Recognising e-Health as Part of a Cohesive Professional Community

Jean M ROBERTS
Lancashire School of Health and Post-Graduate Medicine, University of Central Lancashire, Preston, UK

Abstract. This paper identifies a mechanism for specific professional registration in order to sustain a holistic community fit to practice in informatics to support the health domain. It considers risks and opportunities that have an international resonance, and comments on the areas where multi-national activity could provide additional impetus to improvement of the quality of the profession of health informatics overall. It puts the case for the over-arching term health informatics to be used to maximize synergy and drive up quality, whilst still recognising the specificity and place for more focused descriptive terms. Whilst grounded in the contemporary UK environment, the principles explored in this paper are currently being considered for adoption internationally.

Keywords: Managing change, professionalism, collaboration, capacity, competencies, maturity.

Introduction

From a low base in the 1960s, operational and academic ‘computing for health’ have developed in many ways across management and clinical disciplines, now commonly grouped as ‘informatics’. The informatics domain encompasses technology, information management, application functionality/usage, information governance and information quality. Many professional staff, clinical and management, have involvement in information handling, system specification, testing and training. This is in addition to those formally with computer science or health informatics (HI) qualifications and specific HI roles. Distinctions between competencies/knowledge experientially gained, and that achieved from formal study diminishes as careers lengthen. The challenge is to define an identity for a ‘health informatician’ that is acceptable whatever personal development route was taken.

Variations in definition from ‘computer services for health’ to specific sub-domain specialisms like ‘clinical informatics’, ‘compunetics’ [1] and ‘e-health’ arose over time, and can confound the cohesion of the domain. There are also nuances between countries, even in generic terms; from the all-inclusive medinfo2001 definition : HI is ‘...concerned with the systematic processing of data, information and knowledge in medicine and healthcare. The domain covers computational and informational aspects of processes and structures, applicable to any clinical or managerial discipline within
the health sector whether on a tele (remote) basis or not. Health informatics is delivered by operational health practitioners, academic researchers and educators, scientists and technologists in operational, commercial and academic domains’ to the succinct NHS in England phraseology: ‘knowledge, skills and tools that enable information to be collected, managed, used and shared to support delivery of healthcare and to promote health (and wellbeing)’ which has been adopted by the professional accreditation body, the UK Council for Health Informatics Professions [2].

There is no de facto standard term so specialist terms compound the apparent domain fragmentation. Adoption of the IMIA scientific topic map [3] and the ‘Otley’ definitions of core theories and concepts [4] which is currently being extended to include synonymic terms, will help to clarify what HI - by any of its names - actually embraces.

1. Discussion

1.1. Health Informatics Practitioners

The community of practice is also eclectic by virtue of many career routes into it; typically by academic qualification, experiential route after school, by qualification in another discipline then migrating into HI, or by making a conscious sea-change in career after qualifying and working in computing in a non-health domain, health management or clinical specialty. Traditional computer science routes also fragment, into specialised areas such as multi-media or AI. In view of scarcity of specialist entry-point jobs, those graduating from niche areas frequently are required to enter generic informatics in the first instance.

Trans-national movement is already observed, some based on multi-national academic courses like Erasmus [5] but as yet opportunities are limited. Standards such as [4] will stimulate much improved mobility opportunities over time.

Situations in individual countries are different; mobility depends to a large extent on local workforce positions, external attractions and personal travel aspirations. Factors explored in this paper arose from assessing the UK situation, but from international discussion [6] are known to have overall relevance.

1.2. Professionalism

Professionalism is defined by Benson [7] as operating to a code of conduct, within ethical rules, and to public benefit whilst also giving leadership in a field of learning. Professionalism also needs clarity of what constitutes ‘fitness to practice’, formal entry requirement(s) and a commitment to career-long continued personal development to maintain skills, knowledge and awareness of innovation in relevant technologies and the domain. Bunker [8] considers that ‘self-regulation’ (or ‘self-policing’ as Freidson [9] calls it) results in reduced individual autonomy in the medical profession. At this stage of development HI needs to take this step to contribute to maturity across the community and generate some harmonization across the range of actual roles within HI.

