

## UNDERWRITING—A DYING ART?

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### ABSTRACT

The paper reviews the underwriting of life assurance and sickness benefits today. It considers both medical and non-medical aspects and how the extra risks should be costed. The paper also deals with financial underwriting, reinsurance and the management of death claims. Although the paper presents a 'state of the art' picture, it also considers advances via on-line acceptance, expert systems and computer-based training.

### KEYWORDS

Extra mortality; Extra risks; Impaired lives; Underwriting

### 1. INTRODUCTION

1.1 Insurance underwriting is the assessment and acceptance of risks. It dates back to 1680 when businessmen attended Lloyd's Coffee House in London to seek cover for maritime ventures. *Under* the wording of the insurance contract, those accepting the risk would *write* their names and sum insured. They became known as 'underwriters' and, when there was a claim, each underwriter was liable for a share of the risk.

1.2 The premise that the losses of a few should be met by the premiums of many was extended to life assurance. This has been very beneficial for society, because thousands of families have been protected from financial calamities and have maintained their lifestyles after the death of the breadwinner.

1.3 An insurance company has to select and price the risks it will accept, otherwise, it would face its own financial ruin. Underwriting, therefore, is a crucial part of the acceptance of life assurance business. An office's underwriting policy is determined by its actuary after considering the views of its underwriters and Chief Medical Officer (CMO), and yet no papers on the topic have been presented to the Institute in recent years. R. D. Clarke considered the mortality of impaired lives in 1961<sup>(1)</sup> and again in 1979<sup>(2)</sup>, but, for a comprehensive review of underwriting practice, it is necessary to go back to A. J. Steeds in 1965<sup>(3)</sup>, and, before that, to W. Perks in 1952<sup>(4)</sup>. Although 13 years separated the papers, A. J. Steeds began, "In presenting a paper on underwriting to this Institute, I realise how difficult it is to say anything new on this subject." I cannot begin in this way because of substantial medical advances in both diagnosis and treatment since 1965 and because of radical developments in underwriting, particularly in recent years. Also, the link between smoking habits and lung cancer, bronchitis and coronary heart disease is now firmly established, which has a bearing upon the premium rate tables as well as underwriting decisions.

1.4 The paper takes a 'state of the art' view of underwriting, but it also looks

towards the future. The guidance notes for authors of Institute papers request some new ideas. I hope to provide them and should stress that my opinions are not necessarily those of my employer.

1.5 It is impossible for an underwriter, or, for that matter, anyone else involved in insurance today, to operate in a vacuum. Insurance staff cannot concentrate solely on their speciality and so, in addition to the actuarial applications of underwriting, the paper considers the administrative and marketing aspects which impinge upon underwriting. (I dislike speeches which refer to the actuary, the marketeer and the underwriter as though they are different species with totally different views—all three have to work together for the good of their company. I hope that being an actuary and an underwriter with some marketing experience enables me to put things into perspective.) Unlike most underwriting papers, the paper is written by someone working for a direct office as opposed to a reassurer's, but I believe I am giving a clear view of the market as a whole. My brief has been to write a paper which is relatively free of medical terminology, although a résumé of the underwriting aspects of the more common and significant diseases is included.

## 2. NEW BUSINESS PROCEDURES

2.1 The chief underwriter of a life office is involved in policymaking decisions, as underwriting standards are equitably determined in conjunction with the actuary after taking into account the level of mortality assumed in premium rates. The standards should not be so harsh that the level of new business is seriously affected, nor should they be so lenient that philanthropic terms are offered to heavily substandard lives. Bulletin No. 1 of the AIDS Working Party<sup>(5)</sup> states that "A risk which *a priori* has a higher probability of incurring a claim can only be insured at the same rate as the other risks if a deliberate decision is taken to provide a cross subsidy, and if there is no possibility of any advantage being taken of the situation by the insured with a higher risk of claim."

2.2 The chief underwriter may also be the new business manager, and many underwriters may have an administrative role, but, whatever their duties, a day-to-day aspect of every underwriter's job is the assessment of individual lives. In order to appreciate the problems of modern-day underwriting, a grounding in the administration of new business is necessary. Unquestionably, the requirements of the Financial Services Act 1986 embodied in the LAUTRO rules and also of the Access to Medical Reports Act 1988 have placed an additional administrative burden on life offices. The legislation is intended to protect customers, but ultimately the cost of that protection is borne by those customers.

2.3 To comply with the LAUTRO rulebook, a salesperson obtains information about a client's personal circumstances before recommending a particular life assurance policy. The sum assured being chosen and the class of policy required are therefore recommended as 'best advice'. A conscientious salesperson would have taken the same approach pre-LAUTRO, only now the decision has to be verified through the completion of a lengthy Factfind. The Factfinds are

unlikely to be submitted to the life office for broker business, but they form part of the new business files for direct sales. The vetting of such forms falls upon the office's official LAUTRO representative, rather than the underwriter. However, an underwriter would draw the compliance officer's attention to any apparent irregularities.

2.4 The salesperson assists the client in the completion of a proposal form. Large offices can have as many as 100 different proposals in current usage, which vary in length and content according to the class of policy and possibly the size of sum assured. At one extreme, clients are asked about their medical history, including any blood testing for the AIDS virus, height and weight, deaths in their immediate family, marital status, travelling abroad, occupation, hazardous pursuits and, if preferential terms are offered to non-smokers, smoking habits. At the other extreme, a shortened proposal with just one medical question is often used for a policy to cover a mortgage loan.

2.5 The proposal includes a signed declaration by the client that the questions have been answered correctly and that material facts have not been wilfully concealed. If the client's medical history is unexceptional and if the size of the sum assured does not call for further medical evidence automatically, the proposal can be underwritten on the information supplied. In some instances, a Supplementary Questionnaire (SQ) relating to a client's lifestyle may also be requested, with the completed form being sent in a sealed envelope to the Head Office underwriters. An example of a Supplementary Questionnaire is given in Appendix 1.

2.6 Prior to 1 January 1989, the proposal also contained the client's authority for the life office to approach his general practitioner for his medical history. Because of the Access to Medical Reports Act 1988, this direct approach is no longer possible, and the procedure is:

- (i) The client completes an authority giving the life office permission to approach his doctor and stating whether he wishes to see the report before it is submitted to the office.
- (ii) When access has been requested, the office has to inform the client if a medical attendant's report (MAR) is being requested so that he can make arrangements to see it. The doctor cannot return the MAR until the client has inspected it or until 21 days have passed, which defeats an office's more regular reminder system.
- (iii) Whether or not the client has requested access, the right remains to contact the doctor within 6 months to inspect the report and to purchase a copy for a nominal fee.

My own view is that the legislation was poorly conceived and my criticisms are voiced in Appendix 2.

2.7 The MAR is an invaluable underwriting tool as the National Health Service's records can give a full medical history of the proposer. This does not happen in other countries, notably the United States of America, where a patient

may consult several specialists with no overall record being kept. The cost of obtaining MARs and also medical examination reports (MERs) is determined at regular meetings of the Association of British Insurers (ABI) with the British Medical Association (BMA). The costs, as from 1 July 1989, are £15.00 for an MAR and £27.50 for an MER, which costs a doctor's time at around £1 a minute. A life office's administration probably doubles the overall cost of these reports.

2.8 When an MAR from the current medical attendant is not available (e.g. medical records in transit, doctor based abroad), the underwriter may request a medical examination or seek a report from a previous medical attendant. In some instances, the information which he seeks will still not be forthcoming, in which case he has to rely on his judgement and experience for a decision.

2.9 As well as obtaining an MAR, an office may also request the proposer to submit to a medical examination with the comprehensive report, taking in an assessment of the major organs, blood pressure readings and a urinalysis. If thought necessary, and certainly with large sums assured, an electrocardiogram (ECG), a chest X-ray and a test for the AIDS virus (currently a Human Immunodeficiency Virus, or HIV, test) may also be obtained. The examiner makes a recommendation as to whether the client is acceptable at standard rates or not, which the underwriter is not obliged to follow.

2.10 An office has a panel of doctors who are prepared to conduct MERs, but a layman may assume that any doctor is suitable. This is not the case, as an office should strive to have consultant physicians with FRCP or MRCP qualifications on its panel, along with long-standing and experienced GPs. Other doctors may be willing to undertake MERs, but they may have difficulty in assessing an impairment for life assurance purposes.

## 2.11 *Automatic Medical Requirements*

2.11.1 The costs quoted in §2.7 make it impracticable to call for medical evidence for every proposal, and offices only request reports automatically once a sum assured is above a designated amount. For competitive reasons, the automatic levels of the large life offices are similar and examples of automatic requirements today are as follows:

	Medical Attendant's Report (£)	Medical Examination (£)
Age next birthday		
up to 40	75,000	200,000
41-50	60,000	125,000
51-55	30,000	75,000
56-60	10,000	40,000
61-65	5,000	20,000
66-75	All	All

Some offices discourage proposals from those over age 75 because the medical requirements will be considerable, and the completion rate is likely to be low. Furthermore, underwriting at such advanced ages can only be speculative.

Examples of automatic requirements in relation to the underwriting of AIDS risks are as follows:

	Supplementary Questionnaire (£)	Human Immunodeficiency Virus test (£)
Males		
single/separated/divorced	40,000	150,000
married/widowed	200,000	250,000
Females	200,000	250,000

2.11.2 In the last century, an office's board of directors would interview proposers before granting cover. This fearsome approach would be unrealistic today, where even the standards of 20 years ago appear stringent. In 1969, for example, it was commonplace to obtain MARs for sums assured as low as £2,000, because it was feared that many proposers would not tell the truth. This cautious attitude was subsequently reflected in mortality profits, which made a contribution to high bonus rates. Nowadays, some offices allow sums assured of even £100,000 before professional medical evidence is automatically required and as much as £250,000 can be obtained without an MER.

2.11.3 An office, 20 years ago, would have been reluctant to publish its MAR and MER requirements for fear of proposals being submitted just below those levels of benefit. Nowadays, regular surveys appear in the insurance press and offices may use their high limits as a marketing ploy. The potential for non-disclosure is alarming, but it is impracticable to suggest that life offices should return to their previous secrecy. Ironically, the publication has encouraged offices to increase their limits, so as to remain competitive, rather than for any statistical justification. However, the advent of AIDS has meant that the rapid increases in medical limits have been curtailed.

2.11.4 MARs and MERs may be requested at lower sums assured when justified by the information on the proposal form. It had been appreciated for many years that offices could make considerable savings through prudent requests for MARs and MERs, but it has only been practised recently, as life offices have become more cost-conscious. For example, it is unnecessary to request an MER for every substandard risk.

2.11.5 Whenever an MER is requested, I regard it as imperative that the MAR is seen by the examining doctor. Some offices do not follow this practice, but the MER is more thorough when the doctor is fully briefed. For example, someone with a mental history may act normally for the short duration of an examination, so the doctor needs to have been alerted.

2.12 Although it is appreciated that a person has an unlimited insurable interest in his own life or the life of his spouse, an office would be foolhardy if it accepted proposals of any magnitude from a client. Instead, it requests justification of the level of benefit if the sum assured is over, say, £250,000 and

cannot rely on the salesman's assertion that the policy is 'best advice'. This entails the completion of a Financial Questionnaire (FQ) by the salesman or branch manager or, in larger cases, an independent financial adviser (i.e. an accountant or solicitor), who is not receiving commission on the business and can therefore be impartial.

2.13 In the U.S.A. reports are also received from agents and friends and neighbours of the clients. Although this can give the underwriter a valuable insight into the client's lifestyle, the information is of doubtful significance. The U.K. view is that a valid underwriting decision can be reached without resorting to hearsay.

2.14 Once all the requested information is to hand, the underwriter assesses the evidence and reaches a decision. The decisions can be one, or a combination, of the following:

- acceptable at standard rates,
- acceptable with an increased premium throughout the term of the policy,
- acceptable with an increased premium for a limited term,
- acceptable with a debt on the sum assured,
- acceptable with an exclusion clause,
- deferred for a stated period, or
- declined outright.

The application of these decisions, and also the submission of certain risks to reinsurance companies, will be discussed later.

### 3. THE UNDERWRITER'S STATUS

3.1 An article I wrote for the magazine *Planned Savings* in January 1986<sup>(6)</sup> began:

"Among the more crucial jobs in a life office are those relating to the Chief Underwriter and his staff. Underwriting calls for a knowledge of medicine, the products of the company, the views of competitors, reinsurance connections, and a host of non-medical aspects such as hazardous pursuits and foreign travel.

"An underwriter's job combines immense concentration with constant interruption. An error could lead to an unacceptable life being put onto the company's books, and hence an early death claim. The sales force will be exerting continual pressure for the best terms possible for their clients, and sometimes an underwriter will find that there are no guidelines to help him make that decision. Some would maintain that underwriting is an art rather than a science in that there is no single correct answer, but it is preferable to see it as a science, albeit not an exact one."

I wrote the paragraphs forcefully, because I believed that the crucial role of the underwriter had been questioned. However, life offices in the U.K. and other markets have suffered losses when they have departed from sound underwriting standards. I would be interested to learn members' views on this subject.

3.2 Most underwriters have had no formal actuarial or medical training. They have obtained their skill by experience, but, despite this *ad hoc* approach, their status was high until the 1980s. The specialist knowledge they acquired was

respected and their office hours were not dissipated with administrative routines. Underwriters were proud of their skills and responsibilities and many wanted to join them, even though it entailed considerable 'on the job' training.

3.3 Life assurance is becoming a highly competitive industry and so an office needs to reduce its expenses because of their bearing upon premium and bonus rates and profits. Expenses should, therefore, be reduced to the lowest level at which the bulk of the underwriting can be performed satisfactorily and by requesting medical evidence only when it is considered essential. Many opinions can be solicited as to what those levels are, but does it make sense that every proposal should be vetted by an experienced underwriter, especially when over 90% of them will be acceptable at standard rates? Fifteen years ago, if the question was ever posed, the answer would have been 'yes'; now it is 'no'.

3.4 The downturn in an underwriter's status began in the late 1970s. The change was brought about by four factors:

- (i) Pressure from marketing departments led to rapid increases in the sum assured limits for which proposals could be accepted without requesting medical evidence automatically.
- (ii) Also for marketing reasons, shorter and smarter proposal forms were introduced, culminating with the MIRAS campaign which led to policies being put onto the books with no underwriting evidence whatsoever.
- (iii) There was continuing pressure from marketing departments and cost accountants to simplify the underwriting process, usually by merging it with other new business functions. Staff were superficially trained in underwriting and, providing proposals fell within certain guidelines, acceptance could be given at standard rates.
- (iv) Many senior managers—and actuaries—came to believe that underwriting was relatively easy. The underwriter simply followed a reassurer's manual, it was argued, and, if there were difficulties, the papers would be shown to the CMO.

It was demoralising for underwriters to see their hard-earned status being whittled away. The changes may have appeared logical, but recent experience has returned the underwriter to the fore. The passion for increasing medical limits has now been curtailed (see §2.11.3) and other factors are considered later.

### *3.5 Shortened Proposals to cover Mortgages*

3.5.1 A life office has to be aware of the marketing potential of bulk business. The chief underwriter may allow a special proposal with a reduced number of questions or he may look favourably upon substandard risks in, say, a pension and life assurance scheme with a large number of hazardous occupations. However, life offices have never shown such a disregard for basic underwriting standards as in the MIRAS campaign of 1982/3. I think it unlikely that any underwriter supported this stance.

3.5.2 From mid-1982 life offices, building societies and other intermediaries undertook a huge sales drive to encourage new endowment assurance mortgages and also to persuade those with capital and interest mortgages to switch. This was in anticipation of the Government's MIRAS (Mortgage Interest Relief At Source) legislation which came into force in April 1983. As an enormous increase in new business was expected, life offices were urged by their agents to forgo all medical evidence. A mortgage takes several weeks to arrange, so it was unlikely that the additional minutes in completing a full proposal form would make any difference to the smooth completion of a mortgage. In retrospect, therefore, the request seems illogical. Even if life office management thought so at the time, the matter was disregarded.

3.5.3 Many life offices introduced special, shortened proposals for endowment mortgage business. The shortened form contained no medical questions and a client was acceptable providing the eligibility conditions (say, under age 50 for a maximum sum assured of £50,000) were fulfilled. This is referred to as 'non-selective' business by the CMI, i.e. the office is exercising no medical selection and is therefore vulnerable to proposals from those in poor health.

3.5.4 This dramatic downturn in life assurance standards was justified in the two beliefs:

- (i) There was the supposition that housebuying was likely to be undertaken by those in reasonable health and so mortgage-holders would experience better mortality than the population as a whole.
- (ii) Any deterioration in mortality experience could be counterbalanced by savings in expenses, thus leaving premium rates unchanged.

3.5.5 Intermediaries and agents, along with recommendations from financial commentators, encouraged those in poor health to take up the offer. Those who had previously been declined for endowment mortgages could now effect policies—and at standard terms. Offices had not allowed for disproportionately large numbers of people in poor health taking up the offer, and it was fortunate for those offices that the poor experience was spread across the market.

3.5.6 In the months following the start of the MIRAS campaign, life offices realised that they had been hasty. Many death claims occurred on policies which had only been in force a matter of weeks. Thus, the shortened proposal with no medical evidence was replaced by a proposal with one, all-embracing medical question, along the lines of "Are you now expecting to attend for medical treatment, or have you done so within the last 6 months?", which, at the very least, eliminated 'deathbed' proposals. More recently, a question about AIDS has been added, together with a request for the client's marital status and whether it is a joint mortgage. Also, most offices have extended the 6-month period to anything between 1 and 10 years. All these shortened proposals are described as 'minimum evidence' by the CMI.

3.5.7 From 1984, the CMI bureau has been collecting statistics from member offices for their shortened proposal business. Unfortunately, the statistics for the



first years only relate to single life policies, whereas most of the business was on a joint life basis.

The numbers of actual deaths (*A*) are compared with those expected (*E*) according to the mortality table A1967/70 for males and A1967/70 with a deduction of 4 years for females, both with a 2-year select period.

*Shortened Proposals—Non-Selective*

Year	Males		Females	
	<i>A</i>	<i>A/E</i> (%)	<i>A</i>	<i>A/E</i> (%)
1984	97	151	16	111
1985	132	111	36	130
1986	139	102	13	30

*Shortened Proposals—Minimum Evidence*

A summary of the endowment policies accepted on a proposal with minimum evidence and no further medical evidence is shown below.

Year	Males		Females	
	<i>A</i>	<i>A/E</i> (%)	<i>A</i>	<i>A/E</i> (%)
1985	78	85	4	42
1986	182	95	13	42

The results to date are not as poor as I feared, but the long-term results can hardly be favourable. C. O'Brien, writing in *FIASCO*, pertinently suggested that MIRAS might also represent 'Makes Insurance Reserves Actuarially Suspect' or 'Mortality Investigations Reveal Adverse Selection'.

3.5.8 The problems that shortened proposals can cause with death claims is discussed in §7.3. Although the shortened proposal has advantages for computerised underwriting (see Section 10), I hope that, in time, the form is eliminated.

### 3.6 *Delegation of Underwriting Duties*

3.6.1 Underwriting is often centralised at a company's head office and the number of staff involved depends largely upon the size of the company and the amount of new business. Over the years underwriting managers have had to respond to the demands for quick decisions and for cost-effectiveness. Within head offices, departments have been reorganised with the aim that proposals which are clearly acceptable at standard rates are processed quickly and that senior staff only undertake work on the more difficult and complex cases. Thus, a small specialist department of full-time underwriters is maintained, but the standard underwriting duties tend to be integrated with the general processing of new business, where staff spend around 20% of their time on underwriting itself.

This arrangement is intended to improve the turnover of work and decrease the costs of underwriting, but mistakes may be more likely.

3.6.2 An underwriting team may be organised as follows:

3.6.2.1 *Scanners* are junior staff who, by working from rigid guidelines, reach a decision on the proposal alone. For example, a proposer whose only declared impairment is “Bronchitis, 1979, off work 2 weeks” is acceptable at standard rates, while an annual history of bronchitis would necessitate an MAR. Scanners can accept up to a specified sum assured (say, £60,000) at standard rates providing that the medical conditions declared by the client fall within the guidelines. Although significant items may occasionally be missed through carelessness or lack of experience, the errors have to be weighed against the savings in cost. The savings should outweigh the disadvantages, especially if there is routine vetting of their work to ensure that there are no staff who consistently make underwriting errors.

3.6.2.2 Scanners would pass the other proposals and any medical evidence on to *Junior Underwriters*, who can accept proposals up to sums assured of, say, £150,000 and, depending upon company policy, may also be able to make decisions on substandard proposers. Again, this has been brought about by a saving in salaries, but it may lead to inconsistency, as a young, relatively inexperienced underwriter is likely to be cautious. Clients may therefore be subjected to harsher decisions than they may deserve. Regular audits of their work by senior underwriters should identify the problems.

3.6.2.3 Junior underwriters would discuss their queries and the larger proposals with *Senior Underwriters*, who can underwrite proposals up to, say, £500,000. In addition to medical underwriting skills, senior underwriters must have the ability to assess financial evidence. Any unusual medical conditions can be discussed with the CMO, who will visit Head Office at least twice a week.

3.6.3 Some companies appoint doctors as full-time *Chief Medical Officers*, but this is rare in the U.K. In any event, it may not be wise to take a doctor away from his patients. Furthermore, the calls on a CMO's time have changed as underwriters accept risks which would be previously shown to CMOs: nowadays, only the more complicated medical evidence is shown to them. A CMO is a necessity, but he is assisted by underwriters who have become increasingly more knowledgeable and professional. Because of the advances in underwriting skills, many proposers who only a few years ago would have been rejected out of hand can now be quoted terms.

### 3.7 *Training of Underwriters*

3.7.1 The view that underwriting is simply the application of a manual to a batch of proposals is on par with saying that all actuarial problems can be solved with a textbook. For example, MARs are often a confusing combination of scribble and medical shorthand. It is only by extensive ‘on the job’ training that an underwriter can become confident about interpreting MARs. High-tech-

nology will only help when printed, computerised information is available from a doctor.

3.7.2 Until recently, training an underwriter was a lengthy and costly exercise which mainly consisted of 'on the job' instruction. Now, with better training facilities and greater confidence in lower-graded staff, both time and costs have been significantly cut. The first level of authority may be up to £50,000 at standard rates, working in stages towards £150,000 sum assured and the authority to handle substandard decisions within a year.

3.7.3 Some 'off the job' training may possibly be provided:

- A trainee may attend a course organised by a reinsurer. If there is a sufficient number to be trained (say, 10 or more), reinsurers are prepared to give 'in house' tuition via a course designed to meet the company's needs as well as the trainees'.
- Various lectures and seminars on underwriting matters can be given by the CMO and senior underwriters. In my own company, a series of videos was made with the previous and long-standing chief underwriter just before his retirement.

3.7.4 It is now recognised that underwriters are crucial to a life office's well-being and one indication of their reformed status is the introduction of a *diploma in life underwriting*, which is jointly sponsored by the Chartered Insurance Institute and the Assurance Medical Society. Although the diploma is to be welcomed, many potential candidates may not study for the examinations because they also have to sit other, more general CII papers. However, much may depend upon the direct offices' view of this qualification in terms of study leave and financial rewards. Whatever the success of the diploma, the bodies are to be congratulated on producing such an informative textbook, although I doubt if many life offices would feel happy in following all their medical assessments.

3.7.5 Up until the 1950s, underwriting was strongly featured in the recommended reading for the actuarial examinations. As life office practice has become more complex, parts of the syllabus have been replaced and the knowledge of underwriting has been reduced. Therefore, few qualified actuaries have an appreciation of underwriting. Of course, most actuaries will not be expected to underwrite proposals, but, then again, many others will not be involved in valuation or investment. Underwriting is as crucial to the stability of an office as its pricing policy and, indeed, one should not operate without the other, so the Institute would be advised to reconsider its attitude.

### 3.8 Marketing

3.8.1 Over the last decade a new breed of complicated, multi-layered life assurance policies has been marketed in the U.K. Amongst the benefits are:

- Options to renew and extend cover.
- Options to increase cover usually in line with the Retail Price Index or a fixed annual percentage, up to 10%.

- Insurability options to increase substantially cover on certain events (e.g. moving house, marriage, birth of child) or at specific dates (e.g. at 5-yearly intervals).
- A range of miscellaneous options (e.g. conversion options, ability to change cover to spouse's life).
- A range of ancillary benefits (e.g. waiver of premium, permanent total disability, dread disease insurance, double accident benefits).

3.8.2 The underwriter has to liaise with the actuary over the degree of anti-selection on such contracts. In theory, at least, the less-fit policyholders take up every option available to them, while the fit lives decline them, perhaps because they do not feel their need is as pressing and perhaps because cheaper cover is available elsewhere. Such speculations have bearings upon the option costs built into the policy and upon the actuarial reserves which a life office must maintain.

3.8.3 Personally, I have never favoured the marketing of these complicated products. The standard contract is difficult enough to explain to the public and the various additions may leave policyholders in confusion. The industry should appreciate that one of the standard marketing acronyms is KISS—'Keep It Simple, Stupid'.

3.8.4 The advent of AIDS and the realisation that policies could escalate to very large sums assured has led offices to cut back on options for new policies in recent months.

### 3.9 AIDS

3.9.1 In addition the advent of AIDS has given underwriting a high profile. A life office's top management appreciate that only underwriters can protect the office from an abundance of policies, particularly with large sums assured, from those in high-risk categories or with the AIDS virus itself.

3.9.2 In Bulletin No. 2 of the AIDS Working Party<sup>(7)</sup>, the effect of various underwriting standards on the projected mortality of a life office is demonstrated. The underwriter has to advise on the effectiveness of the office's actual underwriting practice and the likely result on projected mortality.

3.9.3 The underwriter has an important contribution to make when the office is resolving the equation which balances the reduction in potential marketing loss, premium rate increase, underwriting costs and the desire of everyone to write large volumes of new business.

## 4. ACTUARIAL CONSIDERATIONS

### 4.1 *Premium Rates and Underwriting*

4.1.1 Premium rates depend upon assumptions regarding mortality, future interest rates and the level of expenses. An office's underwriting strategy should therefore be harmonised with its pricing policy, not only for the portfolio as a whole, but also product by product.

4.1.2 A life office develops its products with regard to its target markets, which

have an impact upon mortality assumptions included in premium rates. If an office assumes a high level of mortality (i.e. a greater number of deaths over the years the policies are in force and occurring at earlier durations), its premium rates may not be competitive, but more proposers may be accepted on standard terms.

4.1.3 A special class of business might be undertaken with limited underwriting, whereby the premium rates may be loaded by, say, 20% additional mortality. The increase in new business that limited underwriting brings may outweigh the disadvantages, but the lessons of § 3.5 should never be forgotten.

4.1.4 Another example is a product sold to older lives by coupon advertising in newspapers, where the death benefit in the first 2 years is restricted to a return of premiums. A key selling factor is acceptance on the basis of limited information, so the product incorporates heavy mortality loadings to compensate. Perhaps the CMI should collect mortality statistics for 'over 50s' policies.

