

**A guide to
understanding
pathways and
implementing
networks**

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Royal College of Paediatrics and Child Health

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***Definition of key groups:**

Commissioners

Those responsible for the distribution of resources to achieve maximum health gain. Includes Practice Based Commissioners, PCTs, Children's Trusts, Strategic Health Authorities, Specialist Commissioners.

Providers

Those responsible for provision of services. Includes NHS trusts, Foundation Trusts, PCTs, schools, social services.

Inspectors/regulators

Those responsible for ensuring services are operating within legal limits, and are fulfilling statutory guidance, through the process of setting standards and assessing services against those criteria. Includes Healthcare Commission, National Audit Office, Commission for Social Care Inspection.

Foreword

The introduction of market principles to drive improvement in the NHS is particularly challenging for children's services, where there is relatively little planned or elective work. The majority of children's work is either urgent care or the care of long-term conditions so achieving improved outcomes depends on good coordination between different disciplines, services and agencies.

There is therefore an increasing recognition that some services might be better provided in a cooperative network - with improvement driven by motivated staff using good information, rather than relying on choice and competition.

This document explores the thinking behind pathways and networks and highlights the roles played by commissioners, providers and regulators in their successful implementation.

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Introduction

The purpose of this document is to inform paediatricians and their colleagues in other disciplines of the benefits and challenges of pathways and networks, so that they can engage with commissioners, other providers and regulators in improving their services.

The document is in two halves. The first looks at the thinking behind pathways and networks, and the second examines the practical aspects that may need to be considered by commissioners, providers and regulators, when developing future networks.

In February 2004, the Royal College of Paediatrics and Child Health held its annual Policy Conference on the role of clinical networks in developing safe services for children. Keynote speakers offered their advice, practitioners offered their experience and it was agreed that there are many good reasons for developing a better understanding of the principles behind networks, to support today's quest for high quality services for children and families.

Since then, the National Service Framework for Children (NSF) has been published, and journeys, pathways and networks are a feature throughout the NSF documents. There is now a growing interest in using pathway thinking and networks as a means of improving services. This is especially true for families who require care across a range of professional and organisational boundaries.

In the complex world of public service commissioning, delivery and regulation, it is increasingly recognised that more formal network arrangements are required. These need explicit relationships and accountability in order to reduce risk and achieve safer services with better outcomes, particularly when working across resource limited multi-agency environments. Networks are increasingly seen as a structure which will help Children's Trusts or equivalent structures, to rise to the challenges within the NHS Plan, Every Child Matters, the NSF, and A Patient Led NHS. More recently, the White Paper, *Our Health, Our Care, Our Say*, recommends that the Royal Colleges work together to develop care pathways, as an aid to shifting the delivery of services from acute to community settings.

The Policy Collaborative of the Department for Education and Skills and Department of Health published their own document on this subject, *A guide to promote a shared understanding of the benefits of managed local networks*, in 2005¹. We hope to avoid duplication with the DfES/DH document, to which we cross-refer where appropriate.

The definitive guide to creating, maintaining and evaluating networks in the real world of children's services has not yet been written. The evidence base to demonstrate success is limited; however, there are many sources of inspiration and a few sources reporting learning and early success. This

document is intended to be a working paper that will evolve over time, so that subsequent iterations will contain more examples of good practice and the learning from experience.

We live in a complex and rapidly changing world, but it is hoped that once the value of pathways and networks has been established, there will be a period of stability during which networks can expand and become embedded into public services, delivering safe and constantly improving, patient-centred services.

Network Theory

What are networks?

Four types of health network have been recognised and placed in a hierarchy¹, and although practitioners may not be familiar with all of these terms, they will be familiar with their descriptions. Often later, more comprehensive, networks have evolved through some of the earlier levels, increasing their effectiveness over time as trust, performance and improvement develop.

- **Clinical Association.** This is an informal group that corresponds or meets to consider clinical topics, best practice and other areas of interest.
- **Clinical Forum.** This is a more formal group that meets regularly and has an agenda that focuses on clinical topics. There is an agreement to share audit and formulate jointly agreed clinical protocols.
- **Developmental Network.** This group is a Clinical Forum that has started to develop a broader focus other than purely clinical topics, with an emphasis on service improvement.
- **Managed Clinical Network.** This network, which includes the function of a Clinical Forum, has a formal management structure with defined governance arrangements and specific objectives linked to a published strategy.

