

## Refereed papers

# The 'self-organising system' as a model for primary health care – can local autonomy and centralisation co-exist?

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### ABSTRACT

A balance is needed between central control of primary care and local autonomy. The aim should be to maximise local autonomy but conform to central policies and guidelines where appropriate. The British NHS has mistakenly tried to exercise strict control of professionals ('centralised micro-management') and this has seriously eroded mutual trust and innovation. Self-organising systems involve circular processes that exist widely in nature,

and primary care has the potential to be much more autonomous if feedback loops are developed at local level. This paper describes and discusses ways of enhancing self-organising and learning in primary care, in which new and emerging information technology will play a major part.

**Keywords:** local autonomy, primary care, self-organising system

## Introduction

A distinguished health economist said – half jokingly – that in setting up healthcare units, if you select staff carefully, see that they keep well trained, and ensure that their morale is high, then quality will look after itself. This is an oversimplification but it points to questions underlying this paper. To what extent can we set up systems that run and maintain themselves – so-called 'self-organising systems' – or must we rely more on external control and accountability? Self-organising systems have much in common with autonomous workgroups and teams, which have a long and successful history.<sup>1–3</sup> Do they represent a useful model for primary health care? How can we get the balance right between local autonomy and central direction and monitoring? What part does informatics play in self-organising primary care?

## Background

### The wider world

Centralisation is now extending into globalisation on many fronts with increasing momentum. In political,

academic and professional fields this may lead to greater centralisation and control. Information technology can take us both ways: to centralised information sources and control systems; and to peripheral networking, as in the worldwide web and working from home. As globalisation and centralisation extend their influence, corporate imperatives may take precedence over individual needs and values. We are in danger of forgetting the message of Schumacher, as described in the title of his (1973) monograph: 'Small is beautiful – a study of economics *as if* people mattered'.<sup>4</sup> This message has recently been reinforced by Onora O'Neill in her 2002 BBC Reith Lectures, in which she described how the drive for accountability, with its prescribed targets and procedures, often obstructs and distorts the aims of good professional practice.<sup>5</sup> Accountability should increase public trust in a doctor, but seems to be having the opposite effect, with a little help from the media.

General practice has been the scene of several recent disasters that reflected the betrayal of public trust by general practitioners (GPs). These shameful happenings have brought calls for much tighter external control of professional behaviour. Self-regulation has seemed to be a failure. There have been medium-term moves towards raising the quality of practice, for example, the Continuous Quality Improvement initiative, clinical governance, and changes in

General Medical Council (GMC) procedures. However, the short-term expedients of 'vertical' programmes in response to media headlines are likely to fail in a service debilitated by long-term lack of capacity and falling morale.

## Primary health care and general practice

Britain has the largest national health system in the world, employing over one million people, with a much higher level of centralisation than in smaller countries. For example, in Scandinavian countries, where the whole population is about that of a (former and now abolished) English region, running the system is mainly in the hands of county councils and municipalities. Central government exercises guidance with a light touch, whereas in Britain, the Secretary of State tries to operate 'hands-on' day-to-day control in a way that is totally inappropriate for an organisation of this size – 'centralised micro-management'.<sup>5</sup> The British National Health Service (NHS) is the largest organisation in Europe. Other large organisations have long ago rejected central hierarchical control, and moved towards 'flatter' organisational patterns, with greater functional and local autonomy.

The NHS can take credit for a number of moves towards peripheral autonomy, with the formation of primary care groups and trusts (PCG/Ts), but they remain subject to such tight managerial and financial control, that innovation and freedom of choice are limited.

Before we move headlong towards centralised command and control, perhaps we can consider some of its snags and also those peripheral mechanisms that can help to maintain local quality and accountability. We can then aim at a more balanced view of where central control is appropriate and where local, small-scale, self-regulating systems are more effective.

## Limits to centralisation and globalisation

Advanced information technology, by providing data for decision making, should be making central control and globalisation easier. At the same time it produces an overload of paper-based information, rules and guidelines. This takes many forms – both linear and networking systems. Examples are:

- information systems to support the working of large hierarchical organisations and telecommunication systems

- generic operating systems such as Windows 98, NT and XP
- specific computer systems such as hospital record and operational systems
- GP systems such as the electronic patient record (EPR) and databases
- decision support systems based on centrally generated guidelines
- internal networks such as NHSnet, the National electronic Library for Health (NeLH), GPNet and Healix, and numerous gateways (e.g. Medweb and Omni)
- the Internet, which is growing at a phenomenal pace and empowering people independently of hierarchies and organisational structures.