4.1.5 Conversely, if a low level of mortality is assumed, the premium rates are more likely to be competitive, but fewer proposals can be accepted at standard terms. An extreme might be a policy which is only available to the 'superfit'.

4.1.6 In essence, it is a question of balance, but an office with both competitive premium rates and a generous underwriting policy is courting trouble.

## 4.2 *Acceptance Terms*

4.2.1 The definition of what constitutes a standard life differs between offices and between contracts within those offices. The chief underwriter, in conjunction with the CMO, operates underwriting standards that are consistent with the mortality assumptions in the premium bases. The standards should be kept under review because of medical and other advances and because of the introduction of new and revised contracts.

4.2.2 The proportion of proposals which can be accepted at standard rates depends upon an office's marketing strategy and underwriting policy. In the recent past, the percentage has been between 90 and 95%, but nowadays the figure can be as high as 97%. About 2% are rated, while the remainder are declined, deferred or reassured. The concept of what represents a standard life has widened dramatically over the last 15 years.

## 4.3 *Underwriting and Mortality Profit*

4.3.1 The mortality experience of life offices is published in the regular bulletins of the CMI bureau. A life office should examine its own death claims and compare them with the 'All Offices' experience. Although the financial effect of an office's mortality experience may fall far short of its interest earnings, it is important that a surplus should emerge, which is an indication of a sound underwriting policy.

4.3.2 Clearly, several components go towards the profit that a life office makes, and mortality is only one variable. Up until the 1980s, an office would expect a profit on its underwriting experience, but the advent of the shortened

proposal, the acceptance of heavily substandard lives, the inclusion of options for further cover without underwriting, and the possibility of numerous AIDS claims has meant that this is no longer a certainty.

4.3.3 Actuaries and management must be aware of the sensitivity of deviations from assumptions. Life offices may reflect on the experiences of general insurers where underwriting losses may be considerable.

#### 4.4 *Calculating Extra Premiums*

4.4.1 In determining underwriting terms, the underwriter has to consider both the nature of the extra risk and the size and the term of the policy, so that an appropriate rating is made.

4.4.2 Translating extra mortality into underwriting terms can be straightforward:

- For term assurance, 50% extra mortality is equivalent to extra premium of 50% of the standard.
- With many flexi-whole life policies, the extra mortality can be added directly to the monthly mortality costs made by cancellation of units.

The level of extra mortality should be presented in a form which will be understood by clients and sales staff. However, some offices confuse their clients by telling them that they are subject to, say, 50% extra mortality.

4.4.3 For endowment and whole life assurances, life offices often calculate tables which show the extra premium per £1,000 initial sum assured according to age, term and amount of extra mortality. The longer the term, the higher the level of extra premium, and, in some instances, a proposer who would be given a substantial rating for a whole life policy may be acceptable with a moderate extra for a 10-year endowment.

4.4.4 Sometimes the extra mortality is converted into a 'years to age' rating. Thus, a 40-year-old male who requires a 20-year contract and is assessed at 100% extra mortality may be charged the standard terms for a male of 47.

#### 4.4.5 *Debts*

4.4.5.1 Instead of paying an extra premium, the policyholder could pay the standard premium for the contract, but receive a lower life benefit. The debt is the amount that the sum assured is reduced by in the first year and, each year the policyholder survives, the debt is reduced in an arithmetic progression. At the end of the contract the full benefit would be payable.

4.4.5.2 Decreasing debts are generally against the policyholder's interest, as the amount of cover is below that requested. Debts are no longer used as a matter of course, except for certain savings contracts with a relatively small life assurance element.

4.4.5.3 The formula for the initial debt is:

$$\text{Initial debt} = \frac{100K}{100+K} \% \text{ of the sum assured,}$$

where  $K$  is the percentage extra mortality. Hence, if a proposer was rated at 150% extra mortality, the initial debt for a 10-year endowment would be 60%. Each year the debt is reduced by 6%, so that the full benefit is available at the end of the period. The debt only applies to the sum assured itself and a 'with profits' policy can participate in bonuses on the full amount.

#### 4.4.6 *Reassessment of Terms*

4.4.6.1 Policyholders should not be encouraged to apply for reassessment of mortality ratings. After all, ratings are based upon the experience of an average group of such lives and not on whether one particular individual will die. It is not practicable to increase the mortality ratings for those whose health has deteriorated and, conversely, they should not be amended for those who have improved. If the office revised the terms for every substandard policy where health had improved, it would be left with ratings solely on substandard lives and their ratings would not cover the risks involved.

4.4.6.2 In practice, such wholesale requests do not happen and an office simply receives occasional one-off requests to review its decisions. These requests should be considered, subject to favourable underwriting. Not to do so would indicate poor public relations and the potential loss of future business, particularly if the client knows he can obtain better terms elsewhere.

### 5. MEDICAL ASPECTS

#### 5.1 *Classification*

5.1.1 There are hundreds, if not thousands, of medical impairments and an office needs a method of classification which will compare one with another and also take into account the degree of severity between one sufferer and another. For example, how does an office contrast a well-controlled insulin-dependent diabetic with a poorly-controlled one with hypertension? How is either to be compared with a sufferer from multiple sclerosis or angina? Then again, how are any medical ratings to be allied to those for other risks?

5.1.2 In actuarial literature of the 1960s, much discussion took place on the *numerical rating* system devised in the U.S.A. Under this system, credits are given for favourable factors, such as good family history or a reasonable physical build, and debits for unfavourable ones, such as high blood pressure or depression. The total represents a client's percentage extra mortality, usually taken to the nearer 25%. To impose a 100% extra mortality rating means that the proposer, over the duration of the policy, is likely to experience double the mortality rates of a person accepted on standard terms. A comprehensive underwriting manual has to be developed or adopted for numerical ratings, but then it is relatively straightforward, if cumbersome, and can be operated by clerical staff.

5.1.3 The insurance profession was sceptical of the concept at first, and among the reservations were:

- (a) A uniform percentage extra mortality is not appropriate for conditions which are independent of age, i.e.  $k + q_x$  instead of  $(1 + k) \cdot q_x$ .
- (b) A significant medical impairment may have its impact reduced through minor credits (e.g. a severe asthmatic who has a normal blood pressure and a good family history).
- (c) There may not be enough information to hand to assess a numerical rating thoroughly.
- (d) The system was developed using U.S.A. statistics which may not be appropriate to the U.K.
- (e) A combination of impairments, such as diabetes with hypertension, may merit more than an addition of the two impairment ratings.

5.1.4 The American life offices are as aware of the drawbacks of numerical ratings as are the U.K. ones. They appreciate that the overall result must look reasonable and that intuition and good judgement play a part.

5.1.5 In the 1960s one major U.K. life office developed a system of underwriting, probably in opposition to numerical rating. An impairment was placed in one of three categories—increasing, constant or decreasing. Examples are:

increasing risks—overweight, hypertension;  
 constant risks—depression (i.e risk of suicide), ulcer;  
 decreasing risks—recent tuberculosis, removal of cancerous growths.

A set of underwriting terms and extra premiums was then devised on severity of impairment and category of risk. Although this classification had merit, it led to divisions which were not warranted in practice.

5.1.6 Most U.K. life offices assess their risks primarily in terms of percentage extras. Most offices allow standard rates for up to 30% or 50% extra mortality, and even higher extra mortality assessments may be disregarded for those aged under 30 to avoid relatively small, additional premiums. Some impairments merit extra risks which are independent of age, in which case the underwriter normally imposes a flat extra premium. A combination of flat extra premium plus a percentage extra mortality is also common.

## 5.2 *Assessing Medical Conditions*

5.2.1 The purpose of this paper is to give an overview of underwriting today, rather than to offer a textbook approach to the assessment of particular diseases. Nevertheless, in order to appreciate underwriting techniques, it is necessary to consider some medical aspects. I have chosen a variety of conditions which are regularly met in practice and which highlight different underwriting problems. I have not included the highly topical myalgic encephalomyelitis (ME) as it has yet to be proved to be a serious organic illness.

5.2.2 The full range of medical underwriting is considered by Dr R. D. C. Brackenridge in his book, *Medical Selection of Life Risks*<sup>(8)</sup>, which is justifiably subtitled *A Comprehensive Guide to Life Expectancy for Underwriters and*



*Clinicians.* Extensive changes in underwriting ratings have taken place between the 1977 and the 1985 editions, although many underwriters may regard some of Dr Brackenridge's assessments as generous. However, his attitude stems from a commendable reluctance to recommend declinature. He encourages reassurers to engage "in experimental underwriting to gain experience of certain impairments where knowledge of insured life mortality is still sparse (e.g. renal transplants, and haemodialysis, acute lymphoblastic leukaemia, etc.). In view of the highly speculative nature of these risks, the sum assured is usually restricted, and rating often has to be by means of a large debt in order to give some sort of protection to the insurer. The important point is that these cases are in the portfolio and, in due course, will yield valuable evidence about how best these risks can be selected in the future." However, ratings over 500% extra mortality produce heavy overall premiums or substantial reductions in cover, and so, in practice, the proposer rarely goes ahead with the policy. The results of experimental underwriting of up to 1000% extra mortality were to be monitored in the North American market, but the experiment could not be carried through because of the low rate of completion.

5.2.3 By way of contrast to Dr Brackenridge, it is instructive to look back on Hewat and Penn's 'Life Assurance Underwriting'<sup>(9)</sup>, which was presented to the Faculty in 1954. Their excellent medical summaries are tempered by cautious underwriting decisions, which reflected the mood of the day. Someone who, as a result of an accident, has had a leg amputated above the knee is charged an extra premium. The authors explain, "It is our experience that persons who have suffered amputation above the knee tend to put on weight through lack of exercise." Although there may be some small extra mortality associated with amputation (e.g. below 20% on North American statistics), no office today would impose a rating for this alone. A. C. Stepney in the discussion of the paper said, "Many of our life underwriters work too closely to the principle that it is better to be safe than sorry and that it is easier to decline than accept." That is no longer the case: there is too much competition—and too much pressure from salesmen—for it to be otherwise.

5.2.4 It is evident from Hewat and Penn's paper that many actuaries of that time were involved in day-to-day underwriting decisions and were in regular contact with their CMOs. This has changed, as few major offices currently appoint actuaries as their chief underwriters. I have borne in mind that most actuaries will have little practical knowledge of the conditions I am writing about and, whenever possible, I have avoided medical jargon.

5.2.5 A U.K. life office, at the present time, has to form its underwriting policy from the following sources:

- (i) Some limited data from its own mortality experience.
- (ii) The experience of its underwriters and CMOs.
- (iii) Information on medical and clinical trials, plus some population statistics.

- (iv) Discussions with reassurers and studies of their manuals. (Reassurers tend to monitor mortality more closely, and in greater detail, than direct offices.)
- (v) Discussion with underwriters from other offices. (Unlike many aspects of insurance work, there is a relatively free exchange of information.)

5.2.6 Underwriters in the U.K. are hampered in their assessments, as there is no large body of impaired lives statistics. Few life offices have sufficient rated policyholders to merit an investigation which would analyse mortality against the ratings imposed. Only in recent years has the CMI started to collect statistics for substandard lives according to the nature of the rating.

5.2.7 On the other hand, in North America, the results and the surveys of the Medical Impairment Committee are available. The 1983 Medical Impairment Study gives a comparison, based on reliable volumes of data, of actual to rated mortality for many impairment groups. Comparison is made with the 1951 study which shows changes in mortality and reflects changes in underwriting standards. Despite the wealth of statistics, marketing pressure could sway decisions, and the terms for coronary artery disease were under-rated for many years.

5.2.8 Offices have different views on impairments and they do not publish their underwriting guidelines, as intermediaries could take unfair advantage of them. Because of the diversity of assessments, it is not possible to state industry-wide ratings for particular impairments. In order to obtain an overall view, I sought the ratings of certain conditions from 12 large U.K. life offices. The ratings shown are a blend of their assessments and I have commented on significant variations.

### 5.2.9 *Smoking*

5.2.9.1 The serious effects of cigarette smoking are now appreciated by the U.K. population. Clinical tests and statistics show that smoking is associated with lung cancer, in particular, and has a high incidence in many other cancers. In addition, smoking is associated with a greatly increased risk of heart disease, respiratory disease, and hypertension.

5.2.9.2 There has been a significant decline in smoking habits, especially of those in the higher socio-economic groups. The decline in cigarette smoking is less marked amongst women, who traditionally have smoked less heavily than males, and amongst some young people.

5.2.9.3 Traditionally, offices did not differentiate between smokers and non-smokers and based their premium rates on aggregate rates. More recently, offices have introduced smoking differentials, especially for term assurance. A discount of 30% may be available to non-smokers.

5.2.9.4 A typical question on a proposal asks, "Have you smoked any cigarettes during the past year?", and, if a proposer answers "Yes", he does not qualify for the discount. There is controversy as to how offices define a non-smoker. The majority of life offices classify pipe and cigar smokers as non-

smokers and yet penalise a proposer who only smoked one pack of cigarettes a year, assuming the proposer admits to this. I find this illogical and I would prefer a question along the lines, “Have you smoked tobacco on a regular, daily basis during the past year?” This approach would put all smokers in the same category, although the risk for pipe and cigar smokers is not as high. No office has developed a three-tiered approach (say, non-smokers; pipe, cigar or light cigarette smokers, and heavy cigarette smokers) and the logistics make it unlikely for the future.

5.2.9.5 The underwriting terms in § 5.3 are applicable to an aggregate table of rates. When smoking can worsen a medical impairment, the additional extra is given.

### 5.3 *Medical Conditions*

#### 5.3.1 *AIDS*

5.3.1.1 Most serious medical impairments relate more to older lives, hence the adage ‘Underwriting begins at 40’. Relatively few deaths are normally expected before age 40, so even a small increase can have a marked bearing upon premium rates. Until the advent of AIDS, the industry had based its assumptions upon its improving mortality experience, but AIDS has changed the way that actuaries and underwriters think. The effect of AIDS is dealt with briefly here and readers are referred to the reports of the Institute of Actuaries AIDS Working Party<sup>(5.7,10–12)</sup>.

5.3.1.2 In the U.K., the Government has identified the people most at risk from the AIDS virus as being homosexuals, bisexuals, intravenous drug abusers, haemophiliacs, or sexual partners of the same. Life offices are anxious to identify proposers who may be at risk and they have been criticised in the media, particularly by gay organisations, for questioning proposers about their lifestyles. To my mind, however, the industry has tackled a difficult problem diplomatically and the criticisms are only to be expected. For example, when I discussed AIDS and life assurance with the Bristol Actuarial Society, every member supported the view that it was necessary to obtain such information. When raising a similar question at a meeting arranged by the Mersey Regional Health Authority, nobody appeared to agree with me! Their view, expressed somewhat forcibly, was that life offices should not penalise the hapless individuals who happened to be HIV positive by refusing them insurance. My argument that life offices were not charities, but in business to make a profit, was not well received. I stressed, amongst great disbelief, that offices were not making moral judgements.

5.3.1.3 Ironically, one critic of the industry’s stance is the insurance weekly *Post Magazine*, whose editorial of 20 April 1989 stated that it had been “unashamedly critical of some ill-considered and inadequate responses by the industry” and that “the AIDS question on proposal forms and the supplementary lifestyle questionnaires are worse than useless”. This, I believe, is nonsense, as the industry has acted with both sense and sensitivity.

5.3.1.4 The SQ asks a client if he is in a high risk group. As AIDS spreads to

the heterosexual community, it may be necessary to widen the form, so that it asks everyone about their number of sexual partners and whether they visit prostitutes. As many proposals are completed jointly by husbands and wives, it is easy to appreciate that the correct information may not be forthcoming. Australian life offices have adopted the questionnaire which is used by their blood transfusion service. In essence, they ask proposers whether they are practising safe sex and, if they are, why they think it is safe. It would be instructive to learn how accurately they believe the forms are completed. Although life offices in the Republic of Ireland ask proposers, "Have you any reason to believe that as a result of your lifestyle or occupation, you might be exposed to the AIDS virus?", it is unlikely that many will answer "Yes".

5.3.1.5 Examples of the sum assured limits at which SQs and HIV tests are required automatically were given in §2.11.1. The limits are subject to regular review and the AIDS Working Party believes that HIV testing limits may drop, in time, to £50,000.

5.3.1.6 Whilst underwriters welcome additional information, the administration and costs of thousands of HIV tests must be borne in mind. An HIV test, with counselling, can cost between £15 and £35. My own office has called for 1000 HIV tests and, although we have just experienced our first positive result, I consider a lowering of the limits to be unnecessary at this stage. An MER, where the examiner has been briefed to comment on the proposer's personal history, is usually more valuable than a laboratory test which tells us whether or not he has contracted the AIDS virus. Incidentally, the latest indications from U.S. life offices suggest that blood is also tested for other abnormalities. This increases costs, but means that more information is available to the underwriter.

5.3.1.7 The reliability of tests for the AIDS virus is no longer in question, but a person can have the virus and not be HIV positive for 3 months, and possibly even longer. It would be totally impracticable to defer decisions on all proposals involving a negative HIV test for 3 months.

5.3.1.8 SQs, and possibly HIV tests, should also be requested when the circumstances suggest caution, e.g. two single males buying a house together, or a proposer with a history of sexually-transmitted disease. However, I do not place great reliability on the answers to SQs. It is widely believed that 5% of the male population is homosexual and yet only around 1% of SQs come back positive. It is feasible that the SQ acts as a deterrent, but not surely to that extent.

5.3.1.9 Any individual who is HIV positive must be refused insurance and the same applies to promiscuous homosexuals. The decisions made by the 12 offices described in §5.2.8 for a non-practising homosexual or one in a stable relationship, say, of at least 2 years' standing, are as follows:

- 2 offices—decline (but offer for reassurance),
- 7 offices—£5 per £1,000 sum assured per annum,
- 2 offices—£3 per £1,000 sum assured per annum,
- 1 office —standard rates.

A difficulty is in establishing that the proposer is in a stable relationship,

because proposers may not supply accurate information about themselves. Also, we have no way of knowing how long a relationship may last, thereby leading to other, possibly infected, sexual contacts. Life offices may ask a medical examiner to question the proposer, but, because they cannot vouch for the accuracy of the answers, the range of decisions for underwriting a stable homosexual is wide. The extras are quoted 'per £1,000 sum assured per annum', rather than as percentages of the mortality rates, because the additional risks do not depend upon age.

5.3.1.10 Because a life office will not obtain accurate information from many proposers and because it will not request SQs or HIV tests for many others, it will never eliminate the risk completely through sound underwriting. Underwriting is, therefore, not the complete answer to a life office's problems and an office's underwriting policy needs to be considered alongside increases in its premium rates, AIDS exclusion clauses and the possible repudiation of death claims. The situation has to be kept under constant review, but underwriters must ensure that marketing pressures do not lead to changes which give generous decisions on proposers who may be at high risk from the virus.

### 5.3.2 *Alcoholism*

5.3.2.1 Identifying persons with an alcohol problem is nebulous. When does a person who 'likes a drink' become a heavy drinker? And when does that heavy drinker become an alcoholic? If an MAR indicates a history of heavy drinking or if the proposer is a publican, an MER is recommended. The examining doctor can question the proposer about his habits and look for a palpable liver and abnormalities in his nervous or cardiovascular systems. A precautionary rating of 50% extra mortality is reasonable for a proposer who has a daily consumption of more than 4 double-gins, 4 pints of beer or a bottle of wine (i.e. 8 or more units a day) and yet has no physical or mental signs of alcoholism. It is, however, difficult to obtain acceptance of such extras and clients sometimes obtain their GPs' support and complain to senior management. Overall, I suspect, offices often underwrite such proposals leniently.

5.3.2.2 A proposal from a client who is undergoing treatment for alcoholism should be deferred for 2 years.

5.3.2.3 A reformed alcoholic, with total abstinence for over 2 years and no relapses, should be medically examined. Providing everything is satisfactory, a rating of £5 per £1,000 sum assured per annum for the balance of 5 years since the date of treatment, together with a constant rating of 100% extra mortality, can be applied. If a client has been dry for 10 years and the examination is unremarkable, a rating of 50% extra mortality can be charged. I would be reluctant to accept the client at standard rates because there is *always* the possibility of relapse.

5.3.2.4 No terms can be given to a treated alcoholic who is still drinking, albeit in moderation. However, North American doctors are experimenting by allowing some alcoholics to return to normal social drinking. This approach is fraught with danger and the results cannot be predicted.

### 5.3.3 Anaemia

5.3.3.1 Anaemia is a reduction in the number of red blood cells or haemoglobin, the chemical that carries the oxygen in the red blood cells of the body. A person with anaemia may feel tired and weak.

5.3.3.2 There are many forms of anaemia, but an underwriter need not be concerned about a previous history of anaemia when it has been brought about by an inadequate diet (presuming the client is now eating normally), haemorrhoids, heavy periods or pregnancy.

5.3.3.3 If anaemia has been caused through loss of blood following another disorder, such as an ulcer or cancer, then it should be assessed with the underlying condition.

5.3.3.4 A different form of anaemia is pernicious anaemia, which is due to a deficiency of vitamin B12. It is cured by regular injections of this vitamin. Providing the client has the condition under control, acceptance can be at standard rates.

5.3.3.5 Forms of anaemia which involve the excessive destruction of red cells are sometimes recorded in East European and coloured people. Those with *thalassaemia major* or sickle cell disease are usually declined, but those who are carriers (i.e. *thalassaemia minor* or sickle cell trait) can be accepted at standard rates providing the carrier state can be verified.

### 5.3.4 Arthritis

5.3.4.1 The words 'arthritis' and 'rheumatism' are used indiscriminately on proposal forms to denote a wide variety of aches and pains. Arthritis is defined as the inflammation of a joint. Arthritis does not directly threaten the life of the sufferer, but it may restrict a person's activities, induce a poor state of health or be generally debilitating.

5.3.4.2 Osteoarthritis, which is due to 'wear and tear' of the joints, is the most common form of the disease, particularly affecting the elderly in their hips, knees and shoulders. The treatment is often remedial exercises, but if a hip replacement is planned in the near future, it is prudent to defer the proposal until the operation has taken place. Most proposers can be accepted at standard rates and even a sufferer with frequent symptoms and some deformity only merits a rating of 50% extra mortality. If there is a cause for the disease such as obesity, the rating should be for the underlying cause.

5.3.4.3 Rheumatoid arthritis is a much more serious and progressive condition, which can occur at any age. An MER is needed as well as information about the diagnosis, treatment and degree of deformity. A 50% extra mortality is appropriate for mild cases, but, if the disease is active, the rating could be 100 or 150%. Steroids are prescribed for severe cases and, since these drugs bring their own problems with possible side-effects, an additional 50% is recommended for the treatment itself.

### 5.3.5 Asthma

5.3.5.1 Asthma is bouts of wheezing and breathlessness brought about by a

narrowing of the airways. It can be caused by an allergy, such as a reaction to house dust, cats or even caviar. If so, the sufferer has to avoid what is causing the irritation and, in most cases, is acceptable at standard rates. The patient may be always susceptible to attacks and the nature of the attacks may change. Another variation, hay fever, can be disregarded.

5.3.5.2 An MAR gives information about the frequency and severity of the disease as well as its treatment. The underwriter should be wary of hospital admissions, especially for emergencies. A sudden attack of *status asthmaticus* can be fatal. In all but the mildest cases, an MER is recommended so that further information can be obtained about general appearance, height and weight, family history, chest condition, blood pressure and smoking habits.

5.3.5.3 Asthma can range from a minor irritation to a severe disease, where there is a risk of respiratory and heart failure. The following is a guide to rating asthmatics:

Control	Hospital admissions	Steroid treatment	Time off work	Signs on MER	Extra mortality
Good	No	No	None	None	Standard
Reasonable	Not emergency	Inhaler	4 wks p.a.	Minimal	50–100%
Poor	Emergency	Oral	Plenty	Yes	150% to decline

- Severe cases can be treated more favourably if there have been no attacks in, say, the last 2 years.
- An extra 25–50% should be added to the ratings if the asthmatic smokes.
- Extreme caution is necessary if other respiratory diseases, such as bronchitis, are present.

### 5.3.6 *Bronchitis*

5.3.6.1 Underwriting bronchitis is similar to underwriting asthma. Bronchitis (inflammation of the bronchi) can be mild, but it can lead to progressive impairment of the respiratory function and cause additional heart strain. The decisions stretch from standard rates to decline. If bronchitis occurs annually or more frequently, an MER as well as an MAR is essential, to see what, if any, damage has occurred (e.g. rhonchi in the chest, shortness of breath, cardiac weakness) and whether the proposer smokes.

5.3.6.2 A life who has attacks, say, every 2 years with no hospital admissions can be accepted at standard rates. A guide to underwriting bronchitis is:

Frequency	Time off work	Regular cough?	Signs on MER	Extra mortality
Winter	Few days	Possibly	None	To 75%
Often	4 weeks p.a.	Yes	Rhonchi	100–125%
All year	Often	Chronic	Many	150% to decline

- As with asthma, an extra 25–50% should be added to the ratings if the life continues to smoke.
- Attacks of bronchitis are likely to worsen with age. Hence, a policy which

- matures before age 50 can be considered more favourably than a whole life contract.
- Bronchitis may also be associated with bronchiectasis, which is a dilation of the bronchial tubes, and is associated with chronic infection. Such lives call for severe ratings.
- The occupation should be noted. A coalminer with moderate or severe bronchitis is a poor risk.

### 5.3.7 *Cancer*

5.3.7.1 Death from cancer accounts for 30% of all U.K. deaths. Tumours fall into two broad groups—benign tumours, such as cysts, which are generally not life-threatening, and malignant tumours, which cause death if not totally removed. Malignant growths can occur in any part of the body and hundreds of different types have been identified. Some are more severe than others, but, after treatment, there is always the risk of recurrence.

5.3.7.2 Whenever a proposer says he has had a cyst or a tumour removed, a life office must obtain an MAR to ascertain whether the growth was cancerous. If it was, the underwriter will need to know when it occurred, the treatment given, the histology, how widespread it was, and whether there has been any recurrence.

5.3.7.3 Underwriters will not consider a proposer who is currently afflicted with a malignant tumour. Terms can be offered if successful treatment of a cancerous growth has occurred in the past. A possible loading is between £5 and £20 per mille, depending on the degree of malignancy and spread, for the balance of 10 years since removal with 50% extra mortality being charged throughout. Heavier rates may be quoted for proposers who continue to smoke. Some offices may accept a proposal at standard rates if there has been no recurrence for over 10 years.

5.3.7.4 Diplomacy is needed if a rating is being imposed and the proposer is unaware of the condition. For example, he may think that he had a cyst removed, which is insignificant, whereas it was cancer. His GP can be consulted before the decision is made, so that he can advise on the most sympathetic approach.