It is useful to consider the working definitions used in networks. For example, the Scottish Office described their *function* as being:

“linked groups of health professionals and organisations from primary, secondary and tertiary care working in a coordinated manner, unconstrained by existing professional and existing [organisational] boundaries to ensure equitable provision of high quality, clinically effective services.”²

Although this is a predominantly health orientated definition, it is an equally appropriate aspiration across all agencies, and will require real commitment from commissioners, providers, patient groups, professionals, regulators and politicians if they are to succeed.

The term managed network is therefore preferable to managed clinical network which suggests relevance only to the health service. It should also be acknowledged that the degree of management required needs to be in proportion to how well the network is working. A network could be likened to a biological system that is constantly evolving to make best use of the resources available to it.

Networks are not new and currently exist in many forms; for example organised by department (audiology), client group (children), disease (cancer), or specialty (cardiology). Screening programmes are a good model of an ideal network - all the elements of the pathway need to be in place and working well to achieve the desired outcome, which in the case of screening, is the early identification and treatment of a condition to achieve a subsequent reduction in morbidity or mortality.

The overall intention of networks is to improve the child's journey and their families' experience of services and thereby improve outcomes for both child and family. However, resources are not infinite and the network also needs to balance the effectiveness, efficiency and equity of service provision for the individual, as well as the whole population covered.

A network should therefore define the ideal pathway (based on best evidence), attach standards and measures at key points along the pathway, arrange its delivery with local organisations, and support learning and continual improvement with those involved.

“Great health professionals do not make great healthcare. Great health care professionals interacting well with all the other elements of the healthcare system make great healthcare.

*“Professional associations that wish to lead socially responsive improvements in technical care, service outcomes and costs, have no real choice but to invest in improving inter-dependency among individuals, professions and organisations”.*³

At the heart of the managed network there are three concepts that are fundamental for success.

- The first is assembling the component parts of the pathway, from the many organisations involved, in a way that is seamless from a patient perspective.
- The second is to deliver the pathway in the real world, with attention to evidence, competence of practitioners and the place/environment of delivery.
- The third is to design a system to identify where the pathway is not working optimally and build a system to learn from, and then improve the identified areas.

These three concepts tend to respectively map onto the roles of commissioners, providers and regulators, and in practice all need to work together collaboratively, with the patient voice represented at all levels. Within the network it must be possible to move resources from one part

to another, sometimes across organisations, in order to strengthen weak links in the pathway, and thereby achieve greatest health with the resources available.

What are the potential benefits of managed networks?

“Networks offer a way of making the best use of scarce specialist expertise, standardising care, improving access, and reducing any distance decay effects that can result from the concentration of specialist services in large centres.”⁴

Both the Kennedy and Laming reports identified lack of leadership, a lack of joined-up thinking within the health service and poor communication between agencies, and absent quality improvement processes as key issues that led to poor outcomes and to suboptimal experiences of services by children and their families.

Managed networks and the thinking behind them, together with a focus on improvement and learning, can provide a new and potentially revitalizing way of tackling these entrenched issues in order to effectively deliver services both within the NHS, and across agencies.

Recognised advantages are many and should support the interests of patients, clinicians managers and commissioners. The list is not exhaustive, and many advantages are shared across all groups.

Patient

- Improved patient outcomes.
- Appropriate care close to home.
- A more holistic approach.

Clinician

- A method of getting evidence into practice by the use of guidelines, algorithms and protocols.
- Potential for inter-professional training and better skill mix in multidisciplinary teams.
- Increased staff support by improved learning and staff rotations within the network.
- Promoting multidisciplinary working.

Manager

- A constructive approach to service improvement.
- Breaking down barriers between services and agencies.
- A shift from a short-term focus on efficiency, to a longer-term focus on effectiveness and flexibility.
- Involvement of clinicians in commissioning and delivery.
- Improved communication.

Commissioners

- Bringing multiple commissioners together – a shared thinking.
- A culture of collaboration rather than competition.
- Better value for money, more efficient, more equitable.
- Clearer accountability.
- Less fragmentation, duplication or omission.
- Enabling resolution of ideological differences between services.

A fuller account of the benefits of Managed Networks can be found in the DH networks document¹.

What is pathway thinking?

An individual pathway guides patients and professionals on the optimal care of individuals with a particular problem, and therefore sits within a network that will support the delivery of a number of care pathways provided by a range of professionals.

