Professionalism and Management of health informatics

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Abstract
Health Informatics is increasingly critical to the frontline delivery of care and the achievement of associated organisational objectives and targets. As the use of IT and information moves rapidly from the back-room to centre-stage, there is an urgent need for higher standards of professionalism and regulation. Agenda for Change represents a significant opportunity, in introducing clear statements about the levels of skills required to undertake a Health Informatics job. This can help in continuing professional development, recruitment and retention, and thus the overall drive to introduce professionalism. The paper provides some evidence that the time has come for Health Informatics in the UK to be recognised and controlled as a formal profession.
Introduction to the health informatics profession

Information for Health\(^1\) used the term ‘health informatics’ without giving a firm definition. It generally became known that health informatics contained a broad range of staff, covering clinical coders, health records staff, librarians, clinical informaticians, information management and information communications and technology staff. The ‘Making Information Count’\(^2\) strategy was launched to ensure that ‘all people who worked primarily in the area of health informatics across all sectors of the NHS in England were able to maximise their collective or individual contribution to improving health and patient care.’

*Making Information Count* adopted a definition of health informatics: ‘the knowledge, skills and tools which enable information to be collected, managed, used and shared to support the delivery of healthcare and to promote health’. It identified 6 component staff groups (see Table 1):

Table 1: Health informatics staff groups according to ‘Making Information Count’

<table>
<thead>
<tr>
<th>Staff Group</th>
<th>Description of function or role</th>
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<tbody>
<tr>
<td>1. Information &amp; Communication Technology</td>
<td>Network management; technology and help desk support; application and systems development; project management and implementation; system security and staff training.</td>
</tr>
<tr>
<td>2. Health Records</td>
<td>Collate, organise, retrieve and archive the record of a patient or client.</td>
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<td>3. Knowledge Management</td>
<td>Support health professionals and management staff in their education, training and development, and professional practice.</td>
</tr>
<tr>
<td>4. Information Management</td>
<td>Business and data analysis, research, clinical audit, clinical coding, data protection and confidentiality, planning and performance management.</td>
</tr>
<tr>
<td>5. Health Informatics Senior Managers and Directors of Service</td>
<td>Come from all the Health Informatics specialist areas.</td>
</tr>
<tr>
<td>6. Clinical Informatics Staff</td>
<td>Capture, communication and use of patient data and clinical knowledge by doctors and other clinical professionals.</td>
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</table>

The groups are functions of three dimensions: informatics specialism, seniority and clinical background. Each group shares a core of knowledge and skills, augmented by a recognised area of specialist practice. One of the challenges for the health informatics profession is to establish its unifying elements as distinct from its separate areas of specialist skills.

A key goal of the *Making Information Count* strategy was to improve health informatics capacity and capability in the NHS, predicated on the notion that the effective use of information and technology in a healthcare setting contributes directly and indirectly to the improved care of patients. To this end the strategy was firmly placed within the context of the wider NHS human resources strategy in the NHS Plan.
However it is probably fair to say that the movement of health informatics staff towards a recognised health profession was not hugely advanced by this strategy. In a year after publication, a review\(^3\) of the MIC strategy noted that ‘there are no set standards, no formal requirements for qualifications of member staff, no formal consistent pay and grading structure, all of which has contributed to health informatics becoming a ‘hidden profession’’.

One of the actions described in *Making Information Count* was to signal the creation of the UK Council for Health Informatics Professions (UKCHIP\(^4\)) as the registration and regulatory body.

Health informatics in its present form, albeit with different titles, has been an activity for over half a century, though elements such as records and information management go back much further. Perhaps 10-15 years ago it could be characterised by the following:

- administratively focused;
- not linked to major policy initiatives except occasionally eg HES, Körner;
- in islands or pockets not linked to other systems, eg hospital laboratory; general practices;
- not much used at the point of care and largely incidental to care processes;
- generally not mission critical or part of any strategic programme; and
- complex to use.

As a consequence health informatics was therefore seen as the preserve of either amateurs or technocrats and resourced and managed accordingly.

**What has changed?**

The last 10-15 years has seen an increasing pace of change across the NHS and a series of high profile mishaps and errors in care and in the deployment of computer systems. The most notable were Bristol, Alder Hey, and Shipman. These unfortunate events created a belief in the positive affect of increased use of information and this was reinforced by the Department of Health (DH) response to the Kennedy Report ‘Learning from Bristol.’\(^5\) At the same time public expectations of how the NHS should treat them have increased. The policy responses to these have included:

- increased demands of clinical governance;
- more diligent and effective management;
- increased focus on targets by the Department of Health; and
- increased inspection and regulation in all walks of life.
Furthermore, the Cabinet Office Review of Major Government IT projects states ‘the public sector needs to think in terms of projects to change the way Government works, of which new IT is an important part.’

