The Effect of Screening on the Quality of Life after Seventy

SIR FERGUSON ANDERSON, OBE, MD, PRCPS, FRCP
David Cargill Professor of Geriatric Medicine, University of Glasgow

Present population predictions in the developed countries indicate an increasing number of people of 70 years and over, more commonly women, and almost certainly more frail and disabled than the elderly of today. With the improved therapy of infectious disease many people are surviving into old age with illness from which they would have died in former times and a considerable proportion of these are severely disabled. In France, by the year 2000, it is estimated that those aged 85 and over will increase by 122 per cent (Institut National de la Statistique et des Etudes économiques, 1970). Chebotarev and Sachuk’s (1964) survey in the Ukraine demonstrated the preponderance of women in the upper age ranges and, if the age of 100 years is selected, there are seven times as many women as men. Another interesting phenomenon is the varying age at which women begin to preponderate over men (reckoned as 120 women for 100 men) in different countries; this ranges from the age of 43 years in the German Democratic Republic to the age of 83 in Southern Ireland; the reasons for this are unknown.

Physicians caring for the elderly have long realised that older people are commonly referred to them late in their illness and have felt that more could have been done if the individual had sought medical attention at an earlier stage. The Rutherglen experiment (Anderson and Cowan, 1955) was started in a Public Health Clinic in an endeavour to examine apparently healthy older people, to integrate medical treatment with social and environmental services for the elderly, and to reduce demand on hospital beds in geriatric departments by avoiding unnecessary admissions. At the centre, information about available services was provided for the elderly and all the older people seen were referred by their own general practitioners and examined by a consultant physician specialising in geriatric medicine.

Williamson (1966) demonstrated that with certain complaints, for example painful feet, difficulty in walking, trouble with micturition, anaemia and dementia, the older individual frequently did not seek medical advice; the symptoms were attributed to ageing and not to disease. This may be due to the fatalism of old people or their relatives, or the fear of the elderly that they may be put away somewhere, admitted to hospital or some form of institution, and lastly,
because many older people are mentally impaired and cannot seek medical advice, being unaware that it is needed. In earlier work Williamson et al. (1964) showed in a random sample of elderly men and women taken from the lists of three general practitioners, that the average number of disabilities (lesions of one or other system causing the person to be less well than he should be) in males was 3.26 of which 1.8 were not known to the general practitioner, and in females 3.42 and 2.03 respectively. Just over half the disabilities detected were unknown to the patient's general practitioner.

The idea has thus evolved that older people cannot tell when they are unwell, so that disease is not detected at an early stage and that there is an iceberg of unreported illness among older people in the community. A methodology has been developed with the aims of keeping older people in their own homes for as long as they desire to remain there and are able so to do, and of training all who work with the elderly, for example nurses, medical students, doctors, paramedical staff and social workers, in the special ways in which disease presents in older people and how to detect illness at an early stage. Ascertainment, that is the act of seeking out of illnesses, is the first step, followed by the endeavour to preserve, as far as possible, the physical health of the person visited, to maintain the mental health and to support the social circumstances.

AIMS
Screening (Wilson, 1971) is medical investigation that does not arise from a patient's request for advice for specific complaints, and endeavours to identify persons with early disease and thus improve patient care, and, by early intervention, to prevent chronic disability requiring long-term support. While appraisal of many screening programmes suggests that there is little clear evidence of adequate benefits in relation to the resources required, the geriatric field poses a different problem. Screening in this context means, in effect, the routine examination of older people in regard to their total physical, mental and social health, i.e. the sum of all the problems encountered in these three overlapping fields. This cannot be equated with the search for a single disease in younger people. For any future and precise planning of services of all kinds for the elderly, information must be obtained from each area about the living conditions of older people and their needs.