The thinking behind pathways is intuitively simple, and should have appeal to patients, professionals, and managers alike. Pathways stretch from prevention through to palliation (Figure 1). Not all children require all parts of the pathway, but the network needs to ensure that all elements are available for those who do need them. Initially networks may link some, but not all component parts of the complete pathway.

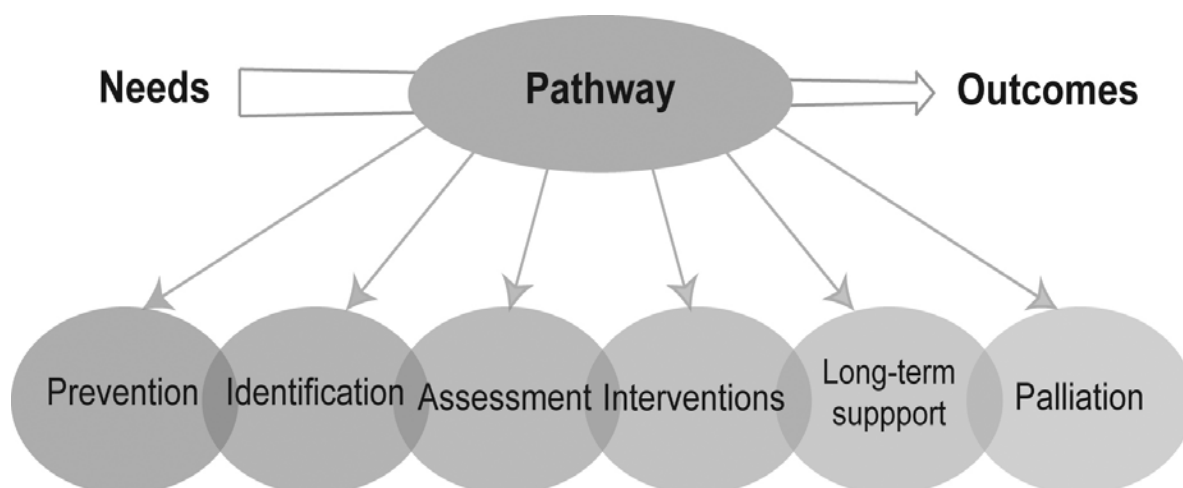


Figure 1. Schematic diagram of pathways illustration the component parts

To achieve maximum utility pathways should not only support the best management of the condition (from start to finish), but also address the impact of the condition on the child, the wider effects on the family and the subsequent disadvantage that they may experience, as a result of their child having a condition.

For each component of the pathway there needs to be clarity about

- *what* needs to be done, based on best evidence,
- *who* needs to do it, based on competencies,
- *where* it needs to be delivered, based on both convenience and safety, and
- *with* which additional resources/support-ranging from decision support through to equipment or access to investigations.

The commissioning process should ensure a balanced mixture of services between prevention, interventions and long-term support to ensure the maximum number of children benefit from the resources available. The providers need to ensure best practice is delivered. The inspection and regulation process should support teams to identify their weak points and help put them right. The whole culture, shared across all organisations, is about doing the right things, for the right reasons and constantly learning to do better.

Meningococcal example

Take a child with meningococcal septicaemia. There needs to be a pathway that extends from prevention through to palliation. The intended outcome is to improve the life chances of the child through both prevention of the disease, effective treatment of the disease, and rehabilitation should there be long term consequences of the disease. The outcomes for the child are only as good as the weakest point in this pathway, which may be at any stage.

Prevention

At the population level there should be an immunisation programme and this whole pathway also needs to be considered in the wider public health agenda of improving the determinants of health, for example, reducing poverty, improving living conditions and reducing inequalities of access to services.

Identification

Programmes to raise awareness of parents and young people of the significance of a non-blanching rash, should be offered through school and health education programmes.

Assessment

Training in primary care, and emergency practitioners in the early recognition, assessment of systemic impact and first line management of meningococcal septicaemia.

Interventions

Emergency services need to effectively resuscitate, transport to hospital, and hospital services need to provide an effective range of interventions to maintain life until antibiotics and immune systems overcome the infection.

Long term support

For a proportion of children there will be an ongoing disability (mainly limb loss and hearing impairment) that will require management by rehabilitation services with implications for social care and education.

