Set provides a forum to explore new models of NHS treatment for medical emergencies that seek to weave together the issues of 'locality' and the potential of 21st century communications technology.

The Set provides an opportunity to:

- Learn from experts about the uses of new technologies in acute care and how to exploit and optimise their emerging potential.
- Consider the complex social and political issues associated with implementing change in health care provision.
- Understand the capital investment structures that need to be addressed to harness new technologies.
- Share practical experience and approaches to the development of the treatment of acute medical emergencies.
- Enable high level dialogue with professional bodies and potential technology partners in a safe non-threatening environment.

#### Process

The Set's approach is:

- Meeting regularly (at least four times a year) to share progress at the implementation sites and explore the related new technology, social policy and professional issues, in collaboration with invited experts in these fields.

- Support visits to the demonstration sites by the learning set facilitator and support team (provided by Durrow Management Services) to promote the concept, facilitate and advise local implementation teams on project planning and the initial local analysis stage.

## **Expert Advice**

A major strand of the group's work to date has been to invite experts in the fields of technology, health and social policy development and politics to meetings to contribute their knowledge and experience to the debate. The aim was to develop a clearer understanding of the range of services and protocols, skilled staff and, perhaps most importantly, philosophical attitudes both within the NHS and the wider community that would need to be in place to enable local medical emergency units to become viable and socially acceptable.

A list of some of the people consulted appears in an appendix to this report under the heading 'Useful Contacts'.

## SECTION III

### Project Planning

A considerable amount of time and effort was spent by the group considering the strands of work the demonstration sites might include in their project plans.

The steps proposed are as follows:

#### 1 Setting objectives and clarifying them with key stakeholders

The objectives for the project should be simple - but written down. An example would be:

*To explore the feasibility of admitting undifferentiated emergencies to ABC Hospital in circumstances that would guarantee the patient's rapid, appropriate treatment equivalent or better than admission to the District General Hospital.*

*To experiment with the establishment of operational arrangements that would guarantee DGH standard medical treatment in the local hospital.*

*To evaluate the comparative clinical results and financial costs of such arrangements.*

*To assess the potential benefits of utilising telemedicine in these settings.*

*To assess what staff roles are appropriate to deliver high quality care in these settings.*

Draft objectives should be for discussion with key stakeholders who should be listed as early as possible and would be likely to include figures drawn from:

- Local GP groups.
- DGH executive team.
- DGH clinical leads/ Medical Director.
- HA team.
- CHC.
- Ambulance Service.
- Local Authority.
- Police.

## **2 Analysis**

### **2.1 General pattern and number of medical emergencies**

Before any conclusions or actions can be considered it would be advisable to build a solid foundation of analysis of the current numbers and type of medical emergencies emanating from the defined population.<sup>1</sup> We would recommend a retrospective construction of previous year's caseload by interrogation of the relevant DGH(s) computers sorting on postcode. A postcode key for the defined population will allow all relevant hospital databases to be checked relatively easily. This will allow the incidence of cases to be mapped by type. A composite file of the cases arising in the defined population should be built.

### **2.2 Classification of cases into groups**

Analysis of the above file should allow classification into groups. Ideally, <20 groups will cover >80% of the total cases. The groups can be determined locally but should be explicable in terms of ICD codes and capable of being unbundled into specific conditions. It will be interesting for projects to compare their results and the degree of clarity that they have been able to impose on the data.

### **2.3 Tracer conditions**

Taking the most numerous groups, it should be possible to identify a commonly occurring condition(s) in each. It might be useful to choose one or more of these as 'tracer conditions' (e.g. chronic asthma episode) for detailed study. The computer files will probably contain little more than the minimum data set and it will be necessary to pull case notes for a more detailed study of a sample of cases in a particular 'tracer condition'. The purpose here would be to reverse engineer a profile of the 'pathway' that those patients appear to follow:

- Time/date of original event.
- Response.
- Time/date of admission.
- In-DGH sequence of events - detailed treatment history.
- Discharge.

This study should indicate in outline what the current arrangements are for the treatment of the most common medical emergencies, but further analysis will be needed.

### **2.4 Activity sampling**

Experience with previous studies suggests that accurate detailed information about what is actually happening to patients in the DGH can only come from real time study. We suggest that the initial group of 'tracer condition' patients are studied in detail using activity sampling<sup>2</sup> conducted by trained supernumerary staff. The collation of these results will allow a detailed illustration of exactly what it is that the DGH is doing and who is doing it.

This will provide a realistic profile of the *actual* sequence of events that the patient is experiencing. These closely observed and recorded sequences should not be confused with the official clinical pathways/protocols adopted by the DGH - there is always some divergence between official policy and actual practice.<sup>3</sup> When later comparisons are drawn between the results of the LMEU and the DGH, it will be essential to make these comparisons with the actual sequence of treatments in the DGH rather than what was officially supposed to have been happening.

It will probably be necessary to repeat these studies for different tracer conditions until there is a clear auditable record of how the major conditions are being processed. It will be prudent to ensure that GP and DGH colleagues are satisfied with the accuracy of these results.

## 3 Scenarios

### 3.1 The creation of scenarios

There are two avenues to the creation of new 'LMEU' scenarios for the treatment of, say, a selected tracer condition:

- Blue sky creation of an ideal pathway for the condition.
- Adaptation of the DGH model to fit the LMEU model.

It may be useful to explore both approaches for a number of conditions but the result should always be a detailed clinical protocol for a specific condition. It should begin from the moment of the emergency event and run through until the episode is closed. The exercise needs to be repeated for a representative number of conditions. It is here that the detail of the activity sampling will be useful: to be confident of the results, each element of the patient's treatment needs to be examined. Was it clinically useful? Was it essential that the patient was in the DGH and if so why? What would have to be done to the Local Unit to allow it to equal the DGH in the speed and quality of the same task? Given the structural similarity of many medical protocols, it should be possible to build up a database of elements of work which have been studied already, additional tracer conditions can thus be analysed with diminishing work inputs. Those tasks which represent the very essence of 'DGHness' can hopefully be separated and can be studied carefully, (see below)

### 3.2 Testing the scenarios

The scenarios for LMEU treatment need elaboration on a number of dimensions - we would recommend three initially:

- **Staffing** - tasks need allocating to staff members. It will be tempting to take the existing staff categories and choose between them for each task, but some thought should be given to whether there is a need to create new 'LMEU' staffing positions that may combine skills from different groups or professions.
- **Equipment** - access to equipment can be expected to be a significant issue. There is heightened awareness within the NHS to equipment costs as opposed to the costs of

labour employed. Careful notes of what equipment is required for each task will help to establish the kit-list and to assist in accurate costings.

- **Costing** - a cost model needs to be built per condition as these costs can then be used to create an overall cost plan for the unit.

By now it should be possible to return to the file containing the list of cases arising from the defined population (see above). These cases should then be retro-sorted into those that could have stayed in the LMEU and those that would have required transfer to the DGH A&E. This latter group are of great interest - it is to be hoped that a study of these patients will lead to the clarification of clear 'escalation criteria' perhaps along the lines of the Royal College of Physicians Appropriate Admission Criteria.<sup>4</sup>

### 3.3 Discussion of scenarios

The detailed scenarios for organising treatment and the general costing models should provide a sound basis for discussion with stakeholders. In effect they allow the ideas to be discussed without changing actual clinical arrangements. If the objective is to move on to some form of limited experimentation, then at least the following groups have to give informed consent:

- Participating GPs.
- The clinicians at the DGH.
- The Ambulance Service.
- The direct care staff involved at the LMEU.

## 4 Limited experimentation

It is not possible to specify these arrangements outside of the local context. The objective is to test in real life the scenarios created earlier and to provide an empirical feedback loop to allow them to be refined before significant changes are made to existing arrangements. This early experimentation should also build confidence amongst the sceptical and provide an evidence base for more structural changes later.

It will be important to remember that one of the core objectives is to try to replicate DGH quality (or better) for a smaller population, *not* necessarily to replicate DGHness in a smaller hospital, i.e. it is the quality of the service that counts and so the buildings are a secondary issue.

The most probable approach would be to begin with a limited number of tracer conditions in concert with the local GPs/PHCTs, Ambulance authorities and tertiary care monitoring centres e.g. John Radcliffe Centre.

When they require admission, these cases could be taken to the LMEU where the agreed protocol could be followed. An alternative would be to establish the LMEU for a limited period taking all emergencies but with consultant and other staff from the DGH in attendance as observers and to provide back-up if needed.

If there is significant opposition to direct receipt of medical emergencies in the LMEU, it might be possible to simulate the LMEU conditions within the DGH (this might be

particularly important for sites where there is a sceptical DGH attitude or where the distance is very great). This simulation should commence at the A&E and use facilities and staff that are clearly separate from the mainstream DGH medical emergency facilities.

Detailed activity sampling should be employed in all cases using supernumerary staff trained to perform this role.

## **5 Project management**

### **5.1 Project Execution Plan**

We recommend that a full project execution plan (PEP) is prepared and approved by the appropriate Boards. This not only sets out the timetable and costs of the project but also delineates the degrees of authority that the key actors have been delegated. It might be helpful for the various NHS bodies involved in the project to understand who is leading and what the key milestone points are. The plan should provide for periodic reports on progress to the main participating bodies.

## **References**

- 1 Defined population used here as a probable catchment population of the proposed local medical emergency unit. Helpful to define it in relation to a geographical boundary and preferably coterminous with LA boundaries of some sort.
- 2 The recording on a fixed cycle (eg 15 mins.) of exactly what is happening to the patient, where and who is doing it. In the manner of a series of still photographs, the sequence of recording reveals the pattern and duration of events.
- 3 For example, the DGH might have a policy that all emergency patients are seen by a Consultant Physician within # hours - detailed study can demonstrate that this does not always happen etc.
- 4 This schedule lists key indicators for appropriate admission to a medical bed. It is the style not the content of this schedule that is relevant.

