CONFERENCE REPORTS

Recent advances in medicine relating to risk assessment in insurance

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The scientific basis for life and disability insurance in relation to underwriting risks was the subject of this conference.

Models of disability: challenging the path to inactivity

About one million people report sick each week in the UK, and some 3,000 people remain off work for more than six months; of these, 80% of them do not work again in the next five years. Professor Mansel Aylward considered the implications of this, both for the individual recipient of incapacity benefit (IB) and for the social security system. While about 30% of IB recipients have serious identified illnesses or a clear pathological basis for incapacity, the remainder have non-specific and subjective health problems (back pain, fatigue, headache etc). Research has shown a high prevalence of psychosocial problems in the latter group, particularly anxiety and depression. Various government-initiated strategies have been implemented as new approaches to vocational rehabilitation. They include multidisciplinary work-focused support, case management (personal advisers), mandatory work-focused interviews and condition-management programmes (for such problems as musculoskeletal conditions, mental disorders and cardiorespiratory diseases). Early (unpublished) results suggest that these strategies could reduce the numbers who go on to chronic incapacity by up to one-third or even a half.

Stress at work: myth, legends and some realities

Professor Simon Wessely showed that, in patients presenting to US primary care centres with a variety of symptoms (chest pain, fatigue, dizziness, headache, back pain, dyspnoea, abdominal pain, numbness), an organic diagnosis was made in only 20%, symptoms remaining unexplained in the remainder. Many patients in the latter group have associated anxiety and depressive disorders (problems suffered by about 10% of the general population), while psychoses account for less than 1% of psychiatric illness in them. Depression and anxiety are now the greatest cause of work incapacity and the problem is increasing, 'stress' often being stated as the basis for the IB claims. It is paradoxical that in an age of improving health and longevity, people's perception of actually being well is decreasing. It seems likely, therefore, that the basis for the worsening problem of work incapacity is societal rather than a health issue. The term 'work stress' cannot be defined: there is no single cause and the associated factors are multifactorial. As for solutions to the problem, no controlled trials of workplace counselling have yet been carried out. Results from randomised controlled trials of psychological debriefing by counsellors for post-traumatic stress disorder are not encouraging as they showed that it provides no benefit. However, rather than work itself being a risk factor for mental illness, evidence indicates that the lack of it is more detrimental.

Conference programme

- **Models of disability: challenging the path to inactivity**
  Professor Mansel Aylward CB, Chief Medical Adviser, Department for Work and Pensions
- **Psychological issues in disability and work stress**
  Professor Simon Wessely, Institute of Psychiatry, King's College London
- **Collecting medical evidence for disability claims**
  Mr Bob Ratcliffe, GE Frankona Reassurance Ltd
- **Diagnosing cancer: from cells to molecules**
  Professor Karol Sikora, London Cancer Group
- **Insurance consequences of treated cancer**
  Professor Robert Rubens, Assurance Medical Society
- **HIV revisited**
  Professor Brian Gazzard, Chelsea and Westminster Healthcare NHS Trust, London
- **Risk factor assessment in cardiovascular disease**
  Professor Martin Cowie, Imperial College London
- **CT and coronary artery disease risk assessment**
  Dr Michael Rubens, Royal Brompton Hospital, London
- **Prognosis in connective tissue diseases**
  Dr Edward Huskisson, The London Clinic
- **Increasing longevity and the impact on insurance**
  Professor Tom Kirkwood, University of Newcastle

Collecting medical evidence for disability claims

Mr Bob Ratcliff stressed the importance of medical evidence to substantiate the validity of critical illness (CI) and disability (income protection) claims, to discount non-disclosure and to determine for how long a valid disability claim should be paid. Critical illness policies, which pay a lump sum on diagnosis, are particularly prone to anti-selection (against the company because of non-disclosure) and it is remarkable that up to one-fifth of claims are made within the first year of a policy coming into force. Cancer accounts for over 50% of CI claims, and non-disclosure of duration of symptoms, smoking status and family history leads to about 10% of claims being rejected. For heart attack, stroke and multiple sclerosis, about a quarter of claims are invalid, often for failing to meet policy definitions, while over half of claims for permanent and total disability are declined. In income protection insurance, 50% of claims are for musculoskeletal or mental disorders. The duration of these claims can be significantly shortened by companies encouraging early notification and by allocating nurses to be actively involved in rehabilitation. Factors impeding return to work include lack of motivation by claimants and adverse attitudes of employers.

Diagnosing cancer

Professor Karol Sikora commented on the different ways in which cancer may be defined, an issue of particular relevance to critical illness insurance. He reviewed the risk factors for, incidence of and mortality from cancer in the UK, and stressed the importance of early presentation to improve survival prospects. Increasing knowledge of the molecular processes underlying malignancy is leading to new therapeutic approaches which interfere with the disordered cell regulation which characterises cancer. It is predicted that these advances will lead to improving survival for patients with cancer, entailing the long-term (perhaps life-long) use of cancer-suppressive drugs of low toxicity. The financial costs of treatment are likely to be high.

Insurance consequences of treated cancer

Professor Robert Rubens reported on the marked improvement in the survival of patients with cancer over the past three decades, particularly in those with childhood cancer, Hodgkin's disease, testicular cancer and breast cancer. This has been reflected in substantial improvements in insurance terms for applicants with a previous history of cancer. However, the treatments that led to these advances have long-term effects which have implications for both life and, especially, critical illness insurance. The most important adverse consequence of treatment is the increased incidence of second malignancies, although cardiovascular, nephrological and neurological problems also occur. The highest risk of second cancers is seen after the treatment of Hodgkin's disease, predominantly acute non-lymphocytic leukaemia in the first 10 years, carcinomas assuming increasing importance thereafter, especially breast cancer in females. Therefore, although a history of Hodgkin's disease does not preclude life assurance, critical illness cover cannot be offered. After other cancers, it may be possible for such cover to be offered with due consideration to the type of cancer treated, time elapsed since treatment and the risk of second cancers relative to other competing risks at the applicant's age.

