The Longevity Bubble

THE INTERNAL REVENUE SERVICE (IRS) thinks there's only one way for mortality rates to go: down. The American Academy of Actuaries seems to agree, breaking a decades-long self-imposed rule to issue a policy statement urging Congress to raise the Social Security retirement age to reflect increased longevity. The Society of Actuaries has sponsored a number of symposiums on living to 100 and beyond. Most actuaries believe that the unbroken trend of declines in death rates will continue, fueled by advances in medicine.

Life expectancy has nowhere to go but up.

Wrong. The history of Russia after the demise of the Soviet Union is a case study on how a highly industrialized society can experience a major drop in longevity. Life expectancy for men fell from 70 years in the mid-1980s to 59 years in 2003. Age-adjusted mortality rose 33 percent between 1990 and 1994, while male life expectancy dropped an incredible six years during this four-year period. The population of Russia decreased by 12.3 million people from 1992 to 2008 and is expected to drop by 11 million by 2025, according to United Nations demographers. A 1998 article in the *Journal of the American Medical Association* (*JAMA*) concluded "these results clearly demonstrate that major declines in life expectancy can take place rapidly."

It's tempting to think this catastrophic burst of mortality was caused by a collapse of the Soviet model of health care delivery. It makes sense that once socialized medicine was no longer available, mortality would increase, especially among the elderly. Tempting... but wrong. In fact, the greatest increase in mortality occurred among those ages 15 to 54. Death rates for both men and women in this age group doubled between 1987 and 1994, and one-half of all deaths were directly or indirectly related to alcohol, primarily through violence (including suicide) or accidents. In other words, this incredible surge in mortality was fueled by *behavioral* changes, rather than by a failure of the health care system. The *JAMA* article attributed the drop in life expectancy to five main causes:

- Economic and social instability;
- High rates of alcohol and tobacco consumption;
- Poor nutrition;
- Depression;
- Deterioration of the health care system.

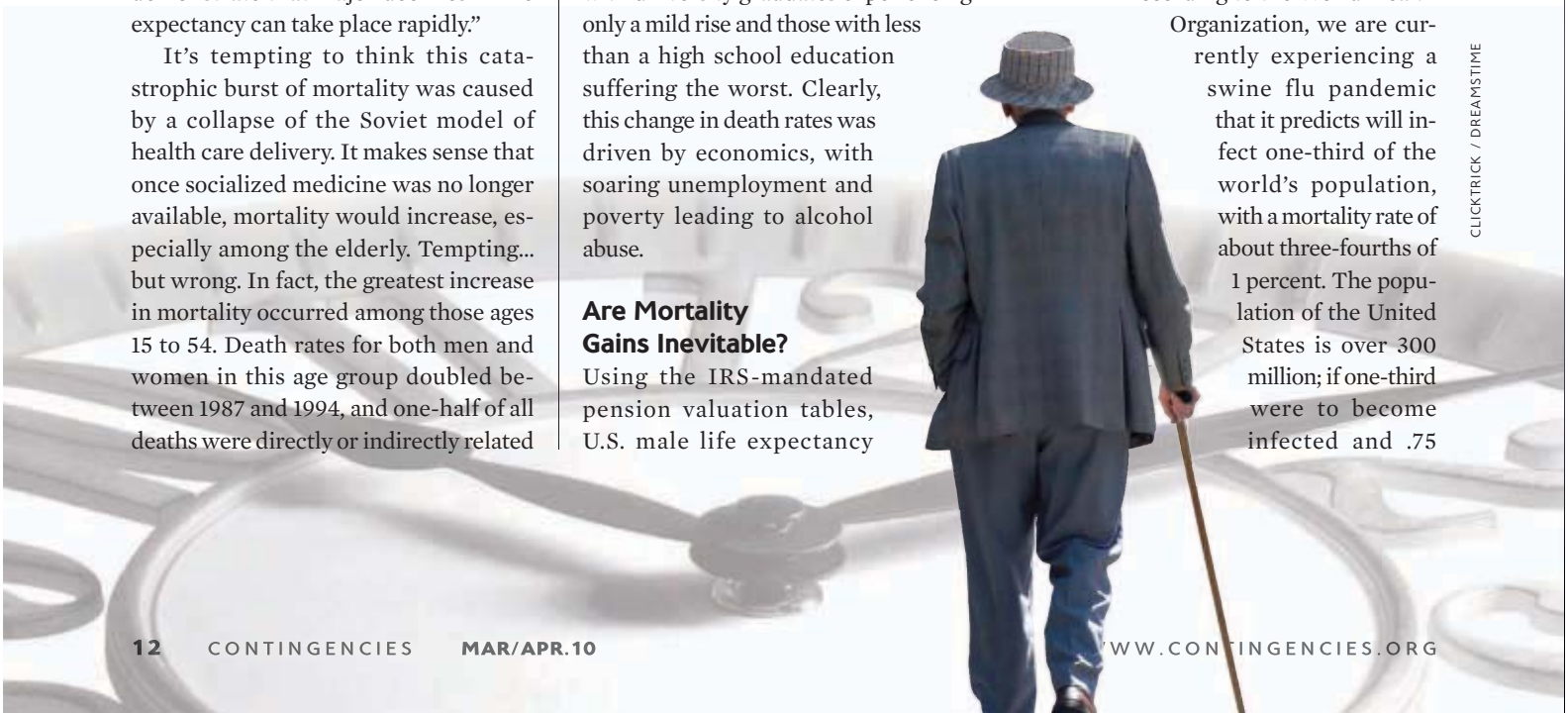
Russia's industrial output declined 50 percent between 1992 and 1994, accompanied by hyperinflation. The increase in mortality varied by socioeconomic group, with university graduates experiencing only a mild rise and those with less than a high school education suffering the worst. Clearly, this change in death rates was driven by economics, with soaring unemployment and poverty leading to alcohol abuse.

