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"Genetics and insurance: an actuarial perspective with a difference"

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Summary

This paper is based on a submission which I made to a public consultation by the Human Genetics Commission in the United Kingdom in 2001. Many individuals or organisations capable of commenting technically on insurance discrimination have a commercial interest in promoting such discrimination. Technical expertise is therefore directed to the promotion of discrimination for commercial ends, but little technical expertise is applied to counteract it. This paper attempts to redress the balance. Its central section comprises a point-by-point rebuttal of some of the myths and half-truths which are promulgated by those wishing to legitimise insurers' access to genetic test results. Further material is available at www.guythomas.org.uk.

"Genética y seguro: una perspectiva actuarial diferente"

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Este trabajo se basa en un envío realizado a una consulta pública de la Comisión Humana de la Genética en el Reino Unido en 2001. La mayoría de los individuos o de las organizaciones capaces de comentar técnicamente respecto a la discriminación del seguro tienen un interés comercial en promover tal discriminación. La maestría técnica por lo tanto se dirige a la promoción de la discriminación para fines comerciales, pero poca maestría técnica se aplica para contrarrestarla. Este artículo busca reparar el equilibrio. Su sección central abarca refutación punto por punto de algunos de los mitos y las mitad-verdades que son promulgadas por aquellos que desean legitimizar el acceso a los aseguradores a los resultados de pruebas genéticas. El material adicional está disponible en www.guythomas.org.uk.

Preface for ICA2002 readers

The main body of this paper is a lightly revised and somewhat abbreviated version¹ of a submission which I made to a public consultation initiated by the Human Genetics Commission in the United Kingdom in 2001. This preamble explains the background to the consultation, and the motivation for submitting the paper to the Congress.

As in other countries, the possible use of genetic testing by insurers has been an issue of widespread public concern in United Kingdom in recent years. The main developments in the United Kingdom can be briefly outlined as follows.

In 1997, the Human Genetics Advisory Commission (a predecessor of the Commission to which I submitted my paper in 2001) conducted a public consultation on genetics and insurance. They noted “a strong and persistent sense of unease” about the use of genetic tests by insurance companies, and therefore recommended that the government place a moratorium on the use of genetic tests by insurers.

At that time the government declined to establish a moratorium. Instead, the government decided in 1998 established a Genetics and Insurance Committee (GAIC), with the brief of assessing applications from insurance companies to be allowed to use specific tests for specific classes of insurance. The government’s expectation appears to have been that the insurance industry would not use any test unless and until it had been approved by the GAIC.

During 1999 and 2000 the GAIC drew up criteria for the “approval” of tests and the Association of British Insurers prepared its first application, for the use of test results for Huntington’s disease in rating life insurance. The GAIC process was supported by the insurance industry and by the Faculty & Institute of Actuaries. However for various reasons, in particular its lack of demonstrable independence from the insurance industry, GAIC attracted increasingly virulent public criticism.

In the meantime, and contrary to the government’s understanding of what had been agreed, insurers continued to refer to test results which had *not* been considered by GAIC. The Association of British Insurers claimed that the industry had *not* agreed to refrain from using tests until they were approved by GAIC; instead, the ABI asserted a right to use any particular test unless and until an application for its approval had been *rejected* by GAIC. This interpretation attracted widespread criticism. To independent observers such as myself, it appeared that insurers were acting in bad faith: they were using tests which they had agreed not to use.

Also in 2000, the Human Genetics Commission was established by the government, to replace the Human Genetics Advisory Commission (and certain other consultative bodies). The Commission’s terms of reference are to analyse current and potential developments in human genetics, and to advise government ministers on the social, ethical, legal and economic implications.

In early 2001, the Science and Technology Select Committee of the UK parliament issued a report on genetics and insurance which was strongly critical of the insurance industry.

Also in early 2001, the Human Genetics Commission made insurance one of its first priorities, and initiated a wide-ranging public consultation. The Faculty and Institute of Actuaries prepared a response from the actuarial profession to this consultation². This response was prepared by a working party consisting mainly of insurance industry employees, and was supportive of the insurance industry, and hostile to people affected by genetic conditions. As I strongly disagreed with this viewpoint, I decided to make my own submission.

In May 2001, having completed its consultation, the Human Genetics Commission published its interim recommendations for genetics and insurance. The Commission was strongly critical of both the insurance industry and the GAIC, stating bluntly that “the existing system of self-regulation has failed”. The Commission recommended a three-year moratorium on the use of genetic test results for policies with sums assured up to £500,000, and suggested that this would need to be enforced by legislation rather than self-regulation. The Commission also questioned the use of family history by insurers, and stated that this would be considered further during the three-year moratorium.

