The benefits to an elderly population of continuing geriatric assessment

J. H. BARBER, MD, FRCGP, MRCP(G), DRCOG

Professor, Department of General Practice, University of Glasgow

J. B. WALLIS, RGN, SREN, SCM, HV

Research Health Visitor, Department of General Practice, University of Glasgow

SUMMARY. There is currently great interest in the care of the elderly in general practice and discussion about the role of surveillance programmes. We report a comparison between two surveys of an elderly population carried out with a view to determining the difference in findings between two surveys of the same population.

Each patient had an average of 4·8 problems at the time of the second assessment. The number of active and unknown problems fell from 6·4 per patient at the initial assessment.

The greatest improvements were found in such topics as clothing, bedding, heating, dentition, diet, vision, and hearing, and the least in such aspects as dependency, home hazards, and problems with a caring relative.

We remain convinced that a continuing programme of geriatric assessment is valuable in general practice.

Introduction

IN stark contrast to the many papers published in recent years describing a variety of different geriatric screening and assessment programmes there is a disquieting dearth of reports on the effectiveness of this approach in the care of the elderly. The great majority of reports detail the problems and illnesses detected as a result of screening or assessment programmes. Only a few studies have been designed in such a way as to allow a number of serial assessments to be completed and thus make it possible to estimate the value of such programmes to the individual patient.

All screening programmes can be responsible for using time and manpower to the detriment of the other curative work in general practice. Since such programmes should be carried out continuously rather than once only, it becomes more important that their potential value in improving the health of the patient should be assessed.

A system of medico-social assessment is part of the routine services offered by general practitioners at Woodside Health Centre, Glasgow (Barber and Wallis, 1976). Introduced in 1975 primarily as a research tool, the assessment programme has been adopted by the seven general practices in the Woodside Health Centre. A growing number of health visitors working with practices outside the centre are now using the assessment system as their normal geriatric case record. The system allows a problem list to be prepared for each patient assessed in which active and inactive problems are listed to form a series of updated baselines. The presence of a problem and its degree of severity are indicated by a numerical scoring system which thus allows comparison to be made between successive assessments.

We compare the first and second baseline assessments of 100 patients and discuss the apparent benefits to the patient which can be derived from a continuing programme of assessment.

Patients

The assessment record is too comprehensive to be used as a screening tool for all elderly patients, and patients are referred for assessment only when a member of the team such as a doctor, health visitor, nurse, or social worker decides that a comprehensive information baseline on the patient's total health is required. Some patients are thus referred by the general practitioner as part of his management of a physical disease and some are referred as a result of discussions about individual patients at a practice meeting. Increasingly health

visitors, who are responsible for completing the assessment, are including all elderly patients referred to them for supportive visiting.

Method

Woodside Health Centre is situated in an area of intense urban redevelopment in north central Glasgow. The population is heavily biased towards social classes 4 and 5. The population registered with the practices in the Woodside Health Centre numbers 38,425 (June 1977) of which 6,685 (17·4 per cent) are over retirement age (65 years for males and 60 years for females). Approximately 1,500 elderly patients (22·4 per cent) have now had assessments completed (September 1977).

After the assessment system had become operational rather than simply a research interest, and about 150 assessments had been completed, the records of 100 patients were coded and retained in computer storage. Details of the subsequent assessment of each of these patients were also stored and analysed with those of the initial assessment. The interval between the assessments varied between six and 12 months (Table 1).

Assessment record

The record form contains several sections: the first page contains demographic data about the patient and details of the acceptance of the interview by the patient. The next section includes questions on such medical complaints as mobility, vision, and hearing, which are socially important. For each main topic of enquiry, for example hearing, there are several specific points listed which have been given numerical scores ranging from 0 to 6. The figure 0 always implies that the information is 'not known' or 'unobtainable'; 1—that there is 'no problem present' associated with the topic of enquiry; 2—that there is a problem that is inactive. Scores of 3 and above represent increasingly severe active problems. The section on medical and social needs has a similar scoring system: 0 means 'not known'; 1 means 'no need'; 2 indicates 'need present but met'; 3 means 'need unmet'. The final section is a system/symptom questionnaire which contains 57 questions and is scored thus: 0 means 'not known'; 1 indicates 'no symptoms'; 2 means 'symptom known and/or recorded in the medical notes (inactive)'; 3 means action is required for a new or active problem.

Results

Medico-social problems

There was a striking similarity in the numbers of active problems identified at the initial and the second assessment (Table 2). The individual topics of enquiry within this section were scored from 0 to 6, of which scores of 3 to 6 inclusive represented an increasing degree of severity. It was possible that any individual problem could move from a score of 6 at the initial assessment to 4 or 3 at the subsequent assessment, and

Table 1. Intervals between initial and subsequent assessments.

	Interval between assessments (months)		
	6	9	12
Number of patients	43	36	21
Mean	8.3 months		

although this movement represents an improvement in the patient's score, it would still be recorded as an active problem. A quantitative comparison of the first and second assessments (problem multiplied by score) failed to reveal any significant difference (Table 3).