## SECTION IV

### Demonstration Site Profiles

#### Demonstration Site A. Forth Valley NHS Trust - The twin towns scenario

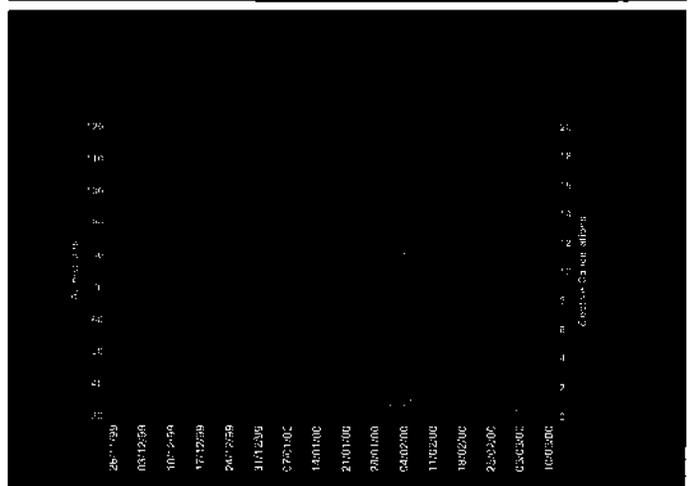
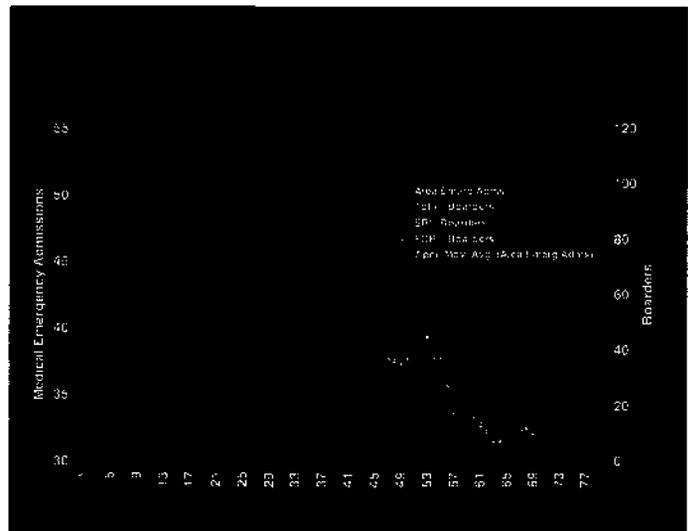
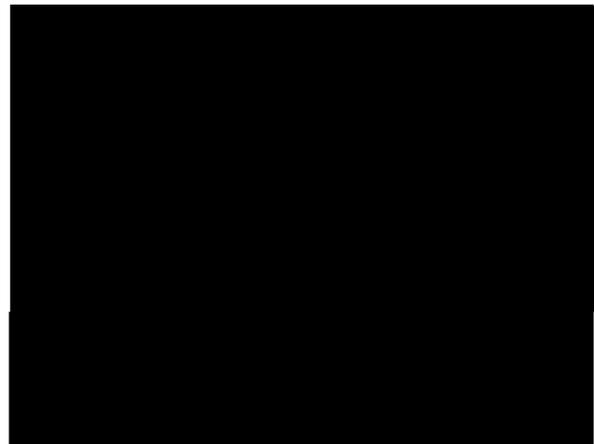
The Trust was formed in 1999 as the result of a merger between two, historically competitive, DGHs which are 12 miles apart. The Trust covers three local authority areas and is now also overseen by the Scottish Parliament.

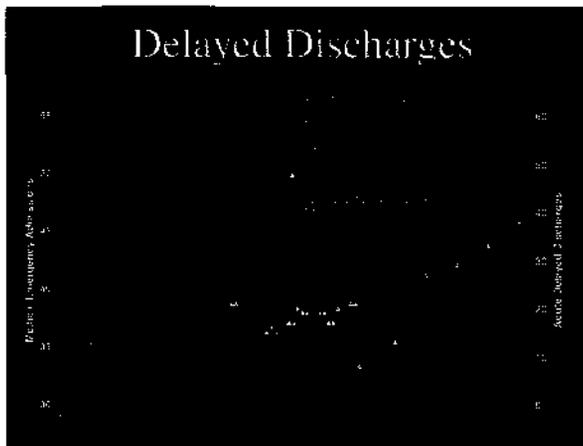
The population of 275,000 is equally split between the two major towns, but there is also much sparsely populated remote countryside. The provision of adequate A&E and acute surgical services at both sites is becoming increasingly difficult to maintain. There are problems with A&E, trauma and orthopaedic, obstetric, paediatric and anaesthetic cover.

Ambulance services take patients to the nearest A&E and journey times from remote parts of the catchment area are up to 45 minutes.

There are moves to develop an ambulatory care centre, but it has not yet been decided on which site the centre will be, or even if both sites would have a centre.

The Trust has undertaken a significant amount of data analysis led by Dr Norman Peden, consultant physician and the following extracts and conclusions are taken from his presentation to the Learning Set 11 July 2000.





### Forth Valley Admissions

- 200 patients interviewed
- 40% aged 65 years or older
- 14% aged 76 years or older
- Living alone -
  - 57% of those aged > 64 years
  - 18% of those aged ≤ 65 years
- For elderly patients not living alone the main carer was generally also elderly

### Presenting Condition

Condition	Age < 65	Age > 64
Signs / symptoms*	44	28
Respiratory	17	9
Cardiac	16	15
Diabetes	9	1
Toxicology	8	1

\*many with more than 1  
 \*\* 17 were elderly patients  
 8% of these had multiple previous admissions

### FV admissions

*Potential alternatives*

- Up to 7% could have been managed at home by GP
- Up to 19% could have been managed in a non acute facility (e.g. GP bed)
- Up to 13% could have been managed at an urgent OP appointment
- Up to 40% could have been managed in a fast track investigation / observation facility

### What do patients want ?

In the event of recurrence of the same condition :-

- 48% would prefer emergency admission to the District General Hospital
- 35% would prefer treatment at a local emergency centre / community hospital / GP home care
- 13% would prefer specialist / emergency outpatient treatment

### An effective modern service in acute medicine ....

- Much more than an admissions service
- Functions on a 24/7/52 basis
- Support services are aligned to this need
- Adequately supports senior medical staff
- Utilises and develops the roles of nurse specialists / nurse practitioners / physician's assistants

### An effective modern service in acute medicine ....

- Implements multidisciplinary team working and documentation
- Has appropriate ranges of care available for elderly patients which are co-ordinated across health and social care boundaries
- Is evidence based with implementation of guidelines across a range of common acute conditions and underpinned by a programme of clinical effectiveness

### Redesign and modernisation

- Are not new concepts in the NHS
- To achieve the degree of catch-up change now necessary require to be supported by substantial new investment in:-
  - additional clinical staff
  - facilities that are fit for purpose
  - information technology systems to do the linking

## **Demonstration Site B. East Kent Hospitals NHS Trust - The patchwork of hospitals scenario**

This site has 3 DGHs and 7 community hospitals in a geographical location that is constrained by water on three sides. All road networks run east to west so travel from north to south is difficult. The Authority serves a population of 600,000 - 21% of which is over 65 years of age.

The site is in the south of England and of the 7 parliamentary constituents 5 are Conservative and 2 are held by Labour.

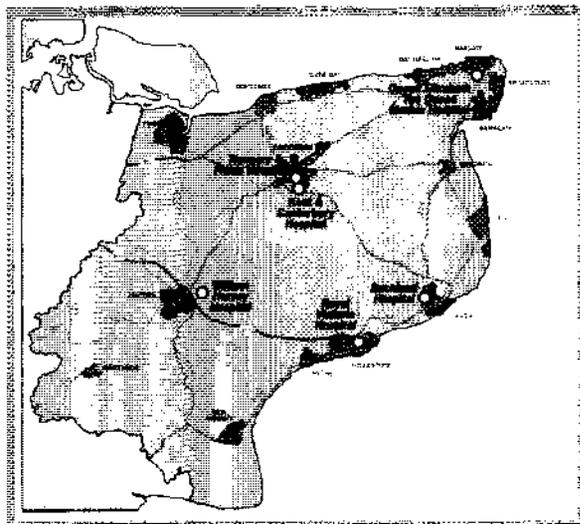
The third acute site will no longer provide full A&E services, inpatient surgery or ITU. The challenge to the health economy is to develop the third site in order to provide as many locally accessible services as possible. The plan is to create a medical centre which will also support radiotherapy and chemotherapy services.

The role of the 7 community hospitals is also being reviewed together with the future configuration of emergency services, elective services, care of the elderly and continuing care.

The following is an extract of East Kent's latest discussion status (pre-consultation) proposals for the reconfiguration of hospital services presented to the Learning Set on 8 January 2001 by Anne Swan, together with Dr Michael Flynn's supporting paper 'Acute Medicine in Canterbury'.

# **ACUTE GENERAL MEDICINE IN CANTERBURY**

First draft - 7 March 2000    Second draft - 14 March 2000



### **Distances:**

Canterbury - Margate:	19 miles
Canterbury - Ashford:	16 miles
Ashford - Margate:	35 miles

Map of East Kent Hospitals NHS Trust

## **1 Introduction**

1.1 All-ages acute general medicine involves the admission, assessment and management of patients with medical conditions. Patients may be referred from general practitioners through Accident and Emergency or from out-patient clinics.

1.2

Acute general medicine requires the support of other clinical and pathological services, as well as modern diagnostic and investigational facilities. These criteria are described in 'Consultant Physicians Working for Patients: A blueprint for effective hospital practice' by the Royal College of

Physicians. The service must be structured to be able to cope with medical emergencies, which may occur in an unpredictable and unforeseeable manner.

1.3 Selection of specific categories of medical admissions is not possible, even when the patient has been referred by an experienced medical practitioner. Within broad symptom groupings presentation may be highly variable, with for example abdominal conditions presenting with chest pain and vice versa. Many cases with clear-cut medical presentation will require further urgent assessment by other specialities, eg. surgery, gynaecology etc.

1.4 Within these principles, the following options are available:

### **1.5 Option 1**

An acute all-ages general medical take in Canterbury with appropriate clinical, laboratory and investigational support in line with the principles of clinical governance. To accept unselected general medical patients referred from general practitioners, Accident and Emergency and out-patients.

### **1.6 Option 2**

The withdrawal of acute general medicine from Canterbury in the event of being unable to meet Option 1.

### **1.7 Option 3**

The use of Canterbury as a high level diagnostic interventional, investigative and teaching centre. This would require a smaller number of in-patient beds with a lower level of emergency support.

## **2 Option 1 detailed appraisal**

### **2.1 Admissions policy**

The Canterbury medical acute assessment unit will accept emergency referrals from the Emergency Department during that Department's working hours and where myocardial infarction is suspected, direct ambulance transfers to the coronary care unit.

### **2.2 Medical Staffing**

In line with Royal College Guidelines, the medical unit will need to be staffed by a minimum of six general physicians and six physicians in the care of the elderly. The provision for resident staff requires an appropriate skill mix and is governed by junior doctors' hours legislation. The minimum resident team would comprise one specialist registrar/staff grade, one senior SHO, two SHOs and one shared house officer.

### **2.3 Support facilities**

In addition to the medical acute assessment unit, a coronary care unit is a pre-requisite for an unselected medical take. A coronary care unit would be available for the direct admission of patients with suspected myocardial infarction, by paramedic ambulance crews using well

established procedures. It would also be available for patients who were admitted through the medical assessment unit and who develop cardiac complications on the wards.

