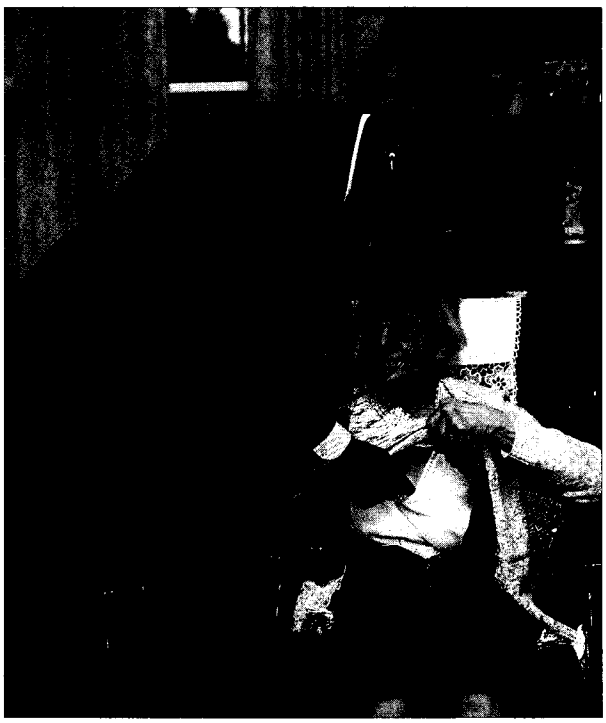

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Screening under scrutiny

Just how much does health screening help elderly people? John Gilbody reviews some recent research and notes that, although the findings seem promising, further outcome data are needed

Health screening can be defined as the detection of asymptomatic, unrecognised or unreported physical, psychological or social problems. Though not a new concept — geriatric health screening was mentioned by John Smith in *The Pourtract of Old Age* in 1676 — modern interest did not begin until 1955 when Anderson and Cowan first drew attention to the high prevalence of unreported and unidentified problems in the elderly.[1] The paper by Williamson et al in 1964 was another turning point.[2] More recently, interest was heightened when the Government introduced a new contract for general practitioners that included annual home visits and assessment for all patients aged over 75.[3]

KEYPOINTS

- **The introduction of the new GP contract in 1990 highlighted the issue of screening over-75-year-olds**
- **Such screening can identify deficiencies in service provision and could lead to a more appropriate distribution of resources**
- **Studies seem to point to benefits of screening in the elderly, such as reductions in mortality and hospital and nursing home admissions**
- **Moreover, there are indications that screening can improve quality of life and morale**
- **Screening has a vital role in the prevention and early treatment of disease**

Benefits and costs

Theoretical potential benefits include:

- reduction in mortality
- detection of undiscovered remediable morbidity
- detection of minor problems, such as a loose doormat or need for glasses, enables anticipation and prevention of problems such as a fractured femur
- reduction in crisis intervention
- reduction in workload of hospitals, residential homes and other care providers
- allocation of resources to those most in need
- intangible benefits such as improved patient morale and self-esteem, and patient and doctor satisfaction.

Ultimately, by highlighting deficiencies in service provision, screening could lead to a more appropriate distribution of resources.

Potential costs of health screening include costs for the patient, such as economic loss, false reassurance, unnecessary anxiety and psychological harm; costs for clinical practice (time and resources); and costs for the NHS as a whole, including GP reimbursement, prescribing costs and use of hospital facilities.[4] In practice, the impact of health screening has often proved difficult to assess due to the poor reliability and heterogeneity of many of the outcome measures used. Valuable studies have emerged, however.

Carpenter and Demopoulos recently reported the results of a three-year prospective randomised controlled trial of health screening in community-dwelling elderly.[5] No significant differences in mortality or activities of daily living score were observed between the screened and unscreened groups, although screened patients spent on average 33% fewer days in institutions, suggesting a possible economic benefit of screening. One difference concerned the number of reported falls, which doubled in the control group over the three-year study period but remained unchanged in the screened group. In addition, screened patients received community services earlier than controls.