OLD PEOPLE IN THE COMMUNITY
Andrews et al. (1971) demonstrated the marked increase in morbidity with age and revealed that many of the conditions discovered were remediable. In further random sampling of the elderly in their own homes Akhtar et al. (1973) found that major disability, defined as the inability to lead an independent existence, increased dramatically with age. By the age of 85 years, approximately 80 per cent of people suffered from such disability; when organic neuropsychiatric disorders are studied, one of the commonest problems discovered is impairment of
the control of balance and thus it is not surprising to find that the incidence of fatal home accidents from falls increases greatly in the older individual. The other cause of disability in this group is non-vascular dementia.

In certain surveys an attempt has been made to assess the state of health of people who would not co-operate.

Akhtar (1972) has shown that the physical and mental health of those who refused to take part in the first Kilsyth survey was very similar to that of those who agreed, while Milne et al. (1971) also found that those who refused and those who agreed to participate in their study resembled each other in respect of many characteristics. Pike (1969) reported relatively little unmet need among the patients who failed to attend a screening examination. These findings indicate that there is no need to make special efforts to follow up elderly people who fail to participate, as they do not seem to be a high-risk group.

**DIAGNOSIS IN THE ELDERLY**

Certain attributes alter with age and this renders early diagnosis difficult. In some older people the sensation of pain seems, at least in clinical practice, to be impaired, and examples of this are the silent coronary thrombosis described by Rodstein (1956) and confirmed by Pathy (1967), and the occurrence of painless fracture of the femur. In this condition the old person may fall during the night and when found in the morning may complain only of inability to move the leg, no history of the fall may be given and no complaint of pain made. Postural regulation is frequently faulty while the appreciation of ambient temperature appears in many individuals to be diminished, and the response by fever to disease is also impaired in some elderly people. It is noticeable that the elderly are not so conscious of the sensation of thirst as younger people.

The occurrence of multiple pathology was shown by Wilson et al. (1962) who found an average of six pathological conditions in a series of consecutive admissions to a geriatric hospital, and the frequent atypical presentation of illness tends to make diagnosis difficult, while many diseases present in an insidious and quiet way. Such difficulties make the clinical medicine of old age fascinating.

While malnutrition is probably rare in the elderly (D.H.S.S. 1972; Macleod et al., 1974a,b, 1975) many old people have an inadequate dietary intake, and in the Kilsyth study 26 per cent of people 65 years and over needed dietary guidance (Andrews et al., 1971). Simple advice would often help; Hodkinson et al. (1973) showed that elderly women with biopsy-proven osteomalacia had the same dietary vitamin D or calcium intake as elderly women without osteomalacia, but had significantly less exposure to sunlight, largely because they were confined to the house.

Godber (1975), commenting on the interface of psychiatry and the rest of medicine, states that the most recent vital change has probably been the recognition of the importance of psychological stress as a precipitant or complicating factor in physical illness and this is certainly so in the elderly where
mental confusion can be compared with the fit or convulsion of the infant, and an attempt must be made to reach a correct diagnosis in such cases. Many elderly people with an impaired reserve of mental capacity, perhaps due to loss of neurones, become confused when a younger individual would not suffer from this symptom. Faecal impaction, urinary retention, anaemia, infective illness, dehydration, cardiac failure and uraemia are among the common causes of such confusion. Metabolic disease such as diabetes mellitus, hypothyroidism and hyperthyroidism may present with mental upset, and potassium deficiency among older people may produce depression, apathy, weakness, paranoid ideas and disturbances of sleep rhythm (Judge, 1973). Newman (1969) observed that, on occasions, urinary incontinence may be the result of rejection by society. Andrews et al. (1971) found an incidence of mental illness of the 65 and over group of 22.5 per cent of men and 39 per cent of women.

Numerous studies (Stenbäck, 1975) have revealed the high incidence of depression from 10 to 30 per cent in older people in the community and the close association between depression and physical disease, while a figure of 3 per cent to 27 per cent is given for the frequency of dementia in an over 65 population (Gilmore, 1974).