2.4 A coronary care unit must have the following facilities:

- emergency cardioversion (requires general anaesthetic).
- emergency resuscitation (which may require ventilation and HDU support).
- emergency pacing (which requires radiological and technical support).
- management of cardiogenic shock (which requires HDU and technical support).
- facilities for diagnostic investigation (requires technical support, including echocardiography or ECG monitoring etc.).

## 2.5 Critical care

Any acute general medical admission may require emergency critical care, even when this is not suspected at the time of initial referral. This may apply to a wide range of medical problems, including cardiac arrest, epilepsy, metabolic problems and respiratory diseases, including pneumonia, obstructive airways disease and asthma. Critical care facilities would be provided by HDU with appropriately trained medical and nursing staff. A fundamental aspect of critical care services is provision of experienced and trained anaesthetists, who can assist in the intubation, ventilation and invasive monitoring of critically ill patients. The anaesthetist must be a specialist registrar/ staff grade, with appropriate experience and must be supported at all times by a named consultant anaesthetist, who will not normally be resident. General physicians and care of the elderly physicians are not formally trained in HDU management and any patient admitted to the HDU would be under the care of a named physician and a named consultant anaesthetist. The latter would be available according to normal contractual requirements for emergency cover.

## 2.6 Clinical interdependencies

Acute medical admissions frequently require the opinion and assistance of other medical specialities in diagnosis and treatment. They relate to complications of investigation and treatment of medical patients and also due to the recognition of initially unsuspected non-medical problems. A clinically effective medical unit will require access to a wide range of medical specialities. These include general surgery, obstetrics and gynaecology, ophthalmology, ENT and others.

2.7 We require direct access to all these specialities. The urgency and method of access will depend on the clinical problem.

2.8 A Royal College of Physicians guideline indicates that medicine *should not* be practised on sites where general surgical cover is not available. We will require direct access to a consultant surgeon, within the normal contractual requirements for the provision of general surgery. The surgeon must be directly available to see and examine the patient and therefore cannot be on call for other sites. The nature of the surgical consultation may be one of the following options.

1. A consultant opinion, to determine if a case has a potentially serious surgical problem. We envisage that this would be the majority of the consultations and may need to take place both on take day and on subsequent admission days. In the event of a patient requiring further consultations, the surgical directorate would need to give thought to the continuity of surgical opinion.
2. Patients with sub-acute surgical problems, who are fit for stabilisation and transfer, by an appropriately trained and supported transfer team.
3. In rare circumstances, a patient may require emergency surgery.

The surgical directorate would need to consider how to support these three options, including the necessary provision of a 'hot theatre'. It should also be noted that a similar level of support will be required for oncology services, as for general medicine and care of the elderly.

2.9 A significant number of emergency general medical admissions require access to diagnostic and therapeutic endoscopy, which could be provided as an emergency rota by consultant gastroenterologists and general surgeons. The majority of acute gastrointestinal haemorrhage is managed by conventional medical resuscitation and therapeutic endoscopic intervention. Surgical management is secondary and could be accomplished within the provisions list under surgery.

### **2.10 Other support facilities**

The diagnosis and treatment of emergency general medical patients requires a full range of pathology services, including a hot lab for biochemistry, microbiology, haematology and cross matching. All of these facilities must be available 24 hours a day, with appropriate consultant advice available. A 24 hour on call radiology service is essential for the diagnosis and management of medical emergencies. In addition to standard radiology, 24 hour a day access to CT scanning is required. To avoid unnecessary in-patient admission, excess length of stay or in-patient transfer, it is desirable that there is a fast track diagnostic pathway (including weekends) to additional on-site radiological facilities, which include ultrasound, ventilation perfusion scanning and MRI scanning.

## **3 Option 2**

3.1 If the Trust is unable to provide unequivocal support as outlined in Option 1 and further described in the Royal College of Physicians 'Blueprint for effective hospital practice', acute general medicine must be withdrawn from the Kent and Canterbury site. In the absence of key facilities for resuscitation, ventilation, diagnosis and rapid direct surgical opinion, any attempt to practise emergency general medicine would be unsatisfactory and unsustainable.

3.2 In the event of the withdrawal of any of these key components, acute general medicine would be obliged to cease at the same time.

## 4 Option 3

4.1 The utilisation of the Kent & Canterbury as a focused investigational and diagnostic centre would allow the efficient use of the Kent and Canterbury hospital facilities. This option would not require advanced emergency facilities and could take place in the absence of on-site surgery and HDU.

### PORTFOLIO OF SERVICES CURRENTLY PROVIDED BY EAST KENT HOSPITALS NHS TRUST

#### QEQMH

Accident & Emergency  
Coronary Care Unit  
Day case surgery  
Intensive Care Unit  
Paediatric service  
Inpatient facilities for emergency and planned surgery and medicine  
Maternity service  
Outpatients and local diagnostic service  
Acute rehabilitation beds and therapies  
Trauma and Orthopaedic\*  
Cancer Unit  
Vascular Surgery

#### KCH

Accident & Emergency  
Coronary Care Unit  
Day case surgery  
Intensive Care Unit  
Paediatric Service  
Inpatient facilities for emergency and planned surgery and medicine  
Maternity service  
Outpatients and local diagnostic service  
Acute rehabilitation beds and therapies  
Trauma and Orthopaedics  
Cancer Centie  
Vascular Surgery  
Renal Inpatients and dialysis\*  
Haemophilia  
Comprehensive Care  
Cer're'  
  
Neonatal Intensive Care'  
Radiotherapy Complex  
Chemotherapy\*

#### WHH

Accident & Emergency  
Coronary Care Unit  
Day case surgery  
Intensive Care Unit  
Paediatric service  
Inpatient facilities for emergency and planned surgery and medicine  
Maternity service  
Outpatients and local diagnostic service  
Acute rehabilitation beds and therapies  
Trauma and Orthopaedics  
Cancer Unit  
Vascular Surgery

\* Multi-district specialities, serving a population of between 1.5 million

### PROPOSED SERVICE CONFIGURATION

KCH	QEQMH	WHH
Local emergency service	Full A&E	Full A&E
Medical Admissions Unit Coronary Care Unit Day case surgery [with 'hotel' beds]	Medical Admissions Unit Coronary Care Unit Day case surgnry	Medical Admissions Unit Coronary Care Unit Day case surgery
High Dependency Unit Inpatient facilities for acute medicine	Intensive Care Unit Inpatients facilities for emergency and planned surgery and medicine	Intensive Care Unit Inpatient facilities for emergency and planned surgery and medicine
Day hospital for the elderly and base for the Community Assessment and Rehabilitation Team	Day hospital for the elderly and base for the Community Assessment and Rehabilitation Team	Day hospital for the elderly and base for the Community Assessment and Rehabilitation Team
Low risk midwifery led maternity	Full maternity service	Full maternity service
Outpatients and local diagnostic services Eideiyy care rehabilitation beds and therapies [acute, slow stream and GP access]	Outpatients and local diagnostic services Acute rehabilitation beds and therapies	Outpatients and local diagnostic services..... Acute rehabilitation beds and therapies
Renal dialysis	Trauma and Orthopaedics Cancer Unit Renal dialysis Vascular inpatients	trauma and Orthopaedics Cancer Unit Renal dialysis ENTinpatients Ophthalmology inpatients Maxillo-facial inpatients
Multi-district specialities [serving a population of between 600,000 and 1.5 million];		
Neurophysiology	Renal inpatients	Neonatal Intensive Care Unit Haemophilia
Radiotherapy and complex chemotherapy		

## **Demonstration Site C. Witney Community Hospital, Oxford Community NHS Trust - The hub and spoke scenario**

This is a community hospital site, feeding into large city tertiary care centres where A&E services are under pressure. The trust population of 600,000 is mainly rural and affluent with high expectations of health services. The site has 6 parliamentary constituencies: 4 Conservative, 1 Liberal Democrat and 1 Labour. A major review of community hospitals was completed in 1999. The implementation has commenced and aims to provide a more equitable distribution of services across the county.

The community trust in partnership with the acute trust are leading the development of minor injuries units (MIUs) across the network of community hospitals in the area. The first MIU opened in June 1999 and serves a population of 79,000. Collaborative working is good with the tertiary centre providing clinical supervision and nursing staff rotation and a tele-medicine backup between A&E and MIU. However, IT systems are poor and management of health services is fragmented between six NHS trusts. The establishment of 5 primary care trusts in April 2001 highlights the need for strategic direction.

The following discussion paper setting out two alternative options for the future development of community hospitals as part of a 'whole system approach' was presented to the Learning Set by Sarah Bright and Elizabeth Bradbury on 8 January 2001.

## **Intermediate Care - Community Hospitals Group**

### **Discussion Paper - The Future**

#### **Summary**

This paper identifies the current community hospital model for in-patient and minor injury care within Oxfordshire and suggests options for future development. The debate is driven by the NHS Plan 2000 which supports enhanced intermediate care services and identifies specific targets:

- Reduction in emergency admissions particularly among older people through alternative care opportunities.
- Reduction in waiting times for accident & emergency assessment.
- Reduction in delayed discharge.
- Care closer to home.
- Maximizing the opportunity to recover independence.

The Community Hospitals Group is a sub group of the Intermediate Care Strategy Group, which in turn is a part of the Oxfordshire Whole Systems Project Group. It is essential that in considering any alteration in the role of community hospitals the whole system picture is considered and the impact upon all sectors of health and social care.

The purpose of this paper is to begin the debate by suggesting two potential community hospital models:

- Model A: The community hospital as a filter (Local Medical Emergency Unit).
- Model B: The community hospital fast track (expediting transfer from acute hospitals for definitive intermediate care).

In addition to acute admissions, patients requiring specialist care must be considered. The Community Hospital agreed to consider three patient groups within its terms of reference:

- Stroke.
- Palliative care.
- Fractured neck of femur / elective hip surgery.

To assist in considering these patient groups, and in light of the anticipated stroke guidance within the Older People NSF (due Spring 2001), two options for delivering specialist stroke rehabilitation within intermediate care are described:

- Equity of stroke rehabilitation facilities throughout community hospitals.
- Specialist stroke rehabilitation in selected community hospitals.

In addition to acute management of medically unwell patients, Model A offers opportunities for delivering an alternative model of minor injury care across Oxfordshire, as part of pilot Local Medical Emergency Units.

## **Next Steps**

This paper is the first step in considering the future direction of community hospital development. The paper will be circulated widely, and you are asked to consult with all relevant stakeholders in your organisations. The authors of the paper will be available to assist in local debates. Feedback on Consultation should be received at the Health Authority by 31 January 2001. The results will be circulated as soon as possible, and the next steps will be identified.

