

Foreword

Over a century ago, with the work of Alexander Graham Bell, the motivation underlying the first use of the telephone in communication had a health-related origin: a doctor attempted to be in contact with his deaf mother and sister. Early developments in electronic patient records took place over 40 years ago through the pioneering work of Ed Hammond and his interest in community and family medicine. Very soon, the European Union will be celebrating a 20-year history of co-financing eHealth research and development initiatives. Multiple eHealth programmes and projects around Europe have been the result.

Since the publication of the European eHealth action plan in 2004¹, many more concrete steps have been made in European countries towards deploying and implementing medical informatics whether in primary, secondary, or tertiary healthcare. Today, all the European Member States have a strategy or vision for the achievement of eHealth in their country and many are well on their way towards the practical implementation of these roadmaps.

A vast amount of other work on eHealth is also being undertaken in a very concrete and practical way around the whole globe. While the countries of the European Union and the Organisation for Economic Cooperation and Development are among the pioneers in the application of physical eHealth systems and services, the World Health Organisation also endeavours to ensure that the health systems and services of its worldwide members are also well-served by information and communication technologies.

eHealth is a topic that lies at the crossroads of multiple disciplines, both hard and soft: including, on the one hand, engineering and computer science and, on the other, psychology and the social sciences. It can therefore be seen as an academic discipline, or rather, being at the crux of several academic disciplines, that underpin these activities and interests. These key specialisms are often reflected in the discourse outlined in the papers in this volume.

The first advances in eHealth were often based around the computer science or engineering tools and techniques used to progress the field of medical informatics. eHealth may be related to either medical or health informatics. It is however always concerned with an understanding of the skills and tools required to use and share the information appropriate to the provision of healthcare services and the promotion of good health. Given the essential grounding of health and medicine in the human condition, ethical, legal, and social issues did not remain long outside the field of endeavour, discussion, and debate.

United Kingdom and Finnish-based academics, Penny Duquenoy, Carlisle George, and Kai Kimppa, have brought together a set of contributors from largely Scandinavian, United Kingdom, and eastern and southern European countries to explore a number of key non-technical issues surrounding eHealth. All are deeply concerned with the ethical, legal, and social issues surrounding eHealth, whatever the relative range of complexity of the technologies involved: some of these applications are very simple, others complex and futuristic. The authors' themes are principally three: the Internet; today's ethical, legal, and social issues; and the challenges of future developments in eHealth.

A 15-year journey has taken place since a canine in a *New Yorker* magazine cartoon warned early online users, "On the Internet, no one knows that you're a dog"^{i,ii}. While this observation is pertinent to many areas of public service information, it is especially important in the health sector where health information needs to be valid, appropriate, vetted, and often confidential. The focus on Internet and Web-based technologies is self-evident throughout this volume. Its collection of papers has special relevance for the concerns of citizens, patients, health consumers, and healthcare professionals, given recent announcements made by some of the most internationally well-known software and health service-related companies, institutions and not-for-profit associations on keeping health data safe and soundⁱⁱⁱ.

Contemporarily, trust, responsibility, and the quality of information are all major concerns that lie at the foundation of eHealth. As the technologies that support healthcare increasingly mix, merge, and converge, giving us "connected" or "connecting" health, these matters grow progressively, sometimes even disruptively, in importance. Patient safety and reduction of medical risk is a perceived basic benefit of eHealth^{iv}. Work undertaken in developing tentative recommendations on the interoperability of eHealth systems and services, at least in Europe, due for publication in spring 2008 by the European Commission^v, goes further to cover the provision, connectivity, equity, quality, cost, and safety offered by the various technology applications involved. As some of the most obvious and yet profound ethical, legal, and social issues in healthcare information, these matters are all given due attention in this volume.

Educationalists and policy-makers do not care to look only at contemporary developments, they also examine their crystal balls to see what future developments are emerging. The latter chapters of the book therefore focus on issues relating to

bio-medical developments, new genetic and proteomic data, sensors, engineering initiatives, implantations and close-to-body devices, and the way in which these advances are considered today and could be perceived tomorrow.

Currently, these research and application topics are to the forefront in Europe's laboratories and research centres. Data information, which originates as our own, may lead to profound insights into health—and, particularly, public health—trends, threats, and challenges.

Contemporary studies, such as Scenarios4Health^{vi} on ICT-enabled healthcare developments, will surely lead to interesting and provocative visions as they publish their final reports this year or next. It is perhaps not surprising, therefore, that a 13 September 2007 foresight workshop held at the home of the Institute for Prospective Technology Studies in Spain, rather than focus on the developing applications and technologies that underpin eHealth, deliberately concentrated on the ethical, legal/regulatory, and social challenges that need to be faced in electronic support of the health domain.

As we look towards the future, and particularly that peak in the West of baby-boom ageing around 2030, all citizens in our societies need to ask themselves certain basic questions². How in a flat world³, will societies find a balance between those populations which are ageing and those which are relatively young and healthy; between those of whatever age who are experiencing more and more chronic diseases; between those who need care and support and those few(er) who are economically active; between those regions and states which are blessed with abundant healthcare professionals and those which have insufficient; between those countries and institutions which extract the benefits of advanced telemedicine and teleconsultation and those which remain as yet unconnected? How too can we move towards a more innovative and evolutionary view of thinking about and organising our healthcare systems and services?⁴

Let us look forward eagerly to a continuation in this kind of debate and dialogue. The preliminary questions outlined in this volume are preliminary, concrete, but fundamental, steps on a journey, which will permit the asking of many more challenging and provocative questions. We will all need to face a health-permeated future that, while it is full of aspirations about technological and scientific possibilities, at the same time is replete with ethical, legal, and social challenges. A structured debate and dialogue on these questions is now of pending, and indeed of major, concern.

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Endnotes

- ¹ COM(2004)356 final. *e-Health - making healthcare better for European citizens: An action plan for a European e-Health Area*. I am indebted for many of these insights to Dr Petra Wilson of Cisco Systems Internet Business Group and her observations made during and industry leaders session at the World of Health IT conference held in Vienna, Austria, 22-25 October 2007. For more information on the conference itself, see <http://www.worldofhealthit.org/>
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- ³ Thomas L. Friedman (2005) *The world is flat: A brief history of the twenty-first century*. Farrar, Strauss, and Giroux
- ⁴ Although not on the topic of healthcare *per se*, some of the ideas contained in a recent book contain innovative and thoughtful reflections on collaborative ways of working in new fields. See Don Tapscott and Anthony D. Williams (2006) *Wikinomics: How mass collaboration changes everything*, Atlantic Books: London, UK
- ⁱ Cartoon designed by Peter Steiner. *The New Yorker*. 5 July, 1993. Vol 69 (LXIX), no. 20, p61
- ⁱⁱ Although this observation was first made a decade and a half ago, Ms Celia Boyer of the Health on the Net (HON) Foundation, Geneva, Switzerland, very pertinently reminded her audience of it at an ePractice high impact services workshop held in Brussels, Belgium on 10 September, 2007. For more information about HON's work, see <http://www.hon.ch/>
- ⁱⁱⁱ See The *Economist*, 4 October, 2007 'The vault is open' on the notion of a 'health vault'.
- ^{iv} V.N. Stroetmann, J-P. Thierry, K.A. Stroetmann, A. Dobrev (October 2007) *eHealth for safety. Impact of ICT on patient safety and risk management*. European Commission: Brussels
- ^v Based on earlier work published by the Commission Services: European Commission (2006) *Connected Health. Quality and safety for European citizens*. Luxembourg: European Communities
- ^{vi} <http://www.scenarios4health.org/>