The UK recognized (2002) that a significant proportion of (mainly) non-clinical professionals in the NHS were involved for a substantial part of work-time in informatics-related tasks; such as information governance, knowledge management,
information analysis, training, research and operational support to care management / 
delivery. The UK Council for Health Informatics Professions (UKCHIP) was 
established to register and recognise those whose information-related activities could 
have a negative impact on patient safety if carried out unprofessionally. By 2006, the 
voluntary register became open for public scrutiny, having over 10% of the domain-
active professionals on its books. In 2007, UKCHIP is developing strong employer 
recognition and incorporating accreditation, including of the emerging multi-
professional shared Health Information Services that support care delivery, into its 
remit.

1.3. Meeting projected demand, addressing a potential resource gap

The eSkills Council for the information technology sector in the UK, in a recent survey 
Even entry level courses, addressing fundamental health informatics, such as Uclan 
Foundation degree [11] take two years. Realisation of benefits from the new generation 
of HI solutions, such as English implementations [12], is in jeopardy from the potential 
lack of enough skilled people to utilize the promised new functionality.

School leavers exit with extensive computing competency from study and/or the 
ubiquity of home computing / gaming. However clinical sensitivity of personal health 
data requires further training and induction in information governance, ethical handling 
and operating specific functional solutions. Moves such as [13] need to be put in place 
now, so a larger HI professional pool becomes available to avoid expanding domain-
knowledgeable resource gaps mid-term.

1.4. Synergy between sectors

Health informatics is ‘multi-disciplinary’ as Morris states [14]. Care providers (public 
and private); academic institutions who teach and develop students and also carry out 
research; and commercial vendors of solutions and services such as call centre support, 
outsourcing, facilities management and remote hosting have common interests and core 
requirements.

Frequently, contracts are required for additional external resources to provide 
specialist services and manpower. These resources must have domain sensitivity and 
knowledge in order to ensure that informatics is provided as non-invasively and 
effectively as possible. All staff including those employed by external contractors must 
demonstrate an understanding of how the health domain works. UKCHIP[2] 
exemplifies recognition of such knowledge, and its principles and processes are under 
consideration internationally. Registration or accreditation (with strong employer 
recognition) can stimulate domain cohesion, create an identifiable pool of sustainable 
resources and drive up quality, and ultimately will bring the factions / sectors closer 
together, potentially under a portmanteau term ‘health informatics’.
1.5. Accommodating eclectic sub-domain descriptors, such as e-Health

If HI is defined as per [2] then ‘eHealth’ can sit comfortably within it; as also proposed by Oh et al [15] even given its ‘range of meanings encompassed by the term’. Full acceptance will be indicated when it is no longer felt necessary to write ‘e-health’ but the ‘e’ is assumed as integral. Similarly ‘clinical informatics’ may characterise players as clinicians; whilst ‘bioinformatics’ shifts granularity from a patient level to a molecular or similar level and ‘compunetics’ recognises interactions between consumers and care givers and connections between computers and networking. The HI domain can be thought of as analogous to a ‘salami’ – it can be sliced in many directions and prepared in various ways but will always retain its original identity as a spicy sausage!

1.6. Risks of a collective term

The collective term proposed ‘health informatics’ may result in all projects being coloured by success or failure of generically similar activities. For example, in England, there is much tension surrounding the NHS National Programme for IT [16]; tending to subsume recognition of any other worthwhile HI from any other source; a phenomenon compounded by the media.

HI has moved from the crude original description of ‘doing computing for hospitals’ but runs a similar risk of genericising individuals, leading to public misconceptions of their specialist capabilities.

Adoption of a collective term has two main aims – to facilitate the recognition of the whole community of practice as worthwhile; respectable, recognisable and operating in a professional manner. Secondly to provide a framework to activity that will more rapidly, and on a wider basis, create an understanding of what can actually be done for and by the health domain and what are the likely outcomes downstream from informatics-related actions.

