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# EXPLORING THE RELATIONSHIP BETWEEN HEALTH AND ECONOMIC DEVELOPMENT: THE CASE OF CHINA

**By Li Hongyan and Bill Durodié**

**Historical evidence suggests that economic development has been central to improving public health. This NTS Alert takes a closer look at the relationship between the two by reviewing the case of China, a nation which has witnessed great changes both in its economy and the health of its population in the decades since the Second World War. China's experience shows that solid infrastructure, better nutrition and rising hygiene and sanitation standards are the foundation stones of improved health. Economic growth is also central as it allows for sustainable progress in the long term if funds are channelled towards building basic infrastructure as well as addressing health and social needs.**

*Credit*: Curt Carnemark / The World Bank.

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## Introduction

In a statement to the World Health Assembly on 17 May 2001, former UN Secretary-General Kofi Annan (2001) said that '[t]he biggest enemy of health in the developing world is poverty, and the struggle for health is part and parcel of the struggle for development … **The best cure for all these ills is economic growth and broad-based development**' (emphasis added). Historical evidence suggests that economic development has been central to improving public health, particularly due to such growth leading to higher incomes, greater access to food, better infrastructure as well as clean water and sanitation. Economic development is also vital to ensuring that trained medical professionals remain in their countries of origin, hence bolstering the qualified human capital there.

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Historical trends show that economic growth has contributed significantly towards increasing life expectancy. Physician and writer Raymond Tallis (2004) noted in an important contribution to the health literature that improvements in medical science played a role in the doubling of global life expectancy in the past 140 years. For example, vaccines and antibiotics have led to heightened immunity to what would often be debilitating or fatal diseases. However, many of the successes in health 'may be attributed to factors beyond medicine narrowly understood [such as] increasing prosperity, better nutrition, education, public hygiene, housing, health and safety at work, the emergence of liberal democracies protecting individuals against exploitation and abuse, and social welfare policies' (Tallis, 2004:22). Others have also noted that the changes in nutrition, hygiene and sanitation since the 18th century – due to the improved economic conditions brought about by the Industrial Revolution – have been significant factors in the decline in mortality rates (Birchenall, 2007).

However, improvements in public health are not necessarily the inevitable result of economic growth. Political will to strengthen institutional capacity and to allocate funds to projects impacting on health, including public health, so as to ensure efficient healthcare provision and delivery, and improve accessibility to health services, are also necessary for bringing about a further increase in life expectancy. It could be argued that economic growth is fundamental to this process, as it brings about sustainable long-term change, but governments must be willing and able to allocate funds generated from economic development towards building basic infrastructure, such as roads and hospitals, as well as for addressing various social needs such as healthcare and education in order to bring about the desired improvements in health.

This NTS Alert is the first of two that seek to examine the relationship between economic development and health, with this issue focusing on China, and the next issue turning to Southeast Asian examples. China has been chosen as the focus of the present NTS Alert as it provides a unique insight into the linkage between health and economic changes by virtue of its being the world's most populous nation and also one which has witnessed tremendous improvements in health in the decades post-Second World War. China's much-noted economic trajectory over the decades since the beginning of economic reform has brought over 400 million individuals out of poverty and contributed to what a former World Bank president called 'the greatest increase in wealth for the largest number of people in the shortest time in the history of mankind' (Wolfowitz, 2005).

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## Exploring the Relationship between Health and Development

A starting point for an investigation into the relationship between health and economic development is the definition of the terms 'economic development' and 'health'. There are multiple ways in which those terms could be delineated and evaluated. For the purposes of this NTS Alert, economic development will be defined as the rise in gross domestic product (GDP) per capita, while the health of a population will be evaluated using life expectancy as a quantifier. Criticisms can be levelled at any variable chosen as a way to reflect economic development and health. However, data for national income and life expectancy are relatively easier to ascertain compared to other variables, for instance, highly subjective indicators such as happiness, or anthropometric values such as height and weight. Furthermore, there is a significant body of evidence which suggests a strong correlation between income per capita and mortality rates (Cutler et al., 2006).

A number of studies identify other factors as significant in contributing to improved health and a decline in mortality rates, such as Fogel's (2004) research on the centrality of nutrition and access to food, which uses historical data from 1700 to the present, projecting that data to 2100; an early examination of the corresponding relationship between disease and nutrition in the 1960s (Scrimshaw et al., 1968) and the relationship between health and advances in science and technology from the 18th century to the present (Cutler et al., 2006), to name just a few. Some researchers have then emphasised how low-cost interventions in areas such as public health measures and the targeting of parasitic diseases could have significantly reduced disease burdens and ameliorated public health problems from the start of the 20th century (Bloom and Canning, 2008).