# **1 Community Hospitals - The Future**

## **Introduction**

From April 2001 there will be 10 community hospitals managed by 5 Oxfordshire PCTs within Oxfordshire with 300 beds providing acute, palliative and respite care, and in-patient rehabilitation services. Medical cover is provided by local GPs who offer a reciprocal arrangement to care for patients from other areas of the county when the need arises. Patients may be admitted directly for acute care, be transferred from an acute hospital or be admitted for planned respite care. Additionally, Faringdon GPs provide medical cover to 10 short stay nursing home beds in Ferendune.

The community hospitals also provide a range of other services including day hospitals, minor injury units, radiography, out patient departments and therapy services which vary across different sites.

## **1.1 Purpose**

The purpose of this paper is to initiate discussion amongst stakeholders regarding the future role of community hospitals. The development of intermediate care services generally and community hospitals specifically results from two current drivers.

A. The NHS Plan (2000) and the anticipated Older People's National Service Framework indicate that the role of community hospitals is crucial to a whole system pattern of working. Care will be delivered closer to home. Care pathways will map the anticipated patient journey through the health care system, and there is an emphasis upon prevention of acute admissions and facilitating early supported discharge if appropriate quality care can be delivered closer to home.

Intensive rehabilitation is a requirement of the NHS Plan, both in the acute setting and also within Intermediate Care - applying equally to inpatients and those at home. In some circumstances specialist units are cited as providing the most effective patient care, for example stroke services (Audit Commission, 2000). The provision of respite and palliative care also requires consideration.

Reduction in waiting times for accident & emergency services and subsequent admissions is a national priority. This prompted debate around minor injury unit provision and investigation of opportunities to maximize these services and further develop the existing hub and spoke model within Oxfordshire in tandem with the review of community hospitals.

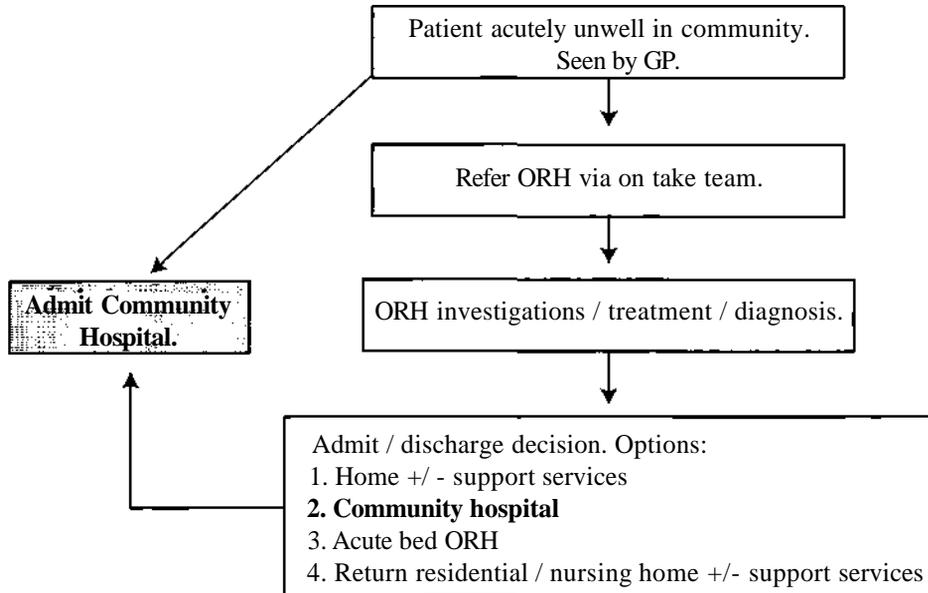
B. There is a recognition amongst many primary care workers that with an increasingly dependent patient profile in the community, not least Community Hospitals, the human resources are stretched. Clinical governance requires standards to be applied that may not be deliverable without a new way of providing medical and nursing staff. Alternatives need to be sought to resolve this.

## **2 Community Hospital Models**

It is acknowledged that the current model of community hospital usage needs to change in light of the above drivers. There are a number of service reconfiguration options, two are presented for discussion. Both have implications for funding, service delivery, workforce planning, training and development. Key issues have been identified though a far deeper analysis of the impact of both models will be required at a later stage.

## 2.1 The Current Community Hospital Model / 'Where are we Now?'

The present model of community hospital care:



### Advantages

Infrastructure exists to support this model

Standardised admission and discharge criteria all community hospitals

### Disadvantages

Community hospitals not spread evenly throughout Oxfordshire hence not accessible to all patients on discharge - due to issues of patient choice

Diagnostics not available in all hospitals to facilitate early investigation

Concerns regarding current level of medical provision

No care pathways so whole system approach to care very difficult

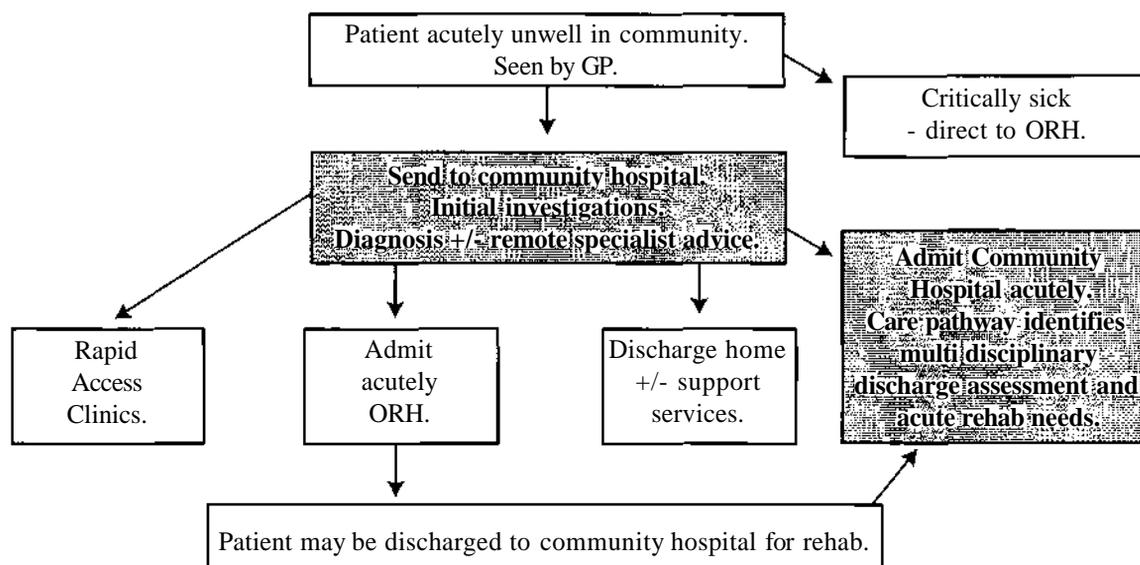
Some specialist nursing and therapy skills exist within community hospitals but this is not reflected across the entire service, and exposure to patients requiring specialist care or expanded roles is sporadic

Staff retention and recruitment difficulties reflect the national picture

Acute rehab cannot be offered in a systematic way as community beds may not be available due to difficulty moving patients on to long term nursing or residential care

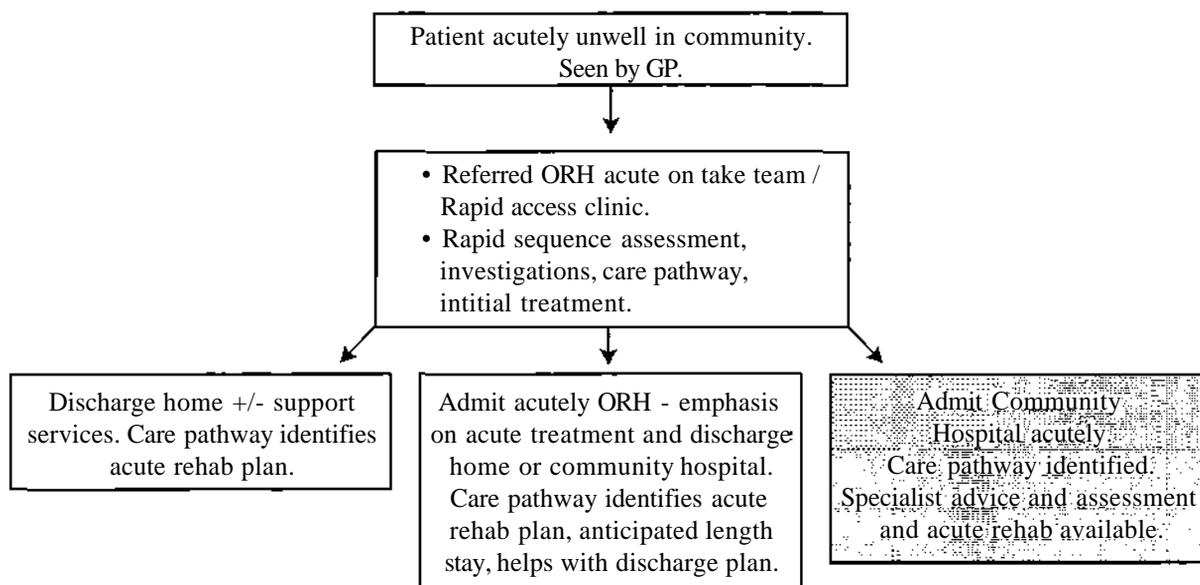
Variable length of stay in community hospitals

2.2 Model A - The Community Hospital as a Filter (local medical emergency unit)



Advantages	Disadvantages	Implications
Acute ORH minimized	Workforce planning implications all services/ admissions professional groups	Cost
Specialist support & advice available	Availability of diagnostics	Workforce issues all staff groups
Care closer to home	Community hospital capacity for palliative and respite care may be reduced	Training and development
Acute rehab delivered in community hospital	?acute direct admission community hospital / ORH discharge to CH lead to tension	Specialist medical input (remote / in person)
May be exciting opportunities for staff recruitment / generic assistants etc	<sup>1</sup> rehab focus diluted by acute patient needs	Space  Need diagnostics community hospitals

### 2.3 Model B: Community Hospital Fast Track



Advantages	Disadvantages	Implications
Fast track approach to referrals	All acute referrals go through ORH rapid access clinics / A&E / MAU	Cost
Only admit most acute patients to ORH	Initial care not delivered close to home	? Receive sicker patients in community beds earlier in their illness
Decrease length stay ORH	May increase patient journey in early stages of illness	Need to balance respite and palliative care with acute illness and acute rehab needs
Fewer acute admissions		Workforce issues
Care pathway commenced on initial assessment		Training & development

### 3 Specialist Care Provision

The National Plan identifies the need for investment in intermediate care, and services closer to home. There is a strong emphasis upon provision of a continuum of care, and this includes patients with specialist needs.

A model could be proposed whereby patients requiring some specialist care were dealt with exclusively in community hospitals. This requires consideration of the location of that specialist community service, and whether it needs to be duplicated throughout all community hospitals or concentrated in a chosen few.