Centralised information systems are running into serious trouble. Firms such as British Telecom (BT) are finding that, as they increase in size and scope and join up with partners, the computer programs to operate and control their system require more lines of code than they can possibly afford. Recent BT system crashes involving users such as NHS Direct, the Automobile Association, and the Samaritans indicate the seriousness. Similarly, cellular phone systems are becoming uncontrollable from the centre, and are developing peripheral switching units that can respond to users' needs as they grow and change.<sup>a</sup>

Microsoft is a good example of a global communication system. In 1993 their Windows 3.1 operating system used 6.1 million lines of code. Windows NT 4.0 in 1996 used 18.9 million lines. Windows 2000 was projected to need 50 million lines, which was then beyond the capacity of Microsoft to produce on time, so the program was ruthlessly trimmed down to 35 million lines of code. However, a conservative estimate of errors is one bug in 1000 lines of code (some say one in a hundred!). So users of Windows 2000 may have faced 35 000 bugs!<sup>6,7</sup> The full version of Windows XP is said to be double the size!

Some other way will have to be found to run the next generation of computer operating systems, and Linux may be pointing the way. It was developed by a Finnish enthusiast (Linus Torvalds) and is offered free to users. It is versatile and flexible, and users can modify the source code. This brings it closer to the idea of a peripheral 'self-organising' system. The kernel software uses three to four million lines of code.

<sup>a</sup>Personal computers have developed at a pace to keep up with users' needs. A few years ago a hard disk of 80 megabytes seemed adequate. Now we think in gigabytes (2<sup>30</sup> bytes) and terabytes. At least the wordsmiths have kept ahead, with petabytes, exabytes, zettabytes and yottabytes (2<sup>80</sup> bytes – roughly a million, million, million, million bytes).

## The obverse of centralisation and globalisation is self-organisation

Turn the coin, and we see the small, nearly autonomous work group, able to set and achieve its own goals, and to monitor success or failure. To be adaptable to future requirements, the autonomous work group would have to be able to assess changing needs, and have some control of resources of money and personnel. Some central input is essential in a comprehensive health service, in particular:

- the setting of standards and guidelines
- population-based audit of clinical care and cost-effectiveness
- a regulatory and disciplinary framework
- manpower planning and management
- professional education and training.

'Hands-on' control from the centre is certain to inhibit local autonomy and is bound to fail. No single individual can manage and control an organisation as large as the NHS, with its complexity and uncertainty. The media and parliamentary question time add to the difficulties by emphasising emotional issues and setting the agenda for public discussion and blame.

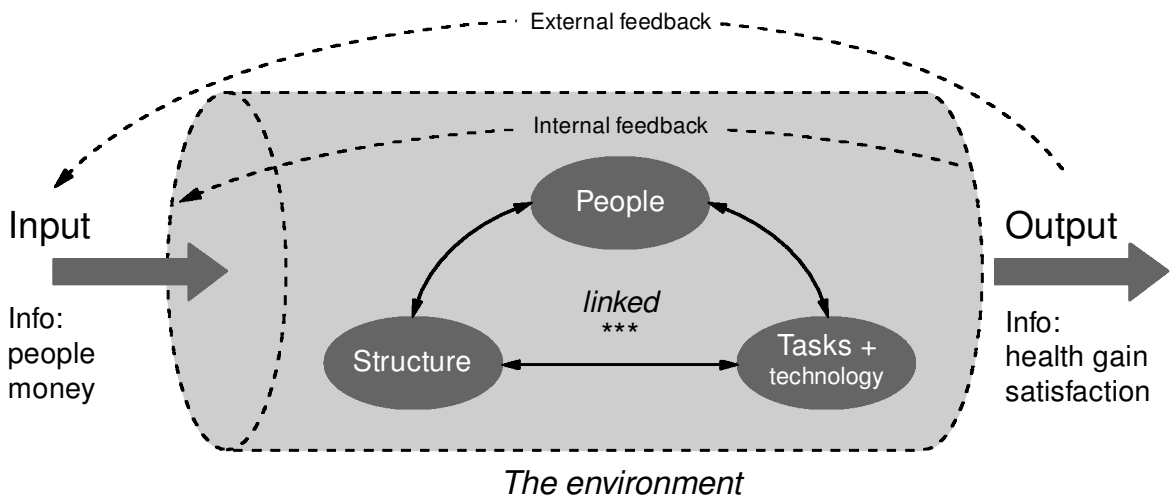
Primary health care teams – particularly when controlling their own budgets – can be viewed as 'autonomous work groups'. PCG/Ts have the opportunity to be semi-autonomous, if they are allowed enough freedom of decision making and access to resources. There are problems with local autonomy. Professionals may lack self-criticism and the ability to reflect and learn. Professional self-regulation has a poor record.