Palliation

Sadly, for a minority palliative care or bereavement services may be needed.

Managed network development: a guide to implementation

Reflections on network development based on experience

Implementation of managed networks is not without its problems, but it needs to be acknowledged that many of these issues are inherent problems in the system that networks are attempting to overcome. Some challenges include:

- The sheer complexity of provision.
- Varying structures which do not map on to one another.
- Incompatible systems and policies across agencies, e.g. IT systems, inspection methodologies and commonly used terminology.
- Contrary policy directions.
- Disassociation of commissioning practice between agencies.
- Different approaches to quality improvement.
- Concern about information sharing across agencies.
- Lack of commissioning capacity.
- Variable quality of commissioning.
- Policies such as Payment by Results.
- A shortage of high quality information on which to base decisions.
- Organisational inertia, bureaucracy and unwillingness to change.
- Preoccupation with EWTD, targets and existing overspends.
- Imbalance of power between consumers and providers.
- No single model for an optimal network.

It takes time to build trust and promote pathway thinking, especially when the network has a relatively large number of partners who are starting in different places. It may be better to network some components of the pathway, and succeed, rather than attempt to link all the pathway components and fail.

It is essential to bring people together to enable them to voice their concerns, create ownership of the network, debate new approaches, communicate and allow time to achieve change. Network management is a constant balancing act between responding to the competing demands for consensus, engaging commitment, long-term gains and resolving immediate problems.

Networks need to start with a sense of purpose, an understanding of a systems approach to network development and a systematic plan of action, which will include the following issues.

- Establishing commitment, shared values and accountability for the network.
- Developing infrastructure, defining roles and allocating responsibilities.
- Applying pathway thinking, developing standards and measures.
- Examining current practice, and identifying where improvements are needed.
- Prioritising and then implementing improvement.
- Measuring change.
- Disseminating learning.

In reality the process must engage users of services, commissioners, providers and regulators of services before the potential benefits are to be fully realised. Each one has their part to play and the balance between them may vary across different networks, and at different stages of development. While each group has their own perspective there is considerable common ground that is explored in the next section.

Common ground between commissioners, providers and regulators

There will inevitably be tensions surrounding the distribution of resources, (for example, efficiency versus equity), so certain ground rules need to be agreed between the partners before the development of a clear vision with practical application can start. These are:

- A clarity of purpose.
- A set of underpinning values - a philosophy and principles.
- An understanding of systems and pathway thinking.
- A strong leadership style and a constructive management culture.
- A commitment to continual innovation and learning throughout all organisations.

When purpose and values come together it creates a vision (Figure 2) which in turn is translated into practice.

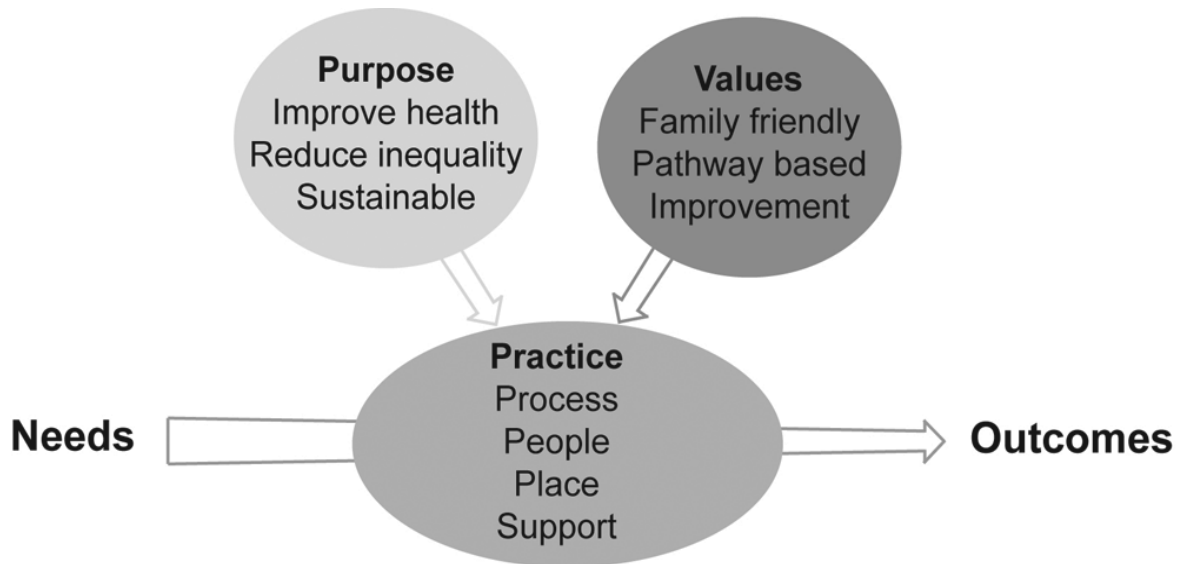


Figure 2. Schematic diagram of the influences for developing a vision and practice