5.3.7.5 Two of the more common forms of cancer can usually be disregarded for underwriting purposes, providing they are well documented:

- Basal cell carcinomas, or rodent ulcers, occur on the skin and are usually caused by exposure to sunlight. Once the growth has been removed, the proposer can be accepted at standard rates.
- Carcinomas of the cervix are sometimes found on routine cervical smears. Providing the tumour has been wholly contained in the section removed and the follow-up smears have been negative, the proposer can be accepted at standard rates.

### 5.3.8 *Depression*

5.3.8.1 Depression is used, in common parlance, to convey a mood which covers everything from mild sadness to an advanced neurotic state. Clinical



depression is a psychological illness which involves excessive self-criticism, brooding and guilt feelings, which may lead to psychological withdrawal, aggression or hostility. With all mental illness, the underwriter assesses whether the proposer is prone to suicide or damage to his general health by failure to take care of himself and a reduction in the 'will to live'.

5.3.8.2 Even though 15% of the population has treatment for depression at some time in their lives, there is still a social stigma attaching to the condition. Many feel that a person should be able 'to snap out of it', although doctors recognise that this is frequently not possible. Therefore, many proposers hide their history of depression: severe depression may be shown as 'anxiety' or not mentioned at all. Any indication of a mental disorder merits an MAR to ascertain the true position. Generally speaking, an MER is of limited value as almost anybody can behave normally for 20 minutes.

5.3.8.3 An MAR may be accompanied by a special questionnaire so that a full insight into the proposer's condition is gleaned. An underwriter wants to know whether the depression is a reaction to events (e.g. stress at home or work, childbirth, death in the family) or whether it occurs for no apparent reason ('endogenous'). It is important to know the dates, times off work and hospital treatment, while the medication gives an indication of its severity. MAO (monoamine oxidase) inhibitors and courses of ECT (electroconvulsive therapy) are designed to blast the sufferer back to normality, but they can have side-effects. Any suicidal tendencies add to the assessment.

5.3.8.4 A guide to underwriting depression is:

- (i) Acute anxiety or mild depression brought about by stress or grief:

One or two episodes	Standard rates
Recurrent	50%

- (ii) Moderate depression—on anti-depressants, up to 4 weeks off work, outpatient:

Current	Defer 6 months
In last 2 years	100% for balance of 2 years
Over 2 years ago	Standard rates
Recurrent	100%

The extra is limited in the second category because many policyholders will have no further trouble and it may be harsh to impose terms throughout life. An alternative view would be to impose an extra of 100% and offer to review it after the balance of 2 years.

- (iii) Severe depression—may be courses of ECT, off work for long periods, inpatient:

Current	Defer 1 year
In last 4 years	100% for balance of 4 years
Recurrent	200% to decline

5.3.8.5 Many depressives lead long, unhappy lives and probably the most important threat to their life expectation is the additional risk of suicide. If a

proposer has a history of attempted suicide with depression since, a life office would either decline the risk or impose a large rating. If there have been no recent episodes of depression, the following is a guideline:

One or two attempts at suicide:

Within last 2 years	Defer for balance of 2 years
Within last 5 years	200% for balance of 5 years
Over 5 years ago	Standard rates

Three or more attempts      Decline

5.3.8.6 It must be stressed that this is purely a guideline, as offices differ widely in assessing these risks. I asked the 12 to comment on a proposer with two suicide attempts 5 years ago, no underlying illness and no depression since; 6 offices imposed a temporary extra, usually £5 per mille per annum for 3 years, 3 assessed the risk in terms of percentage extra mortality (75%, 100%, 150%), 1 took it at standard rates and 2 imposed a combination of the two rating methods, the more severe being 50% extra mortality with £10 per mille for 2 years.

5.3.8.7 The following factors should also be borne in mind when considering attempted suicide:

- The underwriter should consider the circumstances and a ‘cry for help’ can be viewed more favourably than a genuine desire to do away with one’s self.
- Even if an office has a clause in its policies whereby the sum assured is not paid on death by suicide in the first year(s) of a policy, it would be foolhardy to ignore the ratings. It can be difficult to differentiate between an accidental death and a suicide and hence a claim may still be payable.

5.3.8.8 So far we have considered depression whereby the sufferer knows what is happening around him, but feels unable to cope. An alternative form of depression is psychosis, where the sufferer escapes into a fantasy world, which sometimes can be induced by alcohol or drug abuse. A life office will usually decline manic depressives or schizophrenics, unless there have been marked signs of recovery, such as 5 years without any incidents.

### 5.3.9 *Diabetes*

5.3.9.1 Diabetes mellitus occurs when the pancreas does not produce enough insulin for the body’s needs. Diabetes is not curable and the standard treatment is to control it by regular injections of insulin combined with a strict diet. In some cases, control can be achieved by diet alone or with oral drugs. With treatment and discipline, a diabetic can often lead a normal lifestyle. Poor control can lead to comas (which are brought about by excessive insulin or too little food), general deterioration leading to other metabolic disorders, damage to the blood vessels, retina, kidney, and nervous and cardiovascular systems. It is regrettable that many diabetics do not follow their diets or comply with treatment.

5.3.9.2 An MAR with a diabetic questionnaire gives the history of the disease,

but an MER is also necessary to check for complications such as eye disorders, hypertension and excessive sugar in the urine.

5.3.9.3 Effectively, there are two types of diabetes and the more favourable is maturity-onset diabetes (Type II diabetes). Despite its name, it can occur at any age, although it is generally found in the middle-aged and elderly. It is often discovered in overweight lives and may be controlled by diet alone. Providing that the life is less than 40% overweight, is a non-smoker and presents no complications, the decisions from the 12 offices in the survey are:

1 office—100% extra mortality,  
6 offices—50% extra mortality,  
5 offices—standard rates.

Maturity-onset diabetes is frequently found in Asian lives. A much higher proportion of a life office's business is from the Asian community than, say, 25 years ago and an underwriter will often be rating such lives.

5.3.9.4 Insulin-dependent diabetes is generally more severe and, providing there are no complications, an underwriting guide is:

Less than 100 units of insulin a day:	
Within 2 years of diagnosis	Defer for balance of 2 years
Diagnosis less than 10 years ago:	
Age 18–40 now	150%
Over age 40 now	100%
Diagnosis more than 10 years ago:	
Age 18–40 now	200%
Over age 40 now	150%
More than 100 units of insulin a day	Decline

- If the life smokes, 25–50% should be added to the ratings.
- Frequently, it is the MER that first reveals the presence of sugar in the urine and the possible presence of diabetes. Such proposers should be referred to their medical attendants.
- Complications such as obesity and hypertension increase the loadings and may lead to declination.
- Generally speaking, the longer a life has diabetes the more likely he is to suffer from complications and other associated illnesses, hence the ratings are highest for the younger lives who have already had the disease for 10 years or more.

### 5.3.10 *Epilepsy*

5.3.10.1 Epilepsy is due to a paroxysmal abnormal electrical activity of the brain, which gives rise to a seizure or a fit with the risk of death. Epileptics have a raised risk to accidents, hence uncontrolled epileptics are not allowed to drive.

5.3.10.2 An MAR is required to ascertain the date of onset, the frequency and

severity of attacks, date of last attack, and drug therapy. Any underlying cause should be noted: for example, it is unusual for a life over 40 to start having fits and if this occurs, it may be due to a brain tumour or alcohol abuse rather than epilepsy. An MER is only required if the history of the disease is either unclear or severe.

### 5.3.10.3 A guide to underwriting epileptics is:

Within 2 years of first attack	Defer for balance of 2 years
No attacks for 2 years	Standard rates
Up to 12 attacks p.a.	50%
More than 12 attacks p.a.	100% to decline

- Standard rates may be given to a proposer who is free from attacks even if he is on medication, but 2 of the 12 offices in the survey impose a rating of 50%.
- Occupation and pastimes may involve an additional risk, e.g. an epileptic window cleaner may have a fit while on a ladder or a diver may have one underwater.
- A proposal can be considered more favourably if the attacks are mainly nocturnal.
- As with diabetes, the underwriter should be wary of poor compliance with treatment.

### 5.3.11 Heart Disease

5.3.11.1 Medical advances in the diagnosis and treatment of heart disease over the last 25 years have led to improvements in longevity and hence underwriting decisions. Some people who had conditions which were previously uninsurable may now be acceptable for life assurance.

5.3.11.2 Heart disease forms a huge and highly complex subject and no more than a brief summary can be given here. Dr Brackenridge devotes 139 pages to the subject in *Medical Selection of Life Risks*<sup>(8)</sup> and the interested reader should refer to it. By and large, the disorders can be placed in three categories—congenital, ischaemic and rheumatic—and each is considered separately here. All conditions call for an MAR and usually an MER. The MER should be conducted by a consultant physician, because he has more experience in the assessment of cardiac abnormalities than a GP. In some cases, an electrocardiogram (ECG) will be requested. The papers are often passed to the CMO for a decision.

5.3.11.3 Sometimes heart murmurs and other disorders are discovered on routine MERs. Unless they can instantly be dismissed as insignificant, the proposals have to be deferred until expert assessments have taken place. For example, extra systoles can indicate a serious irregularity, or it can simply mean that the proposer has been drinking too much coffee!

5.3.11.4 Congenital defects are those with which a person is born, and some are so severe that death is inevitable within a few weeks. Nowadays, many young children have had operations to repair the deformities (e.g. 'hole in the heart' operations), after which they may be able to lead full and active lives. In many

cases, standard terms can be given when the person in adulthood seeks life assurance.

5.3.11.5 Ischaemic heart disease occurs when there is insufficient blood being pumped to the heart muscle. The conditions include myocardial infarction, due to narrowing of the coronary arteries (i.e. coronary thrombosis), and angina. Full information about the diagnosis is needed from the life's GP. Sometimes it may not be possible to ascertain whether or not chest pains represent a heart attack and the life office has to be guided by the medical examiner. An acute bout of pericarditis (inflammation of the outer sac surrounding the heart) may resemble a heart attack, but, once the proposer has recovered, he may be acceptable at standard rates. The ratings for ischaemic heart disease are a combination of a limited extra premium together with an extra mortality factor throughout the term. A guide is:

Within a year of returning to work	Defer for balance of year
Between 2 and 10 years of returning to work	£15 per mille for balance of 6 years + 150%
After 11th year of returning to work	100%

- It is essential that the proposer has good compliance with treatment and review dates.
- Additional ratings are imposed for a family history of cardiac disease (say, two deaths in the immediate family before age 60), a continuation of smoking, being overweight and having high blood pressure.
- Ratings do not differ significantly between the 12 offices in the survey and often stem from Dr Brackenridge's recommendations. However, many offices, particularly the smaller ones, will prefer to reassure such risks.

5.3.11.6 An MAR should be obtained when a proposer says he suffered from rheumatic fever in childhood, because it may have left him with a valvular disorder. If the disease is well-documented and there are no aftereffects, the proposal can be accepted at standard rates without an MER. If, however, there is rheumatic valve disease, an MER is necessary and the underwriting decision depends upon the nature of the defect. Rheumatic fever was often caused by poor living conditions and, with the vast improvements in housing standards, very few new cases occur today.

### 5.3.12 Hypertension

5.3.12.1 The pressure of blood in the circulatory system is not constant. When the heart contracts, blood is pumped into the arteries and the pressure is high (systolic pressure). The heart then relaxes, at which time the pressure is lowest (diastolic pressure). Blood pressure increases with age, principally due to the loss of elasticity in the arteries, which occurs with ageing. High blood pressure (hypertension) is when the reading is above the average for the person's age and sex.

5.3.12.2 Hypertension, which has a more serious prognosis in males, can lead

to increased risks of most types of heart disease and can be associated with degeneration of the arteries. There is a high correlation between hypertension, arterial degeneration and coronary thrombosis, which is the most common cause of death in males. As hypertension is an accelerator of arterial disease, there is a greater risk of cerebral haemorrhage and also renal damage.

5.3.12.3 When proposers say they suffer from 'blood pressure', they mean high blood pressure or, in medical terminology, hypertension. It may be associated with another condition or it may occur on its own—the so-called 'essential hypertension', which is dealt with in this section.

5.3.12.4 When raised blood pressure readings are mentioned on the proposal, an MAR should be requested and the GP asked for details of pre-treatment readings, investigations undertaken, treatment and current blood pressure. In some instances the life may have a labile (or variable) blood pressure, which can usually be disregarded. Similarly, high blood pressure in pregnancy may only be of significance if the proposer is currently pregnant. Otherwise, an MER should be obtained to ascertain current blood pressure, compliance with treatment, adverse features, such as being overweight or smoking, and any signs such as enlarged heart, retinal changes or kidney disease.

5.3.12.5 A person may not suffer any discomfort from having a raised blood pressure, hence hypertension is sometimes only discovered on a routine medical examination. An examiner may remark that a high reading was caused through anxiety or nervousness, but such a view should be taken cautiously, as the proposer will suffer many other events or dramas during the policy's lifetime and, again, high readings may result. Tables have been devised which convert the two-pronged systolic and diastolic blood pressure reading to a level of extra mortality and, if the mortality falls between 50 and 100%, the proposer should be rated accordingly. If the extra mortality exceeds 100%, the decision should be deferred for 6 months and a copy of the MER sent to the GP, so that he can control the problem.

5.3.12.6 When the proposer is on treatment for hypertension, an average of the extra mortality factors for his pre-treatment and current blood pressure should be taken. If there are no other adverse features, the average can be given as a rating for the contract. Some CMOs regard the pre-treatment level of little significance and say the current position is all-important. However, I would be reluctant to accept a proposal at standard rates even when the blood pressure is at an acceptable level. There is the possibility that the proposer may fail to comply with his long-term therapy and hence an extra mortality factor of 50% is always justifiable. If the proposer is on treatment, but the level of extra mortality on the current reading exceeds 75%, the proposal should be deferred for 6 months and a copy of the MER sent to the GP. Additional ratings would be charged for smokers.

5.3.12.7 Hypotension, that is, low blood pressure, is often seen in young females and athletes. Hypotension is only of underwriting significance when it is associated with a medical condition such as Addison's disease.

### 5.3.13 *Kidney Disease*

5.3.13.1 Chronic renal failure occurs gradually and is the terminal stage of many kidney diseases. Kidneys are crucial to the regulation of blood pressure, and renal failure is often associated with high blood pressure. In turn, high blood pressure can damage the kidneys and a progressive deterioration can occur. Acute renal failure occurs when the urinary output is stopped. If the condition cannot be rectified, then death will result within a few days.

5.3.13.2 Most diseases of the kidneys and urinary tract must be carefully investigated and a GP should be asked to give details of the results of any investigations, operations and current treatment.

5.3.13.3 Just as there are congenital disorders of the heart, people can be born with deformed kidneys. However, misshaped kidneys which function normally do not preclude acceptance at standard rates. An MER is recommended to ensure that blood pressure and urinalysis are normal and that there are no other symptoms of chronic or serious kidney disease. If there is some abnormality, the proposal may have to be referred to the CMO.

5.3.13.4 The most common kidney disorder seen by underwriters is renal calculus (kidney stone). If there is a history of kidney stones, an MER is necessary to ensure that there is no evidence of disease. An underwriting guide is:

Single attack	
Within last 3 months	Defer 3 months
Over 3 months ago	
stone passed normally	Standard rates
stone removed by operation and full recovery	Standard rates to 50%
stone still present	50–75%
Recurrent attacks	
Hospital investigations, nothing adverse discovered	Standard rates
If not investigated fully, but normal MER	75–100%

– The offices in the survey were asked to assess a proposer who still had a stone present:

2 offices—75% extra mortality  
 7 offices—50% extra mortality  
 3 offices—standard rates.

– If there is a stone in each kidney, the proposal should be referred to the CMO.  
 – Any kidney damage should also be assessed by the CMO.

5.3.13.5 The presence of protein in the urine on a routine MER needs to be investigated. If an early morning specimen of urine is clear, the condition can be ignored. Similarly, a history of cystitis can be disregarded in females.

5.3.13.6 If a proposer has had a kidney removed, it is necessary to know why. It could be as a result of kidney stones, a malformation, an accident or a serious disease. Providing there is no sinister cause and there is a clear MER, a proposer

can be accepted at 50% extra mortality. The rating is recommended because the proposer could suffer a disease in his remaining kidney.

5.3.13.7 Proposers who have had kidney transplants require expert assessment. Even if the operation appears to have been successful and more than a year has passed, there is the possibility that the disease may recur and damage the new organ. It is possible to offer terms to those on dialysis even though the terms will be severe.

#### 5.3.14 *Multiple Sclerosis*

5.3.14.1 Multiple sclerosis is a chronic disease of the nervous system. There can be long remissions and its course to paralysis and death can take several years.

5.3.14.2 A person who complains of weakness in his limbs or of visual disturbances may be displaying the first signs of multiple sclerosis. However, the diagnosis may only be tentative, as it is the accumulation of such complaints that leads to the diagnosis. Indeed, the episode may be insignificant. It would be unreasonable to rate a tentative diagnosis as the real thing and yet it should not be ignored until a sufficient time has elapsed. The guidelines for up to two such episodes with no signs on MER are:

Since attack	One episode	Two episodes
Within 1 year	75%	125%
Within 2 years	50%	75%
Within 3 years	Standard	50%
Thereafter	Standard	Standard

If there have been more than two episodes or there are abnormal signs on MER, the rating is likely to be that for multiple sclerosis itself.

5.3.14.3 A definite diagnosis of multiple sclerosis calls for an MER from a consultant physician. Providing there are no signs on MER, the guidelines are:

Since attack	Age under 40	Age over 40
Within 2 years	300%	200%
3rd and 4th years	200%	150%
5th year	150%	100%
6th year	100%	75%
7th–10th years	50%	50%
Thereafter	Standard	Standard

- Any abnormal signs on MER should be referred to the CMO for assessment. The loadings may be increased and, in some cases, the proposal will be declined.
- A life office is unlikely to offer terms beyond age 60, and certainly not a whole life contract. An alternative suggestion can be made to the proposer.

5.3.14.4 Because the diagnosis of multiple sclerosis may be tentative, the GP may decide not to inform his patient of the possible cause of his complaints. The



receipt of a letter subjecting him to an additional premium on grounds of health may come as a shock and it may therefore be prudent to discuss the decision with the GP first.

### 5.3.15 Obesity

5.3.15.1 Although being overweight is common, it can be serious. Cases where obesity is due to thyroid or pituitary disorders are relatively few. Most people are overweight through too much food and too little exercise. Their calorie intakes are greater than their bodily needs, so fat develops, and they may not be willing to change their lifestyle. Those who are overweight are more prone to cardiovascular disorders, hypertension, diabetes and many other complaints.

5.3.15.2 Not everyone is expected to be the same weight. What is normal for a 6-foot male would be gross obesity for a 5-foot female. Average weight depends upon sex and height, and also age and race. The following is a guide as to the maximum weights which would be acceptable without a medical loading to an insurance company:

Males	Height		
	5'3''–5'7''	5'8''–5'11''	6'0''–6'5''
Age	(stones)	(stones)	(stones)
under 35	12	13	14
35–50	13	14	15
over 50	14	15	16

  

Females	Height		
	5'0''–5'4''	5'5''–5'8''	5'8''–5'10''
Age	(stones)	(stones)	(stones)
under 35	10	11	12
35–50	11	12	13
over 50	12	13	14

- The weights given allow for some obesity. However, some life offices are more generous than this, and a client who is heavier than the weight given may still be acceptable at standard rates, if there are no other adverse features.
- When a client is considerably overweight, the life office may request an MER. Most proposers, understandably, overstate their height and understate their weight, and so the MER may reveal that a 15-stone female is really 19 stone.

5.3.15.3 The medical examiner informs the life office of the distribution of a client's weight and mentions any complications of being overweight. Being overweight puts a strain on the body's systems. The heart has to work harder to pump the blood around the body, so obesity can lead to raised blood pressure and coronary artery disease. The overweight person is also prey to diabetes as well as minor disorders such as hernias and varicose veins.

5.3.15.4 A proposer up to 30% overweight can be accepted at standard rates

and, roughly speaking, the table given includes those weights. Up to 40% overweight may be subject to 50% extra mortality, and up to 50%, 100% extra mortality. Above that level, an MER is recommended and the proposer may be declined. Proposers above 20 stone may become even fatter and are highly speculative risks.

5.3.15.5 Clients who are underweight are generally acceptable, but an MAR may be requested to ascertain if there is a reason such as a history of TB, anorexia nervosa or AIDS.

### 5.3.16 *Peptic Ulcer*

5.3.16.1 Peptic ulcers are open sores in the gastric tract and are often brought about by physical or mental stress. An ulcer is usually diagnosed by a barium meal and, if the proposer is awaiting tests, the proposal should be deferred until the investigations are completed. They may reveal an ulcer, simple indigestion or cancer.

5.3.16.2 Modern drug therapy has greatly reduced the mortality risk previously associated with ulcers, and most ulcers can be healed by medical treatment. The main danger is that the ulcer may perforate and cause death before treatment can be given.

5.3.16.3 A guide to underwriting peptic ulcers is:

Negative investigations	Standard rates
Not investigated	Defer 6 months
Confirmed by investigations:	
Medically treated, recovered	Standard rates
Medically treated, still has symptoms	50%
Surgically treated:	
Within 6 months	Defer for balance of 6 months
After 6 months, recovered	Standard rates
After 6 months, still has symptoms	50%

- A life office should be prepared to review any ulcer loading after 2 years.
- Surgical treatment for ulcers is rare today and would be reserved for the more severe cases.
- A total of 4 offices in the survey are prepared to take a proposer with a medically-treated ulcer, which was still giving symptoms, at standard rates, providing there were no other adverse features.
- Smoking exacerbates an ulcer and may justify a harsher decision. The combination may indicate an unhealthy, stressful lifestyle.

### 5.3.17 *Pregnancy*

5.3.17.1 Nowadays, very few women die in childbirth and the risk for a healthy person is negligible. Nevertheless, many salesmen incorrectly believe that life offices deal harshly with pregnancy.

5.3.17.2 If the proposal is for a full premium contract, the proposer can be

accepted at standard rates without requesting an MAR. For low cost life assurance cover, an MAR may be required to confirm that there are no complications. If all this is straightforward, acceptance can be at standard rates. If, however, the pregnancy is complicated or the proposer has a medical history of, say, diabetes or hypertension, it would be prudent to defer the decision until a month after delivery.

5.3.17.3 Some females are prone to post-natal depression. If there is a history of this and the proposer is again pregnant, the case should be deferred until 6 months after the birth.

5.3.17.4 High blood pressure during a previous pregnancy should not affect the underwriting decision if the female is not pregnant at the time of proposing.

### 5.3.18 *Strokes*

5.3.18.1 An interruption of the blood supply to any part of the brain may trigger off a series of events which may culminate in a stroke. The interruption can be caused by one of three disorders:

- (a) In a cerebral haemorrhage, one of the brain's arteries bursts. The escaping blood seeps into the surrounding tissues where it clots. The risk of cerebral haemorrhage is increased with obesity, hypertension, diabetes and a history of smoking.
- (b) A cerebral thrombosis, which is normally less severe, is a blood clot that blocks, or partially blocks, a brain artery, and there is a good chance of recovery.
- (c) A cerebral embolism is a blood clot which formed elsewhere in the bloodstream and is carried along to a brain artery.

The effect can vary between a trivial and temporary weakness of a single limb or to a profound weakness on one side of the body, coma or death.

5.3.18.2 Twenty years ago anyone who had had a stroke might have been thought uninsurable, particularly with residual damage such as speech defects or paralysis. Nowadays, insurers can usually offer terms. Indeed, in the rare case where the stroke has been attributed to the contraceptive pill and recovery is complete, acceptance can be at standard rates, providing the proposer has stopped taking the pill. Assuming that the stroke is well-documented on the MAR and that there is a favourable MER, the following is a guide to underwriting strokes:

Time since stroke	Decision
Within 2 years	Defer for balance of 2 years
3rd year	250%
4th year	200%
5th year	150%
6th–8th year	100%
Thereafter	50%

(Smokers would be charged heavier rates.)

### 5.3.19 *Thyroid Disorders*

5.3.19.1 The thyroid gland is situated in the neck: its twin lobes are on either side of the windpipe and they secrete the hormone thyroxine which regulates the rate of the body's metabolism.

5.3.19.2 Thyrotoxicosis is overactivity of the thyroid gland. It is much more common in females than males and it speeds up the rate at which the body uses energy. This leads to weight loss, hunger, a rapid pulse, excessive body heat, the eyes may bulge and there could be a tremor in the sufferer's hands. In this condition the heart is overactive and its rate and rhythm may become irregular.

5.3.19.3 With thyrotoxicosis, an MAR is necessary to ascertain the results of investigations, confirmation of the diagnosis and treatment. Either a full report or an MER is required to ascertain the current position. The guidelines are:

Within 6 months of diagnosis	Defer for balance of 6 months
On treatment	50%
Within 12 months of stopping treatment	Standard rates
After operation (thyroidectomy)	Standard rates

- Medication has largely replaced surgery, but if an operation is performed, it is possible that too much of the thyroid is removed and the patient becomes hypothyroid, which is usually acceptable at standard rates once the patient is on treatment.

5.3.19.4 Hypothyroidism (underproduction of thyroxine) is usually stabilised by medication and, assuming the condition is well-controlled, the proposer can be accepted at standard rates. Care should be taken to see if there is hypertension or any cardiovascular abnormality.

### 5.3.20 *Ulcerative Colitis*

5.3.20.1 Ulcerative colitis is a serious condition which is an inflammatory disease of the large intestine. The disease is chronic and progressive, though there are often long periods of remission. There is an appreciable risk of cancer developing. It may be treated with medication, possibly with steroids, or with surgery. An MAR is needed to discover which investigations have been carried out and the treatment given and, with an MER, the frequency and severity of attacks can be assessed.

5.3.20.2 The guidelines for underwriting ulcerative colitis when treated medically are:

Date of last attack	Decision
Within 1 year	Refer to CMO
2nd and 3rd years	150%
4th and 5th years	100%
Thereafter	50%

- If there is current medical treatment by oral steroids, the ratings should be increased by 50%.

- If there are frequent relapses requiring hospitalisation and oral steroids, the case should be referred to the CMO.

5.3.20.3 An operation for ulcerative colitis can have complications and so a limited extra premium should be added until a suitable period has passed. The guidelines are:

Within 1 year of operation	Defer for balance of 1 year
2nd year	£7 per mille for 3 years + 100%
3rd year	£5 per mille for 2 years + 100%
4th year	£5 per mille for 1 year + 100%
Thereafter	+ 75%

If there have been symptoms since the operation, the case should be referred to the CMO.

### 5.3.21 *Operations*

5.3.21.1 From reading through the preceding sections, it can be seen that clients awaiting operations are generally deferred until the operation is over. However, it is possible to underwrite those awaiting relatively minor surgery for such complaints as:

- haemorrhoids
- hernia
- knee complaints
- prolapse
- varicose veins

providing that the proposer is less than 30% overweight and not known to be hypertensive or suffering from some other, more severe condition.

5.3.21.2 An MAR should be obtained for those under age 45 and, if satisfactory, the proposer can be accepted at standard rates.