#### 3.1 Stroke

It is likely that the Older Persons NSF will incorporate specific recommendations on care pathways for acute stroke patients. This will incorporate structured intensive rehabilitation. It is possible to envisage two models of care:

*Equity of stroke rehabilitation facilities throughout community hospitals.*

Each hospital would be able to manage patients with specialist stroke rehab care pathways. Therapy services would be available in the same format in all hospitals. Detailed analysis of likely activity per hospital is required to assess impact accurately.

<b>Advantages</b>	<b>Disadvantages</b>	<b>Implications</b>
Equity of service provision	Need to duplicate specialist services in all locations	Cost
Care closer to patients home	Workload may not require whole time equivalents in each setting, thus therapy / medical input etc may be diluted	Workforce planning
Increased likelihood bed available when needed	Specialist geriatrician and neurologist input required to all hospitals.	Equipment
Bed capacity / allocation/ ring fencing		Training & development

*Specialist stroke rehab in selected community hospitals.*

Patients are discharged from the acute stroke unit of the John Radcliffe or Radcliffe Infirmary to one of the specialist stroke community hospitals. (Currently the Horton Hospital offers a continuum of stroke care within Oak Ward, as the north is not well served with community hospitals.)

A model may be adopted whereby one was sited in the north, one in the west/south west and one in the south /south east of the county for example. An alternative may be one specialist unit per PCG/T. Because of the concentration of stroke patients in these hospitals staff develop expertise in managing stroke care.

<b>Advantages</b>	<b>Disadvantages</b>	<b>Implications</b>
Concentration skills in certain areas	Concentrates expertise and thus stroke patient located in another community hospital may receive different care	Cost
Workload necessitates therapy staff staying on site	Care may not be delivered close to patient's home	Work force - would specialist hospitals attract staff to the detriment of others?
Stroke workload unlikely to exclude other local patients from that community hospital	May require multiple patient journeys	Equipment
Therapists may be able to in reach to hospital and out reach to home to allow continuity of care		Bed management / availability / impact upon other local non stroke patients requiring community bed
Medical input by GPs and specialists may be easier to fewer locations		Once discharged need to ensure follow on rehab is available even if patient lives far from specialist rehab hospital

### **3.2 Palliative Care**

The specialist role of community hospitals in providing palliative care is acknowledged. Availability and location of the service is very important to patients and carers.

There may be scope to enhance palliative care support in community hospitals, which could then outreach to patients' homes, for example the current Witney model. The City PCG is working on a different palliative care model at present. It is essential that palliative care is incorporated into any plans to develop specialist community hospital services.

### **3.3 Fractured Neck of Femur / elective hip surgery**

Care pathways will have to be established for patients who have had emergency or elective hip surgery. Equity in terms of in-patient stay also needs to be addressed as currently discrepancies exist within Oxfordshire.

Acute specialist rehabilitation services could be configured in a similar way to the models proposed for stroke. Further debate is required.

## **4 Medical Cover in Community Hospitals**

Most GPs will have a view on community hospitals, even if they do not have admitting rights to them. The opinions of those that do as to how the medical cover should be provided are varied. There is a need to consider alternative models which meet both the local requirements and form part of an equitable provision countywide.

The following list identifies possible options:

- i. The existing arrangements of local GPs having admitting rights to, and responsibility for, their own community hospitals, with an acceptance of out of area patients.
- ii. The existing arrangements, reinforced by a GP registrar attachment.
- iii. A staff grade/hospital practitioner/clinical assistant role accountable to the PCT and local GPs.
- iv. As iii but with accountability to a geriatrician.
- v. GP practices providing medical cover to community hospitals on a rotational basis
- vi. Shared posts between ORH and PCTs.

Some factors which may determine the choice could include:

- i. Local preference.
- ii. The decision on specialist v. generalist role of community hospitals
- iii. The views of geriatricians.
- iv. The views of GP registrars and their trainers.
- v. Available finances.

However, there may be creative opportunities to use the skills of nurses and PAMs in a practitioner or consultant role to support and assist the valuable GP role in community hospitals. The nurse practitioner led minor injury model has demonstrated that this can provide a feasible, sustainable and well evaluated alternative to traditional emergency care in pressurised major accident & emergency centres.

In order to establish a new way of working, a series of dialogues needs to be had with all the stakeholders and opportunities for flexibility and innovation in regard to workforce planning be identified.

## **5 Combined LMEUs and MIUs- an opportunity for the future?**

The introduction of a nurse practitioner led MIU at Witney improved the infrastructure within the community hospital enabling more patients to be managed locally with a variety of conditions

For example, the MIU heralded an increase in the provision of radiography services from 3 days a week to 7 days a week. The funding for a digital system has been secured and should expedite reporting of MIU and GP requested films within 24 hours.

Recognising that the seriously sick and injured will attend the nearest health care facility regardless of appropriateness, the MIU was equipped to deliver these skills through advanced life support training of nurses and additional specialist resuscitation equipment. The Witney MIU development fuelled the need to support and develop the existing traditional GP led MIUs in Oxfordshire.

It is not an inconceivable step to imagine a wider range of patients attending a minor injury unit with additional diagnostic equipment and information links to specialist advice. The infrastructure exists to build on this concept and create local medical emergency units (model A).

## **References**

- Audit Commission (2000) *The Way to Go Home*. Audit Commission, London.  
Department of Health (2000) *The NHS Plan*. DoH, London.

## **Demonstration Site D. Downe Hospital, Down Lisburn Health and Social Services Trust - The green field site scenario**

This community has a rural profile and a growing local population to serve of 60,000 and is situated about 20 miles from the city DGHs. The current hospital which has an A&E is due to be replaced on an alternative site. Local general practitioners play an active part in the hospital and two thirds of patients are admitted direct to wards, bypassing the A&E. The road network is poor and travelling time to the city is between 43 minutes to 1 hour or more depending on traffic.

A national assembly oversees the working of the NHS in this area, which is not at the same stage of development in primary care commissioning as the rest of the UK. Major management and service reconfiguration is anticipated.

The new hospital was originally planned to have day surgery, a minor injuries unit, out patient services, 10 rehabilitation beds, 15 dementia beds, hospital at home services and 20 GP medical beds. However, a working group was established in June 2000 at the request of the then Minister to consider the potential for developing a sustainable package of acute services on the new site on a partnership basis with the Belfast DGHs. These discussions progressed well and the following proposals, agreed in September 2000, will inform a newly established regional review which has been set in motion by the new Minister.

## **WORKING GROUP DISCUSSIONS ON ACUTE SERVICES AT DOWNE HOSPITAL**

21 September 2000

1. INTRODUCTION
2. OBJECTIVE AND APPROACH FOLLOWED
3. RESPONSES TO SPECIFIC EMERGENCIES
  - Trauma
  - Cardiac emergencies
  - General surgical emergencies
  - General medical emergencies
  - Paediatric emergencies
  - Obstetric emergencies
  - Gynaecological emergencies
  - Minor injuries
4. RELATIONSHIPS WITH OTHER LOCAL SERVICES
  - Psychiatry
  - Primary care
5. DEVELOPING A SUSTAINABLE PACKAGE OF SERVICES

## 1 INTRODUCTION

A meeting was convened on 1st June 2000 at the request of the former Minister, Mr George Howarth, to consider the potential for developing a sustainable package of acute services in Downpatrick on a partnership approach with hospitals in Belfast.

It was agreed the next stage would be to set up a working group representing all the various parties to discuss detailed options in the hope of reaching an agreed formula for the future provision of services at the Downe Hospital.

The group met initially on 23rd June 2000 and then for a full day workshop on 29th July 2000 when it was agreed to feed back on progress to the main group.

The full group met on 14th September 2000 and agreed that following their discussion, this paper should be submitted to the Minister and thereafter put into the public domain.

During the process of these considerations, the new Minister, Ms Bairbre De Brun, announced the establishment of a Review Group on Acute Hospital Services to be chaired by Dr Maurice Hayes. The working group understand that their deliberations will now be used to inform the working of the Acute Hospitals Review.

## 2 OBJECTIVE AND APPROACH FOLLOWED

The working group agreed to adopt as its objective:

*'to design a sustainable, modern, high quality system for the delivery of emergency health care to the population of the Down area.'*

The approach followed was to consider first the specific types of emergencies which would occur in the catchment area and the response required for safe management of these. The development of a potentially sustainable package of services was then considered and was based on the premise that the package of services would need close integration with services in Belfast and with ambulance and primary care services.

The discussions, which covered a wide range of issues, were very constructive and focused primarily on the needs of patients with the objective that services should be designed to meet these needs.

The Group recognised the future profile of services would change as technology advanced and new staffing arrangements created opportunities for developing care systems based on networks of services and facilities. It was also recognised that the close relationships between services locally increased the emphasis on developing a sustainable PACKAGE of services.

## 3 RESPONSES TO SPECIFIC EMERGENCIES

### a) Trauma

The Group considered that the transfer times, which in this area can be in excess of one hour, necessitates the provision of a locally based resuscitation and stabilisation facility prior to transfer on to hospitals in Belfast. No trauma patients would be admitted as inpatients from A & E to Downe Hospital. A local Accident and Emergency Service could be sustainable and achieve high quality care by:

- Appointment of an A&E consultant to an A&E Department in Belfast with responsibility to oversee the quality of care provided in the Downpatrick unit.
- Recruitment of a team of permanent medical staff who would rotate regularly with A&E Departments in Belfast to maintain skills and take part in continuing professional development.
- Ensuring that the medical team have Advanced Trauma Life Support (ATLS) training, paediatric and obstetric life support skills training.
- Development of clear guidelines and protocols for the transfer of patients to appropriate facilities in Belfast.
- Establishment of a Regional Retrieval Service through which a team would come from Belfast to assist transfer of appropriate patients and avoid the need for anaesthetists from the local hospital having to travel to a Belfast hospital.

The Group were advised that already there has been successful recruitment to A&E staff grade posts and that the RVH and Ulster Hospitals A&E Departments could facilitate the required rotational posts.

The Group agreed that a stand alone A&E Department was not a viable option and that acute medical, surgical and anaesthetic cover would be necessary.

In the context that a medically staffed A&E Department was provided locally, the Group considered that it should provide the Minor Injuries Service for the full catchment area.

#### **b) Cardiac emergencies**

The Group considered that a local cardiology service linked closely to services in Belfast would be an appropriate response to ensure safe management of cardiac emergencies. The service could provide the following:

- Daily chest pain clinics with access to testing for troponins and myoglobins and stress testing.
- Facilities to enable hospital readings of ECGs performed outside hospital through digital transmission.
- Facility to provide thrombolysis.
- Access to revascularisation procedures in Belfast using protocols to govern transfer arrangements.
- Act as the base for a nurse-led mobile coronary care service for the local population.

