MINI-REVIEW

The Need for Continuous Change in Pathology and Medical Laboratory Services

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Abstract
In most countries, pathology services have undergone a series of radical reforms, which have impacted on, moulded and manipulated the professions and the diverse set of occupational groups on which they rely. Reorganisation policies have placed considerable emphasis on the need for carefully planned change management and have highlighted the sensitive nature of stakeholder involvement in healthcare delivery of which laboratory medicine is a vital part. Approximately 70% of patient medical management decisions are based on scientific data generated within diagnostic laboratories as part of the healthcare pathway. Within the context of organisations, change presents three major problems, resistance, control, and power. Reform driven changes have led to changes in the work-based tasks and competencies of pathology staff and one strategy that healthcare providers employ to adapt to this dynamic environment is multi-skilling as part of a raft of changes aimed at reducing costs and improving performance, efficiency and competitiveness. This paper identifies the factors, which are crucial in directing the models of change which need to be adopted to deliver the most cost-effective services tailored to meet the needs of patients and the expectations of service users.

Keywords: Change, Management, Pathology, Laboratory Services

Introduction

'If we want things to stay as they are, things will have to change' Guiseppe di Lampedusa (1896 – 1957).

Chaos theory has significance for the practical application of change management in pathology laboratories. We live in a world of 'bounded rationality' where we cannot know everything. During the last three decades, rapid changes in the global economic and political climate have had a breathtaking impact on healthcare services across the world. Most developed countries have lived through either

deregulation or increased regulation coupled with several 'new' health service structures many of which continue to emerge. Stakeholder values, social partnerships and customer focus continue to matter whereas in some countries, internal markets, monetarism, and competition are declining in importance.

Why change?

The revolution in microprocessor based technology, global communications and the increasing development of the Internet has had profound effects on the provision of pathology services. Such rapid changes have driven pathology departments to re-examine their structures and management systems. Techniques that work well for large retail organisations such as major commercial outlets may have little relevance to healthcare organisations. In response to the latest changes, innovative examples of organisational structures are coming to the forefront in several developing countries. In order to adapt and respond to the changes, healthcare organisations must have access to knowledge and intellectual capital coupled with the ability to use information intelligently. Such changes challenge the boundaries of traditional management. Pathology departments can only perform effectively through interactions with the broader external environment which they constitute. Government intervention and rapid developments in new technology frequently create a volatile and changing environment. But the need for change also originates within pathology departments. Much of this requirement stems from a natural process of ageing material resources such as buildings or equipment that deteriorates or loses efficiency. Human resources get older, skills and abilities become outdated. But the main pressure of change is from external forces so the organisation must be properly prepared to face the demands of a rapidly changing environment. The effects of change can be studied and measured over different time scales from weeks to several decades and at different levels within the service. They can be studied in terms of their effects at individual, group, organisation, national or international levels. Because of their pervasive nature, changes in pathology organisations at any one level are interrelated and impact those at other levels. These can be initiated deliberately and rapidly by managers, evolve slowly within a department or be imposed by specific changes in policies or procedures.

Driving forces for change

A spectrum of diverse drivers for change will vary from country to country, but many of those are common to most developed and developing healthcare organisations (Table 1). Examples of major changes introduced into health service organisations during the last decade which have had an impact on pathology services include:

- Changes in education e.g. Introduction of all graduate entry, higher degrees and vocational training strategies.
- On-going modernisation of professional regulations including continuous professional development (CPD; CME) and demonstration of continuing competence. Modernisation projects designed to ensure the most effective delivery of pathology services.
- Reorganisation of professional grades and the review of workforce structures.
- Creative restructuring of programmes based on occupational standards provide a mechanism for consolidating the scientific workforce and open up career pathways and increase opportunities.
- Bringing services closer to the patient with the increasing use of point-of-care technology.
- Changes in 'business cultures' with increased transparency in associated processes and clearer accountability to the public and governmental organisations.
- Introduction and increased accountability through clinical governance in the monitoring and improvement of clinical quality.
- Increased demands to comply with changing local, national and international standards.
- Integration of disciplines such as Haematology and Chemical Pathology into "Blood Sciences." In most medium sized laboratories there is a growing need to become multi-disciplinary as laboratories merge to derive maximum value on expensive analysers. Information - rich IT developments with the introduction of electronic reporting to community based general practices (GP links) and electronic ward ordering of pathology tests.
- Increased demands of scientific/quality standards and accreditation.
- Changing national and international legislation relating to Health and Safety and the formation and reconfiguration of healthcare providers and commissioning groups.

These changes are coupled with more generic pressures which affect not only pathology departments but most other professional groups of healthcare providers. The most significant of these forces which impact the need for change in pathology are listed in Table 2 and are discussed

Table 1. Common driving forces for change in pathology services
1. Changes in education
2. On-going modernisation of professional regulations
3. Modernisation projects to ensure effectiveness
4. Reorganisation of professional grades and the review of workforce structures
5. Creative restructuring of programmes based on occupational standards
6. Bringing services closer to the patient
7. Changes in 'business cultures' with increased transparency
8. Clinical accountability
9. Changing local, national and international standards
10. Integration of disciplines
11. Information-rich IT developments with electronic reporting and ordering
12. Increased demands of scientific / quality standards and accreditation
13. Changing national and international legislation relating to health and safety
14. Healthcare providers and commissioning groups

