

Defining 'emergency' and 'urgency': the domino effect

The labels 'emergency' and 'urgent' arouse intense emotions in the public. Being purely descriptive, they are also open to interpretation by doctors of varying expertise. Thus, what is perceived as an emergency by a general practitioner may not be classed as one by a consultant cardiologist. Conversely a cardiologist may recognise a life-threatening disorder in a patient referred routinely by a general practitioner. The notion that emergencies must be treated within 24 hours, and very urgent patients within 72 hours, introduces some quantitation into the definitions. In cardiological practice however, 'routine', 'urgent', 'very urgent' and 'emergency' are so designated on the basis of evaluation at one point in time, but such are the dynamics of cardiac illness that one may rapidly blur into another. More than in any other speciality, perhaps, the patient with cardiac disease can appear undistressed and stable, yet succumb moments later. Allocating priority on clinical grounds takes account of symptoms and age, but clearly the major factor which dictates how long a patient can wait is whether life is in imminent danger or not.

'Emergency' patients are those likely to disrupt the daily schedule of a cardiothoracic centre because of the immediacy of their life-threatening problem. Indications for their immediate admission or transfer for circulatory support and therapeutic intervention include: acute mitral regurgitation secondary to papillary muscle rupture, and ventricular septal defect complicating myocardial infarction; acute ascending aortic dissection; valvular regurgitation secondary to aggressive endocarditis; acute prosthetic valve dysfunction; continuing pain at rest despite intravenous therapy in patients who present with unstable angina or myocardial infarction; recurrent ventricular tachyarrhythmias; and syncopal heart block with an unreliable temporary pacing wire *in situ*.

'Very urgent' patients are typically acute admissions, but cannot leave the safety of hospital until they have received treatment, either on site or at a regional centre. Reasons include: recurrent cardiac pain on slightest exertion or during attempts to wean off intravenous therapy; syncope or heart failure due to critical valvular disease especially aortic stenosis; and the need for a new or replacement permanent pacemaker in pacemaker-dependent patients. Some patients present

with dramatic symptoms and ischaemic electrocardiographic changes which resolve rapidly with aggressive treatment; it is desirable to investigate these 'near-miss' patients during the same admission. Patients should not have to wait but often do because a national shortfall in resources prevents their being 'processed' within a desirable and uniform period [1,2]. Furthermore, the planned transfer or admission of a very urgent patient to a cardiothoracic centre may be delayed if the only available bed is suddenly filled in an emergency. Obviously, very urgent patients can rapidly become emergency patients.

'Urgent' cases include outpatients who, despite medication, have limiting angina or a prognostically worrying non-invasive test result, symptomatic patients with significantly stenosed or regurgitant heart valves, and those with recurrent dizziness and an electrocardiographic abnormality for whom elective pacing is recommended. These patients have an impaired quality of life; some cannot work. However, because their symptoms are not severe enough to force hospital admission, or their lives are not deemed to be in jeopardy if they do not receive immediate treatment, these patients may wait months. Indeed, symptoms may settle with the passage of time, but patients remain vulnerable to sudden decompensation of their disease. In particular, coronary disease can progress rapidly and unpredictably; thus, any delay is undesirable. What is predictable is that some urgent patients will become emergencies and more of them will do so the longer they have to wait. Being the largest group and having to wait the longest, this category has potentially the greatest number of sudden fatalities whilst waiting. Patients and their doctors should notify the cardiothoracic unit in the event of deterioration; if severe, admission to the nearest hospital for stabilisation and subsequent transfer is advised.

Unfortunately, given the relative underprovision in cardiology and cardiac surgery in the UK [1-6], log jams will always develop because there is little slack in the system. A typical situation is created by emergency cases requiring cardiac catheterisation and immediate surgery. Emergency patients may need a longer stay in intensive care, and unless there are spare beds with adequate nursing staff and theatre time, surgeons cannot operate on 'booked' patients. Therefore inpatients who are scheduled for operation are postponed, 'blocking' beds as a result. The knock-on domino effect on hospital transfers and patients awaiting cardiac catheterisation can be far-reaching.

Although in-hospital activity may be restricted for financial reasons, the input into the system does not

DUNCAN S DYMOND, MD, FRCP
Consultant Cardiologist, St Bartholomew's Hospital,
London

RICHARD LIM, MD, MRCP
Senior Registrar in Cardiology, Hull Royal Infirmary

decrease. Patients placed on the waiting lists add to the pool of potential emergencies. Cardiac illness does not strike according to the financial season. The exhortation to pace clinical activity throughout the financial year applies better to routine workload and specialties in which disease behaves more predictably and less acutely.

