

Cardiology: the development of a managed clinical network

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The idea that a single hospital can provide all the facilities necessary for its catchment area is no longer tenable. In 1998 the Scottish acute services review recognised this and proposed the development of managed clinical networks as an innovative way of providing acute services in the NHS in Scotland.¹ We describe here the characteristics of these networks.

Managed clinical networks are linked groups of health professionals and organisations from primary, secondary, and tertiary care, working in a coordinated manner that is not constrained by existing organisational or professional boundaries to ensure equitable provision of high quality, clinically effective care. Networks can be of several types—for example, they can cover a specific disease, such as peripheral vascular disease; a specific specialty, such as neurology; or a specific function, such as medical receiving.

The term network might suggest diffused responsibility, but these networks are not casual or informal: the point is that they are managed. The core principles of a managed clinical network were set out by the Scottish Office department of health management executive in 1999.² They include:

- The appointment of one person with overall responsibility, be it a clinician, manager, or other professional.
- Statement of service improvements expected.
- A documented evidence base, such as Scottish Intercollegiate Guideline Network (SIGN) guidelines.
- Quality assurance
- Patient involvement
- An annual report
- Agreement of all to participate.

All clinicians would be expected to participate in developing descriptions of services and integrated protocols. Managed clinical networks are in keeping with the increasingly important role primary care has in acute health care.

Developing a managed clinical network in cardiology

The emphasis within a managed clinical network shifts from buildings and organisations towards services and patients. Thus it is a move from competition to cooperation, not just between primary, secondary, and tertiary providers but also between different health professions.

Cardiology services have usually been organised and delivered through referral from primary care to secondary care and then from secondary care to tertiary care. Referral patterns have been historical and often based on links between individual cardiologists and physicians. This has served adequately in the past but has limitations. It tends to work well for managing individual patients but not so well for providing equitable access to services for a whole population. It also fails to accommodate quickly to changes in services

Summary points

Managed clinical networks offer an innovative way of organising acute services

They are a way of providing all the clinical services that patients may need

A network thus coordinates primary, secondary, and tertiary care using referral protocols, guidelines, and audit

A network for cardiac interventions is being suggested for all Scotland, and one local pilot network for diagnosis and treatment has been set up

and skills, such as the increasing expertise and resources of the primary and secondary sectors. The concept of a managed clinical network recognises the need for dynamic interchange between all tiers of service delivery—the multidirectional flow of patients, expertise, and resources.

Cardiac services in Scotland have seen a considerable increase in spending in recent years, and there exists a body of highly skilled and well motivated health professionals. Yet the acute services review highlighted aspects of cardiac services in Scotland that needed improving, including secondary prevention, the provision of coronary thrombolysis, and cardiac rehabilitation.¹ Traditional patterns of referral and allocation of funds do not always support optimal use of resources from a national perspective, and the efforts of staff are not always coordinated to best effect. Indeed, there is often a lack of clarity of roles and uncertainty about the best use of resources.

In planning a managed clinical network for cardiac disease we have identified the need for a multidisciplinary group to help develop and support the network. This will have an important role in developing clinical services and in identifying the research, educational, and training needs for cardiology. In addition to the core principles set out by the Scottish Office, the network must be supported by information technology. A huge need exists for investment in information technology, without which it will be difficult to fully develop a managed clinical network and achieve the intended improvements.

Possible high level intervention network

The foundations of an embryonic managed clinical network already exist in cardiac disease (see box). All Scottish cardiac surgeons already contribute to a single database for purposes of review and audit, and a single database also exists for all coronary angioplasty procedures. A Scottish database for coronary angiography is being developed. The population of Scotland, at 5.12

million, is an appropriate size to support a single clinical network for cardiac interventions and possibly also for cardiac investigations, such as coronary angiography and electrophysiology. Common protocols for referring patients and assigning priorities are currently being developed, which should enhance and sustain equity of access and services.

Local diagnostic and treatment networks

In addition to the intervention network there will probably be a series of local diagnostic and treatment networks based primarily on health board areas. These local networks would comprise district general hospitals, local general practitioners and their local health care cooperatives, community and intermediate hospitals, local health promotion services, and the Scottish ambulance service. All the elements will need clear linkage to each other through regular meetings, information technology, and shared protocols. These local networks would be responsible for most cardiac services in Scotland from initial diagnosis and investigation through to chronic disease management. The networks will examine how the whole of the service is delivered, but they should concentrate initially on the aspects identified for improvement by the acute services review—secondary prevention, cardiac rehabilitation, and thrombolysis. Exploring these issues may be the process through which the responsibilities and relationships between the different elements of the local network are initially clarified. The role of nurse practitioners is

A managed clinical network for cardiac disease

High level intervention network
Local investigations and treatment networks
Effective implementation of guidelines
Clinical audit
Clear roles and responsibilities

What should managed clinical networks offer patients?

Better access to services
More effective services
Improved coordination between services
Consistent advice
Better care and prevention

expanding in areas such as secondary prevention, heart failure, and rehabilitation, and the advent of clinical networks could shape and guide this expansion. In the more rural parts of Scotland peripatetic services and the role of telemedicine will need to be considered.

Pilot process

A pilot process to implement and evaluate a local network for coronary heart disease in Dumfries and Galloway was submitted by one of us (CDB) and subsequently approved by the national acute services group. Work began in July 2000, and the network should start to function in April 2001. Five groups have been set up to plan and develop the network—on the project as a whole; service mapping and care pathways; finance and administration; public involvement; and evaluation and information technology. Developing the network is proving challenging. The potential rewards, in improved patient care for the total population, are considerable (see box).

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- 1 Scottish Office Department of Health. *Acute services review report 1998*. Edinburgh: Stationery Office, 1998.
- 2 NHSIS Management Executive. *Introduction of managed clinical networks in Scotland*. Edinburgh: NHSIS Management Executive, 1999 (MEL(1999)10).

Why a pomegranate?

Patricia Langley

The pomegranate was chosen as the logo for the Millennium Festival of Medicine from a shortlist that included DNA, the human body, and a heart beat. Not only has the pomegranate been revered through the ages for its medicinal properties but it also features in the heraldic crests of several medical institutions involved in the organisation of the festival.

Sacred meanings

Before its medicinal properties were described the pomegranate was held sacred by many of the world's major religions.

In the Greek myth of Persephone's abduction by Hades, lord of the underworld, the pomegranate represents life, regeneration, and marriage.¹ One day while out gathering flowers, Persephone noticed a narcissus of exquisite beauty. As she bent down to pick

Summary points

The pomegranate has been held sacred by many of the world's major religions

It has been revered through the ages for its medicinal properties

Preparations of different parts of the plant have been used to treat a variety of conditions

It features in the coat of arms of several medical associations



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it, the earth opened and Hades seized her and dragged her down to his kingdom. By eating a few pomegranate