Are Mortality Gains Inevitable?

Using the IRS-mandated pension valuation tables, U.S. male life expectancy at age 65 was 19.26 years in 2008. In 2013, it will be 19.64, for a gain of nearly five months in five years. In 2033, it will be 21.07, for a gain of 22 months in 25 years. These are serious gains, and they have serious implications for the costs of pension plans, as well as social insurance programs. Despite the trend toward decreasing mortality rates, there are many reasons to believe that these gains are overstated. There are behavioral reasons, and there are systemic risks that have, in my opinion, been ignored or given short shrift.

The major behavioral reason is the growing epidemic of obesity. Obesity is a powerful risk factor, and its use by life insurance underwriters is fundamental to good pricing. There are no signs that this trend toward obesity among our population is decreasing or even leveling off. Incidence of Type II diabetes among children is skyrocketing. Eventually, this will be reflected in our mortality rates.

Among the many systemic risks is the probability of a serious worldwide viral epidemic. Indeed, in the past decade, there have been three episodes that could have led to this: SARS (severe acute respiratory syndrome), avian flu, and swine flu. According to the World Health Organization, we are currently experiencing a swine flu pandemic that it predicts will infect one-third of the world's population, with a mortality rate of about three-fourths of 1 percent. The population of the United States is over 300 million; if one-third were to become infected and .75



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percent of those were to die, we could expect 750,000 deaths. Yet swine flu is widely described as "mild." In reviewing charts of life expectancy over the past century, it is easy to detect a large dip in 1917-1918, owing to the so-called Spanish influenza pandemic. The globalization of trade and the ease of international air travel have created a vector for transmission of pathogens worldwide.

Another systemic risk is that of a severe and prolonged drop in economic activity. Economist and *New York Times* columnist Paul Krugman opined recently that the United States has narrowly avoided a second Great Depression. The experience of Russia in the 1990s shows how dangerous this can be and how behavioral responses can lead to serious spikes in mortality that persist long after the acute phase of the crisis is over. The underlying factors that put our economy at such peril have not been addressed, and there is little sign that they will be addressed.

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Finally, it seems clear that our health care delivery system has become severely stressed and will become only more stressed by the aging of our population. According to the U.S. Census Bureau, 1.5 percent of our population was age 85 or older in 2000; by 2050, this will grow to 5 percent. In 2000, 10.9 percent of our population was between ages 65 and 84; in 2050, this will be 15.7 percent. Yet based on the IRS valuation mortality table, 24 percent of men age 65 in 2008 will live to reach age 90, while in 2050, 37 percent of men age 65 will live to age 90, and an incredible 52 percent will survive until age 90 by the end of the century.

Perhaps so. Perhaps life expectancy in the United States will continue to increase ad infinitum. I believe instead that we have failed to take into account the possibility of sudden mortality "surges" caused by poor behavioral choices, future pandemics, prolonged economic crises, and the inevitable strain on our health care delivery system. □

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