Pending the Commission’s final report and the government’s response, the Association of British Insurers established an immediate “self-regulated” moratorium on the use of genetic test results when assessing applications for sums assured up to £300,000.

The above recommendations constituted only the Commission’s interim recommendations. At the time of writing, the Commission’s final report giving its detailed recommendations, and the government’s response, have not been published (although they will probably have appeared by the time the Congress takes place). However, the interim recommendations were quite close, in both tone and substance, to the suggestions in section 5 of my paper.

It is notable that actuarial associations in other countries tend to advance many of the same arguments on this subject as does the profession in the United Kingdom. It may therefore be of interest to actuaries from other countries to read some different views – an actuarial perspective with a difference.

SUBMISSION TO THE HUMAN GENETICS COMMISSION

1. Introduction

One of the difficulties which the Human Genetics Commission (HGC) will encounter in consultation on genetic testing in insurance is that many individuals and organisations with a technical knowledge of insurance also have a vested interest in promoting discrimination for commercial ends. The main purpose of this paper is to point out some of the myths and half-truths which characterise commercial lobbying on this subject.

I am a Fellow of the Institute of Actuaries and a former principal examiner for the fellowship examinations of the actuarial profession. Whilst this paper is informed by my actuarial knowledge, much of it is not specifically actuarial. This is because the main insight I derive from my actuarial knowledge is that the purely actuarial issues in relation to genetics and insurance are not very compelling.

Section 2 of this paper identifies salient starting points for discussion of genetic testing in insurance in the UK. Section 3, the central and longest section of the paper, considers point-by-point the myths and half-truths which are promulgated by those seeking to legitimise genetic testing in insurance. Section 4 briefly outlines two previous issues, AIDS and disability, where actuarial issues have sometimes been misrepresented or exaggerated for commercial ends. Section 5 contains a sketch of my recommendations for policy.

2. Starting points

Some salient starting points in relation to genetic testing in insurance are public attitudes, the history of eugenics, and actuarial issues.

Public attitudes to insurers' access to genetic test results

There appears to be very strong public opposition to insurers' access to genetic test results. Apart from the MORI survey conducted for HGC, the British Survey of Social Attitudes is another authoritative survey which revealed very similar results.³

These results appear to be internationally robust. All reports I have seen or heard from other countries indicate overwhelming public opposition to, and distrust of, insurers' access to genetic test results.

The insurance industry's stock response to this observation is that "education" is required to promote acceptance of genetic discrimination. The notion seems to be that if insurers explain their reasons for wanting access to genetic test results, people will change their minds. However, experiments conducted by the American Council of Life Insurance suggest that, at least for the moment, "education" makes very little difference to people's

views: the insurers can explain all they like, but people still remain deeply opposed to insurers' access to genetic test results.⁴

Thus the objection to insurers' access to genetic tests is very strong, and (at least for the moment) it does not seem very susceptible to "education." The HGC's consultation document noted this strong opposition but then stated that "any response to this issue must be informed by facts". Overwhelming public opposition to insurers' access to genetic test results **is** one of the facts.

History of eugenics

The history of eugenically motivated discrimination in many countries refutes the suggestion that genetic discrimination is harmless until proven otherwise. History places a heavy burden of proof on those who would assert that 'mild' forms of genetic discrimination (such as denial of insurance) will not lead to more 'severe' discrimination in other social contexts. It is possible that with time this burden of proof could be discharged; but this cannot be merely assumed.

Apart from the views of the general public as mentioned above, it is clear that groups representing disabled people have acute concerns about the eugenic connotations of reference to genetic tests in social contexts such as insurance or employment.⁵

Actuarial issues

Notwithstanding everything above, there is a potential actuarial justification for permitting insurers' access to genetic test results. The potential justification is that such access is *essential to the viability of private insurance markets*. But there is currently little evidence, for any class of insurance, that this either is or will become the case.

3. Myths, half-truths and unsubstantiated assertions

I now consider some of the myths, half-truths and unsubstantiated assertions which are used by organisations lobbying on behalf of the insurance industry to promote acceptance of genetic discrimination.

