creativeplaces

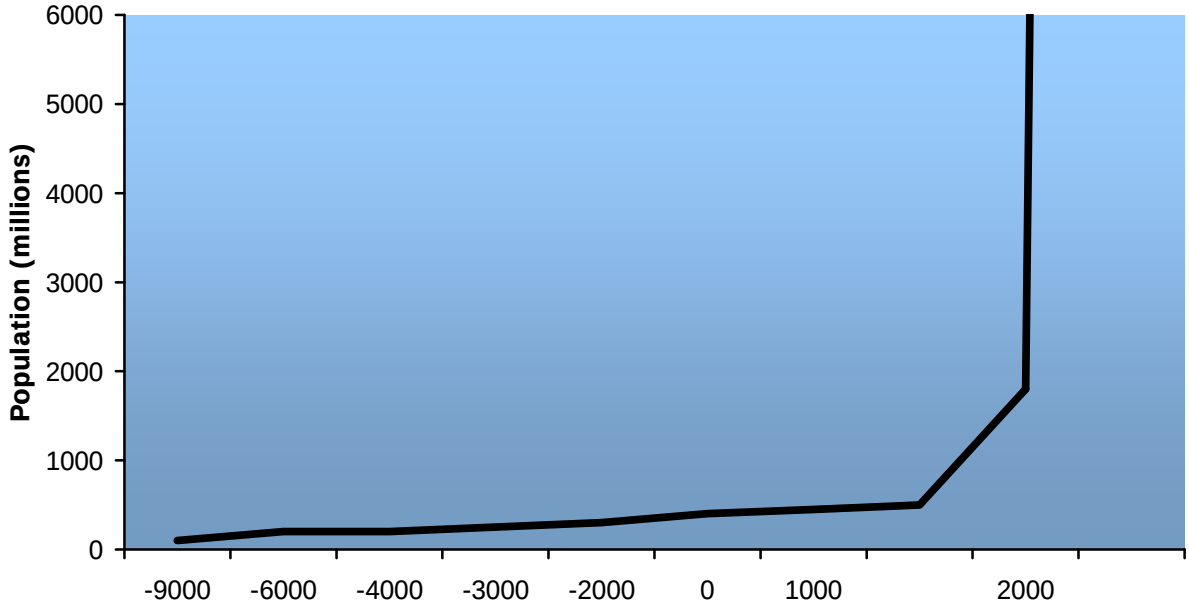
New Frontiers of Science and Technology Parks – Hospital based projects

This paper proposes that major hospitals create opportunities for science and technology parks (STPs) but also a variety of new challenges to be addressed as medical related, specialist parks are created. There is undoubted opportunity for these to play a role in helping with the delivery of technological innovation within the healthcare industry, to enhance the success of clinicians, researchers, and business, but also to tackle the key challenges. In order to boost the performance of specialist healthcare-related STPs directors need to evolve a range of skills. For example, by ensuring that specialist parks engage appropriately with clinicians and researchers. Practitioners also need to work hard to evolve and market their product in a way that works for the various audiences the projects play to – involving more activity by promotional stakeholders than for conventional science and technology parks if success is to be achieved.

The need for innovation in healthcare

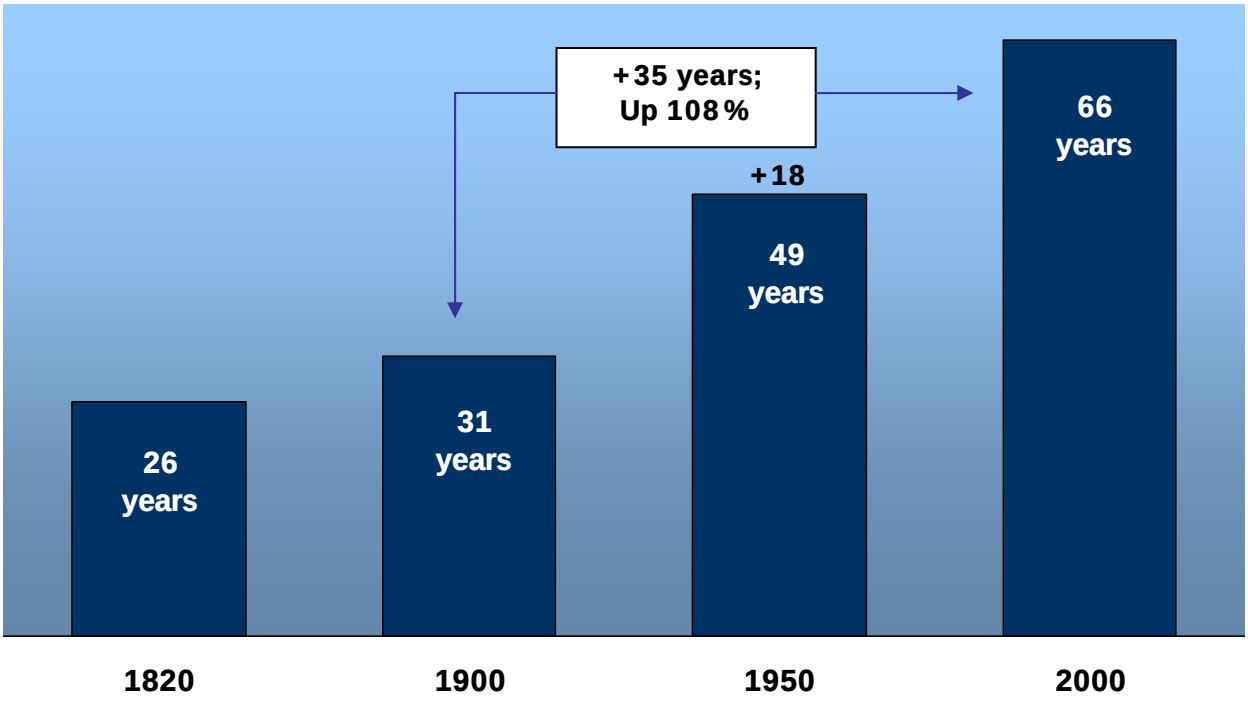
The need for enhanced, effective, health care provision is demonstrated by the following:

Fig. 1 Growth of World Population



(Source: Milken Institute, Robert Fogel/University of Chicago)

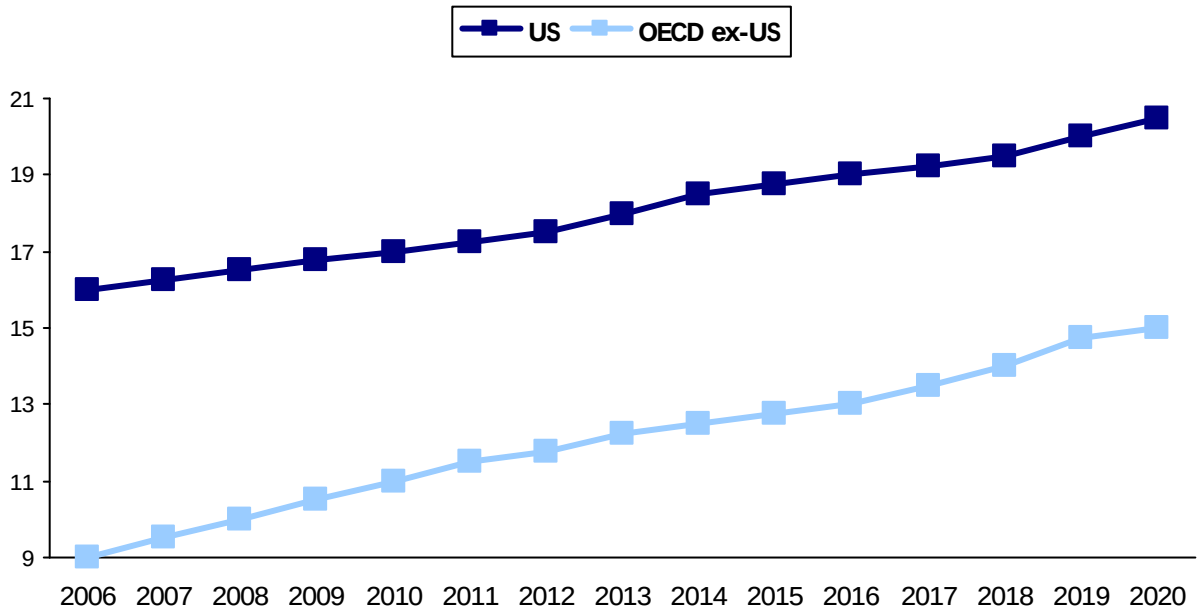
Fig. 2 Worldwide Life Expectancy Growth



(Source: Milken Institute, Robert Fogel/University of Chicago)

As population grows (fig.1) and life expectancy increases (fig.2), we now have huge financial demands on healthcare systems, leading in the US and the UK to difficulties finding the resources to meet the associated costs. The graph below illustrates how healthcare costs have risen, as a percentage of GDP, in the US and in other OECD countries.

Fig. 3 Rising Healthcare Costs – US and OECD
Health costs as a % of GDP



(Source: PricewaterhouseCoopers Health Research Institute)

The developing systems and widening reach of healthcare throughout the world create a greater burden on healthcare systems. Massive healthcare reforms are being driven by wealthier populations and the provision of state insurance in countries like China, Brazil and Russia. In advanced markets, prevention as opposed to cure is coming to the fore. The open innovation agenda and the fast-growing biotech sector is crucial to help the pharmaceutical sector deliver what is required of it, and all of this requires integration between healthcare providers, academic researchers and business.