HIV revisited

Professor Brian Gazzard showed how the survival of those with acquired immunodeficiency syndrome (AIDS) had improved with the introduction of effective antiviral treatment. With strict adherence to medication, survival of 30 to 40 years from diagnosis might now be expected. Continuous antiviral therapy has led to almost 80% of sufferers having no HIV-1 RNA detectable in the blood. In the UK, although HIV diagnoses continue to rise, AIDS case reports and deaths have declined. Highly active antiretroviral therapy (HAART) is particularly effective, clinical trials having showed that it achieves 90% or 50% reductions in death rates compared to either no treatment or dual therapy, respectively. Before HAART, median life-expectancy for AIDS cases was 10–15 years; now it is in excess of 20 years. Causes of death include liver disease (hepatitis B and C), sepsis, toxicity from treatment and multiple resistance. It now seems possible that those infected by HIV might be candidates for short-term (say 10 years) life insurance policies provided CD4 counts are high and there is meticulous compliance with treatment.

Risk factor assessment in cardiovascular disease

Professor Martin Cowie stressed that cardiovascular disease is the leading cause of death worldwide and its prevalence is increasing. There is a considerable overlap in its incidence with that of cerebrovascular and peripheral arterial disease. Risk factors which are potentially modifiable include blood cholesterol, high blood pressure, smoking, lack of exercise, diabetes and obesity. Epidemiological studies in Europe (North and South), the USA, Siberia and Japan all show clear correlations between high blood cholesterol levels and coronary heart disease (CHD)-related deaths. Similarly, the Framingham study showed that rising blood pressure in both men and women was associated with an increasing incidence of all aspects of CHD (myocardial infarction, angina pectoris and sudden death). This study also showed that smoking approximately doubled the risk of myocardial infarction and CHD-related deaths in women and tripled them in men. Although such studies tend to consider risk factors individually, it is clear from the Multiple Risk Factor Intervention Trial (MRFIT) that their effects are multiplicative and risks attributable to them are significantly aggravated if there is a history of diabetes mellitus or familial hypercholesterolaemia. Risk factors can be formulated into scoring systems to estimate an individual's risk of CHD with a view to prevention. In Europe, serum cholesterol levels are falling as a consequence of the use of statins and, to a lesser extent, blood pressure is improving. Unfortunately, the prevalence of smoking, obesity and diabetes continues to rise.

Computed tomography and coronary artery disease risk assessment

Dr Michael Rubens described recent remarkable advances in imaging coronary artery disease by electron beam tomography (EBT) and multislice computed tomography (MSCT). Coronary artery calcification (CAC), although visible by older radiographic techniques, can be studied in greater detail and quantified by EBT and MSCT. Coronary artery calcification is a marker of the atherosclerotic process and is rarely found in its absence; the amount of CAC increases with the amount of atherosclerosis, although not all plaques are calcified. Pathologically, CAC reflects advanced atheromatous lesions with lipid and fibrin deposits, disruption of smooth muscle fibres, ulceration, haemorrhage and thrombus formation. Quantification of calcification is based on the area and density of calcified lesions, the data being computed to provide a CAC score. In asymptomatic subjects, CAC score increases steadily with age. A score higher than predicted for a given age correlates with an increased risk of coronary events. At the present time, CAC score is unlikely to influence management if other risk factors for coronary artery disease are high, but is more likely to do so if they are low. CAC reverses with statin therapy.

Prognosis in connective tissue diseases

Dr Edward Huskisson identified several reasons why measuring outcome in connective tissue diseases is difficult:

1. Endpoints are imprecise as measuring function lacks accuracy.
2. There is a high variability in the severity of these diseases.
3. Their profiles have changed as a result of new treatments (methotrexate, azathioprine and tumour necrosis factor-alpha inhibitors), so older research has lost relevance.
4. There are geographical differences in the availability of treatments.
5. Marked changes have occurred in the basic understanding and consequently identification of these disorders; for example, histocompatibility antigens characterising ankylosing spondylitis.

Rheumatoid arthritis affects about 1.5% of the population and is associated with approximately five years loss of life-expectancy. Causes of death include amyloidosis, spinal cord compression, an increased risk of lymphoma, treatment toxicity (such as gastrointestinal bleeding from the use of non-steroidal anti-inflammatory drugs) and infection. However, the major problem is disability, with a 40% incidence of work incapacity by five years after diagnosis. Predictors of poor outcome are a high erythrocyte sedimentation rate, anaemia and radiographic evidence of erosions and joint narrowing. Systemic lupus erythematosis has seen an improvement in five-year survival from 51% to 97% over the past 50 years. In part, this is due to increasing diagnosis of mild disease. Causes of death include infection, thrombosis and renal failure.

Increasing longevity and the impact on insurance

Mr Chris Daykin, the government actuary, showed that the steady increase in life expectancy seen in males and females in the UK over the past century continues. This has major implications for the provision of income in retirement. The expectation of life at age 65 years is predicted to increase from 11 to 22 years for males between 1850 and 2050, and from 12 to 24 years for females over the same time period. As people whose lives are insured are generally fitter than the population average, greater longevity has particular relevance and is leading to a considerable increase in the cost of pensions and annuities as a means of avoiding reliance on state benefits in retirement. Although income withdrawal schemes provide an alternative for financial planning in retirement and have greater flexibility than pensions and annuities, they lack the security of risk sharing.