Another factor that plays a part in improving health standards is political will and a belief that eliminating infectious diseases is possible. Wraith and Stephenson (2009) identify a recent shift in the narrative on infectious diseases. They argue that there is a belief in contemporary discourse that emerging and re-emerging infectious diseases pose a continual existential threat. Wraith and Stephenson (2009:225) see this as a change from the discourse in the 1950s to the 1980s, when people working in epidemiology and public health 'believed that a world without infectious disease was possible'.

Improvements in various areas are indeed crucial to raising health standards in both developed and developing countries, but such advancements in standards may prove unsustainable should there be little economic development. 'Economic development, as measured primarily by economic growth, is thus posited as the single biggest contributor to human health over the last 200 years', and in the long run,

economic development is still the ultimate determinant of desired health outcomes and longer life expectancies (Egger, 2009:78).

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## Developments in Health and Economic Reforms in China

China's experience reflects how health has generally improved post-Second World War. There was progress in health in the post-war period from 1949 to 1978, with steady advancements continuing after economic reforms were initiated in 1978. For instance, some have noted that much of China's considerable decline in infant mortality rates happened before the surge in economic growth after 1980, after which there were more limited improvements in child health (Cutler et al., 2006).

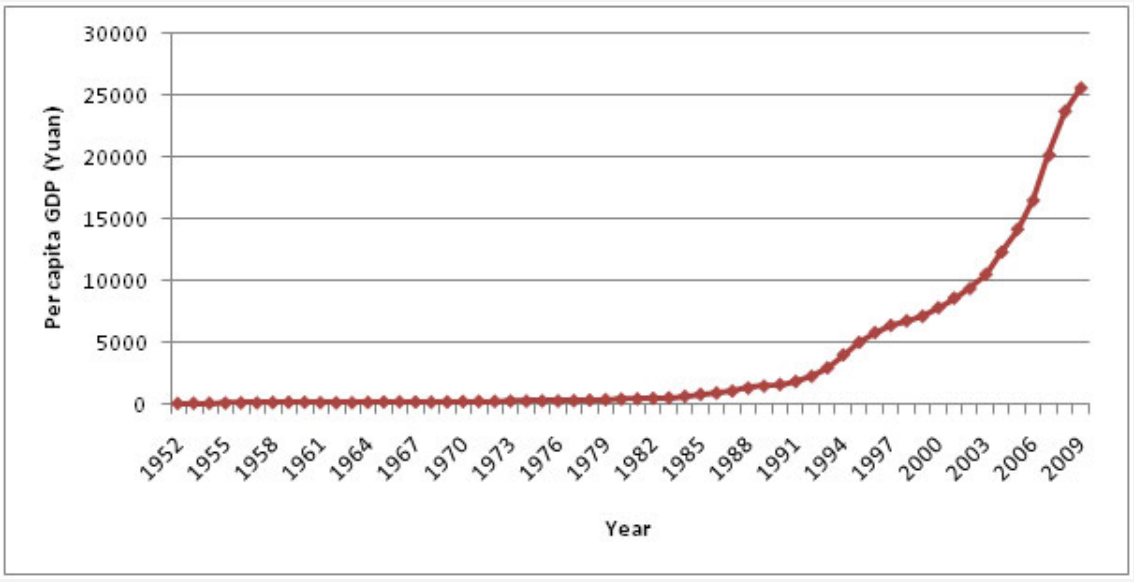
Such developments are not entirely unexpected. As Tallis (2004:22) states, public hygiene is one of the foundation stones for increasing life expectancy as 'much of the fall in mortality at all ages during the first half of the last century was due to declining death rates from infectious diseases'. Despite the low GDP growth rates and income per capita in China prior to economic reforms, health improved largely due to factors such as central planning and a focus on primary healthcare and disease prevention existing alongside a population organised around community lines and a cooperative financing system for healthcare (Hsiao, 1995:1047). Those measures largely mitigated the impact of infectious diseases on the population and reduced mortality rates.

The apparent success in the pre-economic reform period can be attributed to the presence of an affordable universal healthcare system. In addition, a programme based on 'barefoot doctors' – essentially paramedics providing basic medical services to villagers – introduced in 1968 in rural villages further contributed to raising healthcare standards. The programme was able to provide convenient medical treatment to rural communities at a low cost (Zhang and Unschuld, 2008:1856).