Busy cardiothoracic centres are only too familiar with the recurring situation when contracts are exhausted or bed states are dire; waiting lists and elective work are suspended and 'emergencies and ultra-urgents only' can be treated. A vicious cycle then begins whereby the pool of potential emergencies increases. The greater the numbers who have to be treated on an 'emergency' or 'very urgent' basis, the less likely that 'urgent' patients will be treated quickly, and so on. These terms fail to express the scope of the problem in cardiology, where even within the definition of 'emergency', an ultra emergency will displace the average emergency. The implications for 'very urgent' and 'urgent' patients are self-evident. The strain on the system will apply to any overstretched regional centre, especially those linked to district hospitals. The stress on patients, their relatives, general practitioners and district and regional hospital personnel is enormous.

Allocating priority on clinical grounds may mitigate the impact of resource constraint, but the situation has recently been distorted by the pressures of the internal market. Patients with equally urgent priorities may receive treatment in different time scales depending on the fiscal or fundholding status of their purchasing authority or general practitioner [2]. Thus, though clinicians, not managers, decide the urgency of cases, this loses meaning when purchasers run out of money and financial imperative overrides clinical priority. That arrangements have been formalised for provider units to continue treating emergencies may be looked upon as an inevitable concession, but the nature of the problem remains poorly appreciated and its scale consistently underestimated. Contractual arrangements may therefore lack solid financial backing and provider units may have little choice but to treat more emergencies than can really be paid for.

When there is contractual flexibility for emergencies only, and none for potential destabilisation in 'urgent' category patients, clinicians may increasingly estimate the 'emergency potential' when selecting patients for investigation and treatment. Certainly many patients and their relatives find it difficult to accept the label 'routine' where potentially life-threatening matters of the heart are concerned. Even if symptoms become minimal, being downgraded to 'routine' is unacceptable because the original classification would have been based on prognostic criteria. The temptation to practise defensive medicine and classify all patients as

at least 'urgent' may in theory merge into a desire to obtain financially approved expedient care by up-grading patients to pseudo-emergencies. This will serve only to over-tax an already less than equitable system [2,7].

Standardised definitions of clinical severity and priority have now been recommended [2], but purchasers and providers also need to agree maximum waiting times for 'urgent' patients, based on appraisal of clinical need in the real world. Clinical need must be distinguished from contract-based activity and demand; it cannot simply be diminished by the statement that demand may be equated with 'the willingness and ability of purchasers to pay for a given number of interventions' [8]. Funding should provide not just for the 'urgent' need to be met, but also for the fact that much of cardiac work is 'emergency' and 'very urgent' intervention. There is a compelling case for encouraging early referral for assessment: far better that patients are referred in a stable condition than present for the first time with myocardial infarction, heart failure or cardiac arrest. Even so, it should be acknowledged, particularly in coronary disease with its inherent unpredictability [9], that untimely deaths will continue to occur, but with careful allocation of priority backed by adequate funding, it should be possible to reduce the number of deaths to a minimum.

References

- 1 Fourth Report of a Joint Cardiology Committee of the Royal College of Physicians of London and the Royal College of Surgeons of England. Provision of services for the diagnosis and treatment of heart disease. *Br Heart J* 1992;**67**:106-16.
- 2 Clinical Standards Advisory Group. *Coronary artery bypass grafting and coronary angioplasty: access to and availability of specialist services*. London: HMSO, 1993.
- 3 Chamberlain D, Alderslade R. Can rationing of cardiological services be rational? *Br Heart J* 1990;**64**:219-22.
- 4 Unger F, Hutter J. Open heart surgery in Europe 1990. *Eur Heart J* 1992;**13**:1345-7.
- 5 Collins-Nakai RL, Huysmans HA, Scully HE. Task Force 5: access to cardiovascular care: an international comparison. *J Am Coll Cardiol* 1992;**19**:1477-85.
- 6 Van den Brand M and the European Angioplasty Survey Group. Utilization of coronary angioplasty and cost of angioplasty disposables in 14 western European countries. *Eur Heart J* 1993;**14**:391-7.
- 7 Marber M, MacRae CA, Joy M. Delay to invasive investigation and revascularisation for coronary heart disease in South West Thames Region: a two tier system? *Br Med J* 1991;**302**:1189-91.
- 8 London Implementation Group. *Report of the Cardiac Specialty Review Group*. London: HMSO, 1993.
- 9 MacRae CA, Marber MS, Keywood C, Joy M. Need for invasive cardiological assessment and intervention: a ten year review. *Br Heart J* 1992;**67**:200-3.

Address for correspondence: Dr R Lim, Department of Cardiology, Hull Royal Infirmary, Anlaby Road, Kingston upon Hull HU3 2JZ.