5.3.21.3 If the proposer is over age 45, both an MAR and an MER should be obtained and, if satisfactory, a single extra of £2 per mille should be charged.

## 6. NON-MEDICAL UNDERWRITING ASPECTS

6.1 An additional risk of accidental death occurs through undertaking a dangerous job or participating in a hazardous pursuit. Furthermore, there may also be a deterioration in health caused by habits and customs associated with the occupation. In addition, this section looks at the underwriting problems relating to residence abroad and to financial evidence.

### 6.2 *Occupations*

6.2.1 The Registrar-General's reports show how, for example, 1,000 people in one occupation fare against 1,000 people from the general population, and statistics are a starting-point for determining the level of extra premium to be charged. In many cases the extra risk of death in any one year is independent of

age, so a flat extra premium is an appropriate loading. As people tend to look for safer work and give up hazardous pursuits as they grow older, some life offices impose the extra premiums for a maximum period of 10 years. They would be removed earlier if the policyholder gave up his dangerous activities, perhaps providing it was not as a result of a major accident or a deterioration in health.

6.2.2 Health hazards associated with work have diminished considerably during the century and, nowadays, there are few extra risks associated with occupations. Life offices have also widened the parameters of their ordinary rate classification, and the present practice of imposing underwriting ratings for a few occupations appears justified.

6.2.3 However, even if no specific occupational charge is made for a fit life, the underwriter should consider whether the proposer's occupation could aggravate a medical impairment, and, if this were to be the case, he should impose substantially heavier underwriting terms for that impairment.

6.2.4 Amongst the occupations that merit ratings are:

	per £1,000 sum assured per annum (£)
Builder working over 40 feet	3
Deep sea fisherman	3
Demolition worker using explosives	3
National Hunt jockey	2
Scaffolder	3
Security forces in Northern Ireland	2

Although some occupations do not call for an extra rating, there may be special aspects which demand attention:

Entertainers, particularly in rock music	Drugs questionnaire
Journalists	Check they do not visit troublespots
Publicans	Automatic MER if age over 40 to see if signs of alcohol abuse

6.2.5 Despite the headlines which follow disasters, air travel is amongst the safest methods of transport in the world. Aviation risks as a fare-paying passenger on recognised airlines are covered under all life policies with no additional charge. Aircrew on major commercial airlines do not require a rating, but terms may be imposed for crew of private or company aircraft, especially if established airfields are not used. Anyone partaking in special flying exercises may be subject to a rating, depending upon an individual assessment of the risk. Private flying as a hobby may be subject to a rating, but gliding is generally acceptable on standard terms.

6.2.6 Personnel in the armed forces will only be subject to ratings if they are:

- (a) under orders to travel to a disturbed area—in particular, Northern Ireland;
- (b) specialising in bomb disposal or some special hazard;
- (c) Royal Navy divers or RAF aircrew.

Personnel in (a) can be accepted at standard rates for a full premium contract, but at £2 per mille for 2 years (i.e. roughly the spell of duty) for term assurance. Personnel in (b) merit £5 per mille, while the ratings in (c) could fall to between £2 and £6 per mille with larger amounts for test pilots. The imposition of a rating need not be a drawback for a salesperson, as 90% of the extra premium can be recouped from the Ministry of Defence.

6.2.7 Anyone in the SAS merits a substantial extra premium, perhaps £7 per mille, although it is rare for a proposer to admit to this. It would be difficult, and probably unreasonable, to repudiate a claim relating to a member of the SAS who had died in the course of duty, as it could be argued that he was not at liberty to reveal the true nature of his work.

6.2.8 When oil rigs first appeared in the North Sea, all jobs were subject to extra ratings, as the personnel were flying by helicopters over rough seas to their rigs and then often working in hazardous conditions. With improved safety measures and pressure from sales forces, most oil-rig personnel are now accepted at standard rates. However, in the wake of the Piper Alpha disaster, underwriters may wonder if this was wise. Further disasters may lead to a return of the ratings.

6.2.9 In 1970 only 100 deep sea divers were working in the North Sea, but now they number several thousand. Although subject to stringent safety regulations and regular medical examinations, these men are working at great depths in darkness, mud and raging waters. This is hazardous, even for a military-trained diver, and the risks are increased if the diver is not fully experienced. Furthermore, by the nature of their personalities, many divers engage in wild living whilst they are on shore, although this does not affect the assessment. Offices issue searching questionnaires about diving work and a rating of £5 per mille is usually appropriate.

### 6.3 *Pursuits*

6.3.1 Questionnaires are also used for some hazardous pursuits, since it is necessary to ascertain as many details as possible about the dangers of the activity. Usually we require confirmation that the proposer is a member of a recognised organisation and is thereby following defined safety regulations.

6.3.2 Dramatic changes in underwriting practice have occurred with hang-gliding. Twenty years ago, when the sport was in its infancy, participants would strap on bizarre contraptions and leap off cliffs, sometimes with disastrous consequences. Nowadays, a person who is a member of the British Hang Gliders Association and is not participating in competitions or record attempts can be rated as follows:

Flights p.a.	Rating per £1,000 sum assured per annum
up to 50	Nil
50–100	£1
100–200	£2
200 or more	£4

Similar loadings can be developed for microlight flying, ballooning and parachuting.

The assessment of hang-gliding risks does differ considerably between offices. The survey revealed that, outside of competitions and record attempts:

Number of offices	When rating imposed (flights p.a.)
2	Never
1	25
7	50
1	50 (term), 200 (full)
1	All reassured

### 6.3.3 Examples of decisions for hazardous pursuits are:

Pursuit	Rating per £1,000 sum assured per annum
Diving:	
club member, up to 100'	Standard
club member, over 100'	£2 (minimum)
non-member, up to 100'	£3
Potholing:	
up to 15 times p.a. and 150', no diving	Standard
otherwise, but no diving	£3
with diving	£5 (minimum)
Rally driving	Standard
Rockclimbing:	
Restricted to U.K.	Standard
Including Europe	£3
Expeditions to Himalayas	Decline
Speedway	£3

6.3.4 A motor sport questionnaire should be completed for every participant. The terms for a Formula 1 racing driver are unlikely to be less than £20 per mille, but many non-professional participants in motor sport are acceptable at standard rates. All the offices in the survey followed the recommendations of one or other of the reassurance companies.

6.3.5 Ironically, nearly all the loadings imposed for dangerous occupations and pursuits are given to male lives.

## 6.4 Residence Abroad

6.4.1 Proposals from those who are resident abroad fall into three categories, and require different underwriting decisions:

- (i) Foreigners living in their own country should be avoided, as such proposals will probably violate local legislation.
- (ii) Foreigners living in another country may be acceptable if a U.K. connection can be established.
- (iii) U.K. nationals living abroad should be acceptable, particularly with the Crown colonies (Hong Kong, Gibraltar and the Falklands). Many ex-



patriates work in the Persian Gulf area, which is usually acceptable, if there are no associated occupational risks.

6.4.2 There should be a valid reason for the proposer wanting a U.K. policy (e.g. a bank loan from a U.K. company, buying a property in the U.K.), a U.K. bank account for payment of premiums, and an understanding that both premiums and benefits are payable in sterling. A life office may be more flexible, but it depends upon individual circumstances.

6.4.3 Some off-shore offices ask the client to sign a statement that his proposal does not contravene local legislation. Any violation would therefore be his responsibility, although I would question the ethics of asking a layman to confirm this.

6.4.4 Having determined that a U.K. policy can be issued, the living and working conditions of the proposer have to be assessed. If the proposer resides in an urban community where first-class medical services are available, then no extra premiums need be charged. If a proposer lives in temporary housing on a remote construction site, a heavy extra premium would be required, or the case may be declined.

6.4.5 A life office also has to consider the availability of medical evidence. If the answers to the medical questions are unexceptional and if the sum assured does not exceed the MAR limit, the proposal can be accepted. In some instances, a proposer working for a U.K. company will have had a medical examination for employment purposes with a U.K. doctor and the life office may be able to see the report. Delays are inevitable if medical evidence has to be obtained from abroad and the examination may not be as thorough as a U.K. one. For example, an expatriate working abroad in unsociable conditions may be exposed to the dangers of alcohol abuse and so the examiner *should* carefully question him about his habits. Furthermore, the cost of obtaining medical information may be two or three times that of the U.K., particularly for proposals from the U.S.A.

6.4.6 Ratings are imposed for those who work in politically-sensitive areas. The proposer's occupation should be noted, together with the likelihood of his being caught in the turmoil. Life offices, at the time of writing, are reluctant to accept clients in Libya, the Lebanon, Iran or Iraq, or, at least, to impose an additional rating of, say, £5 per mille. An office would be unwise to issue a contract if adequate procedures cannot be followed at the time of a claim (see Section 7).

6.4.7 A war exclusion clause may be added if the possibility of war or civil unrest exists. The clause cannot give an office complete protection, as the circumstances of death may be unclear or there may be no proper authority to confirm the cause of death. The onus may be on the office to dispute a claim and thereby show that the clause applied.

## 6.5 *Financial Evidence*

6.5.1 The Life Assurance Act 1774 stated that the person effecting the

assurance must have an insurable interest in the life assured and that no greater sum should be recovered than the amount or value of the interest of that person. Most life policies are effected by persons on their own lives and in these cases the amount of the insurable interest is unlimited. Why then do life offices seek justification of larger sums assured?

6.5.2 A life office which permitted a large policy without sufficient financial justification could be placing temptation in somebody's way. Proposers may meet with fatal 'accidents' or disappear, some may commit suicide and leave the benefits for their families. This is not as fanciful as it may appear, since incidents often appear in newspapers, which suggest that there are others outside of media attention. If a life office waived financial evidence, speculative claims would increase.

6.5.3 The proposal should be assessed to the best of the underwriter's ability at the commencement of the contract. It is never appropriate to waive requirements at the underwriting stage by saying a claim could be repudiated later. In this age of protection for the consumer, a judge is unlikely to look favourably on an office which did not make appropriate investigations at the outset.

6.5.4 Appropriate guidelines for obtaining financial evidence are:

Sum Assured	Requirements
under £100,000	None
up to £250,000	Reason for cover if low premium business
up to £350,000	Financial Questionnaire (FQ) completed by salesman
up to £500,000	FQ countersigned by branch manager
over £500,000	FQ completed by independent financial adviser (e.g. accountant, solicitor).

Sometimes the FQ is completed by the client himself, and although I would permit this up to £500,000, independent verification should be requested if there are any doubts.

6.5.5 The FQ is divided into sections with the appropriate part(s) being completed.

6.5.5.1 *Personal cover* refers to a proposer and his spouse. As a rule of thumb, up to 12 times a person's income is reasonable. In addition to the level of cover, there is the question as to whether the proposer can afford the premiums. Students should not normally be allowed to effect a large policy, say, over £150,000. Similar considerations apply to a housewife, unless her husband has a well-paid job and is prepared to support the premiums. Even though the concept of 'best advice' should have been applied, an underwriter should question whether the size of the policy and the type of cover fits the proposer's needs and status. Policies which are large in relation to a proposer's income suffer heavy lapse rates. If there is neither a family to support nor a financial debt such as a mortgage, an unmarried couple cannot effect a joint policy.

6.5.5.2 *Inheritance tax* proposals are probably the easiest to justify. Normally, proposals on a husband and wife should be on a last survivor basis.

6.5.5.3 Any policy for *loan security* should match the size and duration of the

loan. With 'best advice' under LAUTRO, there should be fewer examples of unsuitable contracts being sold, although flexi-whole life proposals are frequently justified on the grounds of cost. The loan has to be in existence and a proposal cannot cover one to be granted in, say, 18 months' time or provide for possible future increases.

6.5.5.4 Requests for *partnership assurance* come from part-owners of businesses, normally partners or the principal shareholders of a private company. The insurance is designed to provide cash on the death of a partner, so that the surviving partners or shareholders can purchase the deceased's share of the business. The life policies merely provide the funds by accepting cover on each of the partners. The underwriter should ensure that the size and the term of the policy are in line with the provisions of the partnership agreement.

6.5.5.5 With *keyman assurance*, a company is undertaking disaster planning for its key personnel. It can be difficult, however, to estimate a person's worth and companies themselves can dramatically change within a few months.

6.5.6 A difficult task for an underwriter is in assessing the worth of entertainers and sportsmen, whose earnings can fluctuate, and possibly fall away completely. I would be reluctant to accept a successful rock musician for more than three times his current annual earnings.

6.5.7 Some salesmen believe that FQs are no longer necessary with the advent of Factfinds through LAUTRO. With suitable amendments, a Factfind may be acceptable in lieu of an FQ, but they are not completed for the same purpose. It has been argued that, as the salesman offers the policy as 'best advice' to his client, there is no need for financial underwriting, as the most suitable sum assured and term has been chosen. I suspect that the salesman for one £500,000 proposal spoke for many when he said, "Life is hard enough without Head Office querying proposals for petty reasons."

6.5.8 It is often more difficult to obtain financial evidence than medical history. When the American actuary, Ed Lew, spoke at the Institute in May 1985 on 'Risk Classification', he commented that Americans would forward all manner of details about their sexual activities, but virtually nothing about their finances. The reluctance may also apply to the U.K., but I suspect that the British are reticent on both subjects.

6.5.9 I have indicated the problems that financial evidence can give to an underwriter. As they relate to larger cases, an error can be costly. Only the more experienced underwriters assess financial background, and many offices rely upon the judgement of reassurers.

## 7. DEATH CLAIMS MANAGEMENT

### 7.1 *Non-Disclosure*

7.1.1 The concept of *caveat emptor* (let the buyer beware) applies to most purchases, but with insurance policies it is *uberrima fides* (utmost good faith). This is because the proposer may have information that an insurance company

could not discover without his co-operation. The proposer is obliged to answer the questions truthfully and to disclose all material facts, whether or not there is a specific question on the proposal. However, the outcome of a death claim in a particular instance is not certain (see § 7.3.4).

7.1.2 Non-disclosure is the *positive* misrepresentation of an existing condition to facilitate acceptance. Accidental misrepresentation occurs when a proposer is unaware of the severity of his medical condition. To make allowance for this, the declaration may state that the answers are correct “to the best of my knowledge and belief”. A proposer who is not aware that he has multiple sclerosis cannot declare it, although, if appropriate, he should refer to any tests he has undergone.

7.1.3 Information should be requested in plain English, particularly since English is the second language to many proposers. However, in an attempt to reduce the number of questions on a proposal form, some offices have introduced such complex and convoluted questions as:

“During the last 12 months have you sought, or been advised to seek, medical advice, treatment or tests for heart conditions, disorders of the liver or kidneys, malignancy or any condition requiring radiotherapy/chemotherapy, AIDS or an AIDS-related condition?”

7.1.4 This question may even be answered wrongly by those who understand it. For example, some proposers may consider high blood pressure a heart condition and others not. Others may not appreciate what chemotherapy is and, indeed, there are two uses of the word. Strictly speaking, chemotherapy is the use of drugs to combat disease, which even includes medication for a cold. However, chemotherapy is used more specifically for malignant growths and serious skin conditions. Furthermore, diabetics who are controlled by diet alone can justifiably answer ‘No’, and perhaps those on insulin too.

7.1.5 Many clients are accepted on the strength of their answers to the proposal alone, i.e. MARs or MERs are not obtained. This, in itself, can create problems, because there may be non-disclosure. The non-disclosure need not be deliberate and a lengthy proposal form may act as an *aide mémoire*.

7.1.6 Salesmen should be trained on how to handle the information being requested on proposal forms and made aware that if they are a party to non-disclosure, they will be instantly dismissed. An industrial tribunal confirmed that a life office was justified in sacking a salesman who had entered 12 stone for a man who weighed 20. Another salesman, on joining a company, instructed all his clients to tick the boxes “Yes, Yes, No, Yes, Yes”. There was no malice in this: it was how he was instructed by his manager to complete the forms.

7.1.7 A variant of non-disclosure can occur with the declaration of smoking habits. A smoker may say he is a non-smoker to obtain preferential rates. If he subsequently dies, perhaps of lung cancer, and his habit comes to light, an office may pay the equivalent ‘smoker’ benefits, or it may feel justified in disputing the claim. So far no claims have been tested by the courts.

7.1.8 Because life offices cut their costs by requesting less MARs and MERs, they are relying on the proposer’s words in a dishonest world. By way of contrast,

the Institute's thought-provoking monograph on Life Underwriting asserts, "It is possible that it is easier for the proposer to omit relevant disclosures in making a direct application than when face to face with an agent or medical examiner. In practice, however, it has been found that most of the insuring public are remarkably honest"<sup>(13)</sup>. Generally, it is easier to withhold relevant details from an agent than from a medical examiner, but I would question the author's reasoning. Surveys conducted by some life offices have shown non-disclosure of serious medical conditions of around 15%, and I know of many instances of non-disclosure on mailshot applications. In recent years, one major life office has experimented by making underwriting decisions for all house purchase policies solely on the information on the proposal form. If a proposer declares an impairment, a decision is reached purely on what is written. I hope that the office will publish its mortality experience and comment on non-disclosure.

7.1.9 If a policy is being voided, there is no legal obligation for an office to return the premiums which have been paid. However, the general practice is that, as no risk has been run, premiums can be returned. In this way, someone who sets out to defraud an insurance company incurs no financial penalty. This may be too generous and an office should at least attempt to recover the expenses incurred.

## *7.2 Suicide Clauses*

7.2.1 The most common exclusion clause found on life policies relates to suicide. Many U.K. offices have suicide clauses, in particular, offices with North American parentage. A survey conducted by the Association of British Insurers in 1989 revealed that 41 out of 102 offices imposed a suicide clause. The periods from inception during which the clauses are operative (i.e. the office is not liable to meet a claim) are:

- 1 year—25 offices
- 13 months—10 offices
- 2 years—6 offices

Nevertheless, the statistics for 1988 show that 66 out of 118 claims were paid in full where a suicide clause was included.

7.2.2 Many policies are required to cover loans with banks, building societies and other institutions. As the lenders require contracts which pay out in the event of death, they would not be satisfied with restrictions. Therefore, the clause is normally waived for third party interests of a financial nature.

7.2.3 The clause's benefit is chiefly as a deterrent to would-be policyholders. In actuality, it can be difficult to establish whether suicide was the cause of death. Someone falls in front of a train: is it accident or is it suicide? The coroner may give a verdict, but, in many instances, he cannot know for certain. Furthermore, because suicide is regarded as a crime against God in the Republic of Ireland, it is rarely shown on their death certificates.

7.2.4 If an office does not have a suicide clause, it may be able to repudiate the policy on the grounds that it is akin to effecting fire insurance and then burning the property down.

### 7.3 *Shortened Proposals*

7.3.1 With a shortened proposal, there may be the feeling, encouraged by less scrupulous salesmen, of “Tick here and you are in”. Mortgage business is such that proposals may not be completed at a time conducive to full disclosure. For example, a couple in front of me at a building society were having a proposal form completed by one of the counter staff. She said, “You have not had any medical treatment in the last six months, have you?” They answered “No”, but would anyone say, “Yes, I have had VD”, in such a situation?

7.3.2 Intriguing situations can arise on death. Does an office meet the claim if the conditions do not apply? What if the office did not permit re-mortgages and this is one? What if the proposer had not declared that he was effecting a joint mortgage with another male (see § 7.5.1)?

7.3.3 What if the proposal does not ask for occupation and the proposer is a deep-sea diver? Is it a material fact? Should he have declared that he had a poor family history or that he weighed 22 stones? In my opinion, life offices have voluntarily restricted the doctrine of *uberrima fides* because they are, in effect, saying, “All we want is the answer to this question—we are not interested in anything else.”

7.3.4 Most case law is over 50 years old, when the insurance market was very different from today. As vast amounts of business are being accepted on shortened proposals, it seems ridiculous to be able only to refer to inappropriate cases. In the absence of case law, could not semi-official guidelines be drawn up?

### 7.4 *Fraudulent Death Claims*

7.4.1 It is almost impossible to obtain a ‘fake’ death certificate in the U.K. and, providing an office insists on sight of an original death certificate, it should never be exposed to a fraudulent claim in this respect. However, false certificates can be obtained with relative ease in some countries outside Europe. A policyholder may obtain a ‘death certificate’ from his homeland, and his ‘widow’ claims the life assurance benefits.

7.4.2 Although several frauds have been uncovered, many more may have gone unnoticed. In some instances, a private investigator is employed, but this is costly.

7.4.3 Caution should be exercised in accepting large proposals, say, over £150,000, from clients who hail from abroad. There must be sound financial reasons for wanting the policy, and evidence as to why a U.K. policy is necessary.

### 7.5 *AIDS*

7.5.1 Most shortened proposals ask if the policy is to cover a single or a joint mortgage. If the joint mortgage is for two males, the office may require an SQ and possibly an MAR, MER and HIV test. A proposer may obtain cover by stating he is effecting a single mortgage, when he is actually purchasing with another male. The office would, I think, have strong grounds for repudiating a death

claim relating to AIDS in such a case, or any case where questions on HIV infections or previous HIV tests were not answered truthfully and fully.

7.5.2 On most proposal forms, life offices ask whether the client has been tested for the AIDS virus. One homosexual organisation recommended that homosexuals did not tell the truth about having a test. If the question was wrongly answered and a life office refused to pay a death claim, would the claimant have grounds for action against the organisation on the grounds that they advocated the wrong answer in the first place?

7.5.3 A private investigator may be brought in to find out whether the proposal was completed correctly. Judging by the success in dealing with fraudulent claims from abroad, they could do well, perhaps by locating former sexual partners of the assured.

7.5.4 AIDS is a syndrome which prevents the body's immunisation system from functioning correctly. The victim falls prey to all manner of diseases and it is these diseases, rather than AIDS itself, which cause death. AIDS may not be mentioned on the death certificate. For example, pneumonia may be shown as the cause of death. Claims staff need to recognise potential AIDS claims and, if there might be non-disclosure, they should obtain further medical evidence. Doctors are, therefore, not obliged to show AIDS as the cause of death, so it may be difficult to prove non-disclosure until such time as AIDS becomes a notifiable disease, which may never happen. The under-reporting of AIDS on death certificates may be as high as 50%.

## *7.6 Duration Certificates*

7.6.1 A life office has a duty to its policyholders and, where appropriate, to its shareholders, to dispute suspicious claims, but they will usually only be ones which occur in the first 2 years of a policy. The further away from the commencement of a policy, the harder it may be to establish the facts. In actuality, few claims are contested, factors being the legal costs and the thought of adverse publicity. However, the latter has not been borne out in practice, and perhaps with-profits policyholders would appreciate that their interests were being served by contesting dubious claims. Disputes are generally settled out of court.

7.6.2 Most cases of non-disclosure arise on policies which have been accepted on the strength of the proposal alone. When the policyholder has died, the office may try to establish the chronology of events. To this end, it may write to the GP for a 'duration certificate' about the client's medical history. The phrase 'duration certificate' is a misnomer and 'death report' would be more apt.

7.6.3 There is an important issue of medical ethics, as to whether a life office has permission to obtain this information. At the outset, the client has given authority for the life office to approach his GP, but does that authority die with him? In Australia, this is circumvented by a line "and I hereby agree for myself and my executors or administrators . . .", but such a declaration may not be the complete answer. If permission dies with the policyholder, then surely the entire

declaration is invalid after death. If there is doubt about whether medical evidence can be obtained, a life office may consult the next of kin. Their permission, however, cannot officially constitute authority. Who then can give the authority? As it is, some GPs refuse to acknowledge requests from life offices.

7.6.4 Some GPs do not complete duration certificates for other reasons. They argue that a life office should have obtained the information at the outset and, by not doing so, it has to accept the risks of possible deception. Also, if there has been non-disclosure, the GP may be in the unenviable position of being the person who provides the evidence as well as acting as the family doctor. He may not wish to be involved, but, in the end, if a case is repudiated, he may be obliged to give evidence in court.

7.6.5 Some GPs believe that life offices try and repudiate all claims, and others take a hostile view as to what life offices are doing. The Association of British Insurers and the British Medical Association may need to focus attention on the purpose and availability of duration certificates and reach an understanding.

## 8. SICKNESS BENEFITS

8.1 So far the observations relate to life assurance, but underwriters also consider permanent health insurance (PHI), waiver of premium benefits, permanent total disability and dread disease insurance. These benefits are frequently sold alongside life assurance benefits and thus form a package of protection covers, e.g. term assurance with permanent disability and dread disease.

8.2 If a medical condition is such that it leads to a rating for life assurance, it will *ipso facto* be significant for a sickness benefit. In many instances, 50% mortality becomes 50% morbidity. However, certain conditions, which are not life-threatening and not important to life assurance underwriting, are very significant for sickness insurance.

### 8.3 *Permanent Health Insurance*

8.3.1 The basic benefit provided under a PHI contract is an income to replace a loss in earnings resulting from the policyholder becoming disabled. The criterion for deciding if benefit is payable is not the severity of sickness or accident, but rather whether he is unable to work because of his impairments, thus leading to a loss of earnings.

8.3.2 It is not necessary for the incapacity to be permanent, i.e. no likelihood of recovery, provided the policyholder is unable to continue employment. The income from the policy is normally deferred for a specified number of weeks from the start of the impairment, typically 13 or 26. Income payments continue until either the policyholder dies, recovers, or until the agreed termination age, normally 60 or 65, is reached.

8.3.3 The sum insured is a fixed amount of income agreed at the commencement of the policy. The benefit level must be reasonable in relation to salary, so



that there is an incentive to return to work after a claim. On traditional individual PHI policies, the premium is a level annual premium payable throughout the term of the policy. Policies are non-cancellable, in that renewal cannot be refused by the office. The premium or benefit terms cannot be adjusted from those agreed when the policy was issued. However, in recent years, some offices have introduced unit-linked PHI contracts. Here the office can alter the morbidity charges in future years.

8.3.4 Offices generally have a standard tariff of premium rates for males in non-hazardous occupations; additional extra premiums are required for a wide range of occupations. Manual jobs are more physically demanding than desk-bound ones, so claims through ill health are more frequent. Recovery rates also vary according to socio-economic group, the lower groups having the worst experience. The more hazardous occupations will be declined, so, ironically, those who most need the cover are turned down. Because of problems in defining incapacity, PHI is usually not available to students and housewives.

8.3.5 Underwriters must help to design the PHI product and advise on the practicalities of the definition of sickness. The definition has a bearing upon the number of claims and, as such, should be reflected in the premium rates. A significant difference in premium rates is expected between those policies which state that the individual must not be working in his chosen job and those which state that he must be unable to follow any occupation. In practice, many offices use definitions in-between these extremes such as:

"The total inability to follow the individual's own occupation or any other occupation for which he or she is reasonably suited by education, training or experience."

This assumes, for example, that a solicitor would not have to become a shop assistant.

8.3.6 Offices which require policyholders to inform them of changes in occupation have poor responses. When the information is forthcoming and the new occupation is more hazardous than the old, the premiums could be increased or the cover reduced. However, an office need not be unduly concerned at a poor response, as most individuals favour less hazardous jobs as they grow older.