With the end of agricultural collectives, and subsequently, the greater decentralisation of the government and the economy, health initiatives such as the barefoot doctors programme were abolished, signalling a shift towards 'the privatisation of village health services' (McConnell, 1993). After the introduction of economic reforms, primary healthcare costs were borne largely by individuals rather than the government. The lack of government subsidies for public healthcare institutions meant that those institutions increasingly charged more for their services in an attempt to make up for lost revenue (Liu and Mills, 2002). It has been estimated that, recently, over 500 million Chinese peasants, almost 38 per cent of the Chinese population, have inadequate basic healthcare and face impoverishment when they are seriously ill (Hsiao, 2004:64).

However, trends in life expectancy suggest that China's health standards have continued to rise since economic reforms began. China started the process by initiating rural economic reforms and dismantling collectivised farms. It subsequently implemented urban reforms which comprised greater decentralisation and the introduction of private enterprises. With the reforms, China's economy has improved tremendously. Per capita GDP has risen sharply since 1978 (Figure 1). The average annual increase in GDP was 14.5 per cent from 1978 to 2009, 10.2 percentage points higher than the annual rate of increase from 1952 to 1977, the period before economic reforms.

*Figure 1: Per capita GDP, 1952–2009.*




*Source:* Based on data from China Data Online (All China Data Center, 2011).

Alongside the tremendous economic gains were improvements in the standard of living. Food expenditure as a proportion of living

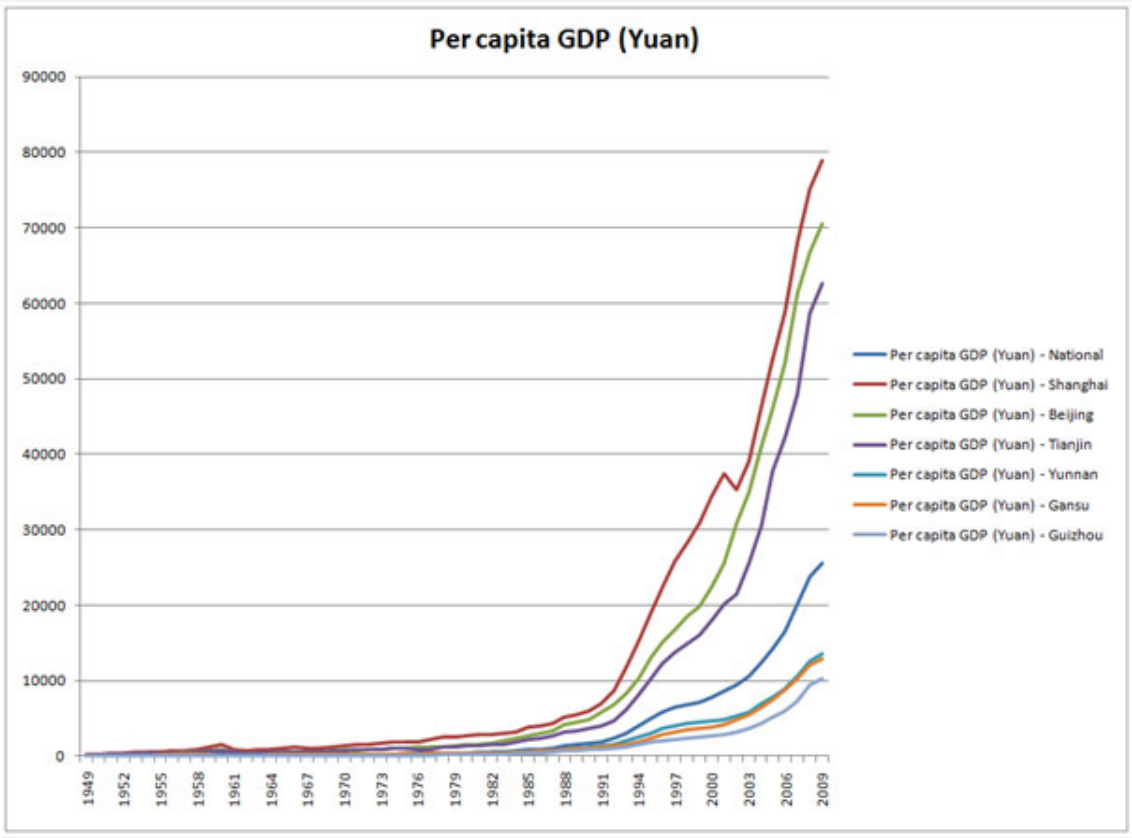
expenditure for both rural and urban households decreased between 1981 and 2009. According to one source, for urban households, it decreased from 92.0 per cent in 1981 to 36.5 per cent in 2009 while, for rural households, it decreased from 38.6 per cent to 33.7 per cent (All China Data Center, 2011). The decrease in relative expenditure on food meant that people were able to spend a larger proportion on other goods such as education and healthcare to better their quality of life.