Myth: "*adverse selection is an unambiguously negative phenomenon*"

Insurers and actuaries talk a great deal about *adverse selection* or *anti-selection*.⁶ In the context of genetic tests, these phrases refer to the notion that individuals who know from a genetic test result they have a predisposition to illness or premature death might be more likely to purchase insurance, or to purchase in larger amounts, than those who perceive themselves to be at lower risk. The idea is obvious, and intuitively plausible; but whilst they assert the concept for lobbying purposes, and enjoy telling imaginary stories about it, insurers and actuaries often pay curiously little attention to the *empirical* question of to what extent it actually occurs.

Adverse selection (a better, more neutral term would be *self-selection*) is presented in commercial lobbying as an unambiguously negative phenomenon. But this is an insurance company's commercial perspective. From a public policy viewpoint, *adverse selection is at first order a positive phenomenon*: it means that the right people, people who are more likely to suffer loss, are choosing to buy insurance.

Self-selection is potentially a negative phenomenon only in its *second order* effects. Specifically, it can become a negative phenomenon if it reaches a degree which causes insurance markets to break down. Insurance markets break down when the following cycle of events occurs to a material extent:

- the price of insurance increases so much that the ‘better’ risks opt out of insurance;
- hence the pool of insured people decreases in number, and shifts towards ‘worse’ risks;
- insurers further increase premiums to reflect the ‘worse’ pool of risks; and
- the cycle repeats, leading to a spiral of increases in premiums and declines in numbers of people covered.

This is a theoretical possibility, although it is not clear to what extent it actually happens. Some recent empirical papers have failed to find any statistical robust evidence of adverse selection in life assurance markets^{7,8}. But in any case the correct perspective, *from a public policy viewpoint*, is that self-selection is generally a positive phenomenon unless and until it becomes so severe as to make insurance markets break down. *From a public policy viewpoint*, a high degree of self-selection in insurance purchase is *desirable*.

More generally, insurance industry lobbying can create the impression that everyone who buys life or health insurance must do so because of foreknowledge of illness or early death. But in reality people may buy insurance for reasons such as conscientiousness about providing for their family, or tax planning, or because they happen to meet a sales person. These reasons are quite unrelated to foreknowledge of illness.

Half-truth: “*restrictions on discrimination lead to higher costs for consumers*”

Another lobbying strategy much used by insurers and actuaries is to assert that any restriction on insurance companies' ability to discriminate leads to “increased premiums for consumers”. When insurers advance this argument they never mention an obvious corollary. The corollary is that unless insurers make monopoly profits, *increased insurance premiums must mean proportionately increased claim payouts*. The insinuation that policyholders or consumers *in aggregate* are always disadvantaged by restrictions on discrimination is false. Restrictions on discrimination lead to a *redistribution* of costs and benefits among a pool of life or health insurance policyholders.⁹

Restrictions on discrimination may also cause some change in the membership of the insurance pool: “superfit” lives may leave the pool and resort to self-insurance, and more “poor risks” may be accepted into it. For an insurer, this shift in coverage towards lives who are more likely to claim may be negative; *but from a public policy perspective, it may be positive*. The superfit are likely to be better able to pay for themselves (both because they *are* fit, and because they tend to be more affluent) than the people the insurance industry would exclude if permitted to do so.

From a social perspective, insurance is most effective if there is broad pooling, with large transfers from the fortunate to the less fortunate. Lobbying by some actuaries can have the malign effect of making this more difficult. This is because some actuaries tend to make a habit of proclaiming that fortunate people *will be*, or even *should be*, unwilling to “subsidise” the premiums of the less fortunate.

In reality, most people probably give very little thought – or at least, much less than an actuary does! – to how their insurance premiums are calculated, and what degree of cross-subsidy to the less fortunate is implied. Most people have other things to think about. However, when “experts” (such as actuaries) insinuate that fortunate people *will be*, or even *should be*, unwilling to accept any subsidy of the less fortunate, *the insinuation makes it more likely that this problem will actually occur*. This is particularly so if the experts make (wholly spurious) claims that they have a professional expertise or “science” which tells society that it should penalise or exclude the unfortunate. Sadly actuaries often do this, almost always with the effect of promoting the interests of insurance companies and fortunate people like themselves, and harming the interests of the less fortunate.

The influence of actuaries and actuarial ideas can have a malign effect on the unfortunate across a wider perspective. There are very many situations where one can envisage that people who are disadvantaged in some way – by disability, for example – would be better off if less attention were paid to actuarial arguments, and more attention to ordinary humanity. I do not suggest that harming disabled people is the intention of actuarial lobbying, but it is often the *foreseeable* effect.

