

Taking Care of Yourself Together

Professor Bert Mulder
eSociety Institute
The Hague University
Netherlands

Overview

Recent demographic trends suggest that demands on healthcare will increase to such an extent that no matter how efficient healthcare professionals are, they will never be able to provide enough care in light of the ageing population and increasing prevalence of chronic ill-health. This gap between the need for care and the size of the workforce could be bridged by the development of Information Technology (IT). While there are many developments in Scotland (and elsewhere), little work has been undertaken at a national level to develop integrated IT systems for this purpose. Careful and appropriate development will be necessary if such an IT infrastructure is to contribute fully to the future of care, but there is no business case for this and no sense of political urgency to develop such an infrastructure despite the understanding that to reach an effective level in ten years we need to start now.

Key ideas

Digital infrastructure: the computer hardware, operating software and network of connections that enable computer users to access the Internet.

Digital nation: a country in which the whole population and all households are seamlessly connected to the Internet in an integrated manner.

Summary

Professor Mulder began by saying that the main idea in his lecture was that a national online population can create an integrated digital infrastructure that, when developed appropriately, can contribute to a vital nation.

In presenting the challenges to this, he suggested that professionals already have a significant digital infrastructure which provides reasonably well for the limits of the professional work environment and fits the world of protocols and standards without too much difficulty. It is now evident though, that professionals are becoming increasingly frustrated by the limits of workplace internet access compared to that which they often have at home. Prof Mulder suggested that professional healthcare in Scotland is very active in the development of IT infrastructure and illustrated this point with several examples including telehealth, virtual learning environments, online recruitment, and 'help sites' for a variety of health topics.

In contrast, Prof Mulder suggested that the aim of creating a digital nation – connecting all households – presents quite a different context. In the home environment an individual's habits and convictions are more evident and likely to be expressed than in a work environment, where standards and protocols are often followed. He illustrated this point by demonstrating a variety of online approaches, from the “ugly but functional” (eg a basic Google search, commonly used in both home and work environments) to well designed and multi-functional websites through which citizens can communicate and help each other with advice and support.

In addition to the resources of the Internet, Professor Mulder also highlighted that an increasing range of web-ready health related hardware (eg blood pressure monitors, electrocardiographs and blood glucose machines) is available for the home. These are almost exclusively developed by private sector firms. He then demonstrated several health related software applications that are currently available to buy – from phone based programmes which enable users to monitor and compare the sleep patterns of their children to electronic patient files, available in the form of USB memory sticks (which enable citizens to log many thousands of individual measurements over the course of a year). Such home healthcare products are being developed by the major electronic consumer goods companies, but with no coordination.

(It is important to note that Professor Mulder was not advocating such a course of action; he was merely illustrating some of the developments that are currently taking place.)

Professor Mulder then suggested that this lack of coordination means that there is currently no integration of online diagnosis, care needs, contracts, care processes or quality control. Whilst the Dutch system was his reference point, these were described as issues of international concern. He illustrated with a few examples the idea that with a well coordinated national programme it would be possible for such integration to occur, resulting in improved quality of care and the improvement of healthcare skills in the general population, but **only** if attention was paid at every level to the relationships between the different parts of such a system.

Three main challenges

Realising a 2.3 million household integrated e-health infrastructure raises three main challenges:

1. New scale: Each of Scotland's 2.3 million households would operate a patchwork of applications for a range of family members and data gathering techniques for many conditions, illnesses and specialisms, all of which would be complex to organise. The digital infrastructure would need to be capable of dealing with such complexity and this in turn would require digital urban planners and builders as well as organisations willing to invest in this type of development.

2. New quality: The general population needs to be provided with high quality design, and usability. It will not be sufficient to mimic the infrastructure which has already been developed for the professional community, as the new public structure will need to be informal, flexible, casual, relevant and easy to understand, removing jargon and professional language. If it is to inspire people to participate and take personal

responsibility it will need to be engaging and clear to the user in its process as well as its content. Without these characteristics, people will not be encouraged to use a digital approach as part of their health care processes, nor will they grow to trust it and maximise its potential.

3. New development: The scale and quality alluded to requires a new style of development: inspirational, and with three types of design criteria. Firstly, formal, *technical criteria* need to be fulfilled so that the systems work. Secondly, *pragmatic criteria* are needed so that systems are useable by everyone and, thirdly, the design should satisfy *vital criteria*, which ensure that people are inspired by using the system. In thinking about a digital nation, in which the use of digital infrastructure goes beyond entertainment to the heart of quality of life, it is imperative that it *inspires*. Design criteria of this type have not yet been specified or taught. Design students learn how to design a game or develop a company website but they do not know, as in Professor Mulder's example, how to engage electronically with the emotion of loneliness. Engagement of this sort is currently central to the role of health care professionals. If there are digital solutions to the projected gap between care provision and need in the future, the digital solutions need to be as good as the best human practitioner in a disadvantaged locality. To achieve this, design questions around digital vitality need to be more explicit and appropriate vital criteria developed.

Conclusion

Currently there is no business case for this type of development, so no-one wants to pay for it. There is no evident sense of political urgency for the creation of a national digital infrastructure of this type. Moreover, it is an immensely difficult design challenge, needing completely new design models involving co-design for the whole social environment in which patients/citizens find themselves.

As the electronic materials that can enhance quality of life and deliver digital healthcare become more available and more advanced, the case for supporting their use becomes ever more convincing. This case is strengthened further by the policy drive towards self-care, by demographic change, and by increasing demands on the health and social care workforce. Strategically, a vital Internet for a digital nation is an idea whose time has come. To realise its potential, coordinated action is needed – and needed soon.

The views expressed in this paper are those of the speaker and do not necessarily reflect the views of the Glasgow Centre for Population Health.

Summary prepared by the Glasgow Centre for Population Health.