8.3.7 For many years, it has been recognised that females are more prone to time off work than males and so higher premium rates have been charged, often by adding 50% to the male rate for the same age. The differential was upheld in the court case between a female dentist and Friends' Provident when the practice was challenged under the Equal Opportunities Commission. A campaign has been mounted for a change in the law, but the reason for the poorer health of females is largely gynaecological. Pregnancy, incidentally, is specifically excluded under a PHI policy. Also, although females perform fewer hazardous jobs than males, more of them are in the lower socio-economic groups and hence are more prone to sickness.

8.3.8 Overall, there is a lack of data for determining ratings for medical impairments in the U.K. Data are collected by the CMI, but the results are not

analysed by medical impairment. The data from the National Insurance and Social Security statistics are heavily influenced by short spells of sickness.

8.3.9 In addition, the underwriter's task is more complex, as he is confronted by a wider range of underwriting factors. In ensuring that the office is protected against unwarranted claims, a series of short-term claims or a very long claim with a particular case, the underwriter can impose a variety of decisions to ensure that the risk is contained and quantified. In addition to the methods of charging a percentage extra morbidity, the deferred period can be extended, the definition of disability changed, or an exclusion clause imposed for a pre-existing medical condition.

8.3.10 The following conditions have great relevance when considering PHI:

8.3.10.1 *Arthritis* can be crippling and lead to long periods off work. An underwriter can only accept a proposer who has minimal deformities and is not on continuous steroid treatment.

8.3.10.2 With *asthma* and *bronchitis*, the examining doctor must be aware that a sickness, rather than a life, benefit is being considered.

8.3.10.3 *Back pain* is very common, and crucial when underwriting PHI. A simple, one-off episode can be disregarded, but attacks of lumbago and sciatica, or a slipped disc within the previous 2 years, may be rated or even declined.

8.3.10.4 The life assurance risk from *depression* is largely one of suicide, but depressives can be incapacitated for long periods.

8.3.11 Claims arising from the following are normally excluded: private flying, self-inflicted injury, over-indulgence in alcohol, drug abuse, and complications of pregnancy.

8.3.12 A client may be subject to an additional rating for life assurance if he participates in a dangerous pursuit, but PHI benefits are subject to an exclusion clause. If the proposer injures himself, say, diving or hang-gliding, the benefit is not payable. It is also feasible, but not recommended, to have an exclusion for certain pre-existing medical conditions.

8.3.13 Bulletin No. 3 of the AIDS Working Party<sup>(11)</sup> draws attention to the large amounts of predicted extra sickness due to the AIDS virus. If payment of PHI benefit is restricted to full-blown AIDS, then, at some ages, the experience is still expected to treble. If payment were made if a person was HIV positive, the number of claims would be several times higher. In practice, the time when a person with the AIDS virus is unable to work falls between the two extremes and would depend on occupation, willingness to work, attitude of fellow employees and customers, legislation and improvements in treatment. The PHI underwriter is therefore faced with a large and unquantifiable risk.

8.3.14 For these reasons, the majority of U.K. offices have excluded disability directly or indirectly associated with AIDS or HIV. Most exclusion clauses prevent a benefit if a claimant is HIV-positive and so every claimant may be required to submit to a test before benefit commences. This harsh clause may be operated more liberally if the virus has no bearing on the claim, e.g. the claimant

who has broken his leg and is HIV-positive. A reasonable practice will emerge as offices gain experience.

8.3.15 The number of claims, both genuine and fraudulent, has been worrying offices in recent years. There appears to be a change in attitude to making and maintaining claims by policyholders. Recovery rates have reduced and hence the average length of claims has increased.

8.3.16 Some offices have created special services for disability counselling. Specially-trained individuals, usually nurses, visit claimants in their homes. Although they consider unjustified claims and encourage rehabilitation, they also advise the claimant on the availability of State benefits and services for the disabled.

8.3.17 It is natural for a proposer of a PHI policy to want the benefit to be close to his existing income. On the other hand, offices want to ensure there is a strong financial incentive for the claimant to return to work as soon as he is able. The benefit should be determined so that the claimant's lifestyle can be continued through disablement, but it should be restricted to ensure that there is always a clear financial inducement for a return to work. A rule of thumb is to limit the benefit to 75% of salary, but this has to be adjusted for State benefits, taxation considerations and other sources of income available to the policyholder.

8.3.18 The benefit should only be paid while the claimant suffers a loss of income. The deferred period therefore should be longer than the period when salary continues to be received, even though the policyholder is disabled. Similarly, by limiting the termination age to normal retirement, the claimant does not benefit at a time when he is not suffering a financial loss.

8.3.19 It is argued that underwriters are cautious in relating maximum PHI benefits to salary. It is said that practically any level of benefit can be written, because, with a few years of inflation, the benefit will have reduced as a proportion of salary. However, over-insurance is equally dangerous in the short term, and a better solution is to limit the benefits to a reasonable level at inception and allow escalation.

#### *8.4 Waiver of Premium*

8.4.1 Waiver of premium is an ancillary benefit to either life assurance or pensions business. The premiums for the main benefit are waived if a policyholder suffers a lengthy period of sickness whilst under a specific age. The underwriting criteria are similar to PHI, but there is not the same potential for fraud, as the claimant does not receive regular cash sums. Generally, underwriting is not sophisticated and is either accepted at standard rates or declined. Up to 100% morbidity may be acceptable at standard rates.

8.4.2 Underwriting can be more generous if the benefit is compulsory. On a pensions policy with no life assurance benefit, an office might accept all proposers, whatever the occupation, on a satisfactory declaration of health—e.g. "To the best of my knowledge and belief, I am in good health and I am not suffering from the after-effects of any injury or illness."

### 8.5 *Permanent Total Disability*

8.5.1 Effectively, a permanent total disability benefit is the pre-payment of a death claim and in some cases the benefit is paid by instalments. The definition states that the benefit is only paid if proof, satisfactory to the company and its medical advisors, is provided, showing that the claimant has suffered total, permanent and irreversible disability, such that the claimant will be unable to perform any gainful employment in the future and the claimant is registered as disabled.

8.5.2 No new underwriting principles, beyond those for PHI, are involved, but the terms may be more stringent. The underwriter may also decline the benefit if he considers that there is an increased risk for any reason, medical or otherwise. For example, he may consider that the proposer could be unemployed for long periods during the risk period.

### 8.6 *Dread Disease*

8.6.1 The concept of dread disease insurance (or Living Life or Critical Illness Assurance) evolved in South Africa in the early 1980s, and is included in the product portfolios of an increasing number of U.K. life offices. The insurance cover provides a capital benefit upon diagnosis of a predefined illness or medical condition and then survives until the end of a short waiting period. The cover is normally attached to a life policy and provides a prepayment of part or all of the sum assured. The diseases usually covered are heart attack, stroke, heart surgery, cancer and kidney failure, although some plans include major organ transplants, multiple sclerosis and incapacity following an accident. No office has yet included AIDS as a dread disease, but I am certain it will come.

8.6.2 The aim of the assurance is to alleviate the high cost of medical treatment and to provide funds for the policyholder and his family in a period of crisis. The claimant does not have to be disabled, i.e. unable to work, as in PHI cover, to claim benefit, but must provide satisfactory proof that a defined illness has been suffered.

8.6.3 Some claimants will obtain the benefit with only a modest level of disability. An example is a person who has coronary heart surgery and makes a good recovery.

8.6.4 Surveys indicate that the public overestimate the possibility of falling prey to a dread disease and, hence, the sales opportunity. There have been criticisms of dread disease plans, to the extent that the insurance plays upon fear and the cover is incomplete, since a person could be incapacitated from impairments other than those predefined in the policy. For example, the benefit might be payable on a confirmed diagnosis of multiple sclerosis and yet other neurological disorders are equally incapacitating. However, the definitions do cover the majority of incapacitating illnesses.

8.6.5 Dread disease assurance can stand alone, but, partly to counter the above criticism, it should be developed as part of a wide protection package that gives comprehensive cover on sickness, disability and death, with some

enhancement of benefit if a dread disease occurs. In other words, dread disease complements both life and PHI benefits and, in total, the client is given a more complete protection policy.

8.6.6 When considering individual proposals, the underwriter is likely to be more cautious than for life assurance for the following reasons:

- This is a new class of insurance and there is little experience on which to base ratings.
- Proposers who wish to take cover may believe that they are prone to illness or they may suspect that they are unwell. From the limited experience in South Africa, it appears that some people with a general feeling of being unwell, e.g. vague chest pains, may apply for dread disease cover before they seek medical advice. For this reason, it cannot be assumed that a favourable experience will be recorded on dread disease in the years following inception.
- Because of the greater uncertainty, life underwriters generally impose heavier loadings on proposals to a high age—the loading for a similar policy of shorter duration being relatively light. For example, the underwriter may impose a loading of 100% if cover runs to age 65, while a charge of 50% may apply to a policy running only to age 55.

8.6.7 Although, in principle, underwriting dread disease cover is similar to life underwriting, the underwriter will be vigilant for any important factor which increases the possibility of a dread disease claim. Hereditary disease is very significant and any family history of a dread disease in a parent must be treated with caution. The rating for an item suggesting potential heart or cardiovascular disease or cancer would require heavy loading, and heart disease in either parent is likely to be very significant for dread disease underwriting.

8.6.8 The underwriting terms for dread disease assurance can be broadly summarised as heavier than for life assurance for most medical impairments, except those that clearly do not affect the dread disease risk, e.g. perhaps a bad back or a diagnosed ulcer. Loadings would be required for certain occupational groups and for smoking habits—heavy smokers should be declined.

8.6.9 Because of the uncertainty associated with this class of business, declinatures should be imposed on relatively low levels of extra risk, e.g. 200% extra morbidity as opposed to perhaps 600% extra mortality for life. Any client who has already suffered a dread disease will be unacceptable.

8.6.10 Although an office may impose a maximum dread disease benefit, perhaps £250,000, financial underwriting is needed at £100,000 or less. The level of benefit must bear a reasonable relationship to the proposer's income and lifestyle.

8.6.11 The short proposal form currently employed in the U.K. for endowments associated with mortgage repayment is insufficient for dread disease, and a longer proposal form is necessary, in which questions are asked on current health, lifestyle and past medical history with regards to specific medical impairments. Questions on occupations, family history and smoking habits must

also be included. The office should also ask about other dread disease and sickness benefits in existence or being proposed for simultaneously.

8.6.12 MAR and MER limits may be set at lower limits than those for life assurance benefits.

8.6.13 It is difficult to devise a set of dread disease definitions that are not misleading and are written in plain English. A well-constructed set of definitions is given in Appendix 3, but, even there, the provisos make them complicated. Clear definitions should be sought whenever possible, so that the policyholder knows precisely what he is purchasing. Such definitions would avoid some unnecessary disputes over claims. Ironically, several claims in South Africa have come from salesmen themselves and from the medical profession.

## 9. REASSURANCE

9.1 The underwriter attempts to ensure that the mortality experienced in both the short and long term conforms to the assumptions in the premium bases and, in particular, that equitable terms are charged to substandard cases. A reinsurer gives added stability to an office's mortality experience by accepting a part of the larger cases, uncertain risks, such as extremely substandard cases or elderly proposers, and risks based on scant statistics, such as dread disease assurance. A reinsurer can also protect the office against catastrophes involving many policyholders.

9.2 Some life offices reassure with one or more other direct writing life offices which have similar premium levels and underwriting standards. However, the majority deal with specialist reinsurers. They offer a diversified service, including financial, marketing and technical support to life offices, but, for the life underwriter, the stability of the mortality experience is all-important. Additional support is given through underwriting manuals, training, special studies and research on underwriting topics.

9.3 A reinsurer's work is becoming more diversified, but the prime rôle is still in providing reassurance. The background is explained by G. T. Foster's 1945 paper, 'Some Observations on Life Reassurance'<sup>(14)</sup>. He comments that "It seems unlikely that any fundamental change will take place in this country of the methods adopted for life reassurance." This still holds true, as other methods, such as 'excess of loss', have not supplanted traditional ones, although they may be used in 'one-off' circumstances.

### 9.4 *Treaty Reassurance of Surplus Risks*

9.4.1 No matter how satisfactory a life appears to be, an office must not retain all of a very large proposal. A death claim for, say, £10m could have a substantial effect upon the office's profitability and bonus rates, hence the need for reassurance. The amount that an office retains depends upon several factors:

- In general, the larger the office's funds, the higher the retention limit. Large offices, at present, have retentions between £500,000 and £750,000, but a

small office may retain less than £50,000. An office's retention should be commensurate with its size and, unless there is good reason for thinking otherwise, it will match those of its competitors.

- Offices reduce their retention limits for advanced entry ages, say, over 60 and certainly over 75, where the amount of new business is comparatively small. A typical scale is:

Age	Retention (£)
up to 60	500,000
61–70	250,000
71–75	100,000
over 75	50,000

Some offices only keep a token amount of cover on a proposer over 75, say, £5,000 and seek reassurance for the rest.

- Limits may vary according to the class of policy—for example, an office may retain more of a full premium contract than a term assurance one. Similarly, the limit may be reduced for flexi-whole life business, particularly ones with options to increase the sum assured without further evidence of health.
- The retention may be reduced for rated policies or, at least, very substandard ones. Assessing such lives is speculative, so it is wise to spread the risk.

9.4.3 In the past, actuarial theories have suggested what an office's retention limit should be. Speaking generally, it was pitched at a level where a substantial claim would not make more than a shilling's (5p's) difference to the bonus rate. Such niceties have now been supplanted by a more intuitive approach.

9.4.4 Offices, on average, review their retentions every 2 years. It is not worth doing this more frequently, as it can entail considerable paperwork and renegotiation of treaties. To do it less frequently may entail significant, rather than smooth, jumps.

9.4.5 Most offices keep as much as is prudent for themselves, but one office in my survey admitted that the limit was kept low because "our aim is to ensure a reasonable flow of business to our reassurers".

9.4.6 Offices with subsidiary overseas offices may arrange treaties with them and have reciprocal ones on their business. Through the operation of such treaties, one office is able to place £3m without consulting an outside reinsurer.

9.4.7 Most treaties are with U.K. reinsurers, whose own retention up to age 70 may be up to £1m. A treaty could be arranged for a first surplus with one reinsurer and a second and third treaty with others. A reinsurer ensures that an office's underwriting practices are sound before permitting any substantial treaty.

9.4.8 Under a treaty, the reinsurer follows the decision of the direct office automatically up to a certain amount. On these cases, there are no delays while papers are passed to the reinsurer, although a reinsurer's experience may be sought on a problem case, perhaps with questionable financial evidence.

9.4.9 The larger life offices may have treaties with more than one reinsurer. There are two ways in which this can be arranged. Consider a client who has proposed for £2.25m to an office with a retention of £500,000. The office may place the risk as follows:

Method 1	£
Office retention	500,000
Treaty with Reassurer A	1,000,000
Treaty with Reassurer B	500,000
Treaty with Reassurer C	250,000

Suppose that the office has a capacity of £2.5m under its treaties, as the extent of the treaty provided by Reassurer C is £500,000. If a proposal is received for more than £2.5m, Reassurer A, say, would determine the underwriting terms and offer the balance round the market. Around £15m cover can be arranged in the U.K. without seeking reinsurance from abroad.

Method 2	£
Office retention	500,000
Treaty with Reassurer A	875,000
Treaty with Reassurer B	437,500
Treaty with Reassurer C	437,500

Again, £1.75m has to be reassured, but here the cover is allocated in straight proportion to their reinsurance retentions, i.e. 50, 25 and 25% respectively. Overall, it can be seen that this method will give Reassurer C a larger amount of reinsurance. Reassurer C acquires little business under Method 1, as few policies exceed £2m.

9.4.10 One reinsurer has developed a pool of offices which grant automatic reinsurance for large flexi-whole life contracts. The reinsurer underwrites proposals on behalf of member offices, who receive their allocation after the direct office's and the reinsurer's retentions.

9.4.11 The majority of business placed on reinsurance treaties is term assurance. Even if the underlying policy is an endowment or whole life policy, the reinsurance would be arranged on a risk premium basis, where the reinsurance is effected as a special decreasing term cover. Each year the reinsurer collects a risk premium, dependent on the sum at risk for that year and the age of the policyholder. Reinsurers, therefore, have large portfolios of term assurance covers, so the possibility of a large number of AIDS claims is even more alarming to a reinsurer than to a direct office.

## 9.5 *Facultative Reinsurance*

9.5.1 When a life office cannot offer terms to a client or can only recommend a substantial rating, it may offer the cover, on a term assurance basis, to a reinsurer for individual consideration.

9.5.2 Large cases over the treaty limits are also placed facultatively. The reinsurer would take particular care of financial considerations as well as medical



factors. As they specialise in substandard lives, they may improve upon the office's decisions.

9.5.3 Placing business on a facultative basis is expensive both for the life office and for the reinsurer. Many offices arrange for the majority of their risks to be handled by treaty arrangements and only use facultative reinsurance for heavily substandard proposers or for very large policies.

9.5.4 One reinsurer started pools for collecting data about substandard lives: the diabetic pool was started in 1949, the hypertensive one in 1953, and the one for coronary heart disease in 1957. Over recent years, offices have become more willing to take risks for themselves, so the information being gathered has become less significant.

9.5.5 Few people are uninsurable nowadays, and ratings for those who have had cancer and coronary bypass surgery are widely available. Ratings following heart transplants are on the horizon.

#### 9.5.6 *Shopping*

9.5.6.1 In recent years, the American practice of 'shopping' has come to the U.K. An office offers a substandard risk to two or more reinsurance offices and then accepts the most favourable terms.

9.5.6.2 A shrewd office may assess which reinsurer is likely to give the more favourable terms and submit particular risks directly to them. For example, one reinsurer may look more favourably on dangerous pursuits while another may be generous with mental illness.

9.5.6.3 Some reinsurers are against shopping on the grounds that one reinsurer is being played against other and that it is wasteful of resources. However, life offices have to serve their clients' best interests and obtain the best terms. My own office did not go shopping until recently, but it has obtained terms for 47 out of 113 cases which had been turned down by our prime reinsurer. To date, 19 of these cases have proceeded to policy issue.

9.5.6.4 Because of the high costs and time delays involved, some of the early enthusiasm in the U.K. for shopping has abated, and the practice is generally restricted to highly substandard proposers of reasonable size, say, £100,000.

#### 9.6 *Underwriting Manuals*

9.6.1 Reinsurers give advice to individual offices on matters of principle which affect the whole market. They organise inter-office underwriting associations and they pass on knowledge through seminars and, in particular, manuals.

9.6.2 Most of the original research into medical conditions and their relation to life assurance is undertaken by reinsurance companies. Their findings and their recommendations are put into manuals, which are freely available to client offices. Many offices put a total reliance on these manuals and follow them implicitly.

9.6.3 The various manuals do not give uniform recommendations and not all of them are based on the same level of statistical information, so offices have to

set their own standards and determine their own stance on certain medical conditions. The amendments to a reassurer's manual will be made after discussion between the chief underwriter and the CMO, but they are unlikely to have the wherewithal to produce their own statistics. Some offices of the future may carry out their own investigations, but it is a huge undertaking.

9.7 Among the other services given by reassurers to underwriters are:

- Offering facilities to trainee underwriters, either by inter-office courses or courses specifically designed for an office, including the development of computer-based underwriting training.
- Loaning underwriters to client offices to cope with bottlenecks.
- Advice on policy design, option costs, underwriting procedures and proposal design.

9.8 Over the years reassurers have advised offices on a whole range of topics and have co-ordinated underwriting standards. On most subjects there is a common agreement between life offices and reassurers. A major exception has occurred on HIV testing, when several life offices decided to reject the reassurers' recommendations and to define their own, higher limits. The life offices felt that reassurers had not made sufficient allowance for the costs and administrative burden of HIV testing. Some offices also take a different view on the amount of evidence required for financial underwriting. Though these differences of opinion do arise, each side recognises the need for co-operation.

## 10. THE FUTURE OF UNDERWRITING

10.1 Rapid advances in technology are being experienced throughout the industry, and an impossibility in one decade becomes commonplace in the next. Technological advances now mark the way forward in the insurance industry. From an underwriter's viewpoint, considerable changes are envisaged regarding 'on-line' acceptance of proposals and in the use of computer-based training for underwriters. In years to come, expert systems may be employed to handle the underwriting of most proposals.

10.2 The freer flow of insurance across the European Community is bound to have an effect on life assurance, and will impact upon underwriting. It will be instructive for U.K. underwriters to receive proposals from abroad:

- They may have to be conversant in other languages.
- They will appreciate how privileged they are to underwrite in the U.K., where each individual is assigned to a particular doctor who keeps medical records and can report to life offices on medical history. This system does not operate in other European countries. The likelihood is that medical expenses will be increased (more MERs will be needed) and ratings could be affected, as caution is needed when there is doubt.

- There may be more, problematical death claims. In Belgium, for example, a doctor is not permitted to assist a life office with a death claim: hence, there is greater difficulty in verifying non-disclosure.
- There is more freedom and flexibility in developing products in the U.K. and the Republic of Ireland than in the rest of the community. This, in time, may also affect the changes life offices have made, or may be likely to make, as regards AIDS. An SQ would be an infringement of human rights in some European countries and there would be an outcry if an office introduced one. In such circumstances, the automatic limit for an HIV test has to be lower and the differentiation between single men, married men and females is also not possible. From 1992, U.K. citizens can apply for life assurance in other European countries and an astute intermediary might suggest that high risk clients effect cover abroad.

### 10.3 *Training of Underwriters*

10.3.1 The training of underwriters is expensive and time-consuming. The training is largely on a one-to-one basis with experienced underwriters, who may not be trained in teaching methods. There is a danger that knowledge is acquired piecemeal, even though reassurers provide basic underwriting guides, text-books and case studies, as well as a range of courses. However, CBT (computer-based training) is being developed, with the aim of bringing more consistency to education and to free instructors from repetitive tasks. Estimates suggest that training time may be cut by 30%. As a single office is unlikely to have the resources and development costs to devise a package for themselves, they are likely to purchase one from a reassurer.

10.3.2 CBT describes any interactive text and graphic education package which operates on a computer. A program may include:

- Reading matter with diagrams and graphic images on screen.
- Pre-tests to determine the extent of knowledge required by each student, thereby avoiding unnecessary learning time.
- Interactive questions and answers to ensure comprehension of the material.
- Tests at the end of sessions to provide managers with an individual record of progress.
- Explanatory manuals to cover the material learnt on the course.

10.3.3 CBT has to be user-friendly and simple to use. It is particularly useful if trainees are not based near an instructor. Students enter at the part they consider appropriate, based on knowledge and experience, and work at their own pace. Trainees study in short sessions and at their own convenience, subjects can be repeated as required, no supervision is necessary, and the programs can be used time and again.

10.3.4 CBT does not suit all students and some will feel isolated. Its strength is in teaching facts rather than skills. A subsequent development may be in interactive videos. No matter what computer methods are used, there still will be a

need for 'on the job' training, because much of an underwriter's training is anecdotal and involves discussion.

#### 10.4 *Acceptance of Proposals*

10.4.1 An office is always looking for more efficient ways to deal with its business. A cost-effective system of underwriting should encompass lower staff costs, greater accuracy and consistency, and a quicker turnover.

10.4.2 The initial steps towards computerised acceptance have related to on-line acceptance at branches, building societies and other outlets. Providing that eligibility conditions for the shortened proposal are met and provided that the form is completed satisfactorily, acceptance follows automatically. Instead of having to wait a few days, the client learns at the point of sale that the application has been accepted.

10.4.3 This computerised system was being developed before the advent of AIDS and its application would have been relatively straightforward. AIDS has added the necessity to assess additional evidence, e.g. two males buying a property together. Amendments are, therefore, necessary, to enable the life office to make further investigations if it thinks fit. The sum assured limit for SQs for single males may also be less than that in the eligibility conditions for the use of shortened proposals, so the use of on-line acceptance is again restricted. It would not be desirable to put the answers to such sensitive questions on-line. However, a system, even with these amendments, may still account for a vast number of proposals, possibly 50% of its mortgage business.

10.4.4 There is scope for on-line acceptances for full proposal business, thereby in time replacing the scanners mentioned in § 3.6.2.1. Effectively, the scanners are assessing the 50 or 60 pieces of information on a proposal form according to a set of rules and those rules can be programmed into a computer, e.g. acceptable height and weight ratios, and which medical conditions can be ignored. The system is not foolproof, as wrong information could be keyed, although well-developed systems will identify serious keying errors.

10.4.5 It can also be cost-effective for a life office if the proposal is input at the point of sale, because the brokers and agents are effectively keying in the data for the life office and thereby saving expense.

10.4.6 For other proposals, there can be systems which ensure that all the automatic requirements (MAR, SQ, MER, etc.) have been obtained, and that check for previous proposals and policy files and for entries on the Association Registry, which indicate whether a client has been rejected or rated heavily by another office.

10.4.7 Computerised systems of underwriting are in operation in the U.S.A. and Japan, and several offices are considering the implications for the U.K. Reassurers are considering what they can offer to clients, possibly by computerising their manuals. Any further underwriting developments test expert systems to the limit. Computers are only capable of making logic-based decisions, whereas underwriting is about judgement. Push-button underwriting is no substitute for

the underwriter's sixth sense, which tells him that something is not quite right about a proposal. (Or the seventh sense, which tells him, nevertheless, to accept it.)

10.4.8 Problems are also opportunities and so more liaison will take place between computer and underwriting staff to resolve difficulties. The danger is in going too fast so that pitfalls are ignored, but, in essence, "Can you afford to do it?" becomes "Can you afford not to do it?"

10.4.10 One reinsurer has studied the resources required to develop an expert system that will be able to handle 95% of the incoming proposals of a life office. The resource cost is likely to be around 15 man-years, involving underwriters, actuaries and computer specialists. At this stage, it is doubtful if such an investment is justified.

10.5 I hope that this paper has emphasised the refund status of the underwriter and how crucial he is to a company's well-being. Underwriters will always be needed to define and assess risks, and underwriting will always be central to life assurance. Undoubtedly, it will be subject to change. It may be another 25 years before another paper is presented to the Institute. Computer systems may have advanced so greatly that underwriting may have ceased to be an art. Perhaps only 3 or 4% of the cases will be underwritten manually, but, of course, underwriters will be needed to resolve those problems, just as they will be responsible for the complex expert systems. Quite possibly, those cases will be underwritten by reassurers, thus eliminating the need for underwriters at direct offices. The title of the next paper on this subject to the Institute may be 'Underwriting—A New Science?'.

#### ACKNOWLEDGMENTS

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## APPENDIX 1

### SUPPLEMENTARY QUESTIONNAIRE

Please ensure that both questions are answered fully and to the best of your knowledge.

1. Do you belong to, or have you ever belonged to, any of the following groups:

- (a) homosexual men;
- (b) bisexual men;
- (c) intravenous drug users;
- (d) haemophiliacs;
- (e) sexual partners of the preceding groups.

If you fall into any of the above categories, please confirm that you are in a stable relationship with one partner.