Half-truth: *“insurance discrimination represents competition between insurers, which benefits consumers”*

Many types of commercial competition do benefit consumers, but some do not. An unusual feature of insurance products is that as well as competing in the usual ways for service industries – price, level of service, product differentiation, recruitment of employees – the insurers also compete in risk selection. That is, they compete in selecting the “good risks,” and avoiding “bad risks”. *From a social policy perspective, this “selection competition” is essentially negative:* it may create an “insurance underclass”, and does **not** make a clear positive contribution to the aggregate welfare of consumers. Public policy should discourage or reduce this “bad” competition, and encourage “good” types of competition – that is, those which are more clearly beneficial to consumers e.g. on expenses and level of service.^{10,11}

Half-truth: “*insurance is relatively unimportant in UK society*”

For the time being this is more or less a whole truth. For example, the existence of the universal National Health Service in the United Kingdom makes insurance much less important in healthcare than in many other countries.

But that is only the first half of the story. The second half of the story is that the *same people* and the *same organisations* which lobby for unfettered discrimination in insurance also conduct a constant and insidious campaign to undermine public support for the institutional fabric of UK social welfare, and to promote the perception that it should be largely replaced by private insurance.

The insurance industry tries to have it both ways: it lobbies for unfettered discrimination on the pretext that UK circumstances make insurance relatively unimportant, and then in other contexts it works assiduously to undermine those circumstances. It is the *combination* of these political agendas which is profoundly sinister.

Myth: “*insurance pricing is scientifically precise*”

For lobbying purposes actuaries often like to suggest that the pricing of insurance is a precise exercise, so that even a small increase attributable to a ban on genetic tests would be material. For example, the Faculty & Institute of Actuaries published a position statement which claimed that an increase in premiums of less than 10% “could still have material impact” on the term insurance market.

The wholly spurious nature of this assertion is illustrated by the following figures, which illustrate large variations which already exist between the rates offered by different companies, and over time.

Inter-company variations

Lowest monthly premium rates for 25-year level term assurance £100,000 for a standard male non-smoker life aged 25 next birthday:

Company	£ per month
Legal and General	11.04
Scottish Amicable	11.23
Zurich Life	11.50
Standard Life	11.79
Guardian Financial	12.30
Virgin Direct	12.39
Liverpool Victoria	13.85
Canada Life	15.50

Source: Financial Adviser (trade journal), 19 October 2000.

Note that the eighth lowest rate is **40%** higher than the lowest. And there many (probably more than a hundred) companies offering worse rates.¹²

Inter-temporal variations

As well as substantial inter-company variations on any particular date, there are also substantial commercially-driven variations over time. Here are just few examples:

- In August 2000, 2 months before the date of the table above, one of the companies (Zurich Life) announced that it was cutting its premiums for term assurance by *up to 40%*.¹³
- In November 2000, another company (Swiss Life) outside of the top eight in the table above cut rates for female non-smokers by *up to 44%*.¹⁴
- On 26 April 2001, the headline in *Financial Adviser* was: “Price war breaks out in term assurance market.” Norwich Union is reported to have cut rates for combined term assurance + critical illness cover for female smokers by *up to 37%*.¹⁵ Standard Life is reported to have cut term assurance premium rates *seven times* in the last 2 years.

In the context of these inter-company and inter-temporal variations, the aggregate impact of outlawing access to genetic test results appears likely to be negligible. The “scientific” account of premium rating often presented by actuaries often bears little relationship to the commercial facts.

Myth: “*insurers do not want to initiate genetic tests, they just want access to tests already taken*”

In public the insurance industry continually asserts that it would never seek to initiate genetic tests not already taken by an applicant.

There are two reasons to doubt the validity and durability of this policy of self-restraint. The first is that there are many ways in which insurance practice can create financial or social pressure to undergo testing short of actual compulsion. Indeed the notion of compulsion is a red herring: it is difficult to envisage how anybody can be *forced* to buy an insurance policy except by state diktat. It is **entirely foreseeable** that when insurers do seek to initiate genetic testing, they will argue that nobody is *compelled* to purchase insurance, and therefore nobody is compelled to take genetic tests.¹⁶

The second reason to doubt the validity of self-restraint is what insurance policymakers and opinion formers say, and occasionally write, in forums or media which they perceive are not for widespread public consumption. For example, Mr Spencer Leigh, an actuary and underwriting consultant, writes as follows in a recent edition of the British professional magazine *The Actuary*¹⁷ (all italics are mine):