A consequence of higher GDP growth rates was also that the Chinese government could make more investments in improving health infrastructure. For instance, the absolute numbers for skilled medical personnel, clinic and hospital beds, and their numbers per 10,000 population, have increased. There is also a greater variety of medicinal drugs available and a larger volume of sales, which suggest that people can now afford to spend more on pharmaceuticals (Banister and Zhang, 2005:23).

One of the more significant improvements in health after economic reforms were initiated was the substantial diminution of the mortality rates of children between the ages of 1 to 4. According to the available national data, from 1973 to 1995, there was an 80 per cent decline in the central death rate of boys aged between 1 and 4 while the decrease for girls was 82 per cent (Banister, 1998:999–1000). The mortality rates have most likely improved further since. There is also evidence to suggest that adult mortality rates declined after the economic reforms, in both rural and urban China, but more so in urban China. Adult mortality has fallen considerably in the latter half of the 20th century, with life expectancy rising from an average of 60 years between 1964 and 1982 to 71 years between 1999 and 2000 (Banister and Hill, 2004). It continues to be on the rise; as of 2010, life expectancy is estimated to be 74.5 years and this is projected to increase to 81 years by 2050 (CIA, 2011; Riley, 2004:6).

Some have criticised the level of development in China, noting that there is great inequality. The disparity among regions across China is clearly seen in the contrast between the three Chinese administrative divisions with the highest per capita GDP and those with the lowest per capita GDP (Figure 2), with the wealthiest region, Shanghai, having a per capita GDP 7.7 times that of the lowest, Guizhou. Other data suggest that the health of the urban population had improved significantly, particularly in the rich coastal regions of China, but rural communities had experienced a much lower rate of improvement (Hsiao, 2004:66). On the other hand, although economic growth and improvements in health may not have been evenly distributed across the country, there are signs that even China's poorest populations have benefited from the economic growth. For instance, there is research indicating that the mean rural consumption level per capita multiplied between 1.5 and 2.4 times in constant prices from 1981 to 1995 in the poorest provinces (Banister and Zhang, 2005:22). In spite of the uneven distribution of income, China as a whole has benefited from economic development, and trends suggest that health is likely to improve over time.

*Figure 2: Chinese administrative divisions with the highest and lowest per capita GDP, 1949–2009.*




*Source:* Based on data from China Data Online (All China Data Center, 2011).

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## Conclusion

Inasmuch as China's economic progress has been remarkable and has led to significant health improvements, some have argued that advances in health have not been evenly distributed across the population and have criticised the changes in health policy after 1978. Wang (2005) has suggested that the reforms have largely been passive, ad-hoc reactions to socioeconomic changes and that they have failed to integrate the existing health system, leading to the perpetuation of existing disparities, and increasing the financial burden of health, especially on rural populations. Others have contended that there is a potential of over-emphasising economic growth at the expense of providing social services. According to the United Nations Development Programme (UNDP, 2010:105), China's 'economy grew at a phenomenal 8 percent a year for three decades, and monetary poverty measures fell more than 80 percent between 1981 and 2005. Yet this success was not matched by performance in other dimensions of human development.'

Furthermore, as with many other countries developing at such a fast pace, there are some who have criticised the economic progress in China, highlighting what they deem as potential problems. For instance, while infectious diseases have increasingly come under control, commentators have noted that the incidence of chronic illnesses is becoming higher. Some have estimated that as of 2009, 260 million Chinese — or about 20 per cent of the population — suffer from chronic diseases, an increase of 4.9 per cent compared to 2003, with cardio-cerebral vascular disease becoming the leading health threat (Sanderson, 2009; Health Priority, 2010). Others have suggested that pollution resulting from industrial progress has led to cancer becoming China's leading cause of death, and is the cause of hundreds of thousands dying prematurely (Kahn and Yardley, 2007; China Buried, 2007). Unfortunate as it may be, these latter statistics may simply reflect the epidemiological transition all countries go through as they develop into advanced economies where 'degenerative and man-made diseases displace pandemics of infection as the primary causes of morbidity and mortality' (Omran, 2005:732).

Economic growth has resulted in significant improvements in health over the long term. However, as China's example demonstrates, improvements in health are not the inevitable consequence of economic development. Rather, solid infrastructure, better nutrition and rising hygiene and sanitation standards are the foundation stones of improved health in any country. Nevertheless, ultimately, any positive change in health standards in both developed and developing countries needs to be underpinned by long-term economic growth – if such change were to be sustainable.

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