MEDINFO 2007
HISA Ltd Australia
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Is Sustainable Health a Paradigm Based in Reality?

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Abstract

This paper considers the factors affecting the technical drive and political intent to bring about transformational changes in health care investment and delivery, from sickness to health

Keywords:

transformational change, economics,

Introduction

It is doubtful that anyone could foresee the transformational changes in delivery that technology has brought about in industries such as banking and international travel. That it has happened is evident so why hasn't the same transformational, customer oriented change happened in the health industry?

This article puts forward a view that paradigm changes in delivery requires more than technology and political imperatives and that social and cultural acceptance are also essential.

Technology has a history of both acceptance and rejection, not just because of cultural fit, or social acceptance, but due to leadership, entrepreneurialism and plain luck. For example VHS v Betamax. Beta max was perceived as the better technology and more economic to produce. The VHS format's defeat of the Betamax format is now identified with the verbal phrase "to Betamax", wherein a proprietary technology format is overwhelmed in the market by a format allowing multiple, competing, licensed manufacturers [1].

Technology is on occasion very rapidly embraced. The young, and young at heart, have instigated a new way of purchasing and listening to music, and brought about the resurgence of an old one. UK records are sold on line and downloaded straight to an MP3 player [2]. This has transformed the industry and supply chain – pop groups, including the Arctic Monkeys [3], are using the internet and MySpace

Sustainable transformation

How much technology is being used at the coalface? In England some 99.9% of GP's use clinical information systems on a daily basis to undertake tasks which are routine and common in general practice, for example recording observations and clinical notes, through to writing prescriptions.

However the use of technology to change behavior in a fundamental way is not evident. There are some GP practices who provide a telephone service for registered patients, some use email. However work by Malec & Wright [4] indicate that these services are more prevalent in US, mainly due to differences in the economic/ financial reward model where primary care physicians do not act as gatekeepers.

So what is it that is it about health that is intended to be transformed? We know that the population is ageing, globally and within specific countries. Some countries face more acute problems of healthcare crises as a result, in terms of supply of healthcare facilities and affordability of healthcare. Healthcare levels of expenditure in the USA according to Gingrich [5]

"Healthcare consumes 26% of all federal spending and growing, dwarfing every other priority."

But will transformational change happen because; policy makers and consumers want it, or because technology is driving it, or are other factors key to success?

So how does this impact on the shift in health care focus, from cure to prevention?

Politically in countries from England to Australia, most government agencies and health care providers are already recognising the need for capital investment in health information technology infrastructure to reduce expenditure and improve the quality of patient outcomes. Some, such as England, are using consumerism under the banner of patient choice to challenge the acceptability of waiting times, poor conditions and service. Future health service priorities will intend to bring about improving access and increasing the knowledge base, while infrastructure such as buildings and other resources will continue to be downsized per head of population. Information technology and 'Labour-saving" technology will consolidate and expand key services with Governments driving the need optimise return on ICT investment

The political drive is largely led by economic imperatives. There is a growing staff shortage internationally, and in most first world countries there are less children being born, and therefore less future tax payers and healthcare workers coming through. Outsourcing is becoming more

usual in healthcare; letters in the UK, Los Angeles or Brisbane typed up by staff in India, even basic x-ray reporting has been outsourced by some countries [6].

Social

The earlier major causes of death and disease, from trauma and infection, are being tamed in the first world, through planned interventions. But chronic disease is now the problem at both individual and national economic levels [7]. Historically chronic disease has been treated rather than prevented (asthma, diabetes) with professions and specialisms such as podiatry and opthalmics evolving on this basis. Everybody gets inoculation for smallpox etc, but for diabetes and HIV there is currently no immunisation possible and the causal factors and impact of the disease itself are heavily influenced by lifestyle choice at an individual level. Chronic disease management (CDM) will requires personalisation but the technological support for CDM at the moment is generic. Given that each age group and societal strata readiness to accept or adopt change may differ there is a need for different methodologies to be adopted.

Is this where healthcare can learn from banking? Are health and lifestyle coaches the way to meet individual need and manage whole population problems? Will generic tools allow clinicians time for more personalised treatment? Can you move to preventative care if no technical infrastructure in place?

With the next 5 –10 years seeing integrated systems across healthcare boundaries and electronic health record and point-of-care support. Mobile clinical support will include fully integrated medication management systems. Computing will be ubiquitous and incorporate decision support and communications with knowledge management capabilities and comprehensive, searchable knowledge bases at the point-of-care. But who will pay for these cross boundary solutions, and who will reap the benefit? Which organisations will be so altruistic, or is entrepreneurialism to be the luck factor?

Integrated technologies, such as internet enabled digital video phones, will increasingly find their way into use in health care and teleHealth could be used successfully to improve healthcare delivery, delivering in circumstances where it was previously difficult or impossible, and in a way that is cost-effective. This will enable entrepreneurial delivery of services whether from an acute care hospital or primary care will be dependent on the technology available, and on social and geographical constraints.

Technology has developed so quickly that legalisation and policy development are lagging behind and in some areas projects are being implemented before trials have finished. Smart homes which can detect what is used, who is in the house, and provide dietary advice informed by sensors in the toilet already exist. Will the location of our new homes in the future be based on genomic data, because the individual has a genetic marker for osteo-arthritis or malignant melanoma?

Conclusion

It is not always possible to foresee social change – Bob Geldorf and Liveaid brought about subsequent celebrity use of their own status to influence and the impact of entrepreneurialism is often just as much an accident as planned, for example – friends reunited

People and technological infrastructure are needed in combination to make transformational pilots successful on a scaleable way in healthcare but at a way that is meaningful and desirable to the individual, whether they be involved in the delivery, or the recipient of healthcare services. Systems need to target lifestyle if chronic disease is to be avoided, and better managed but do people want health portals or do they really want health chat rooms or is this likely to be heavily influenced by their age and experience in IT use?

The health professions may not look anything like they do now in ten years time. In England a new role has already emerged that may result in a new professional group –the Emergency Care Practitioner. The drive to keep people out of institutions and in the community will grow and result in multi-disciplinary teams working across traditional structures, or continue to create new roles and new professions? What will happen to the old ones?

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