

MORTALITY – THE COHORT EFFECT

The Institute of Actuaries and the Faculty of Actuaries in the UK have published a paper on the so-called ‘cohort effect’.* This is the observed phenomenon that people born in the UK between 1925 and 1945 – centred on the generation born in 1931 – have experienced more rapid improvement in mortality than generations born either side of this period. The distinction of this cohort of lives is seen in both the general population and insured life mortality statistics.

So what makes this group special? The paper examines a number of possible explanations. It points out that:

- Very few of the group would have seen service, and thus sustained injuries, in World War 2
- Diet in the war and post-war years was better (higher in fresh vegetables, bread, milk and fish) than in later years
- The group would have benefited from the creation of the Welfare State, including the National Health Service and free secondary education as a universal right
- Rapid changes in birth rates, such as the sharp increases that occurred after both World Wars 1 and 2, could have changed the social class mix and therefore the nature, and health, of an ‘average’ person.

The paper also raises the issue of smoking. This cohort of lives is, after all, the one which reduction in tobacco use has affected most. While the majority of people – especially men – smoked in the late 1940s and early 1950s, only a minority do now. And in the intervening years many of the cohort in question have given up smoking. In fact the paper suggests there are two ‘sub-cohorts’, an earlier group where the improvements may be largely due to smoking cessation, and another, later, one where other factors such as diet in early life may have played a greater role.

This ‘cohort effect’ is not unique to the UK, having been observed in Japan, where the effect continued well into old age. It does not follow that the UK mortality experience will be similar, but nevertheless it illustrates the risk of significantly longer retirements, strains on state and private pension funds and lower annuity rates, together with a real need for robust long-term management of personal finances.

So is all this only of relevance to life assurance and pensions actuaries? Well, not really. Clearly future mortality trends are key to pricing life assurance and annuities and to funding pension provision. But the possible reasons behind the ‘cohort effect’ make the paper of interest to underwriters too.

First, it illustrates the impact of smoking, or rather giving up. Second, it points to the favourable effect of ready availability – and affordability – of healthcare and education. That in turn is related to the third issue, which is social class. Social class is well understood as a significant determinant of mortality. It is rather more important than some of the factors traditionally taken into account in life and critical illness underwriting, but is never brought into the reckoning.

Then there is lifestyle. Did that diet relatively high in fresh vegetables, fish and bread, and low in cheese and red meat, just give the group a better start in life? Or did it help create healthy dietary habits that have been largely sustained since? This too was a group born into relative hardship, into families for whom life was rather a financial struggle. Has that initial experience given them an outlook on life, a lifestyle,

a whole ethos conferring a mortality advantage over later generations born into new and rapidly improving affluence? Given modern levels of indulgence in food, alcohol and other chemicals, the answer could well be yes.

This paper reinforces our view that there is more to risk evaluation than health history, a cursory screening for current health status and a peek at the other traditional risk factors. The determinants of mortality and morbidity are far more complex. Usually there are big variations in relative risk among the 'standard'-classified lives (and these are only partially addressed by 'preferred' categories).

Life is not as much of a lottery these days. Given current levels of education and media power, most people know when their lifestyle is putting their health at risk or increasing their chance of an accident. So shouldn't they pay more for their life, disability or health insurance cover? There may well be a case, in some circumstances, for offering standard to as wide a group as possible. But otherwise, isn't it time underwriting adjusted to modern risk factors and modern attitudes?

** The Cohort Effect: Insights and Explanations: Willets RC; Institute of Actuaries and Faculty of Actuaries, UK; 2004*