Commentary: new drugs increase doctors' choice

The appeal of drugs that are selective in their action is that they are more likely to do what you want and not do what you don't want. However, they will not necessarily do what you want any better than the drug which is less selective. For example, in a person with stable angina propranolol should alleviate cardiac symptoms as well as a β blocker which acts only on the heart. Unfortunately, because propranolol also has actions outside the heart patients may experience a wide range of side effects, and if they do the more selective β blocker would obviously be more appropriate. The problem with new and old antidepressants is that this β blocker analogy is not really transferable. In angina we know that we want to block β_1 receptors in the heart. But we do not yet know the biochemical mechanisms involved in depression, and it is likely that several different mechanisms operate in the broad spectrum of depressive diseases. Where inhibition of serotonin reuptake will suffice to lift the depression the newer drugs in this class clearly have an important role. However, the meta-analysis showing equal effectiveness of old and new treatments gives a useful guide to clinical practice. The main advantage of the advent of new antidepressants seems to be that it has substantially increased the therapeutic options for depression.—PETER C RUBIN, *professor of therapeutics, University of Nottingham*

Costs

Because there are high rates of drop out from treatment and of long term therapy, it is difficult to estimate cost per treatment episode. Nevertheless, it is clear that the new drugs are much more expensive. For example, six months' treatment with 150 mg of imipramine costs about £6 whereas six months of a recommended dose of a serotonin reuptake inhibitor costs from £150 to £500.[8] By late 1992, although only around 15% of antidepressant prescriptions in England were for serotonin reuptake inhibitors, they already accounted for half the cost.[9] It has been estimated that substitution of older tricyclics will require over £100m extra for the health service drug budget in England each year.[9]

Conclusion

Serotonin reuptake inhibitors should not replace tricyclic drugs as first line treatment for depression in the expectation of either increased effectiveness or fewer side effects. In some patients, for example, when sedation or cardiotoxicity must be avoided, the new drugs are the first choice. Prescribing for potentially suicidal patients, however, is not straightforward. Seeing the patient regularly, building a relationship, and providing access to support are all part of reducing risk of suicide; safe prescribing is not just a question of always prescribing a safe drug. If concern about safety in overdose persuades doctors to abandon tricyclic antidepressants we will be responsible for doubtful benefit to the public health but enormous cost.

Doctors have repeatedly been too readily persuaded that patients need the latest available treatment. Past experience with new drugs, especially those that have been excessively promoted and used, should by now have taught us to moderate prescribing in the early years of a drug's availability.[10] We should stick with treatments whose effectiveness and long term ill effects are known from years of experience until change seems certain to be of benefit. In this case the degree of certainty has been exaggerated.

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Medicine in Europe

The greying of Europe

John L C Dall

This is the 10th in an intermittent series of articles looking at medical issues in Europe

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About a quarter of the population of Europe is now of pensionable age. Facilities for caring for very old or disabled people differ throughout Europe in scope and means of funding, and the countries of the European Union are far from equity in the status of pensioners. Health expectations have increased in older people—most of the calculated gain in life expectancy is likely to be without disability. Most countries now have specialist geriatric medicine facilities, and international research programmes are under way.

The most striking feature of the last century may well be the change in the shape of populations. In the early years of the twentieth century, when the old age pension was initiated and made available to those reaching a retirement age of 65 years in several countries of Europe, around 5% of the populations of these countries was eligible. Now roughly a quarter of the population of Europe is of pensionable age.

One factor in this change is the reduction in the number of children and consequently the relative increase in the number of older people—this helps to explain why Mediterranean countries have taken longer to reach this stage than has northern Europe. Figure 1 shows that there will be a substantial percentage increase in each age decade. Some of this is due to an improvement in life expectancy as well as a reduction in the number of children. A child born now can expect to live 10 years longer than one born in 1950 and 25 years longer than one born at the beginning of this century.[1]

The European Year of Older People and Solidarity Between the Generations (1993) was intended to highlight the challenge an aging population presents to society and to encourage an exchange of ideas which collectively might enhance the quality of life of older people. It was launched in the knowledge that people are living longer, in better conditions, and with higher expectations, and it intended that the European Community particularly would make efforts to meet those expectations and ensure that, as years are added to life, improved quality of life is added to years.

