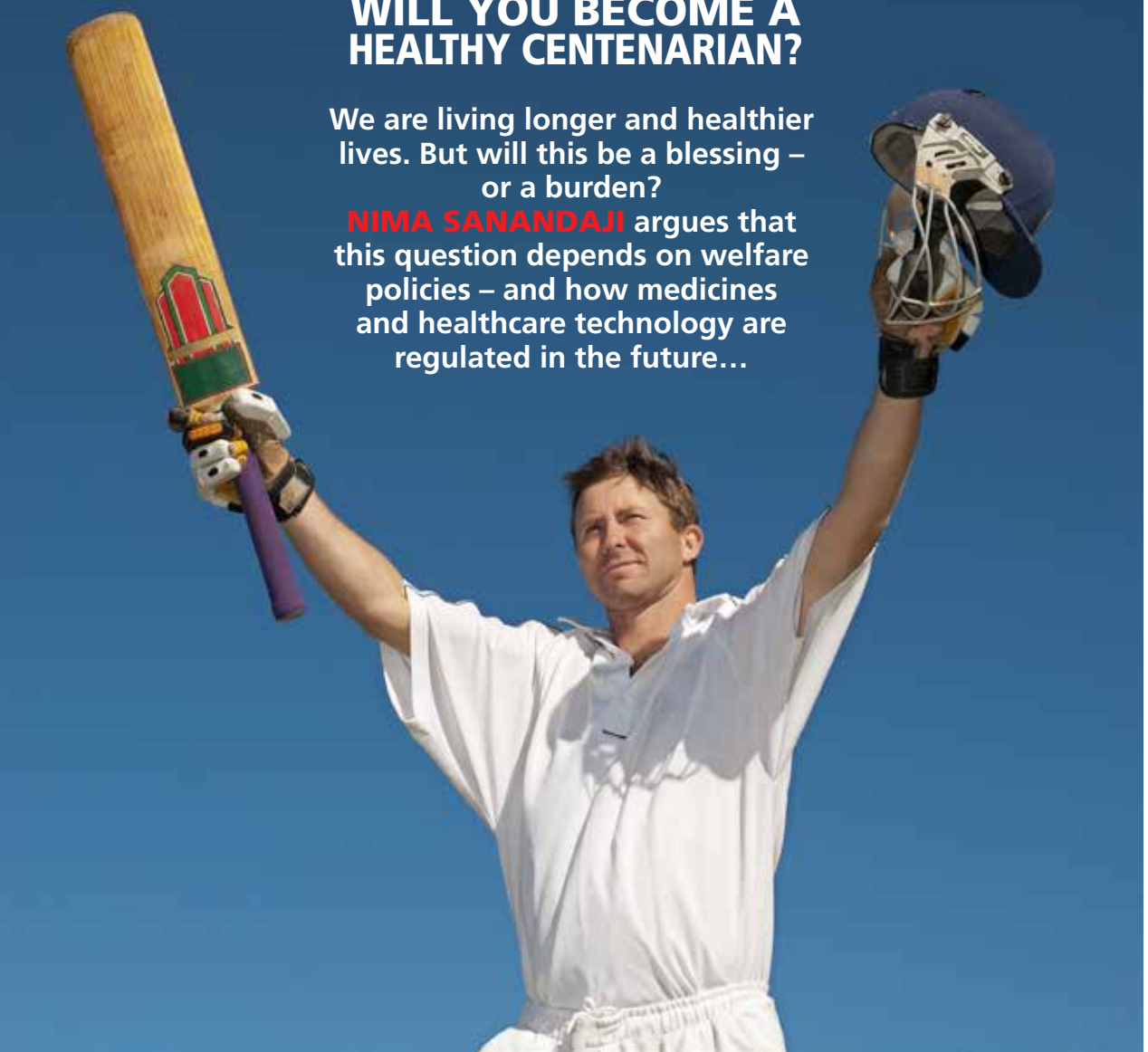
100 NOT OUT

WILL YOU BECOME A HEALTHY CENTENARIAN?

We are living longer and healthier lives. But will this be a blessing – or a burden?

NIMA SANANDAJI argues that this question depends on welfare policies – and how medicines and healthcare technology are regulated in the future…



Out of 300 men born in the UK in 1912 just one would have expected to reach the age of 100. In contrast, fully a quarter of the boys and a third of the girls born today in the UK are expected to become centenarians.

How has this remarkable increase in life expectancy been possible? The explanation lies in a combination of higher living standards, modern medicine and changes in daily living habits.