“The *current* UK position is *to state* that insurance companies will not, *at present*, request genetic tests. This is sensible but *largely window-dressing* as the tests are expensive....*Before long, however, the cost of tests will be reduced.*”

Mr Leigh also notes that the Association of British Insurers has a credibility problem in commenting on genetic testing because of its obvious self-interest, and therefore recommends that

“The Institute of Actuaries, with its more independent stance, could put these issues to the media and demonstrate that the arguments are not as one-sided as they think. The Institute has issued one statement, but next time round more thought needs to be given as to how it can be perceived positively. I realise I am advocating spin-doctoring, but without suitable guidance, we will lose our case.”

These recommendations from Mr Leigh help to debunk the next myth.

Myth: “*actuaries do not advocate the interests of any particular group*”

In the light of Mr Leigh’s comments, it is interesting to consider the Faculty & Institute of Actuaries’ briefing statement to which he refers. The preamble to the statement asserts that

“The profession aims to evaluate the financial impact on all groups which are likely to be affected, but does not advocate the interests of any particular group.”

Regrettably, both parts of the above sentence are untrue. The first part is untrue because actuarial thinking and analysis are focused on the finances of insurance companies, not individuals. I am not aware of any area of actuarial literature or analysis which aims to evaluate the financial effects *on individuals* of illness, or being unable to purchase insurance.

The second part is untrue for reasons which follow from the first. The fact that actuarial thinking and analysis are concerned with the finances of insurance companies leads actuaries to advocate the interests of insurance companies. Additionally, of course, actuaries are typically employed by, or advisers to, insurance companies. It is quite laughable for actuaries who are thus occupied to suggest that they are independent.

Myth: “*insurance risk classification is a scientific matter*”

Another lobbying strategy is to assert that a particular organisation of insurance markets is dictated by “science”. This is the same error as was made in earlier disasters of eugenics. It misconstrues the essential nature of science. The essence of science is that it is positive, and not normative. Science says *nothing* about how insurance (or any other social endeavour) *should* be organised; at best it only *predicts* what is likely to happen if we do organise it in particular ways.

Unsubstantiated assertion: “*self-selection is a much greater problem in critical illness and long-term care insurance than in life insurance*”

This assertion is frequently made by insurance companies and their advocates in discussion in the United Kingdom, but there is no evidence to substantiate it. Some recent

actuarial studies suggest that even under the most extreme assumptions, ignoring genetic tests *and family history* would have little effect on reasonably well developed critical illness insurance markets such as exist in the UK. However this necessarily tentative conclusion is perceived by actuaries as politically unhelpful to their insurers' freedom of operation, and so an effort has been made by UK actuaries to create a 'spin' that these types of insurance present unspecified "greater problems."

An example of this 'spin' was the presentation by the Institute of Actuaries of the results of an investigation of genetic test results and insurance in relation to the BRCA1 and BRCA2 genes. A press release¹⁸ was issued stating that

"[The results] showed how genetic tests for BRCA1 and 2 could affect the underwriting of critical illness insurance, where an accelerated benefit would normally be payable on diagnosis of cancer. This showed much higher levels of potential impact of adverse selection than for term life insurance, particularly for young and developing critical illness markets."

The impression given by this press release is that self-selection would very materially impair the viability of the critical illness insurance market. It omits to note that *much higher* levels of self-selection may still be (and in this case are) *immaterial* levels.

The paper on which this press statement was based, *reporting an industry-funded study and looking at the problem from an insurance company's perspective*, stated that¹⁹

"Overall, we conclude that adverse selection is only likely to be significant if

- (a) the CI market is very small (smaller than it is in the UK)
- (b) very high sums assured can be obtained without disclosing genetic test results or family history
- (c) the higher penetrances observed in the highest risk families apply more widely."

This suggests that self-selection is a theoretical problem from a commercial perspective, and it may be a practical problem in some very small insurance markets; but it is likely to be quite immaterial in the UK critical illness insurance market.

Overall, the unsubstantiated assertion that critical illness and long-term care insurance markets present unspecified 'greater problems' is best understood as a political strategy of the UK insurance industry: make limited concessions on life insurance, but hope to get away with more discrimination on everything else.