On the positive side, the Government agreed to implement the findings of the Wanless report, essentially to bring the UK health expenditure per capita up to the level of OECD countries by 2008. The government has made it clear that these additional resources were also to be accompanied by major system reform. The Report said “without a major advance in the effective use of IT, the health service will find it increasingly difficult to deliver the efficient, high quality service which the public will demand.” For the first time in a policy document, Wanless indicated that the NHS should increase its spend on IT when expressed as a percentage of total expenditure, from about 1.5% to about 3-4%.

It is clear from the Modernising Government White Paper, the NHS Plan, the Wanless Report and subsequent action by the Government that there is a belief that the provision of health services, in terms of efficiency and effectiveness, can be materially and positively effected by improved usage of information and IT. In some cases, the policy commitments rely fundamentally on the implementation of new national IT services, for example Choose and Book.

At the same time though, the government has examined the cause of rises in public expenditure, and the fact that technology delivered of the right type should lead to reductions in many ‘back – office’ functions.

The Gershon Review identifies £21.5 billion of savings in public expenditure, and it is now imperative that robust and functional IT solutions are delivered to enable these savings to be achieved.

The controls assurance model of risk management has brought another set of drivers. This model may be characterised by a focus on robust, documented policies and procedures, delivered through accredited processes and systems, by accredited staff. The controls assurance philosophy underpins much of the NHS regulatory and assurance framework, including:

- the Healthcare Commission’s “Standards for Better Healthcare” and annual healthcheck;
- risk insurance schemes such as the Clinical Negligence Scheme for Trusts; and
- informatics assurance mechanisms, such as the Information Governance Toolkit - currently an element of the Healthcare Commission’s annual healthcheck.

Informatics audit is proliferating, as all aspects of health informatics become increasingly critical to patient and client safety, and to the delivery of organisational business objectives and targets. The burden of regulation is increasing fast, though not always its effectiveness.
There is also a need for core IT-based skills in the NHS, as illustrated in the Cabinet Office Review of Major Government IT projects\textsuperscript{14} in order to make better use of technology and technical resources. The Government has also recently announced that it intends to boost the status of the IT Profession. The BCS in conjunction with government and suppliers has launched the ‘Managed Awareness Programme\textsuperscript{15}’ which aims to ‘put IT on a par with regulated professions by enforcing an adherence to integrity and best practice.’

The net result of all the above pressures is to require that the public’s IT and information services are delivered to uniformly high standards, applying all the best practice available. It is suggested therefore that the NHS should take stock of where it believes it is positioned in terms of employing professional people and having them organised in an appropriate way.

\textbf{What is professionalism?}

Professional bodies were generally created in response to the need to set standards of service and to provide members of the public with the means to be assured of the competence and standing of practitioners of different ‘professional’ trades. In the NHS for example, this has historically been seen through a combination of Royal Colleges and the General Medical Council, and latterly through the Health Professions Council being created to ensure professionalism amongst the professions allied to medicine.

The role of professional bodies has been formally described by Lord Benson in a statement in the House of Lords in 1992\textsuperscript{16} presented in Table 2.
Table 2: The role of Professional Bodies

(a) The profession must be controlled by a Governing Body which in professional matters directs the behaviour of its members. For their part the members have a responsibility to subordinate their selfish private interest in favour of support for the governing body.

(b) The Governing Body must set adequate standards of education as a condition of entry and thereafter ensure that students obtain an acceptable standard of professional competence. Training and education do not stop at qualification. They must continue throughout the member's professional life.

(c) The Governing Body must set the ethical rules and professional standards which are to be observed by the members. They should be higher than those established by the general law.

(d) The rules and standards enforced by the Governing Body should be designed for the benefit of the public and not for the private advantage of the members.

(e) The Governing Body must take disciplinary action including, if necessary, expulsion from membership should the rules and standards it lays down not be observed or should a member be guilty of bad professional work.

(f) Work is often reserved to a profession by statute - not for the advantage of the members but because, for the protection of the public, it should be carried out only by persons with the requisite training, standards and disciplines.

(g) The Governing Body must satisfy itself that there is fair and open competition in the practice of the profession so that the public are not at risk of being exploited. It follows that members in practice must give information to the public about their experience, competence, capacity to do the work and the fees payable.