Nearness to the patient can result in overprescribing. To counter the pressure in favour of centralisation of political control, we must constantly ask ourselves 'what factors favour autonomy and self-organising?' We need to focus on operations in which there is a feedback loop which ensures self-regulation, in order to maintain quality and effectiveness – a sort of thermostat but more than that – a learning process, not just a steady state.

## Models of self-organising systems

Closed physical systems, left to themselves, will follow the second law of thermodynamics and increase in entropy (randomness) until activity ceases – like a ball rolling downhill until it can move no more. In everyday life, however, we deal with open systems, many of which are increasingly complex and highly organised. This requires an input of energy. In biological systems, the main source of this energy is the sun. In the complex open socio-technical systems that model our activities, the source of outside energy is more varied, and includes the resources of money, people, motivation, training, information, etc. (see Figure 1). Self-organisation has been implicit in the study of cybernetics – for example, Ross Ashby described the brain as self-organising in 1947, but it was not until the late 1970s that it became explicit.<sup>8</sup> Self-organisation can be defined as 'the evolution of a system into an organised form in the absence of external constraints'.<sup>9</sup>

A closed system moves towards equilibrium, whereas open systems may operate effectively when far from



\*\*\* Linked by communication, collaboration, planning, decisions, policies, strategies, problem solving, conflict resolution, etc.

Figure 1 Open socio-technical system

the point of equilibrium.<sup>10</sup> We must be prepared to respond to and initiate constant change rather than seek the contentment of a steady state. Laissez-faire is not an option.

Open systems rely on a transformation of *input* into *output* by means of *people* working in a *structured* environment, undertaking *tasks* using a variety of processes such as communication, objective and priority setting, decision making, problem solving, conflict resolution, etc. (see Figure 1). The boundary of the system is permeable (open), so there can be links with the outside world and its networks. To ensure the stability of the system there must be feedback loops – both internal and external. For the system to be ‘self-organising’ the internal feedback loops are critical.

Systems thinking is the norm in business and management, but the scientific community has been tempted to seek more certainty by reductionism and working in ever-narrowing specialist fields. Politicians and the media, increasingly, try to rely on ‘black-and-white’ answers from reductionist sciences in order to solve complex ‘grey’ problems. This has been encouraged in medicine by the great advances of molecular biology and genetics which favour a single cause. However, the interactions of genes and the environment are proving to be an extremely complex field. General practice, where complexity and uncertainty reach their peak, tends to get lost between the concepts of generalism and specialism – the ‘open systems’ and ‘reductionist’ ways of thinking. Producing alternative models of the real world can help us to clarify our ideas and choose the most appropriate foundation for our thinking and our working methods.

Physical scientists like to apply mathematical formulae for their models. When they are unable to do so, they postulate ‘chaos theory’ and ‘impossibility theory’ to explain why they cannot predict future events. Fields of work such as general practice are very remote from mathematical modelling, so we may have to get used to relegation to the ‘chaos’ and ‘impossibility’ categories. However, open systems models would have more scientific credibility if they were more amenable to mathematical analysis. This has been happening in the past two or three decades.

A possible synthesis of the two strands of thought can be seen in the concept of the ‘self-organising system’. Jantsch popularised the idea in his book *The Self-organizing Universe: scientific and human implications of the emerging paradigm of evolution*.<sup>11</sup> Capra in his lucid book *The Web of Life* further developed the concept in the light of the new mathematical thinking.<sup>10</sup> The natural world can be seen as a vast self-organising system. Within it are smaller systems such as rain forests and the self-sufficient tribes and species within them. Smaller still are ant colonies and catalytic systems such as the Krebs cycle.

We need to focus on cyclical organisation (including networks), as mini ecosystems containing feedback loops, rather than on linear processes. These systems are non-linear and do not behave randomly, but reflect a deeper level of patterned order. Prediction is often impossible. All these effects depend upon inhibiting or reinforcing feedback processes that may lead to stability or instability.