The European Commission has published two

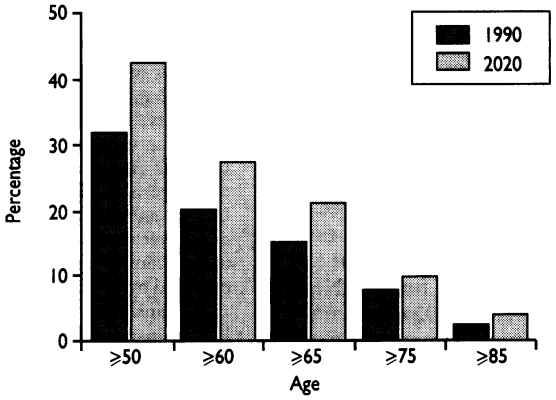


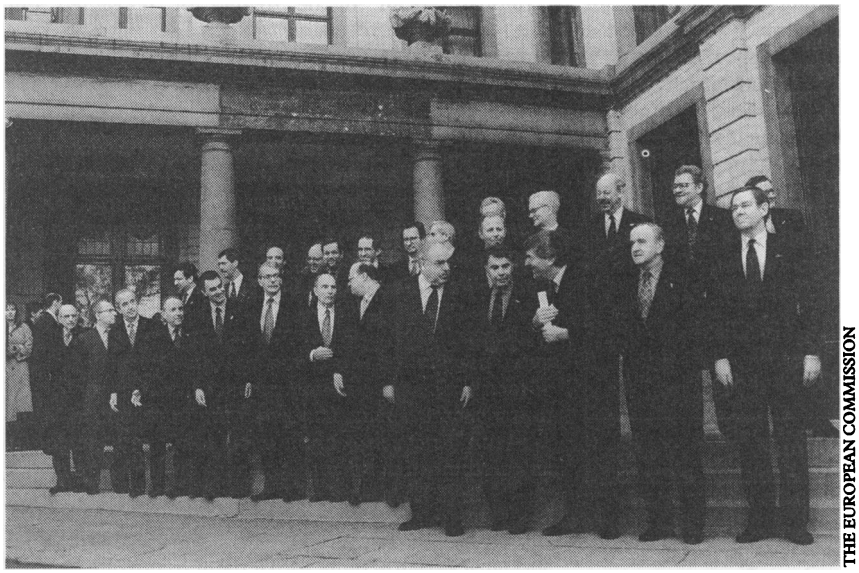
FIG 1—*Projected proportion of older people in European Union countries*

studies, based on interviews, that give some indication of how older people perceive their role in a changing society.[1,2] A more objective assessment comes from the European Observatory, which has collated information from national experts to try and show the impact of past and present policies on the circumstances which govern living standards on the way of life and social needs of older people. These documents are likely to become a point of reference for those concerned with the welfare of older people. They emphasise the improved standards of health and improved health expectancy for older people and express concern about the care of very old people and disabled elderly people.

The range of facilities for care of elderly people varies widely among the countries of Europe, but bearing in mind the cost it is probably not surprising that most communities are seeking to establish "care in the community" as the basic provision and reduce the commitment to long stay institutional care. This assumes that help in the home and district nursing are available, but numbers of home helps have been shown to vary from 33/1000 people 65 years and over in Denmark to 2·4/1000 in Germany.[3] The means of provision also vary: in Denmark the home help service is financed and provided by local government and is available to all older people, whereas in Germany a home help is provided free of charge only to those receiving basic social welfare or undergoing recent medical treatment. The relatively recent introduction of home helps in some parts of Europe is shown by the variation in numbers of elderly people receiving home help support, from 1% of those 65 years or older in Spain, Greece, and Portugal to 3% in Ireland, Belgium, and Germany and to a high of 17% in Denmark. The United Kingdom, France, Luxembourg, and the Netherlands have about 10%. Other support services in the home, such as meals on wheels, aids and adaptations, day centres, special transport services, and social workers with a special remit to care for elderly people are well established in the United Kingdom, the Netherlands, and Denmark but are relatively new in Greece, Spain, and Portugal, where the family still carries the burden of care for the most part.