Table 2. Forces dictating the need for change in pathology
1. The need to be more cost-effective
2. Changing technology
3. Knowledge explosion
4. Rapid product obsolescence
5. Changing nature of the workforce
6. Quality of working life

below. Firstly, the need to be more cost-effective - advances in healthcare provision have led to increasing costs so that budgets are coming under ever-increasing scrutiny. Changing technology - the rate of technological change is greater now than at any time in the past. Automation and robotics are at the forefront of service advancement. Knowledge explosion - the volume of knowledge continually expands. With this rapid increase in knowledge, there is a danger that it can quickly become outdated or obsolete hence the need for continuous personal development. Rapid product obsolescence - changes in user preferences, together with rapidly changing technology have shortened the life-cycle of many products and services. Changing nature of the workforce - the composition of the working population, broader educational opportunities, modern lifestyle changes and equal opportunities have forced managers to think more innovatively. Quality of working life - expectation of improvement to the quality of working life has focussed attention on the need for management to respond to people's needs.

Managers working within pathology departments must take cognizance of the organisational culture, which prevails within the health service in which they are employed. They also need to decide whether to adapt their organisation's culture (if indeed they are empowered to do so) to any desired changes or bring the changes into line with its

Table 3. Reasons for the introduction of new technology in pathology departments
1. To maintain and improve quality
2. To achieve cost neutrality or reduce ever-increasing costs
3. To enhance productivity
4. To reduce dependence on skilled labour
5. Because it always seems fashionable to be up to date
6. Because peer organisations / groups are doing it
7. New technology is interesting and challenging
8. To change the power relations and control between various organisational groups

Table 4. Factors to be considered for successful continuous review of service delivery
1. Technology forecasts
2. Workforce analysis
3. External environment scans
4. Business and quality issues

culture and the prevailing political will. These factors are crucial in directing the models of change which need to be adopted to deliver the most effective services.

Planned models of change

Planned models of change are clearly ones which are suited to relatively stable and predictable situations where change can be driven from the top down leading ultimately to new organisational equilibrium. Emergent models of change are ones which are geared to fast moving and unpredictable situations where it is impractical to drive change from the top. It is undoubtedly true that the appropriateness of these approaches have sometimes been judged more in relation to the national culture and the political will of resource providers rather than the needs of patients. Health care services have changed rapidly over the last decade and will continue to change both in terms of their internal organisational structures and the focus and objectives of future strategies not least because of growing awareness of the need to be responsive to patients' needs. The service has, and will continue to need intelligent, flexible and adaptable recruits who can deal effectively with change. It will need more than that - it will need adaptable employees who can use their skills and attributes to evolve the organisation. Ultimately, it will need transformative people who can do more than respond to change but can also anticipate and lead change. All employees in different contexts need to be adaptive, adaptable and transformative because employers need staff who can deal with change effectively. The radical changes which have characterised the way healthcare services operate are particularly stressful – even relatively minor changes are potential sources of stress. Organisational mergers, relocation of jobs, rationalisation of services, changes of individual contracts, travelling to new locations, change in management, resource reduction and the introduction of multi-skilling have all been recognised as potent stressors of health care personnel. There is a growing need within pathology services for staff who can fulfil more than one function in the organisation. Job redesign is part of the quest for the provision of cost-effective services as well as a philanthropic concern with the quality of working life. Although the introduction of new challenges in the workplace is commendable, measures must be taken to avoid subordination of people to machines. Increased automation in the field of diagnostic pathology based mainly on developments in molecular biology and in microelectronics potentially has two opposite effects. It can

lead to the de-skilling of jobs but can alternatively enhance skill requirements, although the nature of the skill may change. The introduction of new technology by pathology departments is driven by a variety of reasons (Table 3).

Few managers would admit to being influenced by some of these reasons for introducing new technology, yet they often are. Organisational power politics play a crucial role in determining whether and how new technology is introduced. The usefulness of new technology (particularly IT) lies in its capacity to redefine roles and relationships. Clinicians in the UK were expected to work within and manage fixed budgets but some resisted this preferring that their medical decisions should be made with little regard to cost, yet others were quite keen to get to grips with these new challenges. Computerised information gave them much of the information they needed to manage their budgets thereby giving them the opportunity to think autonomously as budget holders and negotiate more effectively with non-medical managers. New technology can significantly affect the nature of social interactions. The introduction of ward based or community based interrogations of pathology computer data bases, electronic transfer of results, remote ordering and protocol driven selection of investigations via links to the main pathology computer system all have the potential to affect the way pathology staff interact with their service users.

There already exists and will always be a need for comprehensive, on-going processes for the continuous review of service delivery within pathology. These need to take cognizance of several issues (Table 4). Technology forecasts – these require an in-depth data gathering exercise identifying major changes in technology that will impact service provision. Workforce analysis – the identification of the key human resource issues that impact on the organisation's ability to fulfil its' plans. External environment scans involve identification of all the key environmental, economic, political and social pressures. Business and quality issues - a review process of staff, suppliers, customers and other stake holders, improving customer satisfaction, improving internal processes, procedures or systems.

Senior pathology personnel are being challenged in many ways, they need increased management skills and need to be more adept at financial, marketing, contracting, personnel and risk management processes. There is a constant need to re-grade and re-design senior and management posts so that the personnel who are expected to provide effective, modern pathology services are fully prepared to meet the future challenges of continuously changing health care requirements.

Suggested Readings

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