Can the analogy of the cyclical system and the network in living systems be applied usefully to social organisations and their functioning? The brain is a model of a complex network with 1000 billion junctions (synapses). Messages can take many paths in a network, even coming back to where they started, as a feedback loop. In this property lies the capability for self-regulation. As Capra has stated ‘the pattern of life is a network capable of self-organisation’.<sup>10</sup> This idea has been around in cybernetics since 1947, but application to human organisations did not occur until the 1970s and 1980s. Can we now look at primary health care and general practice as a self-organising system? First let us consider what the features of primary health care are that favour self-organisation.

## Essential ingredients for self-organisation and its application to primary care

The *organisation* must be described in terms of the relationships between its components that define what general kind of organisation it is. The *structure* is more specific in describing the actual relations that exist in a particular example. The organisation creates a *boundary* to its domain within which it can function effectively. This defines the system as a unit.<sup>12</sup> The *substrate*, is the environmental substance being processed, transforming input into output. There must also be a net input of *energy* and there must be *feedback loops* linking input and output and processes for monitoring and control.

Primary care and general practice can be characterised as an open socio-technical system (as described above). Can it be seen as self-organising, or is it entirely controlled from outside? Some degree of control must be postulated, as primary care must have a defined *purpose* to serve the local population in ways that meet agreed standards, but is this purpose defined nationally or by the local population? Local definition of needs, and the services required to meet them, have been widely practised in the Third World. In the developed world, primary care tends to be defined nationally as part of the political process. This cannot be satisfactory, as needs vary so greatly in

different areas with different populations and with different priorities.

## Teamwork

This is an accepted part of primary health care, and is essential for ensuring that the unit functions as a whole, with mutual learning and support. A team is a near approximation to the autonomous work group, depending on its freedom from outside control. The less control is exercised from outside the team, the better it can be at self-organising, provided that the feedback loops are in operation to ensure that it meets its goals and quality is maintained. Effective teams need to be small, so this must apply at the practice level. A PCG or PCT (with 50 or more GPs) is much too large to act as a team, though it would contain its own management teams.

The PCG/T can have an important role in guiding the practices and teams towards autonomy (within certain agreed limits) as part of a learning process. One method could be to ensure that effective teamwork operates in all its practices. This would entail both a fully supported team development programme, and continuous evaluation of team effectiveness. Tools for these processes are available, but have been little used or supported.<sup>13</sup> Teamwork involves a complex series of informal feedback loops, based on working together, in a spirit of mutual trust, to complete tasks successfully over time. But putting people into a group setting does not necessarily result in effective teamwork. Teams must be trained for the job and their learning processes and outcomes evaluated in clinical and organisational terms.

## Input from patients into the organisation

### *The consultation*

In the one-to-one consultation, there is massive input from patients about their individual health and health-associated problems. Time constraints and conventions of behaviour may, however, inhibit input from patients about their overall health needs, the extent to which they are being met, and the quality of the service. The feedback in the consultation – whether the patient is content, in pain, whether treatment worked – is all part of the process, whereby the doctor acquires practical knowledge and the patient's therapy is mutually agreed. Neither doctor nor patient finds it easy to switch to a 'managerial' mode and examine the system to see if *it* needs treatment, so a different structure for communication is needed. Doctors, traditionally, think in terms of diseases and

risk factors, but with greater emphasis on self-healing, the patient and their illness can become 'self-organising'.

### *The patient participation group*

The patient participation group exists specifically to listen to patients' views at *practice* level, and to incorporate them into the management process. In this way, professional staff can be more confident that they are making optimal decisions, and patients can feel part of the healthcare process, and be motivated to make it a success. The group can also help to define what the practice's priorities should be, as well as helping to define the standards of quality of care. When they identify a shortfall in service provision, the group will often arrange to fill the gap. Members of participation groups are usually involved in other community activities and, together, they form a valuable network and a powerful resource.

The process of involving patients has been well studied.<sup>14</sup> Participation has the potential for assessing health needs, making the service more effective and monitoring outcomes. This potential is far from realisation. Participatory evaluation, using patients as evaluators, has a good record in developing countries, but in Britain someone other than the patient usually seems to 'know best' what the patient needs.