Perhaps the greatest danger to the physical and mental health of older people today lies in the number of drugs prescribed for them; the mental confusion caused by common drugs appears to be insufficiently realised. Wallace et al. (1975) have shown that ability of the plasma of elderly patients to bind drugs falls significantly when subjects are given more than one drug.

In regard to social conditions Busse (1969) stated that social and economic levels affect the frequency of depressive episodes. The low income group of elderly subjects had a considerably greater incidence of depression than higher income subjects. Social activity appeared to be an excellent technique for warding off depressive reactions but the maintenance of such social capacities is dependent on other factors such as good physical health, stability and control of the living situation. McCulloch et al. (1967) distinguished suicide-prone patients, among whom were those who live in social isolation, including the elderly.

The close relationship between physical, mental and social health means that in old age a comprehensive assessment of the elderly person in his own home is essential in accurate diagnosis.

From such observations it is suggested that some form of preventive services are of value in the elderly. In recent years attempts have been made to organise visits by health visitors to individuals of 70 years and over. This age was chosen because disability can be shown to increase markedly at the age of 70, as was demonstrated by Akhtar et al. (1973) and Exton-Smith and Stanton (1965) who suggested that 70 was the age at which dietary surveillance was important.

Any nurse who routinely visits old people in their homes must obtain job satisfaction, but if the people visited are almost all fit and require no assistance, it is difficult to sustain the interest of the person making the home call. It is
estimated that in the age group 65 to 69 some 10 per cent of the men and 13 per cent of the women would have benefited from a visit by a health visitor; whereas in the 70 to 74 age group 26 per cent of the men and 59 per cent of the women would have benefited. At the age of 70 there is sufficient physical, mental, or social illness to justify a visit from the health visitor. The nurse is a particularly appropriate person to carry out visits, as she is acceptable to the elderly and does not precipitate the danger of changing a client to a patient that the unexpected and uninvited call of the doctor might do. The health visitor reports to the patient’s own general practitioner and in many cases the services required can be laid on directly by the health visitor with the general practitioner’s knowledge and approval. In this way, an effort can be made to keep older people fit and healthy in their own homes. Williamson et al. (1966) showed that there was a correlation of findings between health visitors and doctors with regard to physical illness but less so with psychiatric illness. The old people in this study were seen by a health visitor, then examined by a doctor and after that by a psychiatrist. Powell and Crombie (1974), however, demonstrated that a health visitor, given a suitable validated questionnaire, could detect nearly all physical, mental and social illness to be discovered in older people living in their own homes. As far as psychiatric disorders were concerned the health visitor could detect the presence of mental illness but could not give an exact diagnostic label.

It is also important, especially in large cities, to create a smaller community in which the older person is known, and his living conditions appreciated. This can be based on the area served by the Health Centre, as the discovery of multiple problems means that a centre for their solution is necessary and the Health Centre in many large towns and areas can act as a place where all services, general practitioner, hospital, local authority and voluntary, can be co-ordinated for old people, so that the older individual or his relative has only to go to one place, either to obtain an appropriate service or information about some point of worry. Co-ordination is made much easier by a regular visit from the local physician in geriatric medicine to the Health Centre, and by his meeting there with the general practitioner, social workers and representatives of voluntary organisations. Co-ordinated effort is fundamental and intimate knowledge of the difficulties and problems encountered by older people in their own homes must be collected. Where tragedies occur these have nearly always been due to lack of co-ordination.

Barber and Wallis (1975) reported a slightly different assessment programme where patients were referred to the health visitor by some other person in the practice team; this meant that the patient was already in contact with the doctor or nurse who then recommended that a detailed assessment be made. They found, in the first 100 patients, confirmation of Thomas’s statement (1968) that the great value of geriatric screening lies in the discovery of a vast number of minor disabilities which, if left undiscovered and untreated, result in severe handicap and greatly limit old people’s ability to cope with and enjoy life unaided. The patients assessed in Barber and Wallis’s study were all known to the practice doctor and
health visitor, but as problems and disabilities become multiple with advancing years, it is increasingly difficult for any one person to remain aware of the patient’s total state of health or ill-health, thus for each patient there was a mean of 4.8 medico-social problems, one unmet need and 2.3 unknown symptoms.