The Group were advised that the technology to provide these linkages was available and that the regional centres would facilitate this model of provision.

The Group agreed that the model could be provided on a sustainable basis as part of an acute medical service for the local population.

#### **c) General surgical emergencies**

General surgical emergencies are increasingly being operated on during normal working hours with less out-of-hours surgery and it was considered that these emergencies could safely be transferred on to Belfast. In discussion there was agreement that a future service

should include a daily surgical presence with general surgical cover as part of an overall package of services.

It was considered that a sustainable model could be built around a planned short-stay inpatient and day surgery general surgical unit with emergencies transferred to hospitals in Belfast. This model would require close working relationships and admission protocols between the local and the central units. The local unit would require a recovery ward and access to high dependency beds.

The Group were advised that discussions would be taking place later this year on developing the emergency surgical services in Belfast and the outcome could facilitate the provision of this model for Downpatrick.

There was discussion as to whether a facility in Downpatrick should also admit general surgical emergencies to strict protocols as well as planned surgery with the potential for this increasing the sustainability of anaesthetic rotas. This issue needs further consideration.

#### **d) General medical emergencies**

General medical emergencies constitute about 90% of the workload of a General Medical Unit and a large proportion of these occur in the elderly age group. The group considered that an acute medical inpatient service should be provided locally and that this would require around 40 inpatient general medical and cardiological beds. This would avoid inappropriate transfer to Belfast and facilitate necessary close working relationships between hospital and community services.

A stand alone medical unit was rejected on the grounds of safety and it was agreed that there was a need for general surgical and anaesthetic cover.

It was considered that the following would increase the sustainability of an acute medical service:

- Ability to provide high dependency care on site.
- Close relationships with hospitals in Belfast to ensure rapid access to specialist services.
- Telemedicine links using digital imaging with local CAT scanning facilities.

#### **e) Paediatric emergencies**

The Group were advised that between 30 and 40% of patients presenting at A&E are children and that staff in an A&E Department should have a degree of paediatric training and access to paediatric ambulatory care.

Plans are already in place for the development of a paediatric ambulatory care service at Downpatrick linked to the Ulster Hospital and led by a consultant community paediatrician. A paediatric ambulatory care service operates as a specialist paediatric day assessment unit for children. General practitioners can refer children for assessment, investigation and treatment of paediatric conditions. The medical team in the unit can refer the child on to a specialist inpatient unit if this is considered necessary.

The group agreed that this would be an important component of a future model of service in Downpatrick and would complement the provision of a local A&E service. The model is established in Magherafelt and appears to be working well. The development of a

paediatric retrieval system was considered an essential development for future service provision throughout Northern Ireland.

**f) Obstetric emergencies**

The Group operated within the remit given by the then Minister that consultant-led inpatient obstetric services would not be provided in a future facility in Downpatrick.

The Group acknowledged the difficulties in providing a sustainable consultant obstetric service in the future with falling numbers of births and difficulties in provision of obstetric, anaesthetic and paediatric cover. A future service for obstetric emergencies, however, must provide at least as safe a service as is currently provided.

Discussion focused on how to provide a high quality service to the population in the scenario where there would not be consultant obstetric or midwifery inpatient services on site. It was considered that the following actions were necessary:

- Identification of a lead consultant obstetric service which would be responsible for the provision of antenatal and postnatal services. It was recognised that women may choose to attend a range of units and that antenatal and postnatal care would be provided in the chosen unit.
- Development of enhanced training for ambulance Accident and Emergency personnel in obstetric life support.
- Development of local team midwifery services with the potential for mothers to call a local midwife when they go into labour prior to the journey to an obstetric unit.

The group agreed that it would be useful to explore any difficulties which had been experienced in other areas when an obstetric unit had closed to determine how these could be alleviated.

**g) Gynaecological emergencies**

It was agreed that gynaecological emergencies would have to be admitted to other facilities in the absence of a consultant obstetric service and it would be necessary to agree admission protocols and arrangements for these.

Outpatients and planned elective day cases could continue in Downpatrick.

The Group considered that there would be difficulties in sustaining planned short stay inpatient gynaecological cases.

**h) Minor injuries**

The Group were advised the original estimate that 75% of current attendances at Downe could be accommodated in a nurse-led minor injury unit was too high with experience from Ards and Bangor making it more realistic to assume 30 - 40%.

The Group considered that if there was a medically staffed A&E Department in Downpatrick, this would meet the needs of the area rather than additional provision of minor injuries services.

## **4 RELATIONSHIPS WITH OTHER LOCAL SERVICES**

### **a) Psychiatry**

The Group were advised that there was a potential for greater integration between the psychiatric service at Downshire and an acute medical service provided on the same site.

There were potential difficulties for the psychiatric services if acute medical services were not provided locally, for example for management of patients who require rapid resuscitation.

Bringing the services together would facilitate the management of patients in A&E with serious disturbance and patients with overdoses. There was potential for sharing of use of investigative facilities such as CAT scanning, which is being increasingly requested in psychiatry. There was also potential for arranging junior medical staff rotations between acute medicine and acute psychiatry.

### **b) Primary care**

The Group considered that the provision of acute services in Downpatrick did facilitate close working relationships between primary and secondary care. It was recognised that there was strong primary care support for retaining local acute services and there would be significant difficulties for primary care if there were no local A&E or cardiology services.

Development of a new model of local acute provision linked closely to services in Belfast would provide opportunities for consideration of enhancements to the primary secondary links such as:

- Possible co-location of a GP out-of-hours centre on the Downe Hospital site.
- Provision of accommodation at the new hospital for GPs to develop specialist clinic interests.

## **5 DEVELOPING A SUSTAINABLE PACKAGE OF SERVICES**

Following the discussions on individual services the Working Group agreed that a future model for sustainable high quality acute services at Downpatrick could be developed, but would depend on agreement to a viable package of services being established and to close working relationships being created with hospitals in Belfast. The model for service has been successfully established in other countries.

The working group considered that a viable minimum package of services should include:-

- 24 hour Accident and Emergency Unit staffed by a permanent medical team rotating with A&E Departments in Belfast and led by an A&E consultant from a Belfast hospital. The Unit would provide resuscitation and stabilisation prior to transfer to Belfast hospitals and would provide minor injuries services.
- Acute Medical Unit with around 40 inpatient beds to include a Coronary Care Unit and linked to hospitals in Belfast for specialist services. The Unit could be the base for nurse led mobile coronary care service.

- Planned Inpatient and Day Case Surgical Unit with agreed links to hospitals in Belfast for admission of emergency surgical cases. Further consideration to be given to admission of selected emergencies locally. Unit to have 24 hour on-call consultant surgical cover.
- Anaesthetic cover on call 24 hours daily - further consideration required to determine how a sustainable rota can be achieved.
- Diagnostic imaging including CAT scanning locally linked by digital transfer of images to Belfast hospitals.
- Agreed arrangements for access to laboratory investigations.
- Paediatric Ambulatory Care Services in co-operation with Ulster Hospital.
- Access to high dependency care on site.
- Development of closer links with on-site acute psychiatry services.
- In the absence of consultant provided inpatient obstetric services the following arrangements are considered necessary:
  - a) A specific consultant obstetric unit would be responsible for provision of local antenatal and postnatal services.
  - b) Women should have the choice as to which unit they attend for delivery.
  - c) Antenatal and postnatal care would continue to be provided locally.
  - d) Teams of midwives would be available locally who could be called by a woman going into labour.
  - e) Ambulance and Accident and Emergency staff would receive enhanced training in obstetric life support.
- Retrieval systems in place for adults and children.

## **GLOSSARY**

### **CAT Scanning**

CAT scanning is a specialist x-ray technique giving more detailed pictures. It is possible for images to be transferred to another site via a telephone link.

### **Paediatric Ambulatory Care**

A Paediatric Ambulatory Care Service operates as a specialist paediatric day assessment unit for children.

### **Retrieval System**

A retrieval system provides the ability for a team to go from a specialist unit to transport seriously ill patients from a local hospital to the specialist unit for continuing care e.g. transport of children to Paediatric Intensive Care Unit.

### **Revascularisation**

Revascularisation processes open up blocked arteries to restore the blood flow.

### **Thrombolysis**

Patients with myocardial infarction can benefit from treatment to dissolve blood clots and this process is known as thrombolysis.

### **Traponins and Myoglobins**

Traponins and Myoglobins are measures of cardiac muscle damage which allow for early recognition of patients with myocardial infarction (heart attacks).

### **DOWNE HOSPITAL WORKING GROUP**

Mr D J McGuinness	Chairman, EHSSB (In the Chair)
Dr M P J Kilbane	Chief Executive, EHSSB
Ms A Lynch	Director of Planning & Contracting, EHSSB
Dr D Stewart	Director of Public Health, EHSSB
Mr Brian Grzymek	Director of Secondary Care, DHSS&PS
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Dr C Jack	Consultant Physician, Downe Hospital
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Dr K Sherrard	GP, Castlewellan
Mr D McNabb	Vice Chairman, Down Community Health Committee
Dr A Wylie	Secretary, Down Community Health Committee

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## **SECTION V**

### **LMEU - Prescription for change Durrow Interim Review - Autumn 2000**

#### **1 Emergency services. The brittle nature of current arrangements is well understood by insiders**

The collocation of emergency medicine and emergency surgery services in District General Hospitals is becoming increasingly difficult to sustain. The challenge of maintaining the current number of general hospitals against a nexus of change in employment regulations, medical training and clinical governance is taxing the ingenuity of local managers and clinical leaders, particularly in the smaller general hospitals. Anxiety about longer-term sustainability of current emergency service arrangements is widespread.

1. Junior doctors cannot be worked all hours and left to 'get on with it' out of hours.
2. Consultants do not want to work family-destructive rotas in the same proportion as their predecessors, especially as 'on-call' increasingly implies 'will be called'.
3. Specialisation in medicine has reduced the proportion of physicians who are good at, and dedicated to, general medical on-take. Emergency medical cases are increasing.
4. Specialisation in surgery is forcing the introduction of specific arrangements for each sub-specialty.
5. Litigation and audit provide a background of anxiety for those providing and managing services.

#### **2 'Reviewing' the pattern of hospitals is not providing easy answers. Because there are not any easy answers**

In some local health economies, Health Authorities and NHS Trusts have sought an escape from these problems through 'reconfiguration of acute services' reviews. Many of these reviews are controversial as they seek to marry the internal agenda of the health professionals to the realpolitik of public opinion. The 'twin-town' scenario presents the greatest difficulty - existing DGHs in neighbouring towns of approximately equivalent size a short drive apart with a tradition of contested planning.