2. Have you ever been tested, received medical advice, counselling or treatment in connection with:

- (a) AIDS;
- (b) an AIDS-related condition;
- (c) any sexually-transmitted disease, including hepatitis B.

If you answer Yes to any of the above categories, please give details.

I agree that this form will constitute part of my proposal for life assurance and that failure to disclose any material fact known to me may invalidate the contract.

I hereby declare that the answers I have given are, to the best of my knowledge, true and that I have not withheld any material information that may influence the assessment or acceptance of this proposal. I consent to the company seeking information from any doctor who has attended me, including any named in the answers above.

Signature of life to be assured.....

Date.....

## APPENDIX 2

## ACCESS TO MEDICAL REPORTS ACT 1988

1. The Access to Medical Reports Act 1988 gives an individual the right to have access, within the provisions of the Act, to any medical report which is supplied for employment or insurance purposes. It has led to wide-ranging changes in office practice. In essence:

- (a) The office has to tell the client in writing that it may apply for an MAR and inform him of his rights.
- (b) The client has to agree to the office obtaining an MAR. If he wishes to see it, the office must inform his GP and tell the client that the report has been requested.
- (c) If the client has requested access, the GP shall not send the MAR until this has been done or until 21 days have elapsed. The client can tell the GP whether or not to submit it, and he can annotate parts he considers 'inaccurate or misleading'. The GP can withhold information from the client if 'disclosure would be likely to cause serious harm', but he must tell the client that he is doing this.

2. Criticisms can be made:

- (a) There are no other ways in which an individual can have access to his medical records. Some people may apply for policies which they have no intention of effecting so that they can see their reports.
- (b) How will a layman cope with the significance of medical terminology such as a raised gamma-GT or the histology of a tumour?
- (c) A GP might not want to tell his patient that he has multiple sclerosis or cancer. However, he has to inform him that he is withholding information. The patient is going to know something is wrong, thus bringing about the very situation that the GP wanted to avoid.
- (d) A GP can be in an unwelcome situation when he is prescribing a placebo or is simply monitoring hypertension.
- (e) Although an individual can annotate his report, his comments are unlikely to affect an underwriter's decision. It stands to reason that underwriters are more likely to accept a doctor's word before his patient's. (In practice, I suspect that most MARs where access is requested will not be completed until the client calls on the GP.)
- (f) The Act only extends to MERs when they are undertaken by a client's GP. Underwriters do not wish the proposers to be shown the MER: hence, few MERs will be arranged with GPs. This may pose a problem to clients who live in remote parts of the U.K.
- (g) The medical attendant has no authority to disclose information about anyone other than the proposer, so questions relating to family history



have been removed from MARs, even though the information can be crucial. This ruling also has some impact upon joint life policies as, in the past, an MAR on one life may reveal information about the other, e.g. 'depression due to husband's drinking'.

- (h) It is impracticable for an office to backtrack upon its issued policies. For example, after a serious example of non-disclosure has come to light with a proposal through a particular agent, the office might wish to check the accuracy of certain 'proposal only' acceptances. Retrospective surveys are no longer feasible, and non-disclosure may increase.
- (i) An MAR may languish in a GP's in-tray for several days and so delay acceptance. This, admittedly, can also happen irrespective of the Act.

3. I doubt if the Act is welcomed by either GPs or life offices. It increases the GP's workload—in particular, those who normally have their receptionists complete the forms for their signature.

4. Despite the fact that a client may have his MAR to hand, an office should not discuss the reasons for a rating with him directly, but channel such information through his GP.

5. I would favour legislation which gave individuals access to their medical *records* rather than their medical *reports*, thereby bypassing life assurance completely.

## APPENDIX 3

## DREAD DISEASE—POSSIBLE DEFINITIONS

*Heart Attack*

The death of a portion of heart muscle as a result of inadequate blood supply to the relevant area. The diagnosis must be based on all of:

- (i) a history of typical chest pain;
- (ii) recent, acute electrocardiographic changes;
- (iii) elevation of cardiac enzymes, if tested.

*Coronary Artery Disease Requiring Surgery*

The undergoing of heart surgery to correct narrowing or blockage of two or more coronary arteries with bypass grafts in persons with severe angina, but excluding non-surgical techniques such as balloon angioplasty or laser relief of an obstruction.

*Stroke*

Any cerebrovascular incident producing neurological sequelae lasting more than 24 hours. There must be evidence of irreversible neurological deficit.

*Cancer*

The presence of uncontrolled growth and spread of malignant cells. Incontrovertible evidence of invasion of tissue or definite histology of a malignant growth must be produced.

This includes leukaemia (other than chronic lymphocytic leukaemia), lymphomas, Hodgkin's disease and malignant melanoma (but not any other skin cancers). It excludes carcinoma *in situ* of the cervix, tumours in the presence of any human immuno-deficiency virus and all skin cancers except malignant melanoma.

*Kidney Failure*

End-stage renal disease with the life insured undergoing regular peritoneal dialysis or haemodialysis or having had renal transplantation.

*Major Organ Transplantation*

The transfer to the life insured of a heart, heart and lung, liver, pancreas, kidney or bone marrow from a human donor.

*Multiple Sclerosis*

Unequivocal diagnosis by a consultant neurologist confirming more than one episode of well-defined neurological deficit, with persisting signs of involvement of the optic nerves, brain stem and spinal cord, together with impairment of co-ordination and motor and sensory function.

*Paralysis*

Complete and permanent loss of use of two or more limbs through paralysis.

*Terminal Illness*

When the advent of death is highly probable within 12 months and medical opinion has rejected active therapy in favour of the relief of symptoms and support of both patient and family.

## ABSTRACT OF THE DISCUSSION

**Mr R. P. J. Randall** (opening the discussion): This paper is an extremely valuable one, because it both comprehensively and clearly outlines the main principles and practices of underwriting in current conditions. The subject of underwriting is wide ranging and the author has covered it in a very thorough manner, in particular the major impairments relating to underwriting, without falling into the trap of describing them in terms that only a member of the medical profession can understand.

This is the first paper presented to the Institute on underwriting since that by A. J. Steeds in 1965 (*J.I.A.* 91, 231). Certainly, the comment by Mr Steeds, that it is difficult to say anything new on the subject of underwriting, is not applicable today. For example, since then the considerable cost inflation can be translated into the costs of obtaining medical evidence and the administration costs in processing this evidence. These are obviously relevant in determining the levels at which such evidence is obtained. As the author points out, advances in medical treatment and diagnosis, together with radical developments in underwriting, have altered many underwriting approaches. I suggest that the changes in the way insurance is marketed also affect underwriting procedures, with many more offices now having to take into account the necessity of servicing a sales force. In addition, in recent years, we have also seen many offices expanding into areas of disability cover and this has similarly expanded the scope of the underwriter's job.

From a position of apparently declining importance within a life office, the role of the underwriter has increased significantly in recent years, with the advent of AIDS and the expansion into disability business. As the author indicates, the underwriter has to perform a delicate balancing act by allowing the large majority of applicants through at normal rates, but avoiding anti-selection by the substandard lives, and it is this principle of avoiding anti-selection that is of prime importance to the underwriting. Indeed, this was highlighted in the paper by W. Perks in 1952 (*J.I.A.* 78, 205). The underwriting standards can be determined, so that the proportion allowed through at ordinary rates is relatively high or relatively low, provided that the underwriting standards are consistent with the pricing assumptions and that the overall procedure does not allow a higher proportion of substandard lives through at ordinary rates than that assumed in the pricing. The author provides a sobering example of a strategy (the MIRAS campaign in 1982/3) where this principle can go wrong.

The underwriting procedures detailed by the author illustrate clearly the greater restrictions of legislation imposed since 1965. I endorse his criticisms of the Access to Medical Reports Act, 1978—indeed similar criticisms could be applied to much of the legislation imposed on the insurance industry recently.

In the paper, representative MAR and MER levels are tabulated, together with the automatic requirements relating to the underwriting of AIDS. At a later stage in the paper, when considering more specifically the underwriting of AIDS, the author suggests that the current limits should not be lowered. Whilst I appreciate that the administration and costs of AIDS tests are significant, these levels are substantially in excess of the levels at which an HIV test is normally required in North America. There most offices will request an HIV test (irrespective of sex or marital status) at \$100,000. In addition, as the author intimates, most offices will use this blood test to test for other factors, such as lipids, liver function tests, etc. Early indications from North America are that this increased use of blood tests has improved offices' overall mortality from underwritten cases, with many offices, surprisingly, experiencing a substantial drop in the numbers of accidental deaths in the early years of policies.

I cannot agree with the implied conclusion that, because the author's office has only experienced one positive result from 1,000 HIV tests, the levels do not need to be lowered. An alternative conclusion is that the request for HIV tests may well deter high-risk applicants from continuing with their application. I believe the Terrence Higgins Trust advises their members not to proceed with a life assurance application if a blood test is requested. I would also make the point that, with at least one third of the reported AIDS deaths being from married men, the differentiation between testing levels for single men and married men seems unjustified. With regard to the level at which supplementary questionnaires are requested, some offices successfully incorporate one in all their application forms,

with the applicant completing the SQ privately and covering up his answers by means of a seal-down flap. The salesmen promote the inclusion of this questionnaire by implying that the office's mortality experience will be protected, thus benefiting the applicant in terms of premium rates.

Under the heading of marketing, the author expresses strong reservations on the new generation of flexible whole life plans with numerous options. I share his reservations. The possible degree of anti-selection is obviously dependent on how tightly the options are worded in the policy. It is fundamental that the underwriter is aware of all the options in the policy that is being applied for and that he or she appreciates the degree to which the proposer can select against the office in the future. Of particular worry are those options where the amount by which the sum assured can be increased is substantial and the option is exercised at the instigation of the policyholder. With the advent of AIDS, it is clear that all options cost and should only be offered to absolutely first-class lives.

Dealing with actuarial considerations, the rating for substandard lives (in terms of mortality) should depend on the initial underwriting terms; in other words, the extra mortality rating for a substandard life should be a greater multiple of the premium mortality basis for an office with strict underwriting standards than for one with less rigid underwriting standards. I also feel that the author's statement, in §4.3.1, that "the financial effect of an office's mortality experience may fall far short of its interest earnings", may not necessarily apply to some of the modern breed of plans. For example, the effect of mortality earnings on a flexible whole life plan written on maximum sum assured will be far more significant than the interest earnings from the policy.

The author has devoted, quite rightly, a substantial portion of this paper to medical aspects of underwriting. My initial thoughts on this area were that I would like to have seen more statistics on the various ailments to support the suggested ratings for the various conditions. However, further consideration led me to the view that, as developments in medical treatment were having an impact on the mortality rates, many published statistics would probably reflect the historic position. Nevertheless, from the survey of 12 offices, it would seem that there is some considerable divergence in the underwriting treatment of various ailments and a stronger statistical base would obviously be desirable.

The statement in §5.1.6 that "Most offices allow standard rates for up to 30% or 50% extra mortality", should be considered in the light of the office's pricing assumptions. If an office is assuming tight underwriting standards and is consequently pricing on a low mortality basis, then it is obviously dangerous to allow marginally substandard rates through at ordinary rate classification.

The treatment of smokers is obviously an area where significant change has taken place since 1965. P. D. Bairstow, in opening the discussion on the 1965 paper, made reference to the fact that only one U.K. office asked a question about smoking habits on its application form. At that time, one U.S. office had just introduced the concept of a discount for non-smokers. Now, of course, it is normal for U.K. offices to differentiate between smokers and non-smokers, although this practice has only developed within the last 10 years. The statement in §5.2.9.4 that "No office has developed a three-tiered approach", is not quite true. One office did launch its term assurance with smoker/non-smoker differentials on a three-tiered approach of: non-smokers; pipe, cigar or light cigarette smokers; and heavy cigarette smokers. However, they subsequently discarded this approach, as the market seemed reluctant to accept it, and a three-tiered system obviously imposed a greater administrative burden. In practical terms, the office found that it was receiving very few applicants on the light smoker basis.

Under death claims management, the author highlights the problems which principally relate to foreign deaths and non-disclosure. The paper rightly draws attention to the correct questions being asked—and in using wording that is not misleading. This is particularly relevant where shortened proposal forms are used. Fraudulent death claims arising through death certificates issued abroad are becoming increasingly common. It is essential that any office receiving such a death claim should contact the ABI, who provide an invaluable service in correlating other death claims arising under the same life. Although the advice to examine carefully any application over £150,000 from clients hailing from abroad is important, it should be realised that any prospective fraudulent claimer will be likely to take out a number of policies, with different offices, for smaller sums assured.

In Section 8, the author looks at the underwriting of sickness benefits, which has been a rapidly expanding area for many offices over the last few years. For clarity, I would have preferred this section to come before considering the medical aspects. Although the author does highlight some of

the conditions that should be considered more carefully when considering PHI benefits, I feel it would have added to the completeness of the paper if each medical condition had been considered both from life and from disability underwriting aspects. There are significant differences in the underwriting at the point of application for sickness benefits, particularly in relation to the level of benefit in terms of the proposer's net income. Equally important is the underwriting that must take place at the point of claim. Many offices have had adverse experience on their PHI portfolios. Significant improvement in their morbidity experience can be achieved through active claims management. The use of a disability counselling service is obviously important, but an office can also achieve good claims administration through a PHI claims manual that indicates the likely duration of incapacity for each particular ailment. It is a good discipline, and one that is practised in many other countries, to establish with the claimant at the point of claim just how long that claim is expected to last.

Dread disease is still in its relative infancy in the U.K. and should be treated with caution by underwriters until more relevant 'assured lives' statistics are available. I reinforce the author's view that financial underwriting is required for dread disease benefits in excess of £100,000. The paper rightly emphasises the point that, for this particular benefit, hereditary history and smoking habits are vitally important.

The paper also emphasises the use of reassurers to underwriters. The underwriting manuals produced by reassurers are, effectively, one of the major sources of statistical information on medical impairments. The question of 'shopped' reinsurance is one that exercises the minds of most reassurers. It is obviously expensive for the ceding office to operate a shopping service, particularly if it is distributing copies of the applications and medical evidence to eight or more reassurers. From my subjective view as a reinsurer, I can only assume that being accepted for a particular substandard case means that the underwriter has made a mistake—or missed something that the other reassurers did not! Reassurers have utilised their greater experience of underwriting substandard lives and offer a valuable service in training young underwriters, particularly for those smaller offices where resources are somewhat limited.

It is clear that computerised underwriting is an inevitable development of the future. However, I see little immediate prospect of computer developments replacing the intrinsic feeling and flair of the experienced underwriter.

The author has rightly emphasised the increased importance of the underwriter in today's environment. With an ever-increasing emphasis towards protection policies, mortality and morbidity profits are becoming increasingly important to offices.

**Mr H. A. R. Barnett:** The actuarial profession in this country has, perhaps, tended to take underwriting for granted. Unfortunately, many actuaries learn a smattering about underwriting and then forget it. Yet this science, albeit not an exact one, as stated in § 3.1, ought to be regarded as one component of actuarial science as a whole (none of which is exact), and the close relationship between underwriting, the mortality of normal lives and the mortality of impaired lives ought to be impressed on every actuarial student.

The author makes clear the connection between life underwriting and mortality, and draws attention to recent changes. Perhaps the reluctance of many actuaries to interest themselves in mortality experiences, or, indeed, in the construction of tables, has been due to their lack of recognition that underwriting and select mortality are two sides of the same coin, and that impaired lives mortality is merely a chunk bitten out of the coin.

Non-selective business was always a hazardous nonsense in my view, and the single question proposal verges on the ridiculous. Unless good lives are warned that, by using the shortened proposal form, they may be subsidising the acceptance of abnormal risks at normal rates, I doubt the ethics of the whole procedure; but, if they are so warned, the likelihood is that, by and large, only the not-so-good lives will use the shortened form. The dangerous growth of non-selective business (now, fortunately, arrested) was probably a direct result of the equally dangerous belief that mortality does not matter; it is to be hoped that the profession, and the assurance industry, have learnt their lesson.

In § 5.2.6 the author states that "there is no large body of impaired lives statistics". This does less than justice to the office which has published its experiences in the *Journal* (*J.I.A.* 87, 196; 92, 37; 106, 15; 114, 91). It is true that the C.M.I. investigation into the mortality of impaired lives is still in its

infancy, and that the first report, shortly to be published, on the 1983–86 experience, is based on a fairly small volume of lower duration statistics only, but it is to be hoped it foreshadows something worth-while in the future. It was, in fact, the underwriters, not the actuaries, who first requested that investigation, which might, by now, have reached maturity had there been more interest on the part of our profession. To quote from §5.2.4, “few major offices appoint actuaries as their chief underwriters”. Why?

Concerning options, there is not all that difference between life assurance and other general forms of insurance. In some cases reserves are built up over the years, in others they are not, but nearly all contracts contain an option to renew, and this implies that at least a small portion of the last premium needs to be saved until the next renewal date.

In §8.3.8 the author mentions that the C.M.I. PIII results are not analysed by medical impairments. This is not quite correct; causes of sickness claims are being analysed, and a report is in course of preparation for inclusion in a future number of C.M.I. reports.

**Mr J. Lockyer:** In the office where I started my career the actuary was very much involved in the day-to-day process of underwriting. He would be asked to pronounce final judgement upon the more difficult cases. Of course, he would be guided by the clinical knowledge of his CMO and his underwriters, but his would be the ultimate responsibility for deciding what the extra premium should be: 5s%, 10s% or £1%. It all seemed pretty arbitrary, but there were no pretensions to a spurious accuracy. The important thing was that ordinary rates cases were accepted at ordinary rates, and declined cases declined. In between, equity, in the broadest terms, was all that was sought and all that was achieved.

Then came the scientific numerical rating system, a more orderly approach to the rating of sub-standard lives, researched and promoted in this country by the reinsurers. But is it truly science at all? Science, certainly good science, should be capable of rigorous examination. A large section of this paper is devoted to examples of the numerical rating system. Like the opener, I would have liked to have seen more scientific justification underlying the ratings which are recommended. The absence of any solid rationale behind the ratings should come as no surprise. Little detailed analysis has been published in this country in the area of sub-standard mortality studies. Indeed, until comparatively recently, there has probably been little accurate and comprehensive data on which to base such studies. No doubt research has relied heavily upon American data—most notably as published in the *Mortality Monograph*—leavened with imagination and ingenuity, and perhaps tempered with an eye to the competition. The numerical rating system does bring some order and consistency to the treatment of substandard cases. Whether or not the absolute levels of the recommended ratings accord with reality may not yet have been seriously tested.

Would it be too contentious to ask whether the fine tuning of substandard ratings matters? It matters to reinsurers, whose portfolios contain a great concentration of sub-standard business, but for direct insurers where, possibly, upwards of 90% of business is on standard terms, probably broad equity is all that can be achieved.

The author makes no claim that underwriting is a science, but describes it as an art—albeit a dying one. Like all forms of art, underwriting has been subject to whims of fashion, and what or what not are held to be important changes over time. Fashion has seen us move away from the single standard risk group to a series of standard risk groups: the sex differential; the great divide between smokers and non-smokers; and AIDS very nearly had us sub-dividing by sexual inclination. Other factors affecting mortality such as socio-economic grouping and residence are swept up in the general assumptions. Is it implausible to think that, maybe, a niche player, looking for a marketing edge, might seek to break down the standard groupings further? Yet the more the standard group is sub-divided, the more difficult it becomes to apply a unique set of numerical ratings and obtain meaningful answers.

In any discussion of underwriting it is very easy to dwell upon the esoterics of sub-standard underwriting and ignore a facet which is, as the author says, equally, if not more, important. This is the art of wading through a pile of unremarkable proposals and spotting those seemingly innocuous comments which demand further investigation. Here the underwriter has to balance the cost of

further evidence against the risk that an innocuous statement is hiding something altogether more sinister. This is an art which I hope is still well and truly alive.

**Dr R. D. C. Brackenridge** (a visitor): My book, *Medical Selection of Life Risks*, is referred to in the paper, with a suggestion, at one point, that some life offices consider my risk evaluations to be on the generous side. If I have been generous in some areas it has usually been for good reasons, as the author states, medical advances have taken great strides forward in the past 20 years, and I always try to identify those areas where worthwhile advances have had the greatest impact on diagnosis, treatment and prognosis, and secondarily on risk selection. Let me illustrate by a few examples:

- (1) Modern echocardiography has had a profound influence on our handling of heart murmurs, being able to identify easily whether organic valvular disease is present or not, and so modifying our ratings.
- (2) As regards epilepsy; computerised tomography (CT) scans, and, particularly, nuclear magnetic imaging, can identify quite small tumours in the brain, and so it is now unnecessary to postpone for 2 years, as the author suggests, an individual who has had an initial convulsion, even in middle life, if investigations have revealed a negative scan. I think 3 to 6 months is probably enough. Certainly a 2-year postponement was justified 20 to 30 years ago, in order to test the presence or absence of a tumour by time.
- (3) The availability of tumour markers: human chorionic gonadotropin (HCG) and alphafetoprotein, particularly for malignant teratomas and trophoblastic neoplasms, has completely revolutionised the clinical handling of these tumours and also the underwriting. These markers, combined with modern chemotherapy, enable us, safely, to take on risk a stage I malignant teratoma of the testis, virtually immediately after orchidectomy, at a modest temporary extra. Who would have thought this possible in 1960?
- (4) Clinical staging, followed by appropriate therapy, has also transformed the prognosis of Hodgkin's disease. Clinicians are regularly reporting 100% survival at 5 years of stage I Hodgkin's disease, and near-normal survival for stage II disease. Why, then, do some life offices, and indeed reinsurers, apply such swingeing temporary extras to such applicants, and often for far too many years?
- (5) With reference to ulcerative colitis (§ 5.3.20.3), I think the author has been particularly cruel in his suggested rating of ulcerative colitis after operation (which I assume to be complete rectocolectomy). It is generally agreed that after 2 postoperative years complications are negligible, and, despite a prior stormy 15 or so years, the risk really does become standard in the third postoperative year.

There are a few other areas where slackening of underwriting standards can be justified, but this is not the time or place.

In § 2.9 the author mentions one idea that needs updating, and that is the slavish, routine requirement of chest X-rays and ECGs to supplement the usual medical evidence when sums assured are large. These requirements are insisted upon irrespective of age, a custom that was introduced at least 30 years ago and is still sacrosanct by reinsurers in this country.

A few years ago Transamerica Occidental Life Insurance Co. conducted a study to determine the protective value of their routine underwriting requirements for age and amount insured. The results were revealing:

- (1) Chest X-rays were found to have a negligible value as a screening test at all ages, and these have now been dropped as an underwriting requirement by that company. In any case certain state legislatures in the U.S.A. ban the use of purely routine chest X-rays.
- (2) Up to age 40, routine electrocardiograms, both resting and with exercise, were found to have practically no value, and from ages 41 to 50 only minimal value, as a screening device. Where exercise ECGs over age 50 were required, the treadmill was found to have significantly more value than the Master 2-step. However, where the sum insured is exceptionally large, in applicants under age 50, the company maintains a conservative approach to the use of ECGs in order to counter anti-selection.



- (3) Apart from the HIV antibody test, the author does not mention blood profiles specifically, that is, biochemistry and blood counts, although these are sometimes included in the requirements for large cases in the U.K. The Occidental study showed that the blood profile, involving the drawing of a single sample of blood, has important protective underwriting value at all ages, both for the positive and negative information it provides. Although imperfect, the blood profile is the major objective source available today to detect alcohol abuse; and other liver function tests can detect unexpected or undisclosed postviral chronic hepatitis. The lipid fractions of the blood profile provide a more accurate measure of the risk of future coronary heart disease, and the blood glucose, glycohaemoglobin and/or serum fructosamine fraction of the profile gives a simple, reliable and consistent tool to identify and classify diabetics. All this information comes from a single venesection!

I suggest, therefore, that U.K. life offices and reinsurers should seriously consider dropping the time-honoured, but rather useless requirements of the chest X-ray and of the ECG for large amount cases under age 50, and use the money saved to obtain a well-designed blood profile instead.

I must stress that my remarks regarding chest X-rays and ECGs apply only to routine testing in asymptomatic applicants.

**Mr H. J. Jarvis:** I have always felt that the function of the underwriter was, basically, to keep the mortality experience within that assumed by the actuary. I think, in practice, that involves three main criteria. The first is to avoid anti-selection. The second is to try and determine the span of lives for which you can give an ordinary rate acceptance. From what is written in the paper this spectrum is getting wider and wider. To me the most difficult decision for an underwriter is not so much whether it should be £1 or £2 additional premium, but whether it should be no extra premium at all or the first level of additional premium. The third is deciding on the terms, to the extent that it is possible, for those lives for whom extra premiums have to be paid. That is the most interesting part of the exercise. It is not so much the level of extra risk which is the problem; after all, our predecessors were quite happily underwriting whole life assurance 100 years ago using the *HM* table, which gives something like 600% or 700% of the mortality rates which we experience today. This illustrates that it is not the amount of mortality that concerns us, but its variability.

It is of the greatest importance that, if underwriting is to continue on a proper basis, we must have statistics. We cannot carry on just using statistics which are generated largely from American or from hospital sources. It is of the greatest importance that we have life insurance statistics, and it is much to be hoped that offices which are already contributing to the data on sub-standard lives for the C.M.I. will continue to do so, and that other offices which have not participated so far will be encouraged to join in.

In § 5.3.1, referring to AIDS, the author wrote of the difficulty of explaining to a non-insurance audience that shareholders needed to make a profit. He might have made life simpler for himself if he had explained that the greater exercise was to protect policyholders' savings. There are, after all, many more policyholders than there are shareholders. I daresay a large proportion of his audience were, in fact, policyholders, if not of his office, then of other offices. A delegation from the ABI had to make the same point when it was at the House of Commons to talk to the Social Affairs Committee on AIDS. We had to answer whether it was reasonable to ask such personal questions on proposal forms. When we explained that it was for the greater protection of the existing policyholders, we had a much more sympathetic hearing.

**Dr J. Marks** (a visitor): I disagree with § 7.6 of the paper concerning duration certificates. I must emphasise as strongly as I can that requests for them, although rare, are a source of great irritation and annoyance to doctors. I do not accept that more than a handful of GPs believe that life offices try to repudiate all claims, but I do accept that a tiny minority of doctors might take a hostile view of what life offices are doing. The vast majority of doctors have a normal view of life assurance and life offices, as providing a necessary service to the public. Furthermore, doctors avail themselves of their products, so they have a vested interest at least in the success of the companies with which they have policies.

The issue of duration certificates is, to most doctors, unethical and a breach of confidence, as the patient, or rather the ex-patient, did not consent, and they doubt whether the next-of-kin, or an executor, is a competent person to give consent to disclosure of what the patient told them. Furthermore, the vast majority of doctors think that there is an element of poetic justice when an insurance company, which is trying to cut costs, finishes up with an expensive problem it need not have had. As it says in the paper, taking cases without medical evidence carries a risk. I wonder how many companies would be prepared to subpoena a doctor to appear on their behalf in a legal case involving an insurance policy which was taken out without medical evidence, as suggested in the paper. I suspect just a few. The only people who would benefit would be their competitors. The press would have a field day. The possibility of the BMA recommending that doctors sign duration certificates is less than nil. To my certain knowledge the BMA's representative body, known colloquially as the parliament of the profession, has reaffirmed its policy on three occasions, on the grounds that duration certificates are unethical. That the leadership could persuade a two-thirds majority of that body to endorse an understanding reached with the insurance industry is, in my view, inconceivable.