In another controlled study of medical and social screening and intervention, three-monthly visits to patients aged over 75 during a three-year period were found to reduce mortality and hospital and nursing home admissions significantly.[6] A significant reduction in mortality was also observed by Tulloch and Moore during two years of screening patients aged over 70, although no change in the prevalence of socioeconomic, functional or medical problems was noted.[7]

Two other studies have observed significant mortality reductions following screening,[8,9] although it is interesting that in the Vetter study, which evaluated an urban and rural general practice, the impact on mortality was seen only in the urban practice. The reasons for this were unclear.

Measuring outcome

It is notable that only a few studies have reported improvements in health status following screening, reflecting perhaps the frequent use of medical outcome measures, as opposed to measures relating to quality of life and functional status.[10] Thus, while screening might not be life-saving or lead to a 'cure', it can result in significant improvements in quality of life. This was well illustrated by a recent randomised controlled trial of screening in patients aged 75 or over which, despite evaluating a multitude of variables, including activities of daily living, social functioning, blood pressure, urine analysis, blood haemoglobin level, compliance to medication and sensory, mental and medical problems, found only loneliness and attitude to ageing, as measured by the Philadelphia morale scale, to be significantly improved by screening.[11] This supports anecdotal reports of improvements in morale and self-esteem.[6,7] These findings are important, as paramedical factors are major predictors of morbidity.[12]

Alternative explanations for the apparent lack of impact of screening on health status include:

- under-consultation by the elderly is less than previously thought[13]
- screening facilitates adaptation to problems
- screening needs to be more intensive and frequent
- heterogeneity of approaches to screening
- frequent use of universal (non-selective) screening.

As regards the last point, universal screening is widely recognised as an inefficient use of resources, with a high cost–benefit ratio;[14] principally as a result of the high proportion of elderly patients who are 'too independent' to require intervention following screening; 64% in one study.[15]

A better approach, therefore, might be to select patients most at risk and in need of screening (selective screening) by a postal questionnaire.[16] Therefore, it follows that annual health checks for all patients aged 75 or over may not be the best screening policy.[3] Further research would seem to be indicated before fully implementing these changes.

In practice, the impact of health screening has often proved difficult to assess due to the poor outcome measures used

Finally, considering the workload associated with health screening, Barber and Wallis observed a decrease for GPs, but significant increases for secretaries and health visitors, with 18 hours a week of health visiting time needed in the first year, and 11 hours a week subsequently.[9] However, these findings applied to a population of 4,000 patients, making the figures for the average family practice only nine hours and five-and-a-half hours, respectively. In addition, the rate of referral of patients to social and health agencies was found to be increased by screening, suggesting that these agencies' workloads would also be raised. A post-screening increase in health worker workload has been observed by Vetter et al,[8] although other studies have noted no such changes.[11]

One explanation for these differences may be that screening leads to a better, albeit less frequent, use of services. Certainly, in the long term, one would expect screening to reduce the burden on institutional care, by enabling continued independent living in the community.

The way forward

Geriatric health screening has important roles in the prevention and early treatment of disease, maintenance of quality of life and independence, allocation of resources to those most in need and identification of under-resourced areas of care. In this way, it may ultimately lead to a more pre-emptive, anticipatory health service for the elderly. There is a pressing need, however, for further outcome data concerning screening to provide definitive answers regarding its efficacy and best format, which have so far been lacking.

The Medical Research Council has recently commissioned a feasibility study for a full research project on this subject, embracing more than 100 practices and lasting for at least five years. It hopes that this will be funded within a year's time, and it should provide important new data.