Within the UK where IT professionalism per se is also being promoted [17], distinct registration as fit to practice in health needs to be retained, in a similar manner to registration of every doctor under the General Medical Council [18] rather than as a gynaecologist or cardiac surgeon. Longevity of accreditation bodies like UKCHIP will be assured when the HI community achieves a critical mass.

An inclusive community who understand the sensitivity of the health sector may be disenfranchised if ‘IT people and Information Managers’ only came together; and could put patient safety at risk.

Many traditional professional registration bodies such as medicine, financial services and plumbing trades developed a large range of registrant’ services commensurate with higher fees. HI cannot offer similar until it is a recognized, mature profession with a viable (financial) basis.

1.7. Benefits of a strong brand image

As ‘domain-knowledgeable registration preferred’ is emerging in job advertisements and role specifications, those registered will have the edge over others applying for the same jobs. Utilising the generic HI term in specifications will increase the likelihood of
individuals being considered for a post which is different from their current role, especially career enhancing posts. It will also be likely to widen the quality of the pool of applicants who might consider the post.

To be a member of a distinct community is reassuring in times of tension and challenge. Peer group guidance, empathy and synergy can add considerably to professional stability (through accepted occupational standards), negotiation of career (contractual) terms and continuing personal development, especially in a workplace-based context. Communal recognition creates pride and loyalty and has been proven to generate better retention of staff [19], thereby increasing value from any organisational investment in training and development of staff who work within that organisation.

2. Actions in train

Adoption of the generic ‘health informatician’ will form the basis for introduction of HI in countries that currently do not have numbers or distinct identities for those involved. Countries will be able to map their requirements to those of other areas transparently, developing a common currency for expression and evaluation of skills, competences and experience. Standards of practice and job descriptions can then be shared. Even if then customised to local situations, core comparability can be maintained. Personal movement between countries will then become relatively easier.

Policy bodies will be able to profile both available resource and anticipated future requirement at an aggregate level to develop credible strategic plans based on proven skill sets and workforce descriptors. Such profiles can feed into research plans, academic course developments and vocational projections, reducing likelihood of missed targets and limited exploitation of opportunities to innovate.

Where multi-national professional groups (e.g. IMIA and its regional groups or the Council of European Professional Informatics Societies and its national learned societies[20]) operate collectively, scientific mapping of concepts and the professional specification of requirements can over time be harmonised.

Academic institutions are also playing their parts in developing HI – with further education offering clear pathways from entry to higher education; with formal entry/exit points along the pathways.

3. Conclusions

Once sharable descriptors of competence, workforce requirements and standards of practice are rolled out, it will be possible to distil a distinct brand identity for health informatics not existing presently. In a rapidly changing world we cannot passively wait for this to emerge. Cooperative working can develop, share and agree the metrics that define our domain; in parallel to initiatives to recognise ourselves as professionals.

In such a collaborative manner, a sustainable capability to deliver technology-based solutions enhancing efficiency, effectiveness and efficacy of healthcare delivery can be preserved. Continued international activity provides a cohesive impetus necessary for this focus to be maintained.
Acknowledgments

This work stems from collaboration with the Board of UKCHIP and BCS HI Forum, UCLAN colleagues and the Health Informatics community internationally.

References

[7] Bensom, Lord., Council for Professions Supplementary to Medicine, Criteria for a Group to be Considered a Profession (1992)
[19] Derry, B., Hav, A., Hughes, P., ASSIST: For the profession to be formally recognised, we need a clearer idea of what constitutes healthcare informatics BJIC&IM Vol 23 No 9 (October 2006)

All websites checked for accuracy October 2007

Address for correspondence

Dr Jean Roberts, Health Informatics Unit, LSHPGM, Room 243, Harrington Building, University of Central Lancashire, Preston, PR1 2HE, UK JRoberts1@uclan.ac.uk