Shifting demographics mean that the NHS must change. To cope with these new demands we must radically reassess how we design services and use technology to provide care.

In a time of fiscal austerity, few topics are as emotive as the protection of the NHS. **Tim Linehan** *argues that demographic trends will make it harder and harder to fund the NHS in the future. Innovative solutions are needed – solutions like Kent's telehealth initiative, which can offer improvements to patient health, but at much lower cost.*

What is it about hospitals and prisons? Both institutions have always attracted a fierce loyalty from political factions, each carrying a symbolic expression of an ideological position and of moral aspiration: better health; equality; a safer society; correction.

The relationship between buildings and our psyche can be seen in cities around the world using their skylines as part of their identity and brand. The Eiffel tower is a mix of technical and engineering excellence and artistic expression. It is dominant, sophisticated, romantic, old-world and permanent. Singapore recruited international architects such as Norman Forster and Leoh Ming Ping to create a skyline that is almost aggressively modern and aspirational. Bilbao's reputation for industrial drabness has been transformed by Frank Gehry's architecture while Calatrava's impact on Valencia has been similarly powerful.

But why is this relevant to healthcare? And what has this got to do with the disturbing report published last month by the Care Quality Commission into treatment of elderly people at the hands of the NHS?

First of all, everything that we know about human behaviour points to the obvious: that it is unhealthy to group together large numbers of unwell, unhappy or disturbed people. Not only will this allow for spread of disease, it will cause stress among staff and impair their ability to care.

Yet the public affection for hospitals is insatiable. One of the problems of the NHS is that it is tethered to this symbol. Hospitals say: we believe in free and equal healthcare! Look how much we are prepared to invest in our principles! We are classless! We demand the best for our sick! and so they exist. We demonstrate against their closure irrespective of whether it makes good sense. And so our health policies are bullied into submission by our sentiment.

Health professionals have never been good at embracing change, and when public attachment combines with professional intransigence politicians know better than to meddle. Yet on a local scale, there's plenty of innovative practice to shout about. For example, in Kent the local authority has been running a pilot project using telehealth services for people with long term conditions such as coronary heart or pulmonary disease. The idea, imported from the United States, is that people are given equipment so that they can monitor and manage their own health and contact support services if they think they need help.

When they evaluated their pilot, Kent reported that this self-management of health conditions among 250 people with acute problems resulted in 77 fewer A&E visits and a reduction of 849 bed days in hospital. 91 per cent of those said that telehealth had helped them to manage their conditions more effectively. 98 per cent said they would recommend telehealth to other people. Most powerful was the testimony of patients and their families, grateful that their last days could be lived as independently and fully as possible.

If this experiment were extended through Kent, the savings would amount to £7.5million. Not a huge amount in terms of health spending, but not insignificant either, particularly given our ageing population; the Department of Health has predicted that by 2030 the incidence of long term conditions in the over 65s will more than double. Almost half of them will suffer from more than one condition.

Moreover, patients with long-term conditions are intensive users of health care services. They make up 31 per cent of the population but use 52 per cent of all GP appointments and 65 per cent of all out-patients appointments. Estimates suggest that the treatment and care of those with long-term conditions accounts for 69 per cent of the primary and acute care budget in England.

In other words, the NHS will not be able to afford to run health services in their current form. Moreover, the baby-boomer generation, with their demands and expectations, will want a more dignified life and death. They will want to stay at home. Their wellbeing matters to them and they won't put up with the desultory conditions that some of the stoic, lonely elderly of today have endured.

The question is, can the success that Kent achieved be delivered on a national scale? Currently the Technology Strategy Board is running an experiment to test this, called DALLAS, the clumsy acronym for Delivery Assisted Living Lifestyle Technologies At Scale.

This radical programme has invited partners from health, the private sector, charities and other interested parties to come together to deliver low-cost, high quality, technologically-enabled assisted living services on a grand scale. This is a hugely complex business. It requires getting competing technological companies to share industrial secrets to deliver interoperable systems; it requires the voluntary and statutory sector to work closely with the private sector; and it requires all these organisations, with the different cultures to work coherently to deliver health care on a grand scale.

The eyes of the developed world are on the DALLAS experiment, which is now in development. If it comes off we will potentially achieve huge improvements in health and wellbeing for patients as well as massive savings. But even if DALLAS can prove a success, there is still the public imagination to be won over and this may be a difficult battle to win.

This is the challenge the NHS has to face. We need a radical rethinking of how we *perceive* our services if we are going to provide care for the future. As the Kent evaluation said of their telehealth pilot:

> *This is not simply about doing things better. Telehealth is about transforming the way we work. It is about shift of power from professionals to the citizen, enabling individuals to understand and manage their own conditions, to become in effect the expert.*

The current demographic means that it will be impossible to fund health care on our current model. That's the simple truth. The trouble is that the NHS is such an emotive topic that rational debate is impossible. People are wedded to symbols, as outdated as mausoleums, monuments to the pull of the welfare state.

I, too, feel this pull when I wander around London's East End, around Shoreditch, when I look at the first examples of social housing in the country and my heart brims with pride at what these buildings represent: greater equality, a determination to challenge poverty, disease and disadvantage. But if we are truly to meet these aspirations we will have to find new symbols to represent them.