In modern society we have vaccines, improved health care, access to better food and safer work environments. There are fewer people dying in wars and from violence more generally. Life-threatening levels of alcoholism and murders are less frequent. So it is not surprising that people are living longer.

What is more striking is how life expectancy has developed in very recent times. For a long time researchers have waited for the increase in life expectation to flatten out: after all, there must be a limit to the life of a person. Perhaps there is. But we haven't reached that level yet.

Almost ten years have been added to the average life expectation in the UK since the early 1960s. Each year we live, we become one year older. But, at the same time, human progress adds more than two additional months to our future life span.

Globally life expectation has increased by 18 years during the last 50 years. As market economies and modern health care have spread around the world, so have the opportunities to live a longer life.

Already one-fifth of the population in Western Europe is aged over 65. Other than Japan there is no other place with as many elderly.

So what will the society of the future look like? Will it be populated mainly by old people, unable to take care of themselves? In some parts of the world, such as Japan, we are seeing such a development. The reason is that the number of the elderly is rising rapidly, whilst fewer children have been born in recent decades.

However, in the long term, there are more grounds for optimism. We are not only becoming older, we are becoming healthier in old age. The 65 year olds of today are much healthier compared with previous generations. And the young people today are expected to be even fitter when they reach older age.

Innovation and a healthier life

In the near future reaching old age without serious health problems may become the norm. But there is a significant obstacle to overcome.

So far much of the progress in medicine has involved curing those with acute diseases and conditions.

If you get a heart attack or cancer, modern medicine is much better equipped to help you than in previous times.

But medical innovations have not had the same success in dealing with chronic diseases that affect us over a longer period of time.

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So, although general health is improving, many people still suffer from chronic diseases in old age. This raises the cost to taxpayers of ageing societies

A good example is Alzheimer's and similar diseases that lead to long-term loss of the ability to think and reason clearly.

Already today the cost of dementia is around £375 billion annually. This amounts to around one per cent of total global gross domestic product. By 2030 this cost is estimated to have increased to £694 billion.

Clearly, there is a great need to push the limits of medical innovation further, so that diseases such as Alzheimer's can be cured. But burdensome regulation stands in the way.

Obstacles to smart medicines

A range of smart new medicines can promote healthy ageing and longer lifespans.

Just in the US, medical companies are currently developing, testing or marketing more than 400 substances that can improve the quality of life of the elderly. This includes 142 medicines for diabetes, 92 for diseases that affect the joints, 82 for Alzheimer's and 48 for heart diseases. Yet, the rate of medical innovation could be greater.

Creating new medicines is a painstaking task. It takes many years of laboratory work to identify possible drugs that can improve health. Hundreds of people can spend many years researching until they discover a new medicine that actually works.

Even after new medicines have been identified, an arduous process remains in testing the medicines and getting them approved by government agencies.

This bureaucratic process can sometimes be quite arbitrary. Just because a medicine works, it is not certain to get approved.

The next challenge is that health markets are strongly regulated and often financed by the public sector. Will public sector purchasers actually use new medicines that have been approved? It is not the case in all health systems but in general, where there is only one purchaser, there is less experimentation.

Medical development is, in a sense, the opposite of developments in information technology.

Today successful software, such as electronic games, is often created by major studios with large budgets.

But smaller entrepreneurs have the opportunity to compete with

GLOBAL RANKING OF EXPECTED LIFE EXPECTANCY AT BIRTH (YEARS)

1.	Hong Kong	83.4
2.	San Marino	83.3
3.	Switzerland	82.7
4.	Japan	82.6
5.	Iceland	82.4
6.	Spain	82.3
7.	Italy	82.1
8.	Malta	82.0
9.	Faroe Islands	81.9
9.	Singapore	81.9
11.	Australia	81.8
11.	Sweden	81.8
11.	Israel	81.8
14.	France	81.7
15.	Norway	81.3
16.	Netherlands	81.2
17.	Canada	81.1
18.	Austria	81.0
18.	Luxembourg	81.0
20.	New Zealand	80.9
22.	United Kingdom	80.8

World Bank data, 2011.