Only about three percent of practices in Britain have a patient participation group, and support from government and Royal Colleges is minimal. However, the new NHS is intended to be more patient centred, but the mechanisms for achieving this need careful thought. Anyone with experience in this field will confirm that participation is always an uphill struggle, and every possible path for communication at every level must be utilised. Participation must be pluralistic, it cannot be rigidly structured and formalised, though some structural support is needed. A well-functioning patient participation group can be a major building block of quality improvement and self-organisation, but much attitudinal change and inducement will be needed to make it a reality. For a simple training manual see Pritchard.<sup>15</sup>

## Internal audit systems

The EPR has great potential for internal audit of processes and outcomes. Pioneers have been using it for more than 20 years, and it is becoming more sophisticated. The need for practices to produce statistics to justify payment (for instance, for immunisations) and annual reports of activity have encouraged an almost 100% computerisation of British general practice. Using the system for audit of clinical outcomes has some way to go, but once it is running – preferably

automatically<sup>b</sup> – this would be an effective tool for continuous quality improvement and for self-organisation. Audit of the effectiveness of teamwork is feasible, but rarely undertaken.

Many years ago, Tudor Hart advocated the auditing of all patient deaths.<sup>16</sup> Provided there was an external check that this was taking place, this might have cut short the horror of the recent serial murders in Manchester, which must have seriously damaged the trust that patients have in their doctor. Internal audit must operate in harmony with external audit so that local and national standards and policies are congruent.

## Personal doctor system

Much research has pointed to the value that patients place in having a personal doctor, particularly for continuity of care in chronic illness. Some academic doctors, however, find it inconvenient. The GP's contract implies personal responsibility, yet administrative laziness has led to laxity in updating personal lists, and the tendency to treat the practice as a whole. Personal responsibility seems such an essential ingredient of general practice and of self-organisation that it deserves to be fostered with more enthusiasm. Extensive research of the Personal Doctor Programme in Finland showed many objective benefits. The only negative finding was that GPs regarded it as more stressful.<sup>17,18</sup> Recently, the introduction of a personal doctor system in Norway has produced a surge in recruitment of GPs.

## Information and knowledge

Knowledge is the lifeblood of any professional service, and for the GP this must include knowledge about medicine and patients, as well as about remedies and services available and their effectiveness. In addition, there must be operational information about the effectiveness of the service in terms of processes (accessibility, acceptability, delay) and outcomes (improved health and wellbeing, patient satisfaction, etc.).

The information needs of general practice are formidable, and rapidly changing. The EPR is the starting point, and good progress is being made. Medical knowledge has traditionally been available in 'look-up' form, but studies have shown that this is underused to a dangerous extent. 'Doctors don't know what they

don't know' and so do not look up missing information.<sup>19</sup> Databases integrated into the EPR are an important step along the road (for example, *MENTOR*, *electronic British National Formulary* (eBNF), *Drug and Therapeutics Bulletin*, *PRODIGY*<sup>20–23</sup>). These need to be on the doctor's (or nurse's) desk rather than in a central library or database. The Cochrane Library is an excellent source and is getting nearer to the practitioner's needs with every issue.

The Internet opens up a vast store of data, but in an unstructured form. Much of the information is of doubtful quality. Time is needed to find the specific item of information needed. There is a case for a pooling of useful web pages in an index format that all GPs could contribute to and share. This could be seen as a 'gateway' and the Finnish hypertext GP Desk Reference System (now *Evidence-Based Medical Guidelines* or *EBMG*) has led the way.<sup>24</sup> It is now available on CD in several languages and in mobile form on the Nokia 9210 Communicator. There is no reason why it should not be linked to the EPR so that guidelines can be patient specific and audit of outcomes automatic.

The information needs of GPs and other staff in primary care require more study and investment, if they are to give a reliable service and be self-sufficient for day-to-day practice. Few 'prompt' systems have been developed, though *MENTOR* and *PRODIGY-III* can fill this need to some extent. All these information systems are complex and GPs need more training in their use than they get at present.

The next generation of information aids will be in the form of 'knowledge-based decision support systems' integrated with the EPR. They do more than prompt, and should help the doctor to use guidelines effectively and navigate the decision process in a sensitive way. Such a system does not diagnose or prescribe treatment, but only guides the doctor to use available evidence and balance the probabilities. The ultimate decision is the doctor's.