(h) The members of the profession, whether in practice or in employment, must be independent in thought and outlook. They must be willing to speak their minds without fear or favour. They must not allow themselves to be put under the control or dominance of any person or organisation which could impair that independence.

(i) In its specific field of learning a profession must give leadership to the public it serves.

A vital item in the list is (d) above, namely that ‘the rules and standards enforced by the Governing Body should be designed for the benefit of the public and not for the private advantage of the members’. This is the key difference between a professional body and an association of members. It also means that the field of work must impact on the public. There is a stated proposition by Hayes and others\(^7\) that this connection can be made on the basis of ‘bad informatics kills’ with the consequence that a professional body is needed for Health Informatics.

There may be very many instances of inappropriate or incorrect use of information or technology facilities. Unfortunately, no one really knows as there are no mechanisms systematically to identify
and record such mishaps, and indeed in some cases the causes may not be apparent or known. However, there are many examples of the impact of ‘bad informatics’ (see Table 3).

To create a professional body takes a considerable period of time. The apparent route is first to enable voluntary registration, whilst developing the identity and role of the putative Governing Body and subsequently moving to compulsory registration over a period of years, typically 8 to 10 years. For example, the British Computer Society (BCS\textsuperscript{18}) was founded in 1957 and was in existence for 27 years prior to becoming a professional body, some 17 years after commencing professional examinations.

The BCS has produced a book on professional issues\textsuperscript{19} which expands on the elements of professional behaviour and draws distinctions between codes of practice and codes of conduct (or code of ethics) which are often interchanged in discussion.

**Professionalism in operation in the NHS**

Apart from the medical professions, there are other examples of professionalism in operation in the NHS. In order to ensure suitable standards of practice are achieved in the operation of the NHS, professionalism has been encouraged and developed by the NHS, two examples being Clinical Scientists and finance staff. For staff, other than doctors and nurses, operating in clinical areas or involved with direct patient care, regulation is now via the Health Professions Council (HPC). The HPC regulates professions such as Orthoptists, Dieticians, Physiotherapists and Radiographers.

There are similarities in the non-clinical area of NHS finance. The NHS was unable to attract qualified accountants into the NHS and there were serious concerns about the ability of NHS organisations to manage their finances effectively. Increased emphasis upon financial management within the NHS led to a significant demand for professionally qualified accountants. As well as recruiting pre-qualified staff from the non-NHS sector, a centrally funded and administered training programme was developed. The training scheme – usually three and a quarter years in duration – involves a number of elements:

- ‘On the job’ exposure to the full range of financial duties – accounting, reporting, audit, payroll, etc;
- Exposure to clinical and other support departments – either through specific projects or by way of a ‘Cooks Tour’;
- The undertaking of professional accountancy qualifications through block release at an appropriate higher education institute; and
- Supplementary management training, arranged locally, regionally, or even nationally.

The training posts are supernumerary and post-holders – ‘regional’ or ‘national trainees’ - are given wide exposure to all types of NHS organisations, without expense to the individual organisations. In addition, NHS finance staff – qualified and unqualified – are supported by the activities of the
Healthcare Financial Management Association (HFMA). In particular HFMA arranges events on a regional and national basis to support staff in achieving their Personal Development Plans and Continuing Professional Development objectives.

The parallel body to HFMA in Health Informatics is ASSIST\textsuperscript{20}. It too arranges events on a regional and national basis to support staff in achieving their Personal Development Plans and Continuing Professional Development objectives. It also aims to provide an independent voice for Health Informatics on professional issues.

It can be seen that where the NHS has had a very obvious need to ensure safe practice or overcome mission critical difficulties (such as not being able to manage its financial resources), effective training and development solutions have been put in place. These solutions include: responsibility for training being coordinated by professional bodies, ‘in work’ training schemes being created, supernumerary posts being created and above all, funding to enable these actions to be put into effect.

**Case for professionalism in health informatics**

There is no shortage of disturbing stories about the poor use of informatics that are reported in newspapers and relevant journals, such as the British Journal of Healthcare Computing and Information Management (bjhc&im). The provision of informatics services is becoming another indirect service for patients. It is contended that the same issue of ensuring quality of service in order to protect the patients applies as there is an emerging and substantial body of evidence that ‘bad informatics does harm’\textsuperscript{21}. There are many examples of incorrect treatment for patients or poor service provision due to errors in handling information or the use of ICT; some are shown below, with source references wherever possible.