- Shrewsbury / Telford.
- Ormskirk / Southport.
- Falkirk / Stirling.
- Wakefield / Pontefract.
- Cheltenham / Gloucester.
- Watford / Hemel Hempstead.
- And many others.

The general impetus from within the NHS for consolidation of emergency services to single centres clashes with the public impulse to retain local services. Health Authorities are expending significant amounts of time, money and psychic effort in attempts to secure 'rationalised' configurations. Not all are seeing a return on this effort. Sometimes the issues are resolved at Ministerial level using a form of hospital-planning-by-political-arbitration.

## **2.1 Consolidation to larger centres as a means of improving the quality of emergency services. An error of principle?**

What are emergency services? Who presents unannounced for urgent hospital care and why? There are clear patterns - this was the distribution across two large DGHs in an urban environment.

### **% split of cases in typical DGH - 1999/00**

Booked day cases	34%	
Booked inpatients	13%	
Booked total		47%
Emergency medical cases	24%	
Emergency surgical cases	15%	
Emergency total		39%
Mat + Paeds	14%	
Grand Total		100%

### *Emergency surgery*

The table below takes data for a large Health Authority and superimposes it on a notional DGH with 5,000 emergency surgical admissions. This distribution was taken from 1999/00 data:

### **What happens to emergency surgical admissions?**

Total cases - small DGH	5,000	
Operation on day of admission	1,100	22%
Operation next day	600	12%
Operation later in stay	500	10%
No operation at all	2,800	56%

The facts that only one fifth or so of 'emergency surgery' patients have an operation on the day of admission and that over half do not have one at all are under-appreciated by the public.

There are systemic difficulties in the NHS around accurate coding of surgical procedures. The NHS Case-mix Office uses a banding scale linked to length of stay as a proxy for classifying surgical procedures by severity. Band 7 is the most complex, decreasing to Band 0. The table below shows how the cases for a large health authority population would divide - the right hand column shows the resulting numbers for the 5,000 case DGH. The data are for 1999/00.

**% split of emergency surgical cases across bands**

Severity increases from 0 to 7	% split HA	"Small" DGH
Band 0 - inc 'no operation'	59%	2,931
Band 1	2%	97
Band 2	12%	615
Band 3	10%	490
Band 4	8%	401
Band 5	4%	205
Band 6	4%	213
Band 7	1%	48
		5,000

**2.2 Emergency Medicine**

The hospital with 5,000 emergency surgical admissions would probably have 8,000 emergency medical admissions. These 8,000 cases representing a quarter of the hospital total would occupy over half of all bed days - 64,000 to 80,000 bed days perhaps, which would be between 7 and 10 traditional Nightingale wards. Maybe 200 - 250 beds.

The causes of medical admission follow a predictable pattern and are likely to include the classifications in the table below in a more or less similar rank order (taken here from a large acute Trust 99/00 ranked by bed days used, descending).

Non-Transient Stroke/CVA  
 Heart Fail/Shock  
 Lobar Atyp/Viral Pneumon  
 Asthma  
 Chron Obstruct Pulmonary Dis/B  
 Acute Myocardial Infarction  
 Angina  
 Kidney/Urin Tract Infections  
 Senile Dementia  
 Arrhythmia/Conduction Disord  
 Bronchopneumonia  
 Skin Infections  
 Malig Disord of Lymphatic/Haem  
 Cerebral Degenerations

**2.3 Consolidating to a large main hospital is usually associated with "step-down" off-site facilities**

If two average DGHs were consolidated to one large site, this would require a stack of up to 500 beds to support medical emergency patients if their entire stay was to be in the main hospital. For half the population, these beds would be in the 'other' town. For this and purely logistical reasons, configuration reviews often conclude that there should be local

community hospitals to provide for the post-acute phase of the hospital stay. Step-down beds, intermediate care beds.

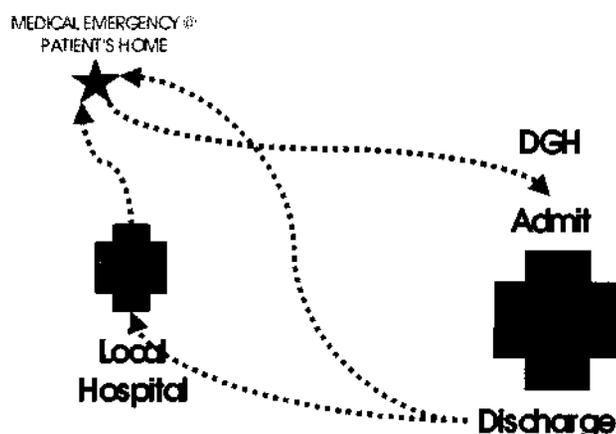
#### 2.4 The traditional step-down relationship between main acute and local hospitals

The diagram below illustrates the traditional relationship between central and local hospitals. There is a great deal that is unsatisfactory about this relationship.

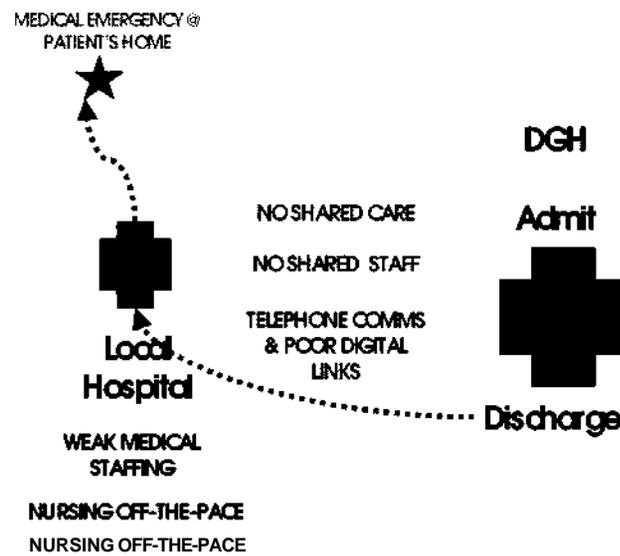
The emergency transfer of a patient for medical assessment/admission to the central hospital has a number of inbuilt negative aspects:

- As the journey time increases through 10 mins - 20 mins - 30 mins - 45 mins, the therapeutic cost of delayed treatment potentially increases. A long journey to the assessment unit can never be helpful. The financial costs of the ambulance logistics are often not widely understood - a fully crewed ambulance costs about half of the direct costs of a medical ward<sup>1</sup>: two ambulances = one ward's direct costs.
- The more distant the transfer and assessment, the weaker the frontage with primary care. A major regional hospital cannot maintain a close relationship with a wide panel of GPs, a typical medium sized DGH (500 beds) will have referrals from approx [ 200 ] GPs a larger centre obviously many more. In theory, the central assessment unit should be able to access the patient's primary care records (where the history of chronic illness treatment would be immediately useful) but in practice this awaits fulfilment.
- Family contact and carer visiting is clearly more difficult as distance increases between the patient's habitat and the central hospital.

When the patient has been transferred, assessed, and admitted, the issue of discharge back home will arise. Here is the point at which the DGH acute medical model finds its greatest difficulty. Recent years have seen an intense focus on the problems of trolley-waits and bed crises. These recent intermittent crises can be seen against a longer term background of reports and studies drawing attention to a consistent pattern of delayed-discharge. Every Government in the last 25 years has sought to introduce initiatives and central directives



Historical relationship between small and larger hospitals presents a raft of problems



Concept of local hospital as a discharge destination (patient disposal)

aimed at alleviating this problem. By and large these have been ineffective and the difficulty remains as entrenched as ever.

The diagram above summarises the position. The local hospital functions as a disposal point at the end of the acute hospital treatment. Although an unpopular statement and one that cannot be objectively proved, this author has repeatedly heard it said that this or that local hospital has weak medical staff sometimes coupled with long-serving nurses who are not as recently trained in modern acute treatments as their DGH colleagues. At worst, the local hospital is incapable of receiving patients who are at all ill and functions as an in-house nursing home.

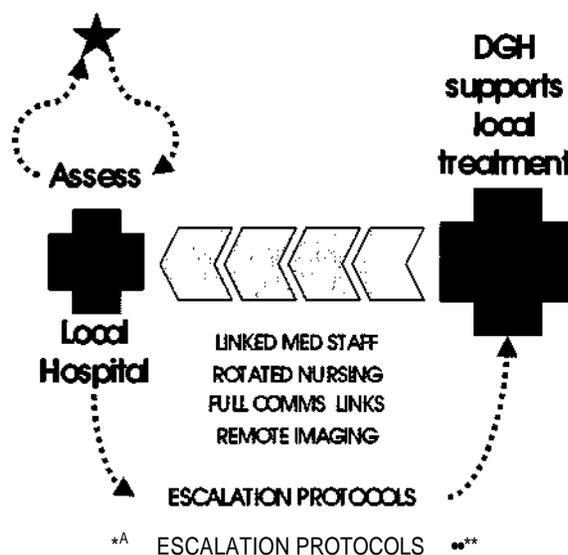
Here is the root of the 'step-down' model's problems. There is no shared care, the assessment process typically excludes the local hospital staff who are often organisationally separate from the main hospital. Few doctors and fewer nurses rotate between the main and local sites. Even the step-down transfer is often handled with rudimentary telephone communications and little advance warning.

## 2.5 **Can the process be inverted? Can the local hospital provide a platform for assessment and 'step-up' to the main acute hospital?**

In an ideal world every locality could have immediate access to a DGH standard medical assessment unit. Patients from the locality would be assessed against the background of their personal health records and in close partnership with primary care professionals responsible for their longer term care.

Although at first sight this is an impossible dream, there has been remarkably little work done to explore and cost the barriers to its implementation. Why is this? In the field of interventional surgery is there a more aggressive uptake of modern techniques? Clinical robotics are at the leading edge of electronics, mathematics and engineering whilst the potential of existing technologies remains largely unexploited in medical assessment.

In the diagram below we see a scenario in which the 'acute' hospital has, in effect, extruded an assessment arm into the locality by the positioning of a medical assessment



New relationships - support for remote pt management?

centre in the local hospital. All emergencies will be rapidly moved to this local centre which should be in the order of 10mins away rather than 30mins. The staff at the main hospital and the satellite assessment unit are the same team. The local emergency medical unit is linked technologically to the specialists in the main hospital and the patient can have equivalent labwork and imaging in situ.

What is the point? Twofold.

- If the patient does not need acute hospital admission the process of organising their return to habitat and local care can begin quickly. It is genuinely difficult under present logistics to transfer a patient to a DGH, have them assessed and returned home in a single day - involving two ambulance journeys and an assessment by the on-take medical team. (Some DGH hospitals need 2 or even 3 days to achieve this.) The assessment may indicate that the patient needs care that can be provided in the local unit.
- If the patient needs to be escalated to a specialist DGH unit this can be arranged but against two factors different from present. Firstly, the patient will not need subsequent repeat assessment at the DGH door (having already been assessed by the DGH team remotely) and can therefore proceed directly to a specialist unit that is expecting the transfer and knows what the patient is coming for. Secondly, as many unnecessary journeys to the main hospital will have been avoided, the ambulance logistics would allow very rapid responses to the smaller number of transfers.