A knowledge-based system requires an extensive (centrally generated but distributed) knowledge base. The knowledge must be expressed in a form that the computer can process as having meaning (such as object/attribute/value). This would require a considerable investment but would produce a priceless asset, marketable worldwide. The software is available in the form of a validated logic program.<sup>25</sup> What is needed is the confidence to pursue this path, including the training needs.

## The learning organisation and the reflective practitioner

Problem-based learning (PBL) has produced a revolution in the style of medical education in the past

<sup>b</sup>If a GP can be coaxed to follow guidelines in the consultation, preferably using a computer-based logic program, this constitutes 'concurrent' or real-time audit. This method has the advantage over the normal retrospective audit, in that it does not wait for the doctor to make mistakes!

15 years. The learner takes the initiative and the teacher becomes the mentor in order to fill gaps as requested and to supervise the scope of the learning. Gone are the days of the didactic lecturer and the passive audience – or nearly gone. It still survives in some traditional medical schools and in mega-conferences – those expensive dinosaurs of commercialised learning.

Tied in with PBL is the concept of the learning organisation. Each individual can work and learn best in an environment where learning is encouraged and this is an important ingredient of self-organisation. In a negative culture of blame and shame, learning is inhibited.

Nearly all education is in terms of *propositional* (written or spoken) knowledge. Much of general practice relies on *expertise* and *experience* (practical knowledge and knowledge of familiarity) that are more difficult to teach and learn. The educational system gives them a low priority or ignores them altogether. In 1996, Schön provided a breakthrough in continuing professional learning with his concept of the reflective practitioner.<sup>26</sup> This process makes the practitioner more sensitive to errors and 'near misses' so that corrective learning can occur. It also takes account of the three kinds of knowledge (see Figure 2).

### Setting objectives and formulating guidelines – central or peripheral?

Each individual doctor and nurse needs to have their personal goals, and these need to be compatible with the goals of the practice, so that all can work in harmony. Equally, the goals of the practice need to be in tune with those of the PCG or PCT, and of the NHS

organisation as a whole. The goals and priorities, at every level, need to take into account the aspirations of patients. The dialogue that this requires must be carried out at each stage. The nearer this can take place to where the individual patient lives and works, the more relevant is the result. Thus, peripherally generated objectives should be more cogent and influential than those generated centrally. All the objectives should be compatible but cannot be entirely congruent. The need for this dialogue at every level underlines the importance of the individual nurse's and doctor's communication skills, the patient participation group at practice level, and comparable arrangements at PCG/T and regional level as well as at the centre. This dialogue does occur in patches, but is far from achieved overall. The ideas for change must be allowed to diffuse from the periphery to the centre, as well as in the reverse direction.

Guidelines are in a special category, in that they need a considerable body of specialist knowledge for their formulation. This can only be available at the centre. However, the guidelines need to be adaptable to local circumstances and patient preferences, rather than be set in stone. The number of guidelines that a GP would need probably would run into several thousands (the Finnish *EBMG* already has over 900). These could not possibly be managed on paper, so some computer assistance is essential. *PRODIGY* achieves that, but at present in a somewhat cumbersome format. Logic-based systems are now available that could help the practitioner to choose and follow a guideline, help in their construction from a knowledge base and make the automatic audit of outcomes much easier.<sup>25</sup> Sharing of information on decision support systems is helped by networks such as [www.OpenClinical.org](http://www.OpenClinical.org).