Table 3: The dangers of poor Informatics

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<tr>
<td>1.</td>
<td><strong>Ambulance service operations problems</strong> - London Ambulance Service computer system problems arose following introduction of new system in October 1992. The LAS announced an ambitious target date and ignored evidence that their systems development was wildly off track\textsuperscript{22}.</td>
</tr>
<tr>
<td>2.</td>
<td><strong>Confidentiality/privacy breaches</strong> - In 2000 Kaiser Permanente accidentally breached medical confidentiality of 858 people while carrying out a software upgrade to its website\textsuperscript{23}. In 2001 an Eli Lilly programmer's error caused some 600 breaches of privacy\textsuperscript{24} and 160,000 dollars were paid as compensation\textsuperscript{25}.</td>
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<td>3.</td>
<td><strong>Finding/losing files</strong> - In 2000 the Medicines Control Agency's antiquated IT system caused problems adding to file-finding difficulties; the BSE Inquiry report cited these as important contributors to the spread of BSE\textsuperscript{26}.</td>
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<tr>
<td>4.</td>
<td><strong>Impaired service delivery</strong> - In 2002 incompatible health and social care systems in Wales hindered the delivery of drugs and mental health services to the vulnerable\textsuperscript{27}.</td>
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</table>
5. **Adverse events** - The Research Unit for Cybermedicine at the University of Heidelberg has established a database of published and unpublished cases of adverse events caused by advice given on health-information websites\(^{28}\).

6. **Incorrect treatment / Treatment dose errors** - Radiotherapy dose errors (Exeter and Stoke) are known to have occurred due to the wrong calibration of equipment linked to IT systems. Problems in Kent occurred with the electronic mix up in women’s smear results and several positive smears were missed until too late. The Millennium Bug resulted in more than 150 pregnant women being given incorrect results of a Down’s Syndrome test at Sheffield Northern General Hospital. Four Down’s syndrome pregnancies went undetected: two women later gave birth to Down’s Syndrome babies, while two others terminated their pregnancies\(^{29}\).

7. **The Bristol Enquiry** - Two of the recommendations from this enquiry have direct impact on Health Informatics\(^{30}\):
   
   i. **Openness**: “Bristol was awash with data. There was enough information from the late 1980s onwards to cause questions about mortality rates to be raised both in Bristol and elsewhere had the mindset to do so existed. Little, if any, of this information was available to the parents or to the public. Such information as was given to parents was often partial, confusing and unclear. For the future, there must be openness about clinical performance. Patients should be able to gain access to information about the relative performance of a hospital, or a particular service or consultant unit.”

   ii. **Monitoring**: “the clinicians in Bristol had no one to satisfy but themselves that the service which they provided was of appropriate quality. There was no systematic mechanism for monitoring the clinical performance of healthcare professionals or of hospitals. For the future there must be effective systems within hospitals to ensure that clinical performance is monitored. There must also be a system of independent external surveillance to review patterns of performance over time and to identify good and failing performance.”

8. **Incorrect treatment / Patients mixed up** – A kidney transplant patient\(^{31}\) was given an organ from a close relative that did not match after information was wrongly entered into a computer. Her body rejected the new kidney and she had to undergo a second operation to have it removed.

9. **Incorrect treatment / Transfusion hazards** – there are many examples of these, typically ‘A warning on the computer system was ignored and a patient who required irradiated components received un-irradiated platelets\(^{32}\).’

Where adverse events do happen in health care provision (eg Bristol), formal enquiries, usually under the auspices of the Department of Health, may be held to determine cause and to try to learn lessons to avoid repetition in order to protect the public. Such enquiries usually feature senior respected practitioners in the relevant field of care; the practitioners are usually nominated by the pertinent professional body undertaking their ‘public protection’ role to act as expert and independent advisers.
If there were to be a serious adverse event relating to Health Informatics, it is not clear where the Department of Health would seek to gain its expert and independent Health Informatics input.

**What might have been different?**

For each of the above incidents, it is not clear whether all the relevant parties were behaving in a professional manner. One might consider how professionalism might have reduced the chance of the incident arising or reduced the impact of the incident once it had occurred. Features of a professional deployment of a computer system should include:

- A formal approach to risk assessment and risk management;
- The use of Controls Assurance techniques;
- Formal testing and acceptance by users;
- Information governance principles such as enduring measurements of data integrity, completeness, security and accuracy;
- Use of formal methods for design, build and testing;
- Best practice for IT Service Management;
- Governance methods for dealing with incidents or near misses; and
- Business continuity arrangements, i.e. what to do in case of loss of system or data incidents and consequences.