Residential and nursing home places for those not able to live alone are provided in a variety of ways; most countries require a contribution for "hotel costs" if the individual's circumstances permit. Only Denmark continues to provide this level of care out of public funds, although in France and the Benelux countries insurance schemes make a contribution. In Britain, changes proposed under "care in the community" can be seen as a move towards the mean. Effecting this change has depended on acceptance of the principle that, in the long term care of an elderly person disabled by disease, once the acute phase of the illness is past the "hotel" costs can be separated from the "health care" costs. Meeting the "health" components from community resources by district nursing permits the individual to be discharged from hospital care. A further assessment decides whether the home environment, some form of residential care, or even a nursing home is the most appropriate place in which to provide for the "hotel" component. Some or all of this cost may be met by the individual, depending on the circumstances, which include an assessment of ability to pay for care and also an assessment of the facilities available in the immediate area.

The introduction of private resources into the residential and nursing home sector has provided a range from which purchasers, including health authorities, may choose. The available resources vary and are no longer a mandatory provision by either health or social service; thus equity, comprehensiveness, and equality of access are subordinated to the ability of the purchaser to pay. In this respect the purchasers may be individuals, their families, the social services, or the health authority, or even a mixture of these.



THE EUROPEAN COMMISSION

The grey heads of Europe

Pension power

If ability to pay is a determining factor in the provision of care then pension income is increasingly important. All the reports that deal with aging in Europe emphasise the importance of pensions and show the link between pension income and poverty, housing circumstances, and overall wellbeing. In the European Union as a whole, benefits for senior citizens and widows make up 45% of total social security spending. In this respect the United Kingdom, the Netherlands, and Belgium are "average" providers; there is substantially lower provision in Spain, Ireland, Greece, and Portugal and considerably higher provision in Germany, France, and Denmark.[3]

The dominant issue in pensions policy is cost containment. Economic recession, a maturation of earnings related pension policies, early retirement, and the rising total numbers of older persons have combined to put severe pressure on public spending, causing most countries to re-examine their liabilities. The United Kingdom was among the first countries to set about reducing current and projected pension liability by removing the link between basic pension and earnings and tying pensions only to price rises, which are more readily contained. Reforms in pension arrangements and of the pensionable age are under consideration in most countries.

The circumstances of pensioners themselves vary

widely, and each generation leaving working life has found the conditions improved compared with those for preceding generations.[4] Much of this improvement is due to occupational pension schemes removing the reliance on flat rate government pensions.

Germany, the country most likely to succeed Sweden with the highest percentage of pensioners in the population before the end of this decade, has a special commission reviewing urgently the level of care provided by health and social services departments for elderly people and how this can best be funded. New pension laws which came into force in 1992 will change the generous provisions for early retirement for both men and women, and will phase out most early retirement schemes by the year 2000. Other European countries in similar situations await the outcome of these deliberations.

There is no uniform retirement age in Europe and there seems more concern at present to calculate the number of effective years of contribution that can be expected in any contributory pension scheme. The main form of pension available in Europe is a basic statutory flat rate pension, as in the Netherlands, the United Kingdom, Denmark, and Ireland. This may be based on years of residence in the country or on insurance contribution records. In countries with earnings related schemes the pension may be calculated on the average earnings over the whole of the insured period or the average earnings in a given number of years before the retirement date or the highest earning years. Earnings related pension schemes in the United Kingdom have been introduced gradually since 1975 and are in competition with private pension schemes.

However a scheme is financed or calculated, the concern to the individual is the income which their pension will generate. Figure 2 shows the extent of the variation in ratio between pension and salary in selected countries and shows that 50% of a high annual income may well yield a better income for a pensioner than an arrangement that pays two thirds of a much smaller base salary. These comparisons do not allow for the differential of cost of living in the countries represented, but they show how far we are from equity in the status of pensioners.