Interestingly, the US insurance industry and their apologists in the actuarial profession seem to adopt a converse political strategy: they make concessions on health insurance, but hope to get away with everything else. For ICA2002 readers, I can easily illustrate this. For example, consider the report²⁰ of the American Academy of Actuaries on their lobbying to promote genetic discrimination on Capitol Hill on 29 August 2001:

"Some of the answers that work for health insurance don't work equally well for life insurance," Dicke said, explaining that life insurance—sold to individuals is a long-term coverage that cannot be cancelled by the insurer, involving cash benefits that are large relative to the periodic premium paid. The risk of anti-selection is significant.... "

Compare this with the contradictory statement²¹ by the British actuaries:

“the impact on temporary insurance premiums is likely to be small....However, .the risks of a small minority of policyholders taking advantage of genetic information when applying forindividual private medical insurance are likely to be considerably greater [than in life insurance].”

In making these mutually contradictory statements, the American actuaries and the British actuaries cannot both be correct. The contradiction arises because both groups of actuaries are concerned with supporting the political strategies of their respective insurance industries, and these strategies happen to be different.

Myth: “*insurance practice is based on full and equal disclosure by both parties*”

Actuaries and insurers often trot out the notion of *uberrima fides* or “utmost good faith” in any discussion of underwriting, as if it were a justification for any insurance company practice. In the context of genetic tests, this appears rather ironic to the detached observer, for two reasons.

First, insurance companies do *not* routinely disclose to the customer how premiums are calculated or the medical reasons why loadings have been applied, and it can be very difficult for the customer to obtain this information. In other words, insurers do *not* fulfil their side of “full and equal disclosure”.

Second, at an industry-wide level, UK insurers’ actions to date in relation to genetic testing have *not* been consistent with any commonsense notion of “utmost good faith”. For example, there is the lack of practical commitment to implementing the industry’s genetics code of practice, which has been criticised by (amongst others) the Select Committee on Science and Technology. Also, there is the fact that industry has continued to use tests which have not been approved by the Genetics and Insurance Committee, and which the government understood would not be used.

4. Previous examples: AIDS and disability

Although they are not directly related to genetic testing, it is instructive to examine some previous issues where self-selection has been misrepresented or exaggerated for commercial ends.

AIDS

In the late 1980s, the actuarial profession directed much attention to AIDS, and produced numerous papers²² projecting greatly increased mortality. Term insurance rates were increased very sharply. Many companies refused to provide insurance on any terms to homosexual men. Subsequently, it has become clear that the actuaries’ predictions of increased mortality were grossly exaggerated. When one raises this, some actuaries suggest that their exaggerated predictions were socially beneficial, because they helped to promote appropriate public health measures in reaction to the problem. But if one looks

back in professional journals to actuarial papers written in the late 1980s, one does not find actuaries were concerned with promoting public health measures. On the contrary, actuarial discussion appears to have focused overwhelmingly on the commercial interests of insurance companies, and was dismissive of the social problem (well recognised in other circles) that insurance company reactions might have a *negative* effect on public health measures (eg by discouraging people from having HIV tests).

I was not an actuary in the 1980s, but one possible motivation of some actuaries' presentations at the time was suggested to me a few years ago by a retired actuary, who in the 1980s was the appointed actuary of a quoted insurance company. He recalled that because of intense competition, term insurance premium rates had been relatively unprofitable for some years. AIDS was apparently seen by some actuaries as a convenient pretext for the industry to achieve a step-change in premium rates which would restore profitability of this class of business to a more satisfactory level. According to the retired chief actuary, meetings were organised between representatives of a number of companies with the objective of agreeing to present a common public relations line to the effect that AIDS necessitated a substantial rise in term assurance premium rates.²³

The overall effects of the actuaries' "professional" reaction to the AIDS epidemic were: to increase the profits of insurance companies; to promote homophobia; possibly to deter people from seeking testing and medical care; and the social exclusion of many homosexuals in a way which was (in the light of the subsequent drastic reductions of premium rates) wholly unnecessary.

Disability

Under the Disability Discrimination Act 1995, insurers in the United Kingdom enjoy a number of unnecessarily lenient and broad exemptions. When the Act was first drafted, the proposed exemptions included one which made it lawful for employers to bar newly recruited disabled employees from joining defined benefit pension funds. The justification was an "actuarial" one: it was suggested that disabled people might be more likely to retire in ill health, or die before retirement.