Williams et al. (1972) considered that, even if it is impossible to treat effectively all conditions found, life can be made more tolerable if the condition is known to the doctor.

THE VALUE OF SCREENING
Lowther et al. (1970) evaluated early diagnostic services for the elderly. Medical examination was offered to a group of high-risk old people, those living alone, recently bereaved, or recently discharged from hospital; these people were not necessarily known to their family doctor but were seen with his agreement. In 300 consecutive patients major conditions were found in two-thirds, reducing functional impairment in most. Recommendations as to therapy or management were carried out in 161 of 194 patients, but not on the remainder. Clear evidence of improvement was found in one-half of the patients who carried out the recommendations; in 42 per cent of cases this was attributed to earlier diagnosis than would have been achieved without the examination at the clinic. At follow-up 18 to 30 months later, the proportion of all the patients examined who had been helped by early diagnosis was 23 per cent. These authors concluded that the offer of a routine examination to a high-risk group of people was a benefit, and was a form of medical practice that should be widely adopted. Only 3 per cent of those seen were recommended for admission to hospital.

Taylor (1972) has demonstrated the value of the completion of a structured and validated proforma by a health visitor for older people in their own homes. He defined the unit where nurses were concerned as a problem and not a diagnosis. The problems were of three types: (1) those already in the general practitioner’s records; (2) those discovered by the health visitor; and (3) those found by medical examination and investigation. Taylor, in trying to estimate the value of health visiting, studied a group of people seen six months previously by a health visitor who called on them a second time. He matched those 60 people in the most accurate way with regard to such factors as age, sex and social circumstances, with another 60 not previously seen by a health visitor. Comparison of the two groups showed that the health visitors discovered significantly fewer problems requiring attention among the people previously seen.

From surveys already recorded an ascertainment programme will detect and help many older people with hearing defect, unsatisfactory sight and problems with walking, and chiropody will need to be provided. Further action in regard to physical health is needed to uncover cases of anaemia, especially those with under 10 g of haemoglobin. McLennan et al. (1973) showed that 2.4 per cent of elderly people were thus affected. Undiagnosed cardiac failure responds well to therapy,
while hypothyroidism, especially if diagnosed early, is eminently treatable (Bahemuka and Hodkinson, 1975). It is worth checking the haemoglobin level, the blood film, and the electrolytes, especially if the elderly individual is on diuretics, and those with coughs and spits should have a chest X-ray. Other ways in which physical illness can be prevented is by reduction in the number of home accidents. Agate (1966) has listed the causes and methods of prevention.

Mental health is another problem; patients with depression must be detected while those with dementia, if picked up promptly, can be greatly assisted by correct planning with due consideration for the future. Wilson (1970) has placed on record the feelings of the health visitor working among the elderly. She felt that social isolation following bereavement can be prevented through support given at the time of greatest grief. The health visitor can overcome loneliness, encourage the use of an adequate diet, and ensure that the elderly person does not become completely cut off from family, friends, and neighbours at a time of great risk.

Jephcott (1971) has recently reported on the effects of high rise housing on the elderly and made certain important points. The question of loneliness was again brought to notice and the need for architects to arrange that the elderly person can, while sitting, see out of the window.

These bare facts do not stress sufficiently the necessity of planning resources for older people. One lesson learnt from any attempt at screening procedures is that medical, paramedical and social services must be available to satisfy any need uncovered. The great value of an ascertainment programme of people aged 70 and over is that information is gathered in each community about the physical, mental and social health of older people who are living in their own homes. In such a programme the morale of the elderly is greatly improved as the community awakens to its responsibilities. In these circumstances the elderly can participate not only in playing an active part in keeping themselves fit but in the life of the community. There seems no alternative to this type of methodology unless an ever-increasing number of beds in old people’s homes and hospitals is provided.