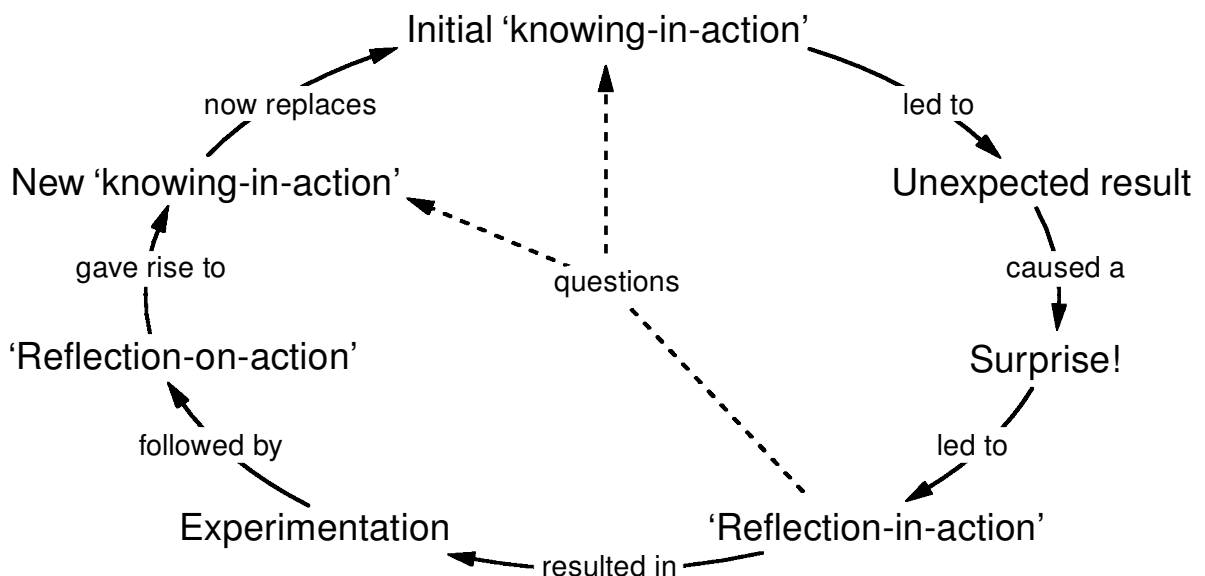


Figure 2 Schön's model of professional learning<sup>26</sup>

## Control of overall budget and of how it is spent

At present, the central control of budgeting is so rigid and resources so restricted, that only one message emerges: 'we cannot afford it'. This produces a blight on all progress, and even on introducing economies which usually need 'pump priming'. The effect on morale and motivation towards education and change is totally negative. Fundholding released a flood of new ideas. It remains to be seen whether PCTs will be able to keep up this momentum. Let us hope that they will have enough freedom of choice. This will require a lessening of central dictation of how the limited budget will be spent. Without this freedom of choice, the PCTs will be reduced to the status of rationing agents rather than self-organising units.

## The key role of informatics in self-organising primary care

Small units can rely on frequent face-to-face meetings for everyday communication, but email is ideal for communicating with community networks and between practices and hospitals. For self-organising groups to be allowed to function in today's world, monitoring by means of sophisticated information technology is essential. Examples are the automatic audit of processes such as immunisation and prescribing; and of outcomes such as patients' health gain and satisfaction. Central authorities are hounded by the media and will need convincing that the quality of work is satisfactory before they will sanction autonomy and self-organisation. Discipline will be essential in self-organising groups so that they undertake the audit, and in the central authority to keep their hands off.

Decision making in the consultation is a grey and neglected area about which little is known. Once knowledge-based decision support systems (KBDSSs) are in general use, the way that decisions are taken can be monitored. This will enable us, by linking patient outcomes to decisions, to learn which decision paths are the most effective. The curtain of obscurity will be partly drawn aside. The potential for improving the quality of decision making, while preserving clinical autonomy, is immense and untapped.

GPs inevitably know less than specialists in any given field, so fast and easy access to specialist advice is essential whenever the GP is in doubt. This 'second opinion' service has been seriously impaired by the intolerable wait of six months to see a specialist. Immediate advice by telephone, or better still – teleconsultation – should be feasible and economical, as demonstrated in Norway, Canada and Australia. The

need for all possible information support from computer systems will increase as the complex knowledge being generated from molecular medicine and genomics comes on stream.

Much of the technology is already in existence, but the implementation of KBDSS will require the development and validation of a comprehensive knowledge base and training in its use. End users such as GPs, practice nurses and patients must be involved in system development at all stages. Only by this means will the product meet the needs of the users, and be within their capability to use with confidence. Patient acceptance should be no problem if users have this confidence.

## Pros and cons of self-organisation

The general trend of this paper is to favour maximum self-organisation, but it must be in balance with central inspiration and monitoring. The advantages and obstacles in primary health care can be summarised:

### Advantages

- The workforce is motivated by feeling that they 'own' the decision-making process.
- Local generation and application of policies and values can be more effective.
- Patients can be more closely involved in decision making based on local needs in order to ensure its relevance.
- Patients can be more closely involved in coordinating the processes of care through local community networks.
- Local control saves bureaucratic duplication and is more economical.
- A high degree of local autonomy is the only answer in a very large organisation.
- Local autonomy and audit obviates the need for disastrous 'hands-on' control by politicians at the centre, which is certain to fail.

