

WHY IS HUMAN LIFE EXPECTANCY GREATER NOW THAN IT WAS IN THE PAST?

By

William Reville, University College, Cork.

Average western life expectancy in the year 1900 was 49 years; the figure today is slightly better than 75 years. It is widely assumed that this impressive improvement has been effected by modern medicine, improved standards of nutrition, and good hygiene practices. Amongst these three factors, pride of place is given to modern medicine. However, there is evidence to indicate that neither modern medicine, nutrition nor hygiene have played such leading roles in improving life expectancy. The American epidemiologist Leonard Sagan (*The Health of Nations*, Basic Books, 1987), and others, argue that our improved health and longevity is mainly due to psychological factors that have developed and strengthened over the past 150 years.

Sagan quotes lifespan statistics amongst different social classes in Britain. Prior to the introduction of the National Health Service in 1946, the lowest socioeconomic groups had long experienced much worse life expectancy compared to the most affluent groups. This effect was assumed to be caused by economic barriers preventing poorer people from access to medical care. However, today, 50 years later, the relative disparity in life expectancy between the most affluent and the least affluent groups in Britain remains, despite open access by all to full medical care.

The introduction of antibiotics into clinical medicine during the 1940's is generally reckoned to mark the turning point in mankind's fight against infectious diseases. Clearly diseases such as tuberculosis and typhoid no longer claim lives at the rate they did in the past. However, death rates from these diseases had been declining in Scandinavia and the English-speaking countries since the middle of the 19th century, long before antibiotics were available. By the time the first antibiotics were introduced the death rates had dwindled to a fraction of what they once had been.

Nevertheless, antibiotics were spectacularly effective for a time after their introduction. However, their effectiveness has now been seriously compromised due to widespread over-prescription by the medical profession. Antibiotics are frequently administered to treat colds and influenza despite the fact that there is no evidence that they have any primary effectiveness in such cases. Over-prescription of antibiotics allows the bacteria against whom these drugs are active to gradually develop resistance against the drugs.

Immunisation is also widely believed to enhance life expectancy. There is no doubt that vaccines against infectious diseases such as polio, whooping cough and diphtheria do protect people from these diseases and so save lives and spare many people permanent disabilities. However, there is little evidence that immunisation has caused a significant decline in overall mortality rates. Deaths from whooping cough, measles and diphtheria, for example, were already under control by the end of World War II when vaccines began to appear. However, vaccination of children is very important and parents should ensure that their children are protected in this regard. Childhood illness is very traumatic for both parent and child. The fear of such illness is also a big burden, and, if the objective risk of death is small, it is nonetheless real.

Cancer has been under intensive medical attack for the past several decades. Progress is claimed

in the fight against cancer by pointing to the fact that the average interval between cancer diagnosis and death has increased significantly in recent years. However, this effect may be explained, at least partially, by the fact that the disease is now usually diagnosed at an earlier stage than previously. Although some cancers respond well to treatment, for example the relatively rare cancers of childhood, age-adjusted cancer mortality statistics for the United States show little change over the past 50 years.

It is not my purpose here to support claims that medicine is of little value. There are many things that medicine can do very well. Chief amongst these, in my opinion, is the repair of things that are mechanically broken in the body and the surgical removal of things that are either causing obstruction or are not functioning properly. Modern medicine can greatly improve the quality of life. Examples range from the soothing of an itch to the control of serious mental illness by a mind-altering drug. Modern maternity hospitals ensure that infant or maternal death during childbirth are rare events indeed nowadays in developed countries. Immunisation relieves childhood of the distressing experience of many infectious diseases and undoubtedly saves lives. But it is not as clear as is widely assumed that medicine has played such a dominant part in improving life-expectancy.

Neither is there conclusive evidence to show that improved nutrition or better hygiene standards are responsible for improving life expectancy. For example, as Sagan recounts, it has been noted that in past ages, when general life expectancy was low, members of royal families also lived short lives. It can be safely assumed that they did not lack for adequate nutrition. Also, research has pretty well established at this stage that a meagre diet, once it is above a certain minimum level, promotes rather than hinders longevity. On the question of improved hygiene, it has been noted that, once mortality rates from certain infectious diseases began to decline 200 years ago, this decline continued despite prolonged periods of deterioration in hygiene standards associated with the development of urban slums.

So to what does Leonard Sagan attribute the remarkable improvement in average life expectancy over the past 150 years? As life expectancy improved, average family size decreased, and positive and loving interest in children's welfare increased. In past ages, children were begat largely out of a sense of duty; they tended to be regarded as property assets and strict discipline and obedience was emphasised. The recognition that childhood is a special stage of development that should be nurtured with loving care is historically a recent development.

Children that are loved and looked after thrive, both physically and mentally, compared to children that do not receive such care. Many studies demonstrate this. Also the modern man or woman feels much more secure in the world than people did in ages past, when no average person could feel he had much control over his life. This must have produced incomparably greater stress than the average person will encounter today. Imagine how you would feel as you buried your child while at the same time glancing nervously over your shoulder to check how your hut and your crops are coping with the uncontrollable floods. Makes the modern rat race look pretty tame, doesn't it? Again, it is well known that feelings of hopelessness and helplessness are bad both for physical and mental health.

The argument in a nut shell then is that the enhanced self-esteem, self-confidence and feeling of security that has been nurtured in people over the past 200 years has improved natural resistance to debilitation and disease, and has been largely responsible for modern increased life expectancy. If this is the case, it follows that society will be much more successful at promoting

positive health and further improved life expectancy by providing all the necessary supports for secure and happy family life rather than by throwing ever-increasing resources at high technology medicine and allowing long established State and other supports for the family to be eroded.

In this respect some current trends are worrying. High rates of breakdown in marriage and of children born to unwed teenage mothers are widespread in some countries. We have nothing to be complacent about in Ireland. At present 45% of first pregnancies here are non-marital. Within the EU, outside of Scandinavia, this figure is exceeded only by France and Britain. While it is undoubtedly possible for both mother and child to prosper without the presence or assistance of the father, it is equally true that, on average, the odds are stacked against such an outcome.

(This article first appeared in The Irish Times, April 22, 1996.)