

Cardiovascular: Cardiovascular Disease and the Ageing Population

The world's population is getting older:

- One out of every ten persons is now aged 60 years or above
- By 2050 this figure will have risen to one out of five
- The older population itself is aging with the oldest old (those aged 80 and above) being the fastest growing sector of the older population
- At present 11% of the 60 plus age group is aged 80 and over but this figure is set to rise to 19% by 2050
- The number of centenarians is also on the increase with the current figure of approximately 145,000 estimated to rise 15-fold to 2.2 million by 2050

There are, of course, gender and geographical differences - 55% of the over 60's are women (rising to 65% in the 80 plus sector) and one out of five Europeans, but only one of twenty Africans, is aged 60 or more. The impact of population ageing is increasingly evident in the old-age dependency ratio, that is to say the number of working age persons (age 15 - 64 years) per older person (65 years or older). This ratio is used as an indicator of the 'dependency burden' on potential workers. Between 2000 and 2050, the old-age dependency ratio will double in more developed regions and triple in less developed regions. It is this impact on society that is increasingly of concern to governments all around the world and the subject of much research and debate (source - Population Division, Department of Economic and Social Affairs, United Nations Secretariat).

An ageing population impacts on society in many ways but one chief concern is how will health systems cope, let alone be funded, as more people age and therefore more people are likely to suffer from the health problems of old age. In their work "The ageing population of the United Kingdom and cardiovascular disease", Azeem Majeed and Paul Aylin look specifically at the issue of the impact of ageing on three cardiovascular disorders namely coronary heart disease, heart failure and atrial fibrillation. The authors collated data from 211 general practices with a total list size of 1.4 million in order to estimate the prevalence of the disorders and obtained data relating to hospital admissions from English hospital episode statistics. The total number of cases and inpatient admissions for the three disorders in the United Kingdom in 2001 and 2031 were estimated by applying age-sex specific rates to the number of people in each age-sex group in the relevant year. The assumption was made that the age-sex specific prevalence and admission rates of these diseases would not change in the future.

Majeed and Aylin's analysis determined the following:-

- The number of cases of coronary heart disease is predicted to increase by 44% to 3,190,000 in 2031

- The number of hospital admissions is predicted to increase by 32% to 265,000
- The number of cases of heart failure is predicted to increase by 54% to 1,303,000 in 2031
- The number of admissions is predicted to increase by 55% to 124,000
- The number of cases of atrial fibrillation is predicted to increase by 46% to 1,093,000 in 2031
- The number of admissions is predicted to increase by 39% to 85,000

These figures make sobering reading. If the estimates prove to be accurate then the impact on the UK's National Health Service will be significant. The cost of providing all the additional treatment and care will be substantial, not only in terms of the increased cost of drugs and surgical procedures but also in terms of all the additional costs of providing, for example, more diagnostic testing; extra hospital beds; and more nursing staff, cardiologists and general practitioners to diagnose treat and care for the increased numbers of patients.

As noted above when calculating the estimates, Majeed and Aylin assumed that the age-sex specific prevalence and admission rates would not change in the future but as Robert West, professor of epidemiology at the Wales Heart Research Institute points out if people live longer then they may also "experience equivalently longer 'event-free survival' (BMJ 9th December 2005). Over the next three decades advances in medical technology may indeed "have a considerable impact on future caseloads" (Majeed and Aylin (2005)).

As our knowledge and understanding of the causes of cardiovascular disease also deepens so the general population is increasingly educated as to what is a healthy lifestyle and what can be done to prevent such disease from occurring. Unfortunately, the message does not seem to be getting through and rates of obesity, diabetes and high blood pressure (all of which are risk factors for developing cardiovascular disease) continue to climb upwards. Bearing in mind that Majeed and Aylin only looked at the estimated increases in cardiovascular disease as a result of an ageing population, the future for our national health providers must be of great concern. As Majeed and Aylin conclude "a key aim of government policy should therefore be to encourage people to remain active, engage in regular physical exercise, and refrain from behaviours that could have a detrimental effect on their health, such as binge drinking, smoking, and overeating".

Majeed A, Aylin P. The ageing population of the United Kingdom and cardiovascular disease. BMJ 2005;331:1362