**Where are we now?**

The points of relevance concerning professionalism in relation to Health Informatics in the NHS are summarised in Table 4 together with an assessment of the current situation.
Table 4: Criteria for Professionalism

<table>
<thead>
<tr>
<th>Criteria</th>
<th>Current Status for NHS Health Informatics</th>
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<tr>
<td>Profession must be controlled by a Governing Body</td>
<td>People who operate in the field of Health Informatics in or for the NHS work in a myriad of different 'professional' fields. There is no single governing body to direct its members</td>
</tr>
<tr>
<td>The Governing Body must set adequate standards of education as a condition of entry and thereafter ensure that students obtain an acceptable standard of professional competence</td>
<td>No standards set</td>
</tr>
<tr>
<td>Training and education do not stop at qualification. They must continue throughout the member's professional life</td>
<td>No requirement for continuing training and education</td>
</tr>
<tr>
<td>The Governing Body must set the ethical rules and professional standards</td>
<td>None set</td>
</tr>
<tr>
<td>The rules and standards enforced by the Governing Body should be designed for the benefit of the public and not for the private advantage of the members</td>
<td>No rules and standards set</td>
</tr>
<tr>
<td>The Governing Body must take disciplinary action including, if necessary, expulsion from membership should the rules and standards it lays down not be observed or should a member be guilty of bad professional work</td>
<td>No governing body to take action</td>
</tr>
<tr>
<td>Work is often reserved to a profession by statute. This is for the protection of the public and work should be carried out only by persons with the requisite training, standards and disciplines</td>
<td>Health Informatics is not reserved by statute</td>
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Although the above analysis suggests rightly that there is much to do, there are pockets of good practice emerging in the NHS and some areas are further advanced than others. For example, a number of NHS organisations are now aiming to achieve conformance with the principles set out in the IT Infrastructure Library (ITIL). ITIL is a widely accepted approach to IT service management world-wide. ITIL provides a set of best practice, drawn from the public and private sectors internationally and is supported by a comprehensive qualifications scheme, accredited training organisations, and implementation and assessment tools. The best practice processes promoted in ITIL are supported by the British Standards Institution's standard for IT Service Management (BS15000).

ITIL has the backing of the Office of Government Commerce (OGC) and NHS Connecting for Health but its use is not yet mandatory for the NHS.
Professionalism but not requiring a professional body

It is possible to set up all the mechanisms for professionalism without necessarily being a professional body. An example is the body concerned with IT service management, namely the IT Service Management Forum (itSMF). The itSMF was set up as a company limited by guarantee in 1991 to promote best practice into IT organisations. It is a non-profit making organisation with a mix of organisational and individual memberships, in part a trade association for vendors of IT service management. The itSMF has developed to the extent of a £1 million annual turnover, based on running conferences, publishing and selling books, developing standards and workbooks and making input into the BCS Information Systems Examining Board (ISEB).

itSMF has now set up an Institute, as a wholly owned subsidiary, for individual membership. The Institute is concerned with the professional development of individuals, with stepped membership levels (student, associate, practitioner, member and fellow) dependent on qualification and experience. Participating in CPD is essential for progress from one level to another.

As yet the Institute is not a professional body in the sense of being chartered or being Engineering Council based. In time the membership will have to decide on what route they wish the Institute to take.

The key supporting elements of a profession
It seems clear that a formal profession can only be established when all 4 of the above partners are willing and prepared for that state to begin:

- The NHS needs to have a human resources strategy for the relevant body of people, i.e. health informaticians;
- Practitioners need to be willing to demonstrate competences, undertake assessment and undertake CPD;
- The education sector including partners in industry needs to have the education, training and development curricula, facilities, staff and resources to deliver what is required; and
- There needs to be a Registration and Regulatory body that sets the occupational standards, develops the qualification framework and is the primary route of assuring the public that practitioners are fit for purpose.
There is perhaps a fifth stakeholder that is not explicitly identified in the above diagram, and that is a professional association that provides the opportunities for CPD that are best able to be delivered by such an association.

The Institute of Management of Information Systems\(^3\) (IMIS) views CPD as a partnership between the professional, the employer and the Professional Institute, and that it should be regarded as an obligatory not a compulsory activity, imposed on an individual. IMIS’s approach is that the individual should want to take part in CPD activities and processes and take responsibility for its implementation as a clearly defined and managed function in his/her everyday professional life.