However, movement could have occurred—problems of mobility, for example, improving among some patients and deteriorating in others—which would not be revealed in such a crude analysis. This factor was confirmed on close analysis of the problems of individual patients. A total of 60 problems (14·7 per cent) identified at the initial assessment were recorded as being absent or inactive at the second assessment. Similarly, 20 problems identified at the initial assessment were found to have deteriorated by the time the second assessment was made. Thirty-nine new medico-social problems were identified at the second assessment (Table 4).

Table 2. Active medico-social problems identified at each assessment.

	Number of active problems	
Category of enquiry	First assessment	Second assessment
Caring relative	53	53
Dependence on others	70	68
Problems of housing	24	25
House hazards	32	31
Heating, clothing, bedding	10	7
Mobility	64	65
Continence	14	14
Vision	25	27
Hearing	20	24
Weight	41	42
Personal hygiene	15	15
Diet	18	16
Dentition	23	21
Total	409	408
Average number problems per patient	4.09	4.08

Table 3. Quantitative analysis of active medico-social problems.

Category of enquiry	Active problems x scores	
	First assessment	Second assessment
Caring relative	280	280
Dependence on others	309	319
Problems of housing	167	168
House hazards	164	162
Heating, clothing, bedding	126	114
Mobility	281	292
Continence	137	134
Vision	229	237
Hearing	170	176
Weight	249	249
Personal hygiene	139	136
Dentition	198	190
Total	2,449	2,457
Active problem score per patient	24.5	24.6

Social needs

The assessment included information about a variety of social needs such as supportive visiting, chiropody, home help, and meals on wheels. For each topic the assessor estimated whether a need was present and if so whether it had been met or was unmet. At the initial assessment 141 unmet needs were detected and at the subsequent assessment 56 were identified (Table 5). Further analysis revealed that 109 (69·5 per cent) identified as being present and unmet had been dealt with by the second assessment. Twenty-four new needs were identified, while 32 unmet needs remained in this category (Table 6).

Symptom survey

The assessment included a survey of symptoms in which both symptoms that were known and under treatment (inactive) and those requiring action (active) were identified. In the latter category 91 symptoms were identified at the initial assessment and 51 at the second (Table 7). Of the 91 active symptoms detected at the initial assessment, 65 (71·4 per cent) were improved, 26 (28·6 per cent) were unaltered, 16 new active symptoms were detected, and nine symptoms under treatment at the initial assessment were found to have deteriorated by the time of the second assessment (Table 8).

Discussion

The patients included in this study cannot be considered to be representative of all the elderly patients in a general practice, since each had been referred for health visitor assessment by one of the practice team. There are few published reports of the effects of geriatric assessment programmes with which this study can be compared. Williams and colleagues (1972) surveyed patients over 75 years of age. In the second review of these patients Williams (1974) found that although the number of patients in his "effective health grouping" was similar at the first and subsequent assessment, some movement had occurred. Between the first and second

Table 4. Analysis of medico-social problems of patients at second assessment.

Problem	Problems found first assessment	Second assessment				
		Problems absent	Problems improved	Problems worse	Problems unchanged	New problems
Caring relative	53	3	2	—	48	3
Dependence on others	70	7	—	9	54	5
Problems of housing	24	3	—	1	20	4
Home hazards	32	3	—	—	29	2
Heating, clothing, bedding	10	3	2	—	5	—
Mobility	64	4	4	4	52	5
Continence	14	2	—	—	12	2
Vision	25	1	4	2	18	3
Hearing	20	—	3	—	17	4
Weight	41	3	4	—	34	4
Hygiene	15	1	—	1	13	1
Diet	18	4	—	2	12	2
Dentition	23	6	1	1	15	4
Total	409	60		20	329	39

Table 5. Comparison of unmet needs at first and second assessments.

	Needs unmet	
Need	First assessment	Second assessment
Chiropody	21	4
Home help	16	4
Meals on wheels	3	6
Contacts	14	4
Housing	18	16
Nursing services	—	3
Supportive visits	47	1
Others	22	18
Total	141	56

assessments a number of patients were detected whose health had improved and a further number in whom it had deteriorated. Williams estimated that some improvement had occurred in 27 per cent of the patients assessed.

In this study each patient was well known to either the doctor, the practice nurse, or the health visitor, and it might be expected that few hitherto unknown problems would be detected. At the first assessment, however, each patient had an average of six problems for which action was thought necessary. It is likely that the referring doctor was aware of most medical or social problems affecting his patients but the detection of unmet need (1·41 per patient) and symptoms requiring action (0·91 per patient) reflects the importance of establishing a comprehensive baseline even for those patients whom the doctor or health visitor feel they know well. Of the 641 problems identified at the first assessment 234 (36·5 per cent) led to action and the greatest improvement occurred in the symptom survey

Table 7. Comparison of symptoms requiring action at the two assessments.

