



EDITORIALS

Reversals in life expectancy in high income countries?

Warning signs must not be ignored

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Two linked studies in *The BMJ* make important contributions to debates about the sustainability of improvements in life expectancy in high income countries.^{1,2}

Ho and colleagues (doi:10.1136/bmj.k2562) report the significant decreases in life expectancy that occurred simultaneously in many high income countries, usually in 2015.¹ This universal spike in mortality has often been attributed to the direct and indirect effects of severe flu epidemics, particularly among older people.^{3,4} The fact that modern healthcare systems in the most advanced high income countries were unable to cope with this unexpected challenge, resulting in the first reductions in longevity for decades, is striking and might signal more profound problems.

Despite a strong recovery observed in many countries in 2016, it is too early to conclude that similar fluctuations or more long lasting increases in mortality will not occur in the nearest future.¹ Evidence suggests that discontinuities in secular trends can lead to prolonged health crises—they are warning signs of fundamental and longstanding societal and health problems. The worsening life expectancy disadvantage of the US compared with other high income countries reported by Woolf and colleagues (doi:10.1136/bmj.k3096) in the other of the two studies is a good illustration.² It is even more striking that the longevity disadvantage is so closely related to a long term worsening in midlife mortality across all major racial groups.²

Several studies have speculated about the possible consequences of growing social deprivation and income inequality for the most disadvantaged groups, including the heavy burden of “deaths of despair” related to drugs and suicides.^{5,6} In a similar way, a prolonged slow-down in life expectancy improvements in the UK has been attributed to the negative health consequences of austerity policies disproportionately affecting the poorest older people.⁷ It is also notable that high life expectancies in the UK and many other high income countries (including the Nordic countries with strong pro-equitable social policies) coexist with large or even increasing health disparities.^{8,9}

But are these relatively short term departures from secular trends a cause for serious concern? Undoubtedly yes, because life expectancy is a key characteristic of human development reflecting current mortality conditions. All signs that might

predict reversals should be taken seriously. In recent human history there have been several illustrative examples of a prolonged stagnation or even worsening in life expectancy. It is true that at least some temporary departures from secular trends are probably unavoidable. The health transition theory suggests that each major health development first induces a phase of life expectancy divergence (between and within countries) followed by a phase of convergence.¹⁰ However, it is unacceptable that profound long lasting divergences continue to be an integral part of global health progress in the modern era of technology and communication, with some countries or subpopulations being a few decades behind the leaders.

One of the most extreme examples is the longstanding east-west life expectancy divide in Europe since the mid-1960s.^{10,11} Only several decades later is it finally possible to see some signs of convergence, with successful countries such as the Czech Republic, Estonia, and Poland starting to catch up with Western countries.

Historical success in overcoming both major health challenges and periods of longevity stagnation provides good reasons to remain optimistic. It is remarkable that in the best performing countries and in subpopulations already enjoying exceptionally high longevity, life expectancy continues to increase without any sign of slow-down.¹²⁻¹⁴ These advances have become possible thanks to reductions in mortality in older age groups, including those aged more than 80 years.¹³ All the evidence suggests substantial potential for further progress in longevity in both the leading and the less successful countries.¹²

Maintaining the same pace of improvement will be difficult, however, because progress depends on further reductions in mortality at increasingly advanced ages. This will only be possible if important breakthroughs emerge to combat age related conditions (such as Alzheimer’s disease and other dementias), and disability.^{10,13} As before, there will be new vanguards and laggards in this process, possibly causing another stage of diverging trends in life expectancy between and within individual countries. Persisting health disparities at the national level are another likely barrier to steady improvements in longevity.

To achieve more equitable and sustainable progress in longevity requires the strengthening of scientific evidence supporting

effective international and national policies. But this is not possible without recent and reliable data—a challenge even for some high income countries.¹ National mortality data are often published after substantial delays. Data are often incomplete, with migration related errors in population denominators, or cause of death statistics that are incomparable among different countries.

Reliable register based or census linked data on socioeconomic disparities in mortality are even more scarce, forcing researchers to use nationally unrepresentative survey based or biased cross sectional data. This kind of evidence should be treated with a great caution. More effort must be made to convince international and national agencies to invest in robust register based systems that allow timely and accurate monitoring of changes in longevity.

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