In consultations prior to the Act's implementation, I wrote a number of letters to the Department of Social Security pointing out that this exemption was not necessary for the financial stability of pension funds. There was no significant risk to the overall finances of a pension fund from the possibility of a small number of disabled employees being more likely to retire early or die; the fact that the disabled person was starting a job would normally suggest that their health was at least reasonable; and in any case, the whole *raison d' être* of a defined benefit pension fund is cross-subsidy.²⁴

Both these examples involve a misrepresentation and exaggeration of the actuarial issue of self-selection for potential commercial benefit. The pity of it is that certainly in the latter case, and possibly even in the former case, the commercial benefit was extremely marginal.

5. Recommendations

In evaluating submissions relating to insurance, the Human Genetics Commission should recognise that substantial technical and lobbying resources are available to those who wish to promote genetic discrimination for commercial reasons, and virtually no technical resources are available to those who may wish counteract it. The weight of submissions of a 'technical' character may be affected by this.

There should be a presumption against insurers' right of access to genetic tests, except for exceptionally large policies, or where insurers can show that ignoring tests would seriously disrupt the financial stability of insurance markets. All evidence to date suggests that under this criterion, little or no access to test results would be justified. It is possible that in many years this situation could change, but that is a possibility which can be addressed if and when it arises.

The definition of 'exceptionally large' policies in the previous paragraph should be made by reference to the limits which a company sets in each age range for automatic medical examinations. For example, in the case of life insurance for persons up to age 40, insurers typically set limits between £250,000 and £500,000 on the amount of cover which can be obtained without automatic medical examination. At higher ages, lower limits typically apply.

It may also be desirable for social and privacy reasons to restrict insurers' access to information about family history; but further work may be needed to assess for which (if any) insurance products this would impair the viability of private insurance markets.

It would be difficult to prevent insurers taking account of 'negative' tests (ie those which indicate the absence of a disease-linked mutation), if an applicant chooses to disclose them. However I would prefer that insurers were discouraged from actively promoting this concept, since there is clear potential for it to distort patients' decisions about seeking or avoiding tests.

The Genetics and Insurance Committee should be disbanded. It should be replaced by statutory regulation based on the principle that insurers' access to genetic tests should be permitted only where it is *necessary to ensure the financial stability of insurance markets*. This regulation, unlike the GAIC, should be demonstrably independent of the insurance industry.

Postscript for ICA2002 readers

The preceding paper was submitted to the Human Genetics Commission in Spring 2001. The Faculty & Institute of Actuaries also made a submission, but this was quite different to mine, both in tone and substance.

Actuaries worldwide seem to have a problem with this subject, because their habitual hostility towards people affected by genetic conditions attracts very little public support anywhere in the world. The profession's credibility is diminished by actuaries on opposite sides of the Atlantic tending to pursue mutually contradictory lobbying strategies.

In my paper²⁵ (with CD Sharp) to the 1998 International Congress, I wrote:

“The rise of consumerism, and the pressure to circumscribe or outlaw statistical discrimination in the guise of human rights legislation, are both trends which seem likely to continue into the 21st century. They present challenges for any profession whose traditional values are inimical to these trends. In our view it would be politically ill-advised, and probably in the long run simply untenable, for actuaries to continue to be hostile to these trends in the ways which they have been in the past. The actuarial profession needs to find ways of accommodating and even embracing such trends, rather than fighting losing battles against the tide of social history.”

In the time since the 1998 International Congress, the perception that actuaries are by systematically hostile to the interests of consumers in general has started to cause some difficulty for the profession in the United Kingdom. For example, the discretion exercised by actuaries in relation to with-profits insurance has attracted a quite unprecedented level of criticism from consumer organisations, regulators, politicians and the media. I suspect that the level of criticism over the past four years has been greater than many UK actuaries might have anticipated at the time of the 1998 Congress.

Similarly, the legislative and social trend towards restrictions on genetic discrimination has been apparent for some time, and attracts deep and broad support. Actuaries are generally hostile to this trend. This has not yet caused any serious difficulty for the profession, but I predict that it will. In the long run, it is difficult to see how opposing a widely supported legislative and social trend will attract any credit to the actuarial profession.

¹ The ways in which the original submission has been modified are that (a) most material which was very specific to the UK context has been omitted, and (b) some material from a follow-up submission has been added. The original submission and follow-up are available at www.guythomas.org.uk.

² The Faculty & Institute of Actuaries' submission can (at the time of writing) be found at www.actuaries.org.uk. My detailed critique of this submission can be found at www.guythomas.org.uk.

³ *16th Annual Survey of Social Attitudes*, p165.

⁴ Jones, CS (1999). The current state of genetic testing, an insurance industry perspective on the rush to legislate. *North American Actuarial Journal*, 3,1, pp 56-66.