For the health service the purpose is threefold:

Improving health - Without good health, children and young people will be unable to achieve many of the Every Child Matters outcomes.

Reducing inequalities - it is well recognised that both health, and wealth, are not equitably distributed in society. One of the founding principles of the NHS is that it is available to all, regardless of wealth or status in society. The issue is generally framed in terms of access to health services, but it is probably more important to consider equity of health outcomes.

Sustainable - sustainability has two elements - resources consumed and waste produced. Health services need to use resources wisely and this includes natural resources, financial resources and human resources. The health service needs to not only create value for money for the taxpayer, but also with consideration for the social and environmental impact that the delivery of services may create.

The overarching values are those contained in the UN Convention on the Rights of the Child, and throughout the Children's NSF, namely family friendly, pathway based and improvement focused. Hence the purpose and the values, together will drive the practice of actually defining and delivering services.

While leaders or champions, and indeed targets may drive change in the short-term, the pathway and network thinking has to be anchored in the organisational culture, and have meaning for every individual if it is to be sustainable and successful in the long-term.

Roles and responsibilities

Commissioners

Commissioners are responsible for the distribution of resources to achieve health gain in the communities they serve. In particular their responsibilities to networks' development are to:

- Negotiate overall goals, aims and objectives of the network.
- Define geographical boundaries or the population to be covered.
- Identify conditions/problems to be covered.
- Allocate the resources available.
- Undertake a population-based needs assessment (where appropriate).
- Define accountability within the network.
- Promote values for decision-making within the network.
- Set the legal and business limits/boundaries.
- Indicate priorities for improvement within the network (i.e. a local interpretation of political directions).
- Communicate and engage the public.
- Provide a process for dispute resolution.
- Support continuous improvement efforts.

Providers

Providers need to deliver family-friendly evidence-based services, in convenient or accessible locations. They need to actively work with other organisations or professional groups to ensure seamless service delivery and best outcomes. Their roles in network development are to:

- Assemble key players from the organisations involved in delivering the pathway.
- Reaffirm purpose and value base.
- Review currently provided services.
- Identify how these services fit within the broader pathway of care.
- Describe the ideal pathway (based on best evidence).
- Write standards for key elements of the pathway.
- Develop measures that reflect the standards.
- Set priorities for improvement.
- Undertake option appraisal.
- Implement plans.
- Troubleshoot/ problem solve service delivery issues.
- Audit, feed back, and improve.

Regulators

The purpose of inspection/regulation is to ensure that services are operating within legal limits, and are fulfilling statutory guidance, through the process of setting standards and assessing services against those criteria. They also have a role in encouraging improvement generally, assuring quality improvement systems (governance) and specifically aiding organisations, where problems are identified, through the sharing of best practice, identified through the process of inspection in other places.

All individuals, professional groups, and organisations should be committed to learning and continual improvement, therefore the role of inspection agencies should eventually be one of inspecting for sound quality improvement processes. Furthermore, they should look for actual improvement in the effectiveness, efficiency and equity both of commissioning and provision, rather than undertaking assessments themselves.

Service improvement

Improvement is equally important to commissioners, providers and regulators and is a one of the key values for network thinking. It is about preventing crises through a proactive and systematic process of identifying, and reducing potential hazards/problems and the associated risks. Service improvement is therefore an integral part of service delivery and as all components of a care pathway should be covered it is therefore everybody's business.

For a service to be safe and effective there needs to be:

- A clear process (what needs to be done), ideally evidence based, translated into easily understandable protocols, algorithms or guidelines.
- Competent practitioners, with access to good information.
- The right environment in the right place.
- With appropriate resources, including equipment, records, disposables.