IMIS state that the benefits of CPD accrue to both the individual undertaking it and their employer. The benefits are greater when continuous learning is embedded in the organisation’s culture and the planned, coherent development of staff is on offer to all and indeed expected of all.

From the above it can be concluded that, without parallel development by all 5 of the above elements, it will be difficult for a new profession to be formally established. One of the single biggest tasks required is to define the necessary and sufficient body of knowledge and demonstration of skills that an accredited or registered professional practitioner needs to demonstrate. Of course not all of the practitioners in health informatics need to be formally accredited, and a further piece of work may be to define which of them must be so accredited.

**Health Informatics Professional Development Board**

As an interim measure, the BCS Health Informatics Forum has established a Health Informatics Professional Development Board, to include the stakeholders as set out below.
The overall purpose of the Health Informatics Professional Development Board (the Board) is to act as the prime source of expertise on the health informatics profession, in particular to the education, development, training, registration, accreditation, recruitment, remuneration, career pathways, organisation, supply and demand and retention of health informatics practitioners. The profession is defined to include both those working in health informatics in the NHS and those working for the NHS.

The Board will maintain a detailed understanding of the practice of health informatics in the United Kingdom, and will develop and maintain a vision for the future health informatics workforce.

The Board’s main focus should be on taking workforce and professionalism issues forwards for full time practitioners in the context of:

- changing demands for certain types of healthcare practitioners in the workplace;
- the development of professionalism in the Public Sector ICT domain;
implementing Agenda for Change for NHS health informatics staff; and

- UKCHIP standards.

The Board should:

- support the establishment of a professional framework and career pathway for health informatics practitioners;
- provide expert evidence, advice and opinion on health informatics profession / workforce issues to policy makers, standards making bodies and other bodies and organisations; and
- provide advice and support to health informatics practitioners on matters relating to the profession as it applies to health & social care.

**Conclusion**

NHS health informatics functions can no longer be regarded as a back-room or optional activity. While the use of technology and information for end users may appear to be seductively simple, the complexities in safe delivery to users on a 24/7 basis are increasing at a prodigious rate. Clinical users are not going to use systems that are not functionally fit, well supported and highly resilient. The bodies charged with inspection and regulation are increasingly focusing on the quality and safety of services provided by health informatics functions. Individual management boards are already required to assure themselves that any clinical and business risks to do with health informatics are known and are managed. There is much to be done before the NHS can demonstrate to the public that health informatics is organised appropriately and staffed with competent professional individuals. Health informatics can therefore no longer be the province of the well intentioned amateurs – the risks to patients and organisations are too great. It is only a matter of time therefore before some key parts of health informatics are subjected to formal registration and regulation. It is only at that point can health informatics be truly regarded as a profession.
References

2 Making Information Count’ a Human Resources Strategy for Health Informatics Professionals, Department of Health / NHS Information Authority October 2002
3 Making Information Count Review – NHSIA and ASSIST Workshop September 2003, J Bacon
4 http://www.ukchip.org/
6 Successful IT: Modernising Government in Action’ Cabinet Office
8 Modernising Government White Paper, Department of Health 1999
9 NHS Plan, Department of Health, 2000
10 see (5)
11 (http://www.healthcarecommission.org.uk
12 (http://www.nhsia.com/RiskManagement/CnstStandards/)
13 (http://ratings.healthcarecommission.org.uk/Indicators_2005/Trust/Indicator/indicatorDescriptionShort.asp?indicatorId=2161)
14 ‘Successful IT: Modernising Government in Action’, Cabinet Office
16 See also the sixth report [© Parliamentary copyright 2000] of the House of Lords Select Committee on Science and Technology, Chapter 5 “Regulation” (concerning the “features of a good self-regulatory body”) and its “Box 7”. www.parliament.the-stationery-office.co.uk/cgi-bin
17 Presentation to UKCHIP, 2005
18 www.bcs.org
20 http://www.assist.org.uk
21 ASSIST ICT Professionalism Project Report October 2003 (www.assist.org.uk)
22 Daily Telegraph 3 December 2000
23 bjhc&im Sept 2000, p12
24 bjhc&im Sept 2001
25 bjhc&im Oct 2002, p7
26 bjhc&im Dec 2000, p10
27 bjhc&im June 2002, p6
28 www.medcertain.org/daeri
31 Daily Telegraph, December 2001
33 IMIS Guide to Continuous Professional Development (see Appendix F)