The report of an expert committee of the W.H.O. (1974) recommended that:

(a) the aged should be considered as a vulnerable group especially susceptible to physical and mental health deterioration and social crises, all of which are closely interrelated. Health surveillance is imperative and demands thorough planning and the organisation of a system of delivery of integrated geriatric services, orientated toward keeping the elderly in their own homes and communities whenever possible.

(b) Such a system should form an integral part of the general health system and be family and/or community orientated.

(c) Each country should assess the unmet needs of the aged and explore the most suitable pattern of care that fits into its health care system, giving special attention to the basic aspects of such a system, with its major elements of
medical and social prevention, multi-disciplinary assessment, home and institutional curative treatment, rehabilitation, long-term care, and supportive social welfare.

This article is based on a paper read at the College conference, ‘Achievements and illusions—the value of some current practices’, held in Coventry in September 1975.

References
Agate, J. N. (1966) British Medical Journal, 2, 785.
Akhtar, A. J. (1972) Gerontologia Clínica, 14, 208.
Akhtar, A. J., Broe, G. A., Crombie, Agnes, McLean, W. M. R., Andrews, G. R. and Caird, F. I. (1973) Age and Ageing, 2, 102.
Anderson, W. F. and Cowan, N. R. (1955) Lancet, 2, 239.
Andrews, G. R., Cowan, N. R. and Anderson, W. F. (1971) In Problems and Progress in Medical Care. Essays on Current Research, 5th Series. (Ed G. McLachlan). London: Oxford University Press.
Bahemuka, M. and Hodkinson, H. M. (1975) British Medical Journal, 2, 601.
Barber, J. H. and Wallis, Joan B. (1975) Journal of the Royal College of General Practitioners. In the press.
Busse, E. (1969) Proceedings of the 8th International Congress of Gerontology, 1, 195.
Washington, D.C. Federation of American Societies of Experimental Biology.
Chebotarev, D. F. and Sachuk, N. N. (1964) American Journal of Gerontology, 19, 435.
Department of Health and Social Security (1972) A Nutrition Survey of the Elderly. Report on Health and Social Subjects No. 3. London: H.M.S.O.
Exton-Smith, A. N. and Stanton, B. R. (1965) Report of an investigation into the dietary habits of elderly women living alone. London: King Edward’s Hospital Fund.
Gilmore, A. J. J. (1974) In Geriatric Medicine. (Ed W. F. Anderson and T. G. Judge). London: Academic Press.
Godber, C. (1975) Psychiatry in Specialized Futures. Essays in honour of Sir George Godber, G.C.B. Nuffield Provincial Hospitals Trust. London: Oxford University Press.
Hodkinson, H. M., Round, P., Stanton, B. R. and Morgan, C. (1973) Lancet, 1, 910.
Institut National de la Statistique et des Études économiques (1970) Projections démographiques pour la France, Paris (Collection No. D6).
Jephcott, P. (1971) Homes in High Flats. Edinburgh: Oliver and Boyd.
Judge, T. G. (1973) In Textbook of Geriatric Medicine and Gerontology. (Ed J. G. Brocklehurst). Edinburgh: Churchill Livingstone.
Lowther, C. P., Macleod, R. D. M. and Williamson, J. (1970) British Medical Journal, 3, 275.
Macleod, C. C., Judge, T. G. and Caird, F. I. (1974a) Age and Ageing, 3, 158.
Macleod, C. C., Judge, T. G. and Caird, F. I. (1974b) Age and Ageing, 3, 209.
Macleod, C. C., Judge, T. G. and Caird, F. I. (1975) Age and Ageing, 4, 49.
McCulloch, J. W., Philip, A. E. and Carstairs, G. M. (1967) British Journal of Psychiatry, 113, 313.
McLennan, W. J., Andrews, G. R., Macleod, Catriona and Caird, F. I. (1973) Quarterly Journal of Medicine, 42, 1.
Milne, J. S., Maule, M. and Williamson, J. (1971) British Journal of Preventive and Social Medicine, 25, 37.
Newman, J. L. (1969) Proceedings of the 8th International Congress of Gerontology, 2, 75.
Pathy, M. S. (1967) British Heart Journal, 29, 190.
Pike, L. A. (1969) Practitioner, 203, 805.
Powell, C. and Crombie, Agnes (1974) Age and Ageing, 3, 23.
Rodstein, M. (1956) Archives of Internal Medicine, 98, 84.
Stenbäck, A. (1975) In Modern Perspectives in the Psychiatry of Old Age. (Ed John G. Howells). New York: Brunner/Mazel.
Taylor, B. B. (1972) Personal communication.
Thomas, P. (1968) British Medical Journal, 2, 357.
Wallace, S., Whiting, B. and Runcie, J. (1975) British Journal of Clinical Pharmacology. In the press.
Williams, E. I., Bennet, Frances M., Nixon, J. V., Nicholson, M. Rosanel and Gilbert, Jean (1972) British Medical Journal, 2, 445.
Williamson, J. (1966) Paper presented to the Royal Society of Health, Edinburgh, 9 November.
Williamson, J., Lowther, C. P. and Gray, S. (1966) Gerontologia Clinica, 8, 362.
Williamson, J., Stokoe, I. H., Gray, S., Fisher, M., Smith, A., McGee, A. and Stephenson, S. (1964) Lancet 1, 1117.
Wilson, F. G. (1970) Lancet, 2, 1356.
Wilson, J. M. G. (1971) In Mass Health Examinations. Public Health Papers No. 45, Geneva: W.H.O.
Wilson, L. A., Lawson, I. R. and Brass, W. (1962) Lancet, 2, 841.
World Health Organisation (1974) Planning and Organisation of Geriatric Services. Technical Report Series No. 548.