### Obstacles to its implementation

- Public and media pressure for central control, uniformity, accountability and blame.
- Politicians and bureaucrats will not give up power easily.
- Self-organisation requires that autonomous agents are trusted. Trust in professionals has been seriously eroded, and the media are not helping to re-establish this trust.



- Self-organisation requires sophisticated internal and external audit functions and patient input at every level. Such systems are poorly developed and need to be effective, relevant, unobtrusive and acceptable.

## Vision of the self-organising primary care system

General practice is under fire because of increasing public awareness of bad practice, but this should not necessarily be a reason to orientate general practice more to 'command and control', rather than improving quality by self-regulation and supervision. Trying to exercise central day-to-day control increasingly involves responding to crises with the media largely setting the agenda. This does not lead to a rational approach to priorities nor effective use of scarce resources. Healthcare systems must be able to respond to crises, but against a background of longer-term planning. An escalation of crisis management and short-term solutions could end in a vicious spiral, and a major breakdown in health care.

The aim of a modern, effective and genuinely patient-centred healthcare system cannot be faulted, but can this be achieved without increasing the capability for self-organisation? Such a system would automatically adapt to changing local circumstances, and continuously improve quality.

The theoretical model of the autonomous work group as a 'self-organising system' now has a solid mathematical base. They are not 'rogue' systems, out of control, but rather have a regulatory capacity that keeps them operating effectively with only a light hand on the tiller. The unit would be the neighbourhood group practice or health centre, staffed by generalists. To discard the generalist (whether GP, general surgeon or physician) is shortsighted, when the knowledge support that they need could be provided electronically but has not been to date.

The ingredients of self-organising systems described above can give us a clear guide for action. The key features are the feedback loops and electronic support, and much can be done to enhance feedback in general practice and primary health care. Audit of processes and outcomes was making progress under the medical audit advisory groups, but it was an uphill struggle. PRIMIS uses the adult learning approach and extensive feedback for improving data quality and information management skills.<sup>27</sup> Simpler methods of audit such as 'rent an audit' have not been pursued or developed. They are low in cost and provide motivation for GPs without adding appreciably to their burden of work. Automatic computerised audit has been

successfully developed for groups of practices using the same computer system, but not strongly supported. Further development in this field will be possible with the next generation of computer systems. An area where investment is beginning to show results is prescribing audit. Prescribing decision support systems such as *PRODIGY* and *MENTOR* backed by the *eBNF* are also proving effective, but the systems are fairly primitive and users need more training.

Feedback from patients at practice level works well where it exists, but maintaining it requires hard work and enthusiasm, as well as specific communication skills. Practically no investment has been made in encouraging this potent instrument for quality improvement. Patients can define the standards of quality that affect them, they can measure its implementation and they can provide services and resources that increase quality, such as a practice newsletter, car services and monitoring vulnerable groups. They can also provide valuable input for management and planning through a patient participation group. 'Participant design' is nothing new, but is sadly under-used in primary care.<sup>28</sup>

The personal doctor system was in operation long before the NHS was set up. Patients like it and it enhances continuity of care and lessens referrals. Moves towards a salaried or 'walk-in' service, however attractive in inner cities, could undermine personal responsibility for patients' care. The extent to which different practices operate personal doctoring is easily measured and incentives could be provided.

The primary care team bears a close resemblance to an autonomous work group or self-organising system. It is much vaunted as the basis of health care. For this to become a reality, attention must be given to whether the practice staff do actually function as a team, let alone an autonomous work group. Simple tools for measuring team function are available, as are equally simple methods of 'in-house' training which have stood the test of time.<sup>13</sup> Apart from a limited, remote-training initiative by the Health Education Council, little active support for team development has been apparent in primary or secondary care. Effective teamwork – both in primary and secondary care – is a prerequisite for shared care and managing the primary/secondary care interface.<sup>29</sup>

The autonomous work group needs the resources for making decisions. In an area where resources are bound to be limited, there must clearly be some limits. However, experience from industry (for instance, IBM) has shown that autonomous work groups can be highly effective in achieving objectives at lower cost and with minimal errors. Staff and customer satisfaction are enhanced and role flexibility is maximised.

Before those controlling health services can be motivated to give away their central power and control (however flimsy) in favour of local empowerment,

they will need to be convinced that the feedback mechanisms, patient input, communication systems and team training are fully up and running. The incremental advantages of following this route should be apparent long before autonomy is fully implemented.

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