The critical component in the quality of most pathways is the competence of practitioners, whether in health, education or social care, as it is they who make the decisions. The next essential element is that families and professionals have information to aid their decision-making, in shorthand called "decision support". The network has to be committed to continuous innovation, improvement and learning. To achieve this regular and relevant information are required by those who are responsible for the component parts of the pathway/network. Although improvements in outcomes is the ultimate aim, it is often difficult to relate individual

components of service provision to a final outcome. Therefore proxy measures need to be developed that represent either the output of components in the pathway or key constituents of delivery. The aim is to create “measures that motivate”.

Measures need to extend beyond assessing process and should incorporate patient experience, outcomes, effectiveness, efficiency and equity, if an assessment of health gain for resources consumed is expected.

Furthermore if the pathway is failing at one particular stage, there would need to be a closer examination of the service before that point. This means a detailed examination of what is being done, who is doing it and their competence, whether their environment is suitable, and whether support infrastructure is in place.

Applying theory to practice

*Our Health, Our Care, Our Say*⁵ suggests that more care should be undertaken outside hospitals and in the home. Specifically the Department of Health recommends that “specialty organisations and Royal Colleges should define clinically safe pathways that provide the right care in the right setting, with the right equipment performed by the appropriate skilled person” and that ear nose and throat will be one of the models. Paediatric audiology services are an example of a clinical area that would particularly benefit from the application of pathways to drive the reconfiguration of services. There are two main conditions, sensori-neural hearing impairment (SNHI) and glue ear (serous otitis media, SOM). SNHI is a rare condition requiring screening and a supra-regional network, whereas SOM needs good working relationships locally between audiology, ENT and speech and language therapists.

There are three major steps in the process:

1. Deciding what needs to be done.
2. Determining who how it will be delivered.
3. Developing measures, assurance and improvement processes.

When there is local agreement regarding the number of children who could benefit from each pathway the standards of care, the measures are those standards than a contract can be negotiated based on volume, quality and cost.

The following tables outline possible actions and associated measures for each component of the pathway for NHI and SOM.

Sensorineural hearing loss

The key outcomes are early identification and aiding of children with defined sensorineural hearing loss, and the reduction of language impairment secondary to hearing impairment.

Sensorineural Impairment		
<i>Component</i>	<i>Action</i>	<i>Measures</i>
Prevention	Prevention of congenital rubella syndrome through MMR immunization. Genetic counselling, for individuals with familial neurosensory hearing impairment.	MMR uptake Uptake of genetic counselling
Identification	Neonatal hearing screening.	1. Screening uptake 2. Yield from screening
	School entry audiogram.	1. Screening uptake 2. Yield from screening
Assessment	Assessment of hearing impairment.	n (%) hearing loss >50db
	Age at diagnosis	n (%) diagnosed by six months
Interventions	Hearing aids.	n (%), age at fitting
	Cochlear implants.	n (%), age at operation
Long-term support	Speech and language therapy. Support in education.	Language measure Educational attainment

Glue Ear

The key outcomes are reduction of language impairment secondary to conductive hearing impairment, reduction in surgical interventions for serous otitis media.

Glue Ear		
<i>Component</i>	<i>Action</i>	<i>Measures</i>
Prevention	Reducing household smoking	n (%) by household survey
Identification	Parent awareness programmes	% population covered by CHPP*
	Primary care training	% staff undertaking CHPP* with training
Assessment	Hearing assessment	n. (%) hearing loss >50db
	Language assessment	n (%) with impaired language
Interventions	Language strategies	n (%) access to SaLT*
	Medical interventions	n (%) prescribed medication
	Surgical interventions	n (%) grommets
	Bone anchored hearing aids	n (%) hearing aids
Long-term support	Speech and language therapy	n (%) language difficulties at school entry
	Education support	n (%) behaviour difficulties n (%) educational attainment

*CHPP - Child Health Promotion Programmes

*SaLT - Speech and Language Therapists

Summary

Network development is challenging. It is challenging both for professionals and for organisations, because it questions the traditional cultures and boundaries that exist between organisations and professional groups.

Management reorganisation has often been the immediate response to either failures in the system, or the system not delivering political imperatives in the timescale required. Most observers agree that a target driven culture, or a free market is not the whole answer to delivering equitable and effective healthcare, although on occasions both have their role.

However, the thinking behind networks has the potential to deliver better patient care for both individuals and groups, in a way that has not been possible in the past. The logical end point of network thinking would be to commission, finance, provide and inspect entirely on groups of related pathways for groups in the population that can benefit from the expertise of the teams within the network.