Assets

Another asset attributed to many elderly people is the home in which they live. The United Kingdom is not alone in seeking to find ways of unlocking the wealth held in the form of housing in order to supplement pension income. These schemes, however, raise the important intergenerational issue for families in whom the "family home" was seen as a heritable asset, not as the determinant of choice in a multitiered health and social care environment. One of the arguments that has to be balanced against the inherent right of families is the fact that in Britain, for example, almost 10 times as much is spent on hospital

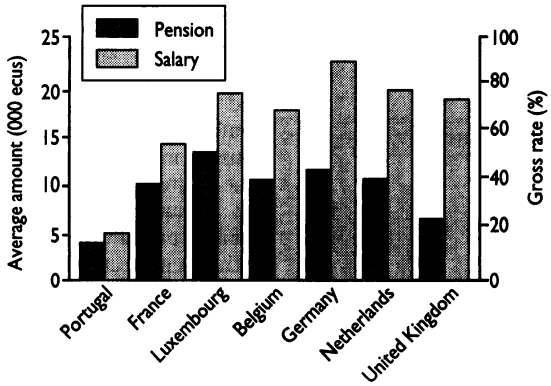


FIG 2—*Income replacement ratios of compulsory pension schemes (pension/salary),* 1990. Ratios are based on pensioner with average wage in manufacturing industry and whose spouse has not worked. United Kingdom ratio is an estimate (data from Eurostat)*

Eurolink Age

Eurolink Age is a leading European network concerned with older people and issues of aging. Its aim is to ensure consideration of the 100 million older citizens on the European Community's agenda for policy and action. Eurolink Age draws its members from a broad base of interests in all member states of the European Union, including older people's organisations, the non-governmental social welfare sector, politicians, trade unions, and gerontologists. The secretariat is provided by Age Concern England.

Eurolink Age works closely with all European Union institutions. It publishes regular information on issues affecting older people in the union and seeks to monitor and influence relevant policies, such as those on health, disability, poverty, and consumer affairs. It provides organisational support for the European Parliament Intergroup on Aging. Eurolink Age coordinates a number of specialist programmes, including Active Elders in Europe, the EC Network on Older People in Poverty, and the European Network on Older Workers and Age Discrimination.

and community services for people aged 75 and over as for those up to 64 years. A quarter of this money goes on personal social services, a tenth on family practitioner services, and two thirds on hospital and long term community health services.[3]

Perhaps the most important single concept to emerge from the Year of the Elderly is the realisation that, as resources are finite, a shrinking workforce will generate less money available for distribution—thus a rising number of unemployed is bad news for those who look to government funded pensions as their sole income in retirement.

Health

The news on the health front, on the other hand, is good. A section in the report of the Carnegie Trust (set up to inquire into the "third age") based on health and function of people in the 55-75 age group, indicates that most of the calculated gain in life expectancy will be without disability.[5] Thus a 65 year old woman, with 17·6 years' life expectancy, could be expected to remain fit and active for nine or 10 years and a man of the same age, with a life expectancy of 13·7 years, for seven or eight years. However, the same figures forecast a considerable volume of care to be provided, which will tax resources considerably.

The principal causes of loss or impairment of vision in older people—cataract, glaucoma, and diabetic retinopathy—can all be treated or prevented but can produce irreversible blindness, with serious repercussions for quality of life and level of independence. Similarly, hearing aids could improve the quality of life for many elderly people, but this will not happen unless they are appropriately referred. Much lip service is paid to the need to develop effective health promotion strategies, but progress could be made more rapidly in these areas by raising the level of expectation among elderly people themselves, disseminating information and advice through networks of older people like Eurolink Age and the counterparts of Age Concern in countries other than the United Kingdom.

All acute health care is subject to budgetary constraints in many European countries. The adverse effects on elderly people are seen with expanding waiting lists for hip operations and other procedures which are more likely in older people.