The European Commission, in relation to Europe's innovation performance, is using its Innovation Union strategy to promote public-private research programmes dealing with the pressing issue of healthy ageing, amongst others. By 2014, the Commission wants to see the completion of a unified European Research Area in which public and private sectors operate freely and on a global scale, to encourage public procurement as a driver of innovation.[i]

We have a growing, ageing, and wealthy population that, for the most part, expects to get what it needs and wants. Many of the medical innovations currently entering the market support the centrality of the consumer. The healthcare system in the UK is heading towards one more focused on the individual's ability to 'self-help' from home, with more power and responsibility given to primary healthcare professionals for the provision of services. It is believed that this can benefit the individual consumer and save money. The advanced technologies now being developed mean that it is becoming far easier for diagnoses to be obtained and monitored remotely. Healthcare providers will see massive savings if this can work successfully.

It can be a real challenge for hospitals and universities to cope with the pace of political change and to keep up with the evolving demands of government and the business sector. Governmental initiatives are often pushed ahead with lightning pace, shifting the platforms from which people in the healthcare sector are working.

Universities are essential for providing people to undertake a great deal of the research in the sector, and indeed teaching, of healthcare. More than in other areas, research is, by its very nature, applied as opposed to academic. This is a good thing for the sector and the industry as a whole. However there is often a difficulty associated with academics engaging with businesses, particularly in relation to deliverables, associated time frames and IP management.

The business sector's problem is two-fold. Firstly, there are often limited opportunities for it to sit easily alongside researchers and clinicians. There is a particular difficulty with hospital environments because clinicians experience pressure from their employers regarding the delivery of services and outputs; thus the time available to spend in helping companies evolve new products may be limited. Secondly, when a business has developed an innovative product, selling it to procurement teams generally proves to be extremely difficult.

The challenges for specialist Science and Technology Parks

A good STP director has the ability to work with the hospital and the research base to drive what happens at the hospital and on the wider hospital campus. There is a role for STP practitioners to assess the likely attractors to business; to identify strengths, weaknesses, and unique selling points; to help evolve an environment that is attractive to business and to work out how to market the STP so as to secure further research initiatives and inward investment. There is often the opportunity to attract and secure more investment by charities and the surrounding communities. STP managers are often experienced at managing local politics and generating enthusiasm for collaborative projects, so have a key role to play.

We believe that directors of STPs are required to know how to bring in and put people together. Hospital based projects and parks provide a need for the bigger picture to be seen. STP directors are very well placed to do this. Where there is other research and commercial R&D activity in the area, outside of the hospital, then there is the prospect of marketing to businesses outside the region the opportunity of locating in a sub-region where there is much for them to gain. Those at the hospital or

within academia will not necessarily find it that easy to see how other business activity can benefit a business, but STP promoters are accomplished at doing this on a daily basis.

Developments in the healthcare sector, as outlined above, highlight the opportunity for specialist STPs to emerge and succeed. The commercialisation agenda creates an opportunity for specialist STPs and practitioners to deliver property and services that help hospitals and the research base deliver to their evolving agendas, ultimately helping to provide better access for business to patients, databases, tissue banks, research activity and facilities, as well as product sales.

There is a role for STPs to help accelerate hospitals and universities towards working to business agendas, timeframes and result-oriented delivery, and by providing the opportunity for co-location and more productive work.

We would suggest the following:

1 **The concept of co-location with business is relatively easy to define and market but the extent to which collaboration takes place day to day, and how well that works in practice, is vital. Collaboration needs to be encouraged and facilitated at many levels**

2 **Property availability and collaboration opportunity on site needs to be good but this also needs to be supported by a vibrant business community in the area, which needs to be engaged**

3 **Business demands of hospitals and the research base are becoming ever more challenging and an unashamedly customer focussed approach is required by promoters**

4 **Clinical and research priorities do not necessarily easily align with business and the institutions involved need to provide appropriate support and recognition to individuals willing to engage**

Encouraging those involved in healthcare provision to own a project, help build a vision and make it a success, where they do not necessarily have a direct financial interest in the initiative, is difficult. The crucial issue with hospital based projects, more so than in any other discipline, is that attitudes and actions of academics and clinicians involved with the research have a very significant effect on levels of business interest and engagement. From experience, the results can be truly outstanding if researchers and clinicians go out of their way to find out what businesses want and deliver it.

Conclusion

There will be many opportunities for specialist science and technology parks to be developed at the best hospitals around the world, particularly where there is a nearby research base of excellence and where businesses working in the life sciences sector already locate. The skills required to make these projects a success will need to evolve, building on the existing skill sets of the STP directors and managers, honing them further in what is a particularly challenging environment.

Those looking to progress hospital based projects need to ensure that the unique selling point(s) of their project is understood, that the hospital and the research base is sufficiently engaged so as to take an active, direct role in product development and promotion, and that wider, specialist networks are adequately engaged with.

[1] Anna Jenkinson, "Low private sector investment main source of the EU's innovation gap, says Scoreboard," 3 February 2011, Science | Business.net