While this may be the correct in the long term, exploring the practical applications of pathway thinking and network development seems an appropriate next step. This will enable us to bring patients, professionals and managers together in the quest for better services and improved outcomes.

The intention is that RCPCH will support network development and publish examples of best practice as they develop in the future as part of the College role to support improvement of children's services.

References

1. Department of Health (2005). *A guide to promote a shared understanding of the benefits of managed local networks*. Accessed from <http://www.dh.gov.uk/assetRoot/04/11/43/68/04114368.pdf>
2. The Scottish Office Department of Health (1999). *The Introduction of managed clinical networks within the NHS in Scotland*. Management Executive Letter Circular MEL 10.
3. Berwick D. (1997). Medical Associations: Guilds or Leaders? *British Medical Journal*; 314:1564-1565.
4. Edwards N. (2002). Clinical networks. *British Medical Journal*; 324: 63.
5. Department of Health (2006) *Our Health, Our Care, Our Say: Making it happen*. Accessed from <http://www.dh.gov.uk/PolicyAndGuidance/OrganisationPolicy/Modernisation/OurHealthOurCareOurSay/fs/en>

Resources

Web-based

- Health Services Management Centre, Birmingham. Website: <http://www.hsmc.bham.ac.uk/>
- Related Management Briefings on Change Management; Workforce Planning; and National Service Frameworks; available from the NLH. Web site: <http://www.library.nhs.uk/Default.aspx>
- NHS Confederation. *Clinical networks a discussion paper*. Website: <http://www.nhsconfed.org>
- Lenton S. (2005). Whole systems 'change for children', BACCH. Downloaded from <http://www.icwhatsnew.com/bulletin/articles/BACCH1.doc>
- www.diabetes-healthnet.ac.uk

Paper-based

- Ackoff R.R. (1974). *Redesigning the Future* New York, Wiley Interscience.
- Alter C. and Hage J. (1993). *Organisations Working Together*, California: Sage.
- Barton D. (1999). Putting it right-The case for change in Northern Ireland's hospital service, *Health Service Journal*, 21 Oct 1999.
- Boon N.A. (1999). Cardiac services: bigger is better but managed clinical networks are best. *Scottish Medical Journal*; August 44(4):101-2.
- Calman K. Hine D. (1995). *A Policy Framework for Commissioning Cancer*, Dept of Health, Welsh Office.

- Chisholm R.F. (1998). *Developing Network Organisations: learning from practice and theory*, Addison Wesley.
- Ferlie E. & Pettigrew A. (1996). Managing through Networks: Some issues and implications for the NHS. *British Journal of Management*; Vol7 Special Issue: S81-S99.
- Flagle C.D. (1992). The Integrated Healthcare System: reflection and projection, *Journal of the Society for Health Systems*; Vol 3: No 4.
- James R, Miles A, eds. (2002). *Managed care networks: principles and practice*. London: Aesculapius Medical Press. ISBN 1903044278.
- Joint Consultants Committee (1999). *Final Report, Organisation of Acute General Hospital Services*, Williams A. (1999). Making the Connection- Clinical Networks in the NHS. NHS Wales.
- NHS Executive (2000). *Improving the Quality of Cancer Services* HSC 2000/021.
- NHS South East Regional Office (2000). *Managed clinical networks*.
- Robinson J.C. (1996). 'The Dynamics and Limits of Corporate Growth in Health Care': *Health Affairs*; Vol 15, part 2: 155-69.
- Sargent J. (1999). Menace of merger mania: *Public Finance*; 1999, January: 8-14.
- The Scottish Office, Dept of Health (1998). *Acute Services Review Report*.
- The Scottish Office, Department of Health (1999). NHS MEL 10 *Introduction of Managed Clinical Networks within the NHS in Scotland*.
- The Scottish Office, Department of Health (1999). NHS MEL 53 *Managed Clinical Networks*.
- Secretary of State (2000). *The NHS Plan, A Plan for Investment. A Plan for Reform* HMSO.
- Trist E.L. (1983). Referent Organisations and the Development of Inter-Organisation Domains. *Human Relations*; 36(3): 269-284.
- Williamson O.E. (1975). *Markets and Hierarchies – analysis and anti trust implications. A Study in the economics of international organisation*. New York Free Press.