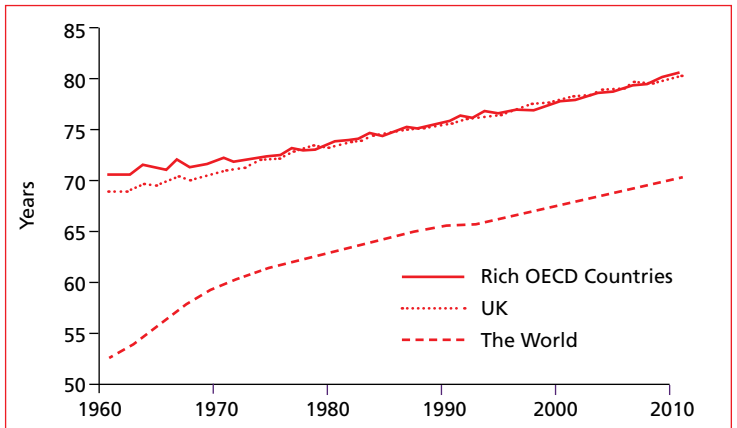

Figure 1: Life expectancy at birth

the giants, and sometimes even beat them at their own game.

Creating new medicines however requires so much capital, and is so strongly regulated, that only a few large companies can muster the scale economies.

Smaller firms can develop new drugs, but the regulatory approval process is a high fixed cost and stops many would-be ventures.

Indeed, a study shows that the innovation processes in the pharmaceutical industry have remained nearly the same since the 1960s. Over-regulation has stifled new ideas.

Those in favour of regulation argue that the risks of medicine experimentation are very high; clearly, informed consent is important.

However, the risks of not experimenting can be higher – those risks are reflected in the lost benefits from those drugs that would work but which are stifled.

Today, one of the most promising ideas in healthcare is to identify diseases before they break out.

So far, medicine has involved observing that someone is sick and then helping them. However, it is

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possible to look at people's genes and family history and identify the diseases that they are likely to get. The diseases can then be prevented before they break out, either with medicines or life style changes.

A good example is the Google-backed company 23andMe. The idea behind this venture is for people to use saliva-based kits to gather samples of their DNA, which makes it possible to look at the risks of various diseases.

What if we had stopped the first mobile phone?

The Food and Drug Administration in the United States has ordered the company to stop selling its health tests.

In a warning letter, the government agency claimed that 23andMe had not been able to demonstrate that its technology was effective enough.

Also, the agency worries what will happen if ordinary people get information of their personal risks of future health problems.

So the agency is essentially stopping a new innovation because it is not perfect and because the government does not trust people to handle information about their own health.

Imagine if the same approach had been taken with the first computers. The initial personal computers could hardly do anything properly. What if the government had stopped them?

The same goes for mobile phones. The first mobile phones were as heavy as bricks, hugely expensive and barely functional. But, of course, if the market had been hindered from launching the first phones, we would not have smartphones today.

The first kits that offer us the chance to find out the future risks of genetic diseases will not have perfect solutions, but it is enough that the kits work reasonably well.

If a new market is created, over a few years the innovation can be fine-tuned to great effect.

Today a host of entrepreneurs with experience from information technology are looking at the possibility to improve health.

One of their key ideas is to give information, and create new preventive treatments that can enable us to live longer and healthier lives.

But for this to happen, bureaucratic hindrances to new ideas must be reduced•

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WELFARE STATE PANIC

When welfare states began developing in the early 20th century, a great deal of emphasis was put on providing benefits for the old. Since few actually reached old age, it wasn't difficult to pay pensions from taxation.

Around the 1970s the perspective changed in many European countries. Politicians realised that an increased share of the population was reaching the pension age. The ageing population was seen as a ticking demographic time bomb that could collapse the welfare state.

In countries such as the UK – indeed in nearly all the developed world - politicians have created a system where generous pension and healthcare promises are supposed to be met by taxes on a shrinking younger generation.

This has led to what has been termed a "government debt iceberg" (an unseen but very large government debt).

Drastic tax rises or cuts in spending are needed to deal with this challenge.

But an ageing population doesn't need to be an economic challenge. We are becoming older, but also healthier as we age.

Given the right policies to encourage saving for healthcare and retirement income and to ensure that individuals rather than government face the costs of early retirement, an ageing population can be seen in a more positive light.

Older people are more capable of working and taking care of themselves than they were in previous generations.

The IEA's **The Government Debt Iceberg** is available for free download at *www.iea.org.uk/publications/research/the-government-debt-iceberg*

WHERE DO PEOPLE LIVE LONGEST?

A common belief is that countries with high taxes have longer life expectancy than countries with low taxes. This isn't necessarily the case. Iceland, a country with a cold and harsh climate, has lower taxes and more market based policies than the other Nordic countries. Yet Iceland has a higher life expectancy than the large welfare states in Scandinavia.

Low-tax Hong Kong has the highest life expectancy in the world and low-tax Australia, with a small welfare state, has caught up with high-tax Sweden.

A number of factors, such as demographic differences, immigration, living standards, obesity, smoking and how well healthcare systems work influence life expectancy.