Finally, it is likely that case-finding (opportunistic health screening) will receive increasing research attention, both because of its potential for routine application and its relative cheapness.[17] This approach should, however, be seen as a part of, rather than an alternative to, multiphasic assessment. ◆

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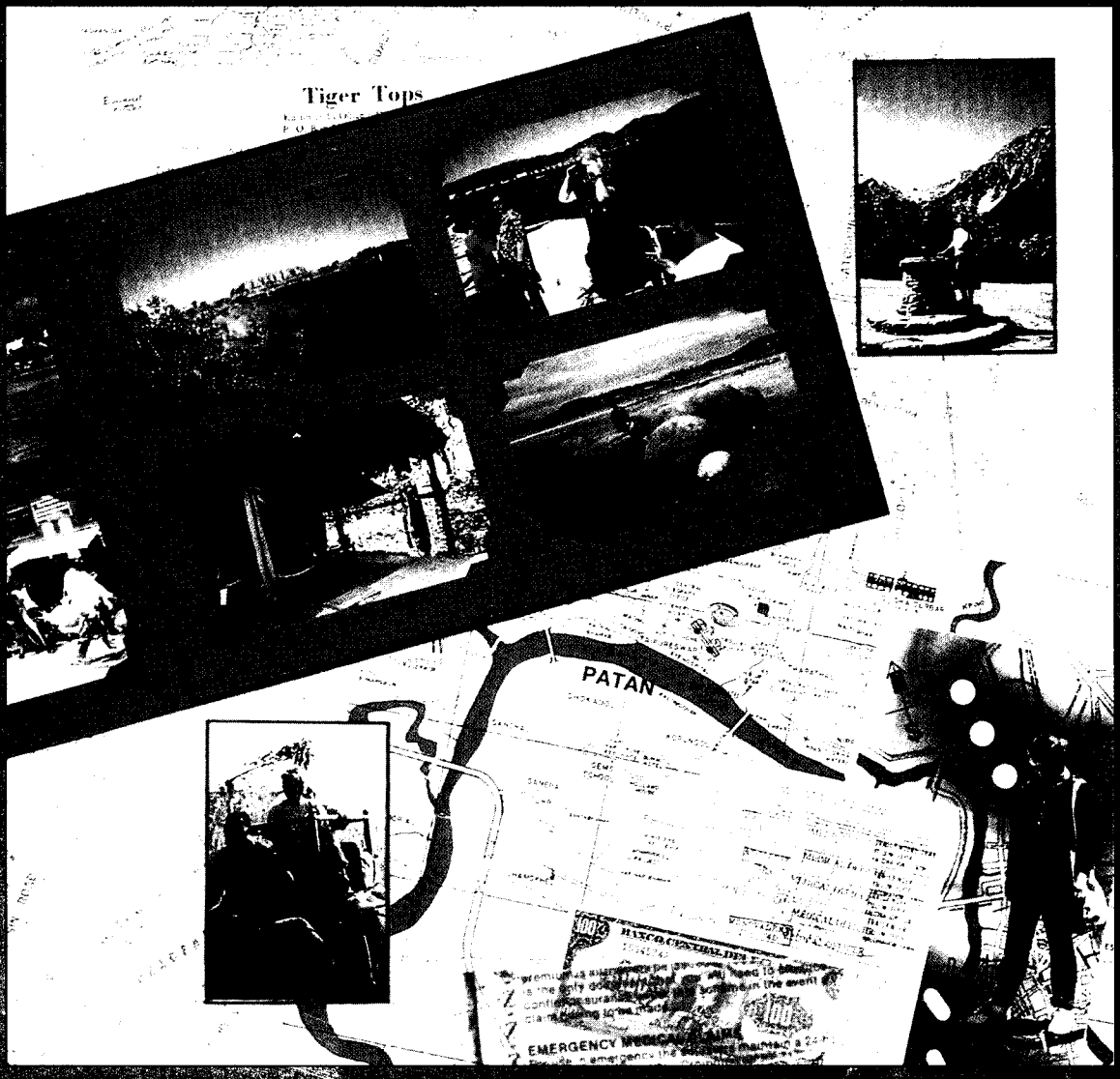

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