It should not be assumed that the acutely ill patient needing urgent admission to specialist medical treatment would arrive under the care of the specialist team any later than under the current conventional central assessment arrangements. The contrary may be true. In 1999, instructions had to be issued for Chief Executives to personally telephone their Regional Offices to report incidences of long trolley waits - a tacit acknowledgement that all is not well in the modern NHS DGH. Trolley waiting has not been eradicated. Some insiders argue that the conventional DGH is really an efficient organism that is just swamped by an overload of medical cases. Others feel that the arrangements to image, path-test, assess and

transfer patients can be difficult and time consuming to organise at the best of times; at its worst it is chaotic and error prone.

For more than 20 years now there has been a consistent rhetoric around 're-engineering care' and introducing 'patient-focussed' systems. Surely few can doubt that the sociology of the District General Hospital is deeply resistant to these initiatives and curiously willing to operate in conditions of extreme duress rather than abandon the central DGH model.

Why is it that colour Doppler technology quietly permeates the UK hospital system without a policy decision in sight and yet two hospitals or a hospital and a GP practice have hardly begun to take advantage of the communications technology revolution in their attempts to deal with daily problems of sorting out acute eruptions over chronic illness in the elderly population. The hospital doctor's teenage children blithely embrace modern broadcast and telephone technology whilst the hospital uses the trolley-wait, the ringing phone and the posted letter (3 weeks out of date.) Is there is a culture of 'no-can-do' around the adoption of these innovations in the interface between primary / secondary care and between hospitals?

There cannot be a better conjuncture to explore the possibilities and problems in setting up the 'Local Medical Emergency Unit' - not in the context of seeking widespread change in the NHS but in careful experimentation, with experienced and motivated clinical staff looking for a better way of meeting one of the major expectations of the wider public: that when they are suddenly ill, they will be transported, assessed and treated with a minimum of fuss and the maximum of effect.

## SECTION VI

### Lessons from Abroad

In November 2000 some of the members of the Learning Set undertook a study tour to Rikshospitalet, the National Hospital of Norway in Oslo and the Copenhagen Hospital Corporation in Denmark. There was much to learn from their experience about the key drivers of change in the health care environment; from cultural, social, professional, and political perspectives. The following section provides a brief description of each organization and a few examples of the learning points members brought back with them that have particular relevance in the UK.

#### **Rikshospitalet, The National Hospital of Norway, Oslo**

The new Rikshospitalet at Gaustad, on the outskirts of Oslo and in close proximity to the pre-clinical university institutes, opened in June 2000. The new hospital has 650 beds and has enabled the rationalization of three old hospitals on separate sites in the centre of Oslo. The hospital's main tasks are the treatment of patients, research and teaching. The National Hospital functions as a Regional Hospital and also covers the whole country or several regions in some fields. It also acts as a local central hospital for Akershus county and the capital city of Oslo.

There is a higher level of specialization in The National Hospital than in other hospitals in the country and it plays a central part in clinical trials and research in the Norwegian health services.

The National Hospital covers the whole country in the fields of organ transplantation, surgery for epilepsy, bone marrow transplants, surgery for bleeding disorders (haemophilia), complicated replantation surgery and transsexualism. The National Hospital has regional functions in several regions, for example heart surgery in children and the treatment of children with cleft lip/palate.

The successful proposal for the redevelopment of the National Hospital on a Greenfield site was led by Arvid Ottar, Medplan Arkitekt and Eric Fosse, Director of the Interventional Centre at the hospital, who were our hosts.

Their theoretical starting point for the design was that the paramount requirement was that patients should feel safe in the hospital system. This led them to the idea of an 'open design' with identifiable building structures linked together by a main street with views out into the surrounding landscape and to the sky above. This concept is more akin to those used by town planners rather than traditional hospital planning.

Some Learning Points:

- It is possible for the State to provide high quality hospital services free at the point of delivery - Norway does it with 6.5% of its GNR

- Modern hospital design essentially offers a choice between two design models; an organisational model e.g. children, coronary care, cancer, etc, or a centralised model e.g. technical core, accommodation and service departments radiating outwards. Rikshospitalet, Oslo is built to the centralised model.
  - Large high-tec hospitals can be designed and built in a patient friendly way. Built to a scale and design with which people traditionally relate i.e. using town planning techniques, to help people feel safe, secure and find their way around.
    - streets.
    - external views of landscape and sky.
    - identifiable building structures.
    - features at crossings and junctions e.g. art and planting.
    - tramways running onto the hospital campus.
- The logistics of the layout of the site are important. It is important to link buildings together in a practical and logical way e.g. treatment centre at the heart with patient accommodation areas separate around the outside. Specialist areas, visited by fewer people, can be at the extremity of the site e.g. research, teaching and service areas.
- A high quality physical environment contributes significantly towards creating a relaxed and reassuring working environment that is focused on patient care.
- The provision of an interventional research centre and attached multi disciplinary team on site, which is accessible to all specialties within the main hospital, is an interesting way of handling innovation and the introduction of new techniques into the mainstream.
- The Rikshospitalet is a model for centralized rather than local services.
- High level concerted political will with no 'stop go' policies.

## **The Copenhagen Hospital Corporation**

At the Copenhagen Hospital Corporation (CHC) our host was Lone De Neergaard, Director of Health Services. CHC has just completed a 4 year change programme which included most departments moving within hospital and 25 moving between hospitals; 150 new building projects, the closure of a 435 bedded hospital and reducing personnel by 1700. Among the many new innovations introduced were a centre for elective surgery, four medical centres, four stroke units, a wound healing centre, a mulitraumas unit and acute clinics.

Some Learning Points:

- It is always difficult to close a hospital, even when there is no bed shortage. At the Copenhagen Hospital Corporation they eventually succeeded in closing a 435 bedded hospital but the debate was very emotional, focusing more on loss of buildings and culture rather than on gain in quality and service. The H:S Executive Team now feel that their 'low key' approach to the closure battle was wrong and they should have argued the case more forcefully from the beginning.
- The need for a clear mandate to create change e.g. an act of parliament creating the new corporation and investing them with special powers to raise money from the commercial market.

- It is possible to run a local medical emergency unit without acute surgery on site. Frederiksberg Hospital has a total of 450 beds, consisting of 200 acute medical beds and a centre for elective surgery only. However, there may be an issue of scale as some of the proposed units in the UK would be considerably smaller than this.

Some other interesting ideas from Denmark:

- Legal requirement to separate acute and elective treatment.
- Social Services have to meet the cost of any hospital bed blocking.
- Specialty Advisory Groups work across hospital boundaries to prepare protocols and provide medical services to all hospitals in H:S.
- Acute receiving units have been established at all hospitals.
  - under 24 hours treatment/observation is not counted as an admission (they are considering increasing this to 30 hours).
  - shared duties for all junior doctors.
  - at night this is the best staffed area in hospital - doctors go out to other wards if required.
  - surgeons can be called in emergency but visit daily at 2.00p.m. to look at problems.
  - cases are allocated to wards at a daily case conference. If a ward/department is not represented at the case conference those present can still allocate cases to that department.

## **SECTION VII**

### **The Emerging Picture**

Traditional health care belief systems and care boundaries are being challenged.

Evidence collected by the Learning Set through discussions with experts and data collected at local development sites disputes the current received wisdom that:

- Bigger is better.
- Co-location of medical and surgical specialties is essential.
- 'Gold standards' are synonymous with the DGH.
- A & E departments are the panacea for all.
- Step-down units and intermediate care will relieve pressure on the emergency system.

A new philosophical model is emerging and groundbreaking work is beginning on the Learning Set's implementation sites across the U.K. Emergency health care systems are being developed to deliver via a 'bottom-up' rather than 'top-down' approach:

- Operating on a basis of 'escalating' protocols.
- Developing clinical teams that transcend hospital walls and organisational boundaries.
- Utilising all the available technological developments to improve communications and share expertise across a network of hospitals.

This Interim Report has mapped the beginning of the process. The Learning Set is now working towards the next stage to define the detailed operational models and test them on the pilot sites.

## APPENDIX

### USEFUL CONTACTS

#### EXPERT ADVICE

##### TELEMEDICINE:

**Dr Paul Johnson MBChB,MA**

Director

Telemonitoring Research Centre

Women's Centre

John Radcliffe Hospital

Oxford

Developed on-line computerised telemonitoring of continuous physiological measurement from the patient at home. Based extensive research on the impact of environmental factors on health and development.

Examples of clinical trials:

1. Telemonitoring patients with heart failure - a pilot study.
2. Sleep monitoring in young infants - breathing patterns and developmental problems.

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Video South focuses on developing telemedicine systems for the teaching and practice of medicine. The company is involved in a wide range of projects using all types of visual communication between doctors and often involving patients. Fusion of medical imaging, voice communication, television and IT transmission technologies can provide relevant infrastructures in a clinical environment when critical attributes such as quality, speed, cost and functionality are evaluated in this context.

## **AMBULANCE SERVICE**

### **Ms Kathy Jones**

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LAS research indicated that perhaps as many as 50% of their 999 patients did not need treatment by Accident & Emergency Departments and that it therefore could be argued that they were receiving an inappropriate response. More appropriate responses, such as taking patients to Minor Injuries Units or referring them to community-based health or social services, could be achieved through greater joint working.

LAS are involved in various projects to develop more appropriate responses, including:

- the development of protocols to refer patients to district nursing services in Barking & Havering, Hillingdon and Riverside.
- A project in Barnet to empower ambulance crews to refer appropriate patients to members of primary health care teams instead of taking them to hospital and to develop treatment protocols for minor illnesses and injuries that can be safely treated at home.
- Conveying patients to Minor Injuries Units: research with University of Sheffield, Central Middlesex Hospital and Surrey Ambulance Service.

### **Geoff Withington**

Consultant Nurse  
Salford Royal Hospitals  
Tel: 0161 789 7373

Geoff Withington has explored with Greater Manchester Ambulance Service the direct referral of patients to the community based psychiatric support team.

## **PRIMARY CARE IT SUPPORT SYSTEMS**

### **Fiona Foley**

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This computerised diagnostic and treatment support system is available on CD Rom or via the internet. It was initially developed for the USA but is now being adapted for the UK market where it will be launched in June 2001. Initial indications are that this commercial system, with some similarities to the NHS Prodigy support system will be competitively priced with the availability of discounts for PCG/Ts. It can be sampled by visiting [Pdxmd.com](http://Pdxmd.com) website, access via the username:testacc and password: test

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