**Mr J. Ludbrook:** I feel that the paper did not answer the questions I had in my mind before reading it. These are: what are the facts and what are the opinions; how are the facts established and the opinions tested; and when an underwriter says the answer is '+ 100%', is this + 100% a function of policy type, age, sex, and the smoking status, or simply a function of the state of health of the proposer, and + 100% of what?

I do not dispute that, for a variety of reasons, many underwriting decisions will be based on opinions. However, I feel it is important that we know which decisions these are, and that we test these opinions in an objective way as far as we can. We must be wary of opinion reinforcing opinion, sometimes in the face of contradictory facts. An example of opinion overriding facts is the occupational loadings for disability business. Until recently, very modest percentage-of-benefit (independent of age) loadings were applied. This was despite many studies, all of which indicated much heavier loadings, and in a different form a percentage of the standard premium is more appropriate. The inadequacy of the previous loadings became apparent when heavy losses were analysed. The same thing also happened in the U.S.A. We could have, and should have, avoided these losses. The facts were there—we ignored them and we used opinions.

Where underwriting decisions are based on facts, then it is good to know this. I accept that, often, the experience which generates the facts may be of limited relevance to the present and future circumstances we envisage. However, I am sure that, when we have such facts and we use them, then our underwriting decisions will be better and more easily explained and understood. Thus, on having read the paper, I still lacked a perspective of a grading of the various underwriting loadings on a scale, from hard, scientific, reasonably sure, at one end; to soft, unscientific, unsure at the other.

The basis of an office's underwriting policy was very briefly covered in §5.2.5. I would have preferred to have had this considerably expanded. My lack of perspective was not improved by no discussion of the relative importance of the various impairments. In §4.2.2. the author says that only 3% of all proposals may be declined or rated. Of these 3% what are the most common impairments? And, therefore, which are the loadings that we must be more sure of? If all 3% are overweight and hypertensive, and we know we have good scientific loadings for these impairments, then all is well. However, were the 3% to be all kidney disease, and for these we have no good relevant data, then all is far from well.

The status of the underwriter was covered at length. I have also been told that actuaries have too much status. My reply to both is that status should reflect the value added. At one extreme an underwriter who simply looks up impairments in a manual and applies the rating to whatever proposal is on his desk at the time, cannot be said to be adding much value. An underwriter must do more than this if he is to command a high status in the office. To "substitute facts for appearances and demonstrations for impressions" would add value.

The underwriter must question critically the ratings given in a manual. This is especially true for new developments. Sound ratings can only be based on a large body of relevant data which has been soundly analysed. Glossy brochures and manuals are no substitute.

To have a high status, underwriters must address themselves to considerably more than the 3% of the business where the proposals are rated. Given this low figure of 3%, it is clear why many companies do not develop specialist underwriting skills themselves and rely on the reinsurers.

In § 5.2.9 smoking was discussed. In my office we have looked at two separate substantial portfolios of smoking differentiated business. In both portfolios there was a dramatic difference in mortality between smokers and non-smokers. It was, in broad terms, two to one, which is in line with published statistics. I feel we still do not make full allowance for the consequences of cigarette smoking. Certainly, in our pricing, we undercost smokers and overcost non-smokers by using too narrow a differential in mortality.

I was surprised by the omission of any discussion of group underwriting. This is an area where the underwriting of the group (as opposed to the individual benefits above the free cover limit) has been established on a scientific basis. This is not entirely true, as you can only explain the high levels of free cover in terms of over-competition. This aside, there is a scientific basis, and this basis and the rating of individual schemes (when of sufficient size) are regularly re-evaluated in the light of available data.

**Mr M. J. Pickard:** As the author says, it is the AIDS issue which has given underwriting a higher profile in recent years. Just over a year ago I led an ABI delegation to the Department of Health and to a meeting in Parliament. At the Department of Health, a particular point at issue was the question on the proposal form which reads: "If you have ever been counselled or medically advised in connection with AIDS or any sexually transmitted disease, give details including the nature and the dates of counselling". The officials were concerned that this would deter people from going to have tests, not just for HIV, but for STDs generally, when they ought to. We expressed the view that we could not believe that people would not go for consultations because of the implications for life insurance. It is like suggesting that someone who finds a lump somewhere will not go to the doctor for the fear of the impact on insurability of the answer that would have to be given on a life assurance proposal form. I believe that our arguments have now been accepted, and a leaflet issued by the ABI explaining the insurance companies' approach has been well received by the Department. The BMA have been particularly helpful in arranging its distribution to medical practitioners.

Whilst at the House of Lords, at the All Party Parliamentary Group on AIDS, there were some questions to us that implied that the life offices were being unreasonable in some aspects of their practices. However, there did seem to be an understanding of the point I made at the outset of the discussion. This was essentially the same one as the author made to the Mersey Regional Health Authority (§ 5.3.1.2)—that it is entirely up to the life office as to whether it offers an individual life assurance, and if so on what terms. It has to be recognised—and we in the industry must continually emphasise this—that no individual has a prescribed right to be able to effect a life assurance policy. As Mr Jarvis said, we are protecting the funds of the general body of policyholders.

I believe that life offices, after a shaky start, are winning the PR battle in relation to AIDS. I share the author's view that, on this issue, the industry has acted with both sense and sensitivity. I would, however, give one word of caution. The comment in § 7.5.3 that, "a private investigator may be brought in in relation to possible AIDS death claims" would, if taken out of context, cause a very adverse PR reaction. I hope that private investigators would not be used, although, if there was a very large AIDS claim—and I understand there has already been one for £2 million—then I can understand that some investigation may be necessary if there were a suspicion of non-disclosure. The statistics gathered by the ABI are sobering: by the end of last year life offices had already paid out over £19 million on some 600 lives where claims were AIDS related.

In the light of what Dr Marks has said about duration certificates, life offices do recognise the sensitivities, but the essential point, again, is the need to protect the policyholders' funds from non-disclosure. Some critics say that, if an office has accepted a proposal without medical evidence, it must face the consequences. We are now getting to the heart of what underwriting can be about. Consciously or unwittingly, all lives proposed are saying to a life office: "We want to join your pool. We want to contribute to it. We want to take our share of the risks." Among other things, the process of underwriting protects the great majority by deterring a minority from seeking to be deceitful, and, along with the very occasional duration certificate, it should weed out those who are deceitful. Life offices' claims staff, advised by their CMOs, do understand the sensitivity of both doctors and the

next-of-kin in asking for duration certificates. Despite what Dr Marks said, they are completed, and, in my opinion, the continued availability of duration certificates is essential.

**Mr R. H. Plumb:** If this paper had been published 10 years ago I would have agreed with the title, but AIDS has changed the situation. I think the difficulties in persuading proposers to undergo an HIV blood test are substantial, and it is my belief that life offices will face increasing pressure to relax their vigilance in this area.

The author mentions a low percentage of life proposers being accepted at terms other than ordinary rates. I would state that, in respect of PHI, there are substantially higher underwriting declination levels, especially in respect of the shorter deferred periods.

Underwriting, in my view, must always be directed towards the type of policy being underwritten. There are similarities and differences between the underwriting of life and PHI, and, in §8.3.10, the author gives a brief comparison between them. I would echo his view on anxiety and depression. It is an important underwriting factor in PHI. In the longer-deferred-period PHI, cardiovascular problems are equally important.

I echo the author's comment on problem claims for dread diseases. Similar problems also apply to PHI, for life assurance salesmen and the medical profession.

In §8.3.8 the author comments on the amount of data collected by the CMI on medical impairments arising from PHI policies. The PHI subcommittee will consider this further, but, in the final analysis, such an investigation can only be carried out if contributing offices are able and prepared to provide the relevant data.

**Dr M. A. Reynolds** (a visitor): I am here as a doctor and an underwriter within the industry, and I like to consider the public are my patients. I am looking after the interests of the policyholders, looking for equity. It may be felt that we are only at the impaired end of underwriting, rating 3%–5% of our cases, but the science is in the 60% that we have to sieve through to get to that 3%–5%.

We are dependent on the medical profession for the underwriting of life and morbidity assurance. We need a code of practice, but do not want strait-jackets. We want to be able to have dialogue and a good relationship with the medical profession, so that they understand our position and we theirs. Then we can get the best of both worlds for the public at large for insurance and medical care. It is by dialogue with the BMA, sorting out our differences and getting the best compromise, and keeping the medical profession with us, that we will be able to continue to have the privilege of freedom to underwrite, which is so valuable in this country, and which we must protect even more as we come to a wider Europe and all its limitations. I have some sympathy for what Dr Marks said, not so much in the way that he has perceived it from his position, but from the way that I have perceived it from within the industry.

We talk about the harmonisation between the actuary, the underwriter and the doctor. The day has come where the threat to standards is not from the marketing push but from the administrators. Knowledge is always important and is not dangerous; but a little learning is. Those who are not underwriters should not go away thinking they have learnt everything from a paper with such knowledge in it.

The underwriting opinions expressed earlier have come very much from the input of the CMOs. It has all been imparted to the underwriters, and the underwriters are becoming more experienced. If we let this relationship go, and run away with computerised underwriting, which is not assisting underwriting, but actually taking it over, then we cannot expect to have the same backup and support from the medical profession. I give this as a warning: do not try and have your cake at the beginning and expect the medical profession to help you out at the claims end. Dr Marks has to be right in passing on that message.

Equally, we too must achieve a balance from the medical profession. We cannot have doctors saying that they are free to assist in the situation which is allowing the more fraudulent non-disclosed patients through. Every doctor is responsible for all the patients in his practice, so he should not safeguard the one that has taken the insurance company to the cleaners at the price of the others. So there has to be a balance, which is sound underwriting, which has been built by a dialogue between actuaries, underwriters and the medical profession so we get it just right.

We must have well trained personnel. If we use expert systems then the cruder the system is, the more experienced the underwriter you need to interpret it. Therefore, if you go for a more sophisticated system, then you should bear in mind the cost of that sophistication, because it may require more and more questions needing more and more answers and more and more medical evidence. So, after spending much time and money, it would have been much cheaper and taken less time to have the underwriter use the training and experience that he has gained through his work on the job, to have made that decision in the first place, probably within a few minutes in some cases, and for the minimum evidence in others.

To refer to § 2.11.2, which states that in 1969 MARs were asked for on sums assured as low as £2,000, this cautious attitude produced profits and bonuses for the policyholders. Now we talk about the MIRAS business and the difficulties there; the no questions asked and the unfavourable results coming from that. I would pass on a warning here about limiting the doctrine of *uberrima fides*.

In § 4.3.2 the author states that, up until the 1980s, companies expected a profit from underwriting experience, but with the advent of shortened forms and acceptance of heavily sub-standard cases, the inclusion of options for further cover without underwriting, and with the possibility of AIDS, profit can no longer be a certainty.

Is there not a theme, a message, to all of this? Has the day now arrived when the balloon has burst, 25 years on from original words by Mr Steeds, when he said that there is nothing new to say? I think there is, perhaps, nothing new to say today. We must get on with the professional job that we have been brought up and trained to do. I welcome the fact that actuaries are once again back with the underwriters.

**Mr P. H. Hinton:** In § 1.3 the author says “an office’s underwriting policy is determined by its actuary”. I doubt that this is always true. What the Appointed Actuary of a life insurance company must do (and I quote from § 5.1 of GN1) is to “satisfy himself that the premium rates being charged for new business are appropriate”. Clearly he cannot do this without knowledge of the office’s underwriting policy.

Similarly, the Appointed Actuary needs to be familiar with the underwriting standards and procedures of the company when choosing his valuation basis. If it has only limited experience (particularly a new company) the actuary needs to know how far its underwriting practices are likely to lead to divergences from industry experience. Even if the company has extensive experience, changes in underwriting practices may mean that that experience is no longer relevant to recently written business or, as the author has indicated, to blocks of business written in particular ways. Similar considerations apply when the actuary has to advise on the mortality deductions on linked contracts, for example where these are at the discretion of the company.

In § 3.7.5 the author indicates that he believes there should be more material on underwriting in the actuarial syllabus. I think there is a more important point; this is that the actuary who is to be involved with life underwriting, and this includes the Appointed Actuary of a life insurance company, needs to supplement his actuarial training to gain the necessary knowledge.

In Section 3.8 the author expresses some concern about the range of options and additions that may adorn certain contracts. I share these worries. Options that may be exercised against the office require careful consideration. A prudent reserving basis needs to allow for the contingency that the option will be exercised to the company’s detriment. However, I have no objection to a company offering options to customers which enable them to obtain the protection they desire, but these valuable options do need to be reserved for on a prudent basis.

**Mrs G. D. Kaye:** Many of the things in this paper may seem obvious, but they need to be emphasised. For example, in § 4.4.2., the author says that the level of extra mortality should be presented in a form which is understood, but there are companies who present information in a form which is not understood.

Similarly, in § 1.5 the author says: “I dislike speeches which refer to the actuary, the marketeer and the underwriter as though they are different species with totally different views—all three have to work together for the good of their company.” Again, it is unfortunate that this has to be stated, but,

in this time of specialisation, it is important to remember that they all must work together for the good of the company.

I agree with §3.7.5 that underwriting should feature strongly in the Institute's examination syllabus. At City University, when I teach life office practice, I place the student firmly in the seat of the underwriter for two reasons: from that seat he can obtain a comprehensive view of the company; and, the subject, until recently, has been dealt with so poorly by the Institute. I do not, however, agree with the final sentence of that paragraph which says that the Institute would be advised to reconsider its attitude, since I believe it has already done so with the publication of G. G. Luffrum's monograph (Actuarial Education Service, 1989), on the subject of Life Underwriting.

**Mr C. E. Trew** (a visitor): As an underwriter I had much difficulty with the comment in §1.3, "an office's underwriting policy is determined by its actuary". I believe that the policy may more properly be determined by an underwriting manager (who should not be thought of purely as someone who spends his entire life looking at individual cases). There is very much more to the job than that, as is eloquently described in the paper. The underwriting manager might well be an actuary, could equally be an underwriter or a doctor, although I do share the author's views, in §3.6.3, regarding the use of full-time CMOs. I do not think this much matters so long as the three persons act as a team and work together, in the way which is described in §1.5, for the good of their company, but there is, perhaps, a fourth person who should come into this, and that is the marketing executive. Although there will inevitably be clashes between those who are responsible for marketing and those who are responsible for underwriting, there is nothing better, in my experience, than sitting down together and sorting out mutual challenges.

So, I see there being two levels of underwriting policy, one which can be taken at the top, which, basically, should determine the over-all underwriting strategy, and the other will be determined by the underwriting manager in the day-to-day operations of the underwriters.

The author sets out, in Section 3.5, the situation which occurred in 1983 with the no-medical-question proposal. The real mistake then was in not allowing the underwriter the ability to accept or reject. This is a most important aspect of underwriting. Forget the science that decides whether you are going to charge £2 per mille or £3 per mille, one of the most important factors for underwriting is whether you are going to take the risk at all. The underwriter, in those circumstances, was not allowed to do the job he does best.

In Section 10 the author addresses the future of underwriting and focuses attention on computerised underwriting systems. There is a point beyond which computerised underwriting will not take us, but it inevitably takes us a long way. There will be further research into so-called expert systems, and I believe that most underwriters would accept the fact that a good deal of their underwriting will fall, in the future, into a relatively routine category. There will then be a numerically small percentage of risks, about 3%, which cannot be dealt with by computer. This percentage will be higher for PHI. We may well see the same scenario that we have seen in administration situations in the past, where the computer may mean many less staff, but leaves a requirement for a small number of highly skilled persons. One of the solutions suggested by the author, that routine underwriting may be dealt with in the direct office, leaving the complex work to the reassurers, is one that I found of some interest. These skills are going to demand much more training and a high appreciation of the principles of selection.

The Assurance Medical Society are introducing a diploma in life underwriting in conjunction with the Chartered Insurance Institute, which is aimed at enhancing the status of the underwriter. The diploma will only be granted to those who have passed, in addition to a medical paper, other essential papers within the CII syllabus, will also be dependent upon the person working in an underwriting atmosphere and to have experience that will be quantified by the company's chief underwriter and medical officer before that diploma is granted. I would, therefore, echo the author's point that more actuaries should have an appreciation of the principles of selection, and that this may be part of the actuarial syllabus. Maybe actuaries will come along, at some point, for the Assurance Medical Society's diploma.

All of this will be needed if the future continues to be one where marketing is product orientated, as it is today, and where the underwriter will have to cope, not only with mortality and morbidity as

encompassed in the traditional forms of contract, but with total and permanent disability, medical expense business, dread disease, terminal illness cover and whatever policy happens to be the one in vogue. The underwriter will have an important part to play in making sure that all of these innovative products have a sound selection aspect to them. As the author points out, sound business will only be written if there is good and sound selection being exercised.

**Mr A. J. Steeds:** I listened to Dr Marks with great interest. We have to win the co-operation of the medical profession, otherwise we will continue to underwrite a portfolio of lives of which we cannot say the mortality rates will be stable.

**Mr R. J. Sansom** (closing the discussion): The last time that I stood at this lectern was in 1976. I was opening the discussion on a paper by H. A. R. Barnett, 'The Non-Mortality of Annuitants', (*J.I.A.* 103, 167) and it was a fascinating insight into the way that annuitants might select themselves, by knowledge of particular diseases, to outwit the office. We are reviewing here the other side of the coin, both selection and anti-selection, by life proposers. The view, from most of the speakers, is that what we are looking for is a balance between underwriting and pricing, and particularly the expenses of underwriting against its financial benefits.

Mr Ludbrook asked for facts versus opinions. He made the point that what we need is value-added. We need to balance the expenses of getting the underwriting done against the improvement in results that underwriting will bring.

The last paper on this subject of life underwriting was that by A. J. Steeds in 1965 (*J.I.A.* 91, 231). It seems surprising in such a basic area of our business that it has taken another 25 years to discuss the topic again.

There was some discussion on the numerical rating system, probably used by most companies, but Mr Lockyer queried whether it was a science and said that he preferred to see order and consistency—a broad equity. Mr Ludbrook asked whether 100% extra mortality was independent of everything except the exact state of health of the proposer, and hence queried the system itself.

Several speakers referred to standard risk groups, allocations by sex, by smoking habits, AIDS—and of course there have been some attempts at the so-called preferred lives policies—more in the U.S.A. than over here. My own view is that it was a pity that we split between smokers and non-smokers in the first place and made things so much more complicated. Dr Brackenridge spoke about the importance of identifying the areas of likely future advancement in science, so that they could be allowed for in generous ratings, and he specified various areas.

There was not much discussion on non-medical aspects, although Dr Brackenridge said that the underwriting of any risk went far beyond the medical. The paper refers to health hazards from the work environment, and says that these have generally reduced, although, of course, there are some industrial processes which have seen marked increases in disease from particular causes. There was discussion, also, on recent changes in occupational mortality, and the fact that the premium loadings need to be increased.

The paper covered not just underwriting, but the claims element as well. It is important to ensure that the underwriters do get involved in claims control. The brief reference to fraud was picked up by the opener, and I would endorse his plea to offices to ensure that death certificates issued abroad are drawn to the attention of the ABI. Although the author said there had been 'several' frauds, such events are becoming all too regular. Whilst private investigators can prove costly, they can also be very cost effective, and their use will depend upon the likelihood of refuting a claim and the size of the sum assured.

Mr Pickard referred to AIDS as the topic which had regenerated a higher profile for the underwriter, and there were differing opinions between the author, the opener and Mr Plumb on HIV testing levels. I would veer towards the lowering of levels and would side the opener in respect of the dangers of giving too much credence to marital status when taking HIV tests, because of the high percentage of deaths to date from AIDS where the individual was married. Mr Jarvis made an important point in this context in referring to the protection of policyholder savings rather than just the concern for the shareholder, and, again, figures were given in respect of the total claims paid by the industry. There is a danger that the industry will forget too soon the problems of AIDS; the reserves

which most companies have set up are still needed. There have been investigations of late from the Institute AIDS Working Party, and also some documents from the Government Actuary's Department. My fear is that too much relaxation will come too soon before we are aware, not just of the total likely costs in the 'at risk' groups, but also the dangers of spread into the heterosexual population.

I accept the comments by Dr Brackenridge, as a reassurer myself, on the regular demand for chest X-rays and ECGs. There are a large number of people who will take note of Dr Brackenridge's opinions and will give them the thought that they deserve—in particular in considering whether the replacing of these regular examinations with a blood profile would benefit the industry.

The main feeling I received from the discussion, when it comes to underwriting policy, is the theme of co-operation. Some speakers mentioned a team of three. I think, perhaps, a team of four is more appropriate, not just the underwriter, the actuary and the marketing manager, but also the doctor. The opener referred to a balancing act and that brings me back to the beginning and the relation between the costs of underwriting and the benefits, and, indeed, the definition of what is the standard class—a topic mentioned by Mr Jarvis and Mr Lockyer, and one that I recall reading in the paper by W. Perks (*J.I.A* 78, 205). It seems that there can be virtually whatever size standard class you want. You can go for tight underwriting and low mortality charges, or for the opposite, but you have to bear the market in mind, and this is where the marketing manager comes in. An addition to the people previously mentioned could be the Appointed Actuary, and Mr Hinton wished that he would be involved in the discussions as well.

Companies contribute data to the C.M.I., and information is published, but I think one must bear in mind continually the large variation in mortality experience between offices. Many years ago there used to be light and heavy tables, and there could well be major differences between the mortality levels experienced by offices, depending upon the level of underwriting undertaken.

Mr Barnett said that underwriting and select mortality were two sides of the same coin. Another important area is, of course, the relationship with the medical profession, and some topics in respect of that were raised in the paper. I wonder whether we, as an industry, should do more to ensure that the examining doctor understands what life assurance is all about, and, particularly, what disability business is all about. I do not know how we can do that, how we can tell the GP and examiner rather more; but I think it is an area that should be considered.

Dr Reynolds talked about a dialogue between the two professions. The author suggested that underwriting was something that should be reintroduced specifically into the examination course at the Institute. This was supported by Mr Barnett and by Mrs Kaye. Mr Hinton referred to supplementing the training of the Appointed Actuary by giving him some experience of underwriting. Maybe Mr Trew's suggestion of participation in the diploma currently being run by the Assurance Medical Society could be an avenue for exploration, although, perhaps, each actuary would then need to spend time in the underwriting department to fulfil the criteria. My own suggestion would be that underwriting should be included as one of the post-qualification courses that are run by the Staple Inn Actuarial Society.

**The President (Mr R. D. Corley):** Any actuary who has spent a few years involved in underwriting is likely to have equipped himself or herself with a greater fund of stories and anecdotes than can be culled from all the other normal work of an actuary put together; for the essence of underwriting is that it is about individual human beings, their propensity to be ill, and the likelihood that they will know, and tell, the truth about themselves. The need to know about human weaknesses, and to make judgements about them, provides interest and challenge for the underwriters in their everyday work. It is necessary for those who are responsible for the actuarial control of a life office to understand both the structure and the difficulties of the underwriting process, and that they should agree with the underwriters on the standards to be achieved.

In our discussion we have enjoyed many contributions from both members and guests which have emphasised the need for responsible underwriting, the difficulties of obtaining complete information and the problems that can occur when standards are insufficiently stringent. It is perhaps inevitable that we have heard less about how extra mortality is assessed once an impairment is identified, because, except in the case of AIDS, modern market ratings have evolved through competitive



reassurance and the basic research from which the direct writers could mount a challenge has not yet emerged. Likewise, the actuarial topic of translating extra mortality into premiums has hardly been mentioned, because there seems to be little that has been added to the nineteenth century work which appears in every actuarial student's text books.

As the author notes, a quarter of a century has passed since underwriting practice was last discussed in this Hall and on that criterion alone it is valuable to have been able to have this discussion. For presenting a practical paper which updates the earlier literature and sets out many of the author's own views, which have been formed during a close association with doctors and underwriters, I would like to thank Spencer Leigh and would invite you all to show your appreciation in the normal manner.

#### WRITTEN CONTRIBUTIONS

**Mr P. N. S. Clark:** The question posed by the paper is whether the art of underwriting is dying. I would prefer to ask a slightly different question: Is it a natural death or murder or suicide?

I have very considerable concern that societal pressures are more and more restricting the right of insurance companies to underwrite effectively. The logic goes as follows: discrimination is wrong; underwriting is discrimination; therefore underwriting is wrong! This is manifested in a number of ways. The Equal Opportunities Commission frequently objects to underwriting on the basis of sex. On a related issue I was interested to read in §6.5.8 that, in 1985, "Americans would forward all manner of details about their sexual activities". At a seminar in Chicago, in May 1988, American insurance executives were assuring the audience and each other that their companies would never underwrite on the basis of sexual preference.

On the subject of genetic screening, a certain amount of information is already available from specific genetic screens either pre- or post-natally. For instance, it is possible to establish if someone will suffer from Huntington's Chorea. However, I believe that, within the next five years, far more information will be available as a result of genetic research and subsequent screening. Such information could well be highly significant and useful as an underwriting tool. However, there is tremendous pressure, not least from the medical profession, to withhold such information from insurance companies. The passing of such information to insurers or employers is held by some to be an infringement of personal liberty. Had such a view been prevalent 40 years ago, there might have been significant pressure to withhold the information obtained from an ECG. Of course, this line of argument totally ignores the possible impact of anti-selection. Furthermore, and this is far less well understood, it is not anti-selection against the office but anti-selection against the population of other policyholders. The distinction between social insurance, where there is compulsion and fixed levels of cover, and private insurance, where there is both the voluntary nature of effecting the contract and the option to choose the size of the contract, needs to be spelled out. There is an amazing level of ignorance, not only in the population at large, but also within some sections of the medical profession, concerning the underlying principles of insurance.

Against this background, I regard the shortened proposal forms of the early 1980s as a classic 'own goal' by the industry. The message was loud and clear: 'Underwriting is unimportant'. It took the human disaster of AIDS to remind us of our own basic principles, and so I revert to my initial question; "Is it a natural death or murder or suicide?" That leads me to observe, "underwriting is far too important to be left only to the underwriters!".

**Mr P. L. Duffett:** I see life underwriting as, essentially, a combination of the grading and pricing process of a proposal for life assurance and quality control. The price categories for the grades will vary from product to product. Quality control means minimising anti-selection, which, principally, includes conscious and sub-conscious non-disclosure or misleading disclosure of information important for pricing.