Book Review

Footprints: The Memoirs of Sir Selwyn Selwyn-Clarke. 189 pages. Sino-American Publishing Co., Hong Kong, 1975. Price £3.00.

This is not a book about ‘The Colonies’; it is a humble record of the life of one of the bravest men of our time, and, once started, it is hard to put down. It is more than episodically exciting: it grips attention as the adventures of a much-tried man who obstinately did his duty with determination against opposition and violence.

It is a story of heroism at its highest level, told by a man who does not seem to know that it was heroism at all, with a fundamentally humorous attitude towards all that life brings. And with a forgiveness for injuries and a recognition of kindness that could come only from the completely unselfcentred. All through the book he always knew what other people were feeling, and took notice of it.

His upbringing, in the late Victorian and Edwardian era, was not exactly typical: it was part Quaker, and advanced for its time; Bedales School was not typical of the Edwardian bourgeoisie. He was twenty-one in 1914, and started life’s tougher experiences (after being sent back to finish qualifying as a doctor) with the Artillery. After the War, he did first-class work in West Africa and Malaya, and then in Hong Kong, where he did wonders under the Japanese occupation until the Secret Police got hold of him, and treated him as he knew they would, leaving him partly crippled for life. Then Governor of the Seychelles, a socialist Governor of an island run by capitalists. After that, and a return to the Army as M.O. to the King’s Troop at the age of 68, he started a new career as Prison Visitor, combined with work for the disabled and what he calls ‘the assorted occupations of a senior citizen’, refusing to work through politicians who try to remedy inequality in terms of material prosperity.

Sir Selwyn is a deeply religious agnostic, whose outlet is service to others, regardless of the worthiness of the recipient or of the consequences of the giving. To read his book is a major experience.

C. E. N.