⁵ See for example: British Council of Disabled People (2000). *The new genetics and disabled people*. Paper available at <http://www.bcodp.org.uk/general/genetics.html>.

⁶ Note that this very vocabulary betrays the actuaries' bias: 'adverse' selection in fact means *adverse to the insurer*. From a public policy viewpoint, the phenomenon may be highly positive, as I discuss below. 'Self-selection' would be better term.

⁷ Cawley, J & Philipson, T (1999) An empirical examination of information barriers to trade in insurance. *American Economic Review*, 89(4), pp827-846.

⁸ Chiappori, P-A & Salanie, B (2000) Testing for asymmetric information in insurance markets. *Journal of Political Economy*, 108, 56-78.

⁹ Typically the redistribution is away from healthy or privileged and individuals towards the less healthy or less privileged. People in a position to pontificate about insurance matters tend to belong to the former group!

¹⁰ This is discussed in Moultrie, TA & Thomas, RG (1997) The right to underwrite? An actuarial perspective with a difference. *Journal of Actuarial Practice*, 5, 2, pp125-147. A version is available at www.guythomas.org.uk. There are some instances where “selection competition” could be seen as socially positive through its signalling function: for example, insurers’ competition to avoid insuring houses subject to flooding sends a useful signal to society that new houses should not be built on flood plains! But this ‘signalling’ concept has very limited applicability in life or health insurance.

¹¹ In a slightly different context, another type of competition between insurers which generally does **not** benefit consumers is competition bidding up levels of commissions paid to agents – from a consumer perspective this type of competition is a major structural problem of the insurance industry, as the Consumers’ Association has pointed out.

¹² There was in fact an even more competitive rate available in October 2000, namely £8.75pm from Equitable Life. I have omitted this because if I include it, somebody may try to obfuscate by referring to this company’s other current problems. In fact those problems have nothing to do with term insurance and there are some good reasons why Equitable was cheaper than all the others (I can explain if required). Nevertheless, the 40% variation between the next 8 companies is sufficient to make my point.

¹³ Source: retrospective report in Financial Adviser, Protection Supplement, 9 November 2000, page 3.

¹⁴ Source: again a news items in Financial Adviser, Protection Supplement, 9 November 2000, page 3.

¹⁵ Source: news items in Financial Adviser, 26 April 2001. Note that critical illness is one of the covers for which the Institute of Actuaries alleges there are unspecified “greater problems”

¹⁶ Apart from being a foreseeable development, this line of argument is already occasionally used by insurance executives, at least when they think only other insurance executives are listening. See for example: Leigh, S (1996). The freedom to underwrite. *Paper to the Staple Inn Actuarial Society*, at ¶5.51.

¹⁷ Leigh, S (2000). The gene genie. *The Actuary*, October 2000, pp20-21.

¹⁸ Press release 26 October 2000: <http://www.actuaries.org.uk/pr-rels/2000/ukfgi241000.html>.

¹⁹ Macdonald, AS & Pritchard, D (1999). Genetics, alzheimers disease, and long-term care insurance. To appear in *North American Actuarial Journal*. See summary of results in paragraph 8.6. Also *Research Report No 2 of the Swiss Re / Heriot-Watt genetics initiative: The genetics of breast and ovarian cancer II: a model of critical illness insurance*. See summary of results at p28.

²⁰ This report is taken verbatim from the American Academy of Actuaries’ own website: http://www.actuary.org/briefings/geneticstory_0801.htm. Similar statements have been made by American actuaries on many other occasions.

²¹ This statement is taken verbatim from the Faculty & Institute of Actuaries’ position statement on genetics and insurance, as at September 2001. Similar statements have been made by British actuaries on many other occasions.

²² For example there were a series of *AIDS Bulletins* presenting projections of the epidemic.

²³ I do not suggest that this was a motivation of *all* actuaries commenting on the epidemic; but it is plausible that it was one factor leading to the profession's exaggerated response.

²⁴ For example, defined benefit pension funds typically involve a large cross-subsidy from the aggregate workforce to a small number of high earners. Strangely one never hears actuaries arguing that this cross-subsidy to high earners creates insuperable actuarial difficulties, in the same way as they allege for subsidies to the unfortunate!

²⁵ Thomas, RG & Sharp, CD (1998) Actuarial Values. *Transactions of the International Congress of Actuaries*, 1, pp95-110. A version is available at www.guythomas.org.uk.