The effectiveness of a shortened proposal form is severely questioned in Sections 3.5 and 7.3. Whether this is primarily due to lack of information to grade a proposal properly or a quality control problem may be of some interest. More important is for us to *quantify* the value of *each* question to

the whole process. This may be a useful area to research, and a help in designing proposal forms. The classification process should be seen to be fair. In one particular quality control investigation, carried out a few years ago, a large number of cases, received over an interval of a few weeks, showed that just over 10% of those with full medical evidence were rated up, whereas, on the basis of the proposal only and medical follow-up, in accord with company practice, the result would have resulted in less than half that percentage being rated up. Underwriters should be careful to be fair to all proposers and not unduly harsh on proposers simply because there is more information available.

Grading and pricing are discriminatory. Where there is discrimination it should be broadly acceptable rather than always acceptable to everybody: for example, age, sex and smoking are acceptable criteria, whereas ethnic and environmental criteria are not. It would be interesting to know what new areas of discrimination are likely to play a part in the market over the next twenty years or so, or how far covert discrimination is acceptable, for example, through sales targeting.

**Mr N. E. Gould:** Concerning expert systems, the Aries at City life underwriting project demonstrated clearly the limitations of this type of programme for dealing with a very wide and constantly developing field of knowledge.

Knowledge-based programming can be applied to screen more effectively and to ensure greater consistency in the large volume of impaired life rating undertaken by junior staff. It will probably never be worth contemplating trying to capture, let alone maintain, the expertise of the consultant physician and senior underwriter in such a system.

If you wish to experiment with expert systems the first step is to identify an area where a cost justification can be anticipated within a short period of no more than 6 months. A screening programme for branch use, tailoring medical requirements to the nature of the risk (unlike the reassurers' manuals referred to in the meeting), was written by one of my colleagues quickly enough for it to have covered all costs within 3 months, taking no credit for the intangible benefits of a faster approval service. If it does nothing else it will pay for the cost of research into how much more of the underwriting process it is worth handling by a knowledge-based programme.

**Professor S. Haberman:** There are important omissions from the paper. I was expecting to see sections on the following topics: the science of underwriting; the impact of computers; and Europe 1992. The paper emphasises the 'art' of underwriting, but has little to say about the science, for example in the areas of collection analysis and interpretation of data. The author's comments on high technology and expert systems seem rather anachronistic—as in other spheres the advent of computers can provide important opportunities, although I do recognise that there may be associated dangers. It is surprising that comments on European practice are delayed until § 10.2. The comparative aspects of underwriting will surely be a significant issue for the industry in the wake of 1992.

I was surprised by a sentence in § 7.1.9. Referring to policies that have been voided, the author states that "as no risk has been run, premiums can be returned". This presents the policyholder with a one-way option against the insurance company—a risk has been run *ex ante* and some charge should theoretically be made. It would be inappropriate to argue *ex post* that, as the policyholder has survived, no risk has been run.

Another sentence which I find mildly provocative is in § 9.4.3. Concerning the calculation of retention levels the author alleges that "niceties have now been supplanted by a more intuitive approach", but is not the fixing of retentions an area where statistical theory might prove useful? This was Redington's view in the discussion of Foster's 1945 paper (*J.I.A.* 72, 355).

The discussion of research in § 9.6.2 could refer to current work being carried out within universities as well as by reinsurers. At least one university department is involved directly in such research.

**Mr J. R. Harrington:** I am disturbed that this paper includes the kind of homophobia that appears in §§ 5.3.1.2–10, and am dismayed that the underwriting profession will feel encouraged by this paper to continue to invade the privacy of proposers in ways that are admitted to be highly unlikely to provide accurate responses. If you wish to underwrite on the basis of whether or not a proposer is HIV positive, the way to do so is to get a blood test from everyone seeking insurance. While current tests

will not detect early stages of HIV—the risk that someone would seek insurance within that window period can be allowed for in a general loading.

Paragraph 5.3.1.9 is an indictment of underwriters in general. It is shameful that only 1 out of 12 offices would provide insurance at standard rates to a homosexual who is HIV negative and has been in a 2-year-long stable relationship. The homosexual applicant for insurance is presented as being guilty of reckless promiscuity unless he can prove himself innocent. We are given the strong suggestion that, somehow, homosexuals, as an insured category, would take pains to retain an HIV negative status only until accepted as an insurable risk, after which their concern for health would disappear.

I also object that homophobic underwriting practices should inhibit the purchase of a house by a healthy homosexual couple through the lack of mortgage protection insurance at competitive rates.

The acid test for an underwriting system is the willingness of the company that applies it to apply it also to annuity purchases. This would mean that a group covered at a loading of £5 per mille should be offered annuities at enhanced rates that are actuarially equivalent to the £5 per mille loading. It would also mean that a group declined as uninsurable should be offered annuities at rates loaded at least as much as the minimum loading that would lead to a declining of an assurance risk. If this form of fairness were required, the offices that declined or loaded insurance rates for HIV negative homosexuals would have to offer enhanced annuities to them. Their willingness so to do would demonstrate a belief in the risk classification as valid, rather than as a manifestation of homophobia.

Ultimately, the fairness of an underwriting process in the marketplace for life risks would be handled in a quotation that gave a 'buy-sell' pair of prices, in which the buy price was the insurance rate and the sell price the annuity rate. A narrow band between the rates would be evidence of fairness and profitability. A wide band between the rates for an individual would be evidence of unscientific approaches to risk assessment.

**Mr S.-U. Hasan:** The author has discussed the underwriting of the mortality risk, but the lapse risk can be just as important. In my country, Pakistan, the slow bleeding caused by high lapses can be worse than the more visible losses caused by high mortality. Maybe this is also true elsewhere. Under the 'total underwriting' concept, the underwriter should assess both risks. If the risk of lapse is high, surely the proposal should be declined, or modified. A lapse rater (or persistency rater, in U.S. terminology) is an essential tool of the conscientious underwriter—unless he is lucky enough to work in a territory with negligible lapses—is there such a territory? Also, a high lapse risk is one more answer to the author's question, "why then do life offices seek justification of larger sums insured?".

While discussing diabetes, the author refers to Asian lives. Has any office investigated the mortality of Asian lives insured in Britain? For about 16 years, I was the actuary to a tiny portfolio of such lives. The experience was too small to be credible, but on a 'straw in the wind' basis, the mortality seemed very low.

**Mr J. A. Hobbs:** The author commented in § 3.4 on the way in which the status of the underwriter had diminished in the 1970s. I am glad that he appears to be optimistic about the future, and my own feeling is that, so long as life assurance continues in its traditional form, the underwriters will fulfil a need. The pressures of marketing departments will, no doubt, bring an ebb and flow to the underwriters' status as it has in the past.

I support the author in his comments on the MIRAS campaign in 1982. By that time it had become fairly standard procedure for joint-life policies to be effected to cover mortgages for married couples, and it seemed a golden opportunity for either partner to be able to make a gift of a house to the other when a life-threatening disease had been diagnosed—and all at the expense of an insurance company.

Mortality profit may not appear to be of great significance in recent years, when set against interest profit, but the long-term implications of poor quality underwriting mean that it is all important to maintain standards. A major shift in standards becomes relatively difficult if it means effectively retraining underwriting staff and re-educating marketing departments, brokers and clients.

I support the comments in § 3 of Appendix 2, regarding the Access to Medical Reports Act, 1988. It would seem to add significantly to cost and delays and, perhaps, make it more difficult to obtain an MAR from the GP. Prior to the Act it was fairly usual practice to get an MER, where one would not

otherwise be required, if a GP disclosed a serious condition that was not disclosed on the proposal form, so that ratings or declinatures were not solely based on the GP's comments. A minor point that has probably always been present is that GPs can show themselves to be selective and omit matters, not necessarily of a trivial nature, that they consider of no interest to an underwriter.

**Mr G. G. Luffrum:** As the author of the Institute Monograph on Life Underwriting, I was rather surprised by the comments in §3.7.5. During preliminary discussions on the Monograph it was indicated that all that was required was a short note. The finished version has over 60 pages and its author, at least, feels that the subject warrants more attention than in the recent past.

The comments in the paper would appear to run counter to the recommendations of the Education Working Party of the Futures Committee, who felt that the examinations should concentrate on principles and not get involved in detail. The author would appear to be asking for more detail. Further, as was mentioned in the discussion, the most important underwriting decision is whether or not to accept a life at standard rates. From my own experience as an underwriter, I would find it hard to envisage this being covered in the examination syllabus.

Like others, I find it hard to understand the logic of the lower sums assured levels for supplementary questionnaires, etc. for single males given in §2.11.1. I shall illustrate this with an example. A male acquaintance of mine has been in a monogamous heterosexual relationship for the last eight years, but the couple have not got married. It would appear that he would become a better insurance risk if he was married. The author would have been more honest if he had said that the main (or only) reason for the life offices' attitude in this regard is that they do not want to upset the majority of their male clients.

In §6.2.1, the author suggests that extra premiums for occupational risks would be removed if the policyholder gave up his hazardous pursuits. In view of the risk that such a change in occupation may be temporary, would it not be desirable to make the dropping of the extra premium conditional on not resuming the hazardous occupation?

How does the author justify his comment, in §9.4.1, that, for reinsurance purposes, offices may retain more on full premium contracts than on term assurances? When my students make such a comment they do at least try to justify it, although I do not usually agree with their justification.

**Mr K. J. Newbury:** Section 3 seems to draw our attention to the importance of underwriting to the actuarial functions of pricing and valuation. My view is that too little regard has been paid, on the actuarial side, to this interdependence of discipline for the profitability, indeed viability, of a life office. Both the MIRAS period and the advent of AIDS have served to reinforce something which we should already have been taking seriously. Even now there seems to be a real danger, in many offices, that actuaries, because of the lack of understanding of the underwriting function, assume that it somehow automatically takes care of itself when it comes to deciding on the appropriate assumptions for the pricing of products. Perhaps you need to work for a reinsurer to fully appreciate the importance of the underwriter!

I am not sure that I fully agree with the author's summary of the MIRAS period in §§3.5.2–3.5.5, which appears to ignore the distinction between new mortgages and re-mortgages. It has been my understanding that the major problems of this period related to the latter rather than the former.

Section 4.1 emphasises the interdependence of premium rating and underwriting. Certainly, from my own experience, pricing by the actuary tends to assume effective underwriting with no significant selection against the office, but, probably, without any discussion with the underwriter as to whether this is justified. With the advent of newer risk benefits, such as dread disease, such an isolationist view is unwise.

In §5.2.9.4 reference is made to a typical question about smoking habits, but it is worth pointing out that a significant number of offices extend the question to ask whether there is any intention of smoking in the future. The value of the extension can be debated, but its deterrent effect is probably worth having.

I was surprised to see no reference to AIDS testing limits under §6.4. In general, the requirements in force in the local market should apply, not those in the U.K., although there is some room for flexibility, depending on the country and the length of stay.

In § 8.3.5 the author states that many offices use an 'in-between' definition of disability, but my own understanding is that it would be more accurate to say that some offices use such a definition. Most companies, as far as I can tell, still use an 'own occupation' definition, and certainly the market leaders do so. I agree with the conclusion, under § 8.3.6, regarding the effectiveness of a 'change of occupation' provision, and the trend seems to be towards dropping such a requirement. If anything, the list of exclusions under § 8.3.11 is rather on the long side in relation to latest developments in the market. In particular, war risks is much more likely to be a standard exclusion than private flying.

Under § 8.3.16, it is worth emphasising the benefits that can arise from the use of a disability counselling service in terms of claims control, reserve savings and in projecting a positive image of the insurance company to its PHI claimants. For example, the disability counsellors are, in many cases, able to provide valuable advice in connection with State benefits.

In relation to § 8.3.19, my own view, based on discussions with underwriters and claims people, is that 'underwriting at claims stage', in respect of maximum benefit, is likely to lead to problems. I feel it is evidence of a rather unprofessional approach to underwriting.

It is, perhaps, worth stressing that it is possible to become too caught up in the potential complications to the underwriting process presented by a benefit like dread disease cover. It is perfectly feasible to develop a practical approach, based on a long proposal form and some degree of sales training, which will enable the majority of the business to be processed straightforwardly. Only at the higher levels of cover is a 'production line' approach no longer tenable, as stated in the paper.

I do not disagree with the author's contention, under § 9.4.11, that the majority of business under reassurance treaties is term assurance, but, if we are talking about new business, there has been a marked shift to risk premium reassurance for other protection products, notably flexible whole life plans and, more recently, dread disease and PHI contracts.

I cannot allow the author's comments under § 9.8 to slip through unanswered. Whilst reinsurers are noted for their flexibility and understanding in relation to the needs of direct offices, they also have their own businesses to run on a profitable basis! There are times when perceptions and interests differ, and I think this is one of them.

**Mr P. W. Wright:** The author refers, in § 1.5 to his marketing experience. My own most recent association with marketing has been through working at a regulatory organisation, and, hence, it is perhaps not surprising that I disagree with some of his views. In § 2.2 there is an implicit criticism of the cost of complying with the LAUTRO rules. This comment is then justified by reference to the long-standing approach of a conscientious salesperson—but the whole point is that not all salespersons are conscientious. The author, in § 2.12, acknowledges that the judgement of the salesman cannot be relied upon in all cases. The quasi-legal requirement to complete a fact-find at the point of sale is a very important, and beneficial, aspect of the LAUTRO rules, and one which I hope and expect will have a measurable success in improving persistency rates. Indeed, an inspection of DTI returns for 1988 gives some support for the idea that persistency is generally improving.

The LAUTRO rules state that the company representative should only complete the proposal form at the request of the proposer(s). I suspect, from the limited information supplied, that the building society counter clerk referred to in § 7.3.1, was in breach of this rule. I would be interested to know whether compliance officers or underwriters are monitoring the proportion of proposal forms completed in the handwriting of the proposer. I believe that the rule is a good one and, if enforced, should assist with the problem of non-disclosure.

Before leaving the subject of LAUTRO, I should point out that the selling practices rules incorporate part of the Statement of Long Term Insurance Practice negotiated between the ABI and the DTI. In particular, they require that a specific question should be asked on a proposal form relating to any matter which has commonly been found to be material to the risk. I agree with the author in § 7.3.4 that guidance, perhaps through a LAUTRO rules bulletin, could be given as to how 'commonly found' should be interpreted. It follows from the rule that, where the office omits to ask a question which is commonly found to be material, by so doing it waives the right to avoid a subsequent claim on the grounds of non-disclosure.

On limits for MARs and MERs, the author appears content to see these set by reference to marketing pressures. I believe it is very desirable to check these limits periodically, using the method

now reproduced in the Institute's Life Underwriting Monograph. Very briefly, the method looks at clear proposals just above and just below the relevant MAR limits and compares the additional cost of obtaining and processing the MAR with the capital value of the extra premiums obtained as a result of the extra underwriting. The author expresses the view that these limits may stop rising as a response to the threat posed by AIDS. However, theoretical limits will also be affected, in the opposite direction, by the reduced rate of tax relief on life office expenses brought about by the 1989 Finance Act (including the spreading of relief for acquisition expenses).

I disagree with many of the author's conclusions regarding financial underwriting. The rule of thumb of twelve times a person's income, referred to in §6.5.5.1, is reasonable for a married person where there are young children, but even here it is appropriate to deduct death in service benefits, including the capitalised value of widows'/widowers' and children's pensions, available under occupational pension schemes. For those without young children the appropriate multiple of income is much lower. I could not accept that a typical student requires any life cover, let alone £150,000. Where there are no small children I do not believe a housewife should be insured for more than £10,000; where there are small children cover of up to £50,000 could be justified. However, both these sums include cover under joint life mortgage protection or mortgage endowment policies. Referring to §8.3.4, it is, perhaps, ironic that students and housewives are generally unable to obtain PHI cover, which they arguably need, whilst the market appears only too willing to grant them unnecessary levels of life cover.

In §4.4.2 the author states that 50% extra mortality is equivalent, for a term assurance, to a 50% loading on the premium. This is true if the extra mortality is assessed having regard to the AIDS risk, but, if this is not the case, then it would seem appropriate to apply the percentage uplift to the premium stripped of its AIDS loading. I am not sure that standard industry practice yet makes allowance for AIDS in this way. The comment made in §4.4.5.2, regarding the use of debts, is only correct for proposals in the ordinary branch—the use of debts is still very common for medical impairments in the industrial branch.

In §8.3.7, the author states that "the reason for the poorer health of females is largely gynaecological". He then goes on to say, however, that "more of them (females) are in the lower socio-economic groups and hence are more prone to sickness". I think there is a danger of confusion here. We should not include within the female loading any allowance for additional morbidity whose underlying cause is socio-economic. The correct treatment for this is by means of an occupational extra premium.

I support the author and Mr Barnett in their remarks regarding the irresponsible approach which was, and to some extent still is, taken to MIRAS business. Even the current short proposal form cannot be justified, bearing in mind that joint life cover is now the norm and that mortgage endowment policies still generally contain options to effect further cover, in certain circumstances, without supplying medical evidence. The industry appears to take the view that the cost of this option is negligible, but I am by no means confident that this is so. There is no reason, for example, to suppose that someone who is HIV positive, but not yet sick with AIDS, will not choose to move house in order to benefit a homosexual lover. Mr Hinton's remarks regarding the need to establish appropriate reserves for options are apposite here.

Assuming common rates of reversionary and terminal bonus apply to all with-profits assurance contracts (as is generally the case in practice, even if differential rates could be declared in theory), the practice of writing with-profits business on the basis of minimal or even no underwriting raises important questions concerning equity between differing classes of policyholder and, for a proprietary office, brings to the fore conflicts of interest between existing policyholders and shareholders. In connection with the latter, it is the shareholders who benefit from the increased volume of business—assuming that the mortality experience is not so catastrophic as to produce an overall loss on the with-profits premium rates. We currently have a working party looking at the whole question of reasonable expectations and I look forward to reading their report with interest.

**The author replied briefly at the meeting and subsequently wrote:** Everyone recognised the need for the actuary, the marketer and the underwriter to discuss their differences and to work together for the good of the company. Although this should go without saying, underwriters were unhappy during the

MIRAS campaign, and it is significant that no actuary, either in the discussion or in the written contributions, justified the stance taken by the life offices who underwrote mortgage applications without any medical evidence whatsoever. (The justification, as a first step, could compare the sums assured under the 'deathbed' proposals with the marketing savings.) Although I still have reservations about the shortened proposal, it is preferable to no medical questions at all. The conditions for use of the shortened proposal differ from office to office, but not too dramatically, and, in line with Mr Newbury's contribution, a significant feature is whether to allow re-mortgages. Also, with the popularity of deferred interest mortgages, the office has to consider how far beyond the mortgage loan is permissible on a shortened proposal. The limit may be £75,000 or 125% of the mortgage loan, whichever is the greater. An office has to impose its limit nationwide, and whilst £75,000 is realistic for most of the U.K., it is low for the Home Counties. Some offices refer to the form as a 'simplified proposal', but controlling its use is anything but simple. Also, as Mr Wright suggests, an office should appreciate the implications of allowing a policyholder to effect subsequent cover without further medical evidence. It should be costed for, but there is a danger of overlooking future selection against the office.

It should be obvious that an office should think through its policy wordings, but it does not always happen. It was only when the first claim for a heart attack on a dread disease benefit was processed in South Africa that the office realised that the policy did not have a cancellation clause. The client had another heart attack and again claimed the benefit. Fortunately, or rather unfortunately for him, the third heart attack killed him.

The contributions showed that the actuaries were united on many underwriting issues, but there were sharp divisions over identifying and underwriting those who might be at high risk from the AIDS virus. Mr Harrington, writing from New York, suggests, on grounds of fairness, a blood test from everyone seeking insurance. The cost would be prohibitive and no purpose would be served in submitting, say, a 70-year-old lady to this practice.

Mr Harrington is against discrimination, but, as Mr Clark says, 'underwriting is discrimination'. We discriminate on grounds of sex, age, smoking habits, health and hazardous pursuits, and I hope that we continue to do so. Mr Harrington dislikes the latest division, but homosexuals are more likely to develop AIDS than heterosexuals and they bring it on themselves by incautious behaviour. Homosexuals do not, it would seem, have the long-lasting relationships of heterosexuals and, hence, the majority of homosexuals are at risk. Whilst I appreciate what Mr Harrington is saying, I could not recommend my own office to take such lives at standard rates. By the same token, Mr Harrington suggests that offices should issue enhanced annuity benefits for such lives. Most offices do not offer increased annuities for any impairments, perhaps because the annuity market is with the over 60s.

The life offices' views on identifying and underwriting high risk cases have been questioned by some political organisations. One left-wing council, for example, recently passed a resolution which "deplored the fact that insurance companies are discriminating against people suffering from major diseases such as AIDS". Such resolutions are probably made without due consideration of insurance aspects. The fact that the council has also suggested reassuring the lives themselves reinforces this view.

When determining limits for SQs and HIV tests, distinctions are drawn between single and married males. There is logic in allowing single males living with females to be classed as 'married', as Mr Luffrum indicates, but some homosexuals share homes with females and ultimately we would be relying on information about the couples from the salesman. By asking 'Are you married', we are seeking fact rather than opinion. Having said that, I do show some flexibility in practice.

I believe that the SQ should be separate from the proposal form. It should be returned to the salesman in a sealed envelope or sent direct to the company. The opener mentions a proposal which incorporates an SQ with a seal-down flap. This is ingenious, but it falls short of requirements. By holding the form to the light, a salesman can see which boxes have been ticked and hence privacy has not been followed. A further example is where a proposer told the examining doctor that he was homosexual, but it was not admitted on the SQ. The reason was that the agent had completed the form and the proposer had signed it.

Reassurers would prefer HIV testing limits in the U.K. to be at a lower level, but direct offices have to consider administration and costs. As the opener states, the HIV testing limit in the U.S.A. is

around \$100,000, but AIDS is far more prevalent there, and they cannot draw upon a client's personal medical records as in the U.K.

One major difference from 25 years ago is that the MAR and MER limits are now set with an eye to competition. Offices freely publish their limits, and surveys regularly appear in the insurance press. It is not very actuarially minded to say, "Our competitors have moved up, so we ought to do the same", but the limits are intangible, being an expression of what the office is prepared to allow.

The theoretical basis given in § 3.5.2 of Mr Luffrum's monograph has little practicality. Firstly, the office with an MAR limit of £100,000 has to find proposals between £100,000 and £110,000 which would have been accepted at normal rates on the proposal alone. It may be difficult to find enough proposals in this category to form a representative sample. Secondly, it has to consider proposals accepted at normal rates between £90,000 and £100,000 and obtain medical evidence to see whether the decision holds good. The authority needed from the proposer under the Access to Medical Reports Act effectively makes this an impossibility. However, with the publication of MAR and MER limits, it stands to reason that the proposals just below the limit are less likely to contain significant medical details than those just above. If the MAR limit is raised, this will simply happen at a higher level of sum assured.

Since I wrote § 2.11.2, one major office has gone as far as allowing £150,000 sum assured on the basis of the proposal alone. Bearing in mind that non-disclosure of serious disease is around 15%, large sums could be at risk from fraud, and I hope that the office is not relying on doing its underwriting at the claims stage. I would regard such a practice as unprofessional, not to mention impracticable, because many offices have filing systems which cannot guarantee 100% retrieval of previous papers—it is not possible to repudiate a claim without sight of the original papers.

Most offices only call for duration certificates where a policyholder has died within the first two years and the cause of death suggests that there could have been non-disclosure. Despite Dr Marks' comments, the majority of GPs respond to duration certificates and, in most cases, the life offices are able to pay the benefits. Indeed, it is unlikely that an office would repudiate more than  $\frac{1}{3}$ % of its death claims. Dr Marks regards the duration certificate as unethical and a breach of confidence. Certainly there is controversy as to whether the authority to obtain medical evidence continues after a person's death. Some offices automatically ask the next of kin for the authority. This is a legal matter which I hope could be resolved, perhaps, by adding the words "and for this authority to continue after my death . . ." to the proposal form.

Dr Marks has a further objection. He says that a life office which accepts a proposal without professional medical evidence must face the consequences. However, if offices obtained MARs and/or MERs for every proposal, the medical profession would be swamped with insurance work. Suppose the BMA instructed its members not to complete duration certificates, the non-medical limits did not change and the media realised its significance. Heavily impaired lives might be recommended to effect policies because "insurance companies will not find out the truth". Effectively, life offices would be faced with a charter for fraud. The situation could be more damning than writing MIRAS business with no medical evidence. I am sorry that the representative body of the medical profession views duration certificates in this way, because a ban on their completion would make the industry vulnerable to death claims which would otherwise be repudiated on the grounds of non-disclosure. Now that the ABI has begun regular meetings with CMOs, I hope that the CMOs will be able to put forward any counter-arguments that may be necessary.

The closer advocates doctors being given more guidance on the completion of insurance forms. Guidance for GPs and for examining doctors, either by literature or seminars, was recommended by the CMOs in 1989.

Since I wrote the paper, there has been a Private Member's Bill requesting access to medical records as opposed to reports. According to the Bill, patients would have to pay no more than a nominal amount to see their records. If this became law, there may be a whole shift in medical underwriting. We might ask the proposer to obtain his medical details and hence, we would not have to pay for MARs! However, such a course of action, even if theoretically possible, seems unlikely.

In § 5.2.6 I state that "there is no large body of impaired lives statistics", which Mr Barnett thinks is unfair to the office which regularly publishes its experience. I agree, as I applaud their work. It is, however, unfortunate that impaired lives statistics have only now been requested from other offices. Had it been started 20 years ago, we would have a much larger body of experience.



With regard to Mr Wright's view on financial underwriting, I take the view that anyone is entitled to a life assurance of £100,000, and usually I allow £150,000. I agree that students or housewives may need PHI, but the problem is one of definition of sickness.

The question of reassurance merits a full paper in itself. With regards to Mr Luffrum's comments on §9.4.1, I am not advocating differential limits, but merely stating what some offices practice. Another intriguing question is whether reassurance limits should differ by age.

I am sorry that Professor Haberman thought my remarks about expert systems were 'anachronistic'. That was not my intention. I view the relationship between underwriting and computing with excitement, although, in this instance, I think the costs of entertaining anything resembling full computerised underwriting will prove prohibitive. Many people in the industry believe that the Japanese are firmly along this route, but recent studies have shown me that this is not so.

All aspects of insurance will be under scrutiny once we enter the European market in 1992. As Professor Haberman states, underwriting is one of those comparative aspects. However, with the possible exception of an office's underwriting policy relating to AIDS, I think the assimilation of insurance across the borders will be a slow process, and I do not anticipate many changes in selling practices for some years to come.

There was little discussion on disease, although Dr Brackenridge gave a valued contribution. I would agree with him regarding epilepsy, but it does depend upon the proposer attending for these investigations and their results being known. Those who have operations for ulcerative colitis are likely to have been severely ill and, hence, may have been weakened by the disease. Even if the operation is successful, it may take some years for them to build up their strength and recover fully, and hence, I would not be as generous as Dr Brackenridge. Chest X-rays and possibly ECGs, do have limited use and they are only automatically requested for large sums assured or elderly lives. As Dr Brackenridge states, biochemical profiles may be the way forward, but, because we are particularly considering large cases, direct offices are likely to be guided by reassurers on these matters.