GERIATRIC MEDICINE

One area of targeted service is the development of specialist geriatric units with a remit to provide care for the illnesses of elderly people and particularly to

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Setting up the European Community—now there are 100 million "older citizens"

provide assessment and rehabilitation services. The progress of departments of this nature in Spain, Italy, Belgium, and more recently in the Netherlands has been most encouraging. Most countries now have departments in acute hospitals and university teaching hospitals capable of providing undergraduate and postgraduate training. In a community concerned to provide for a rising number of elderly people, training specialist doctors, nurses, and paramedical staff in treatment and rehabilitation of old people seems common sense, and progress in this direction will help to reduce the institutionalisation of the elderly as a solution to problems of care.

RESEARCH

Bio-Med One, a specific programme under the European Commission's third framework programme (1990-4), aims to make medical and health service research more effective in European Community countries by better coordination of member states' research and development programmes.[6] It is assumed that cooperation and pooling of information resources in basic research in biomedicine and health throughout the community will lead to an improvement in the quality of research and knowledge. In its current series it coordinates 115 projects, of which 17 are related to aging or the problems related to aging. In some cases, like the multicentre stroke study or the multinational review of osteoporosis, the relation is very direct; in others such as the equity in the finance and delivery of health care in Europe, social economic inequalities in morbidity and mortality in Europe, and similar projects, less so, but the outcome information will be helpful and will shed light on aging itself, on diseases associated with aging, or on the circumstances that surround the treatment of elderly people.

Research of more immediate practical value is also being carried on in the Scandinavian countries, where a multicentre review in three of the Nordic countries (NORA) is comparing physical status and health as measured by biochemical and electrocardiographic variables in a large group of 75 year olds.[7] The study is assessing function, activity, and functional and mental competence and reviewing domestic and social circumstances so that comparative information will be available. It should be possible to relate differences to diet or lifestyle. The coordinating group hopes to be able to report in 1995.

Gerontechnology is among the new interesting topics of research now being carried out as an indication of the awareness of aging. A new special interest group has arisen from a meeting convened by the University of Einhoven in 1991.[8] There is now considerable interest in the ergonomics of living for older people and the design and testing of everything from clothes to the fittings of housing with an older population in mind. Enthusiasm of the manufacturing industry for this topic is indicated by the decision of the University of Einhoven to create a new centre for this type of research. Regular conferences will provide information to manufacturers showing an interest in this field.

I am obliged to colleagues in the European countries who have provided or confirmed information, particularly Dr Van der Cammen of the Netherlands.

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ANY QUESTIONS

An 81 year old man skis every year and has noticed that his legs are not as strong as they were and that the muscles seem to be less bulky. Is it possible for elderly people to increase the strength of their muscles by exercise?

The loss of muscle strength begins in middle age. Up to at least 89 years healthy people have differences in strength, which imply a loss of some 1-2% (of a 77 year old's value) a year, and in explosive power, which imply a loss of some 3-4% a year.[1] Much of the weakness is due to an apparently obligatory loss of muscle fibres, probably as a result of incompletely compensated denervation. Atrophy of the remaining muscle fibres is sometimes seen, perhaps reflecting varying degrees of habitual inactivity. In addition, older muscle may be weak for its size.

Women have lower ratios of power to weight than men of the same age.[1] A young person's strength includes a generous safety margin, but large numbers of healthy elderly women are sufficiently weak that they have lost or are in danger of losing the ability to perform some important everyday tasks. This helps explain the lower step heights achievable by healthy elderly women. It may also contribute to the greater prevalence of disability and of falls among elderly women than among elderly men and to the age related decline in the proportion of elderly women using public transport on their own.

Randomised controlled trials (including one in healthy women aged 76 to 93 and one in frail, institutionalised subjects aged 72 to 98) confirm that elderly muscle remains responsive to progressive resistance training (strength training).[2,3] The size of the improvement depends on the method of measurement but may be equated to rejuvenation of strength by 16-20 years. Moreover, it may be associated with improved performance of strength related functional tasks.—ARCHIE YOUNG, *professor of geriatric medicine, London*

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