	Symptoms found and requiring action	
Symptoms	First assessment	Second assessment
General health	8	10
Gastrointestinal	16	5
Skin	4	3
Breast	—	—
Genitourinary tract		
male	—	1
female	10	6
Locomotor	6	2
Cardiorespiratory	15	11
Nervous system	11	5
Memory	5	1
Depression	16	7
Total	91	51

and in the provision of some service thought to be needed for the patient.

Although each patient had an average of 4·8 problems at the second assessment, the number of active and unknown problems fell from 6·4 per patient at the initial assessment to 3·8 at the subsequent assessment, if new problems are excluded.

Many of the problems affecting the elderly are of such a chronic and continuing nature that it can be difficult if not impossible to effect improvement. Of the 409 medico-social problems identified at the first assessment, 40 (9·8 per cent) were rendered inactive and a further 20 (4·8 per cent) were found to be less serious at the second assessment. Twenty problems (4·8 per cent) had become worse by the time of the second

Table 6. Analysis of social needs of patients at second assessment.

		Second assessment		
Need	Unmet needs at first assessment	Needs where action taken	Unmet needs unchanged	New unmet needs
Chiropody	21	19	2	2
Home help service	16	13	3	1
Meals on wheels	3	3	—	6
Contacts	14	10	4	—
Housing alterations	18	6	12	4
Nursing service	—	—	—	3
Supportive visiting	47	46	1	—
Other needs	22	12	10	8
Total	141	109	32	24

Table 8. Comparison of sympton survey on two assessments.

Symptoms	Active symptoms leading to action	Active symptoms unaltered	Treated symptoms worse	New active symptoms
General health	3	5	2	3
Gastrointestinal	13	3	—	2
Skin	3	1	1	1
Breast	—	—	—	—
Genitourinary tract—male	—	—	—	1
—female	5	5	—	1
Locomotor	5	1	1	—
Cardio/respiratory	11	4	5	2
Nervous system	9	2	—	3
Memory	4	1	—	—
Depression	12	4	—	3
Total	65	26	9	16

Table 9. Rank order of problems where improvement found on second assessment.

Problem	Problems found at first assessment	Problem absent or improved at second assessment	
		Number	Percentage
Heating, clothing, bedding	10	5	50
Dentition	23	7	30.4
Diet	18	4	22.2
Vision	25	5	20.0
Weight	41	7	17.1
Hearing	20	3	15.0
Continence	14	2	14.3
Problems of housing	24	3	12.5
Mobility	64	8	12.5
Dependence on others	70	7	10.0
Home hazards	32	3	9.4
Caring relative	53	5	9.3
Hygiene	15	1	6.6

Table 10. Rank order of need where improvement found on second assessment.

Need	Unmet needs found at first assessment	Unmet needs absent or improved at second assessment	
		Number	Percentage
Meals on wheels	3	3	100
Supportive visiting	47	46	97.8
Chiropody	21	19	90.4
Contacts	14	10	71.4
Home help service	16	13	81.3
Other needs	22	12	54.5
Housing alterations	18	6	33.3

Table 11. Rank order of symptoms where positive action was achieved.

Symptom	Active symptoms discovered at first assessment	Action taken by second assessment	
		Number	Percentage
Locomotor	6	5	*83.3*
Nervous system	11	9	*81.8*
Gastrointestinal	16	13	*81.3*
Memory disturbance	5	4	*80.0*
Skin	4	3	*75.0*
Depression	16	12	*75.0*
Cardiorespiratory	15	11	*73.3*
Genitourinary tract—female	10	5	*50.0*
General health	8	3	*37.5*

assessment, while 329 (80·4 per cent) had remained unchanged (Table 4). The greatest improvements were found in categories such as clothing, bedding, heating, dentition, diet, vision, and hearing, and the least in categories such as dependency, home hazards, the caring relative and, surprisingly, hygiene (Table 9). The mean percentage improvement in the medico-social category was low (17·6 per cent) but nevertheless indicates that approximately one sixth of all such problems can be usefully helped.

A much more encouraging picture was found in the category of "need for social service", where the mean percentage improvement was 77·6 with a range of 33 per cent to 100 per cent (Table 10). This is not surprising since most forms of social service are to be found in the community and in general a need has only to be described for some existing service for it to be offered.

When it is remembered that all 100 patients included in this study had been referred for assessment either by the practice doctor or by the health visitor, it is perhaps surprising that any active symptoms requiring further action were discovered. Many elderly patients, however, have multiple complaints and although the family doctor is perhaps seeing the patient regularly for one complaint it can be difficult for him to be aware that his patient may also have symptoms referable to some other system or disease. The mean improvement found in the active symptoms discovered at the first assessment was 70 per cent with a range of 37·5 per cent to 83·3 per cent (Table 11).

The findings of these two assessments indicate that there are real benefits for the patient in this approach to the problem of undetected illness in the elderly. Of 409 active medical and social problems detected, 60 (14·7 per cent) led to action; there were 141 unmet social needs of which 109 (74·7 per cent) were subsequently offered a service, and of 91 active symptoms 65 (71·4 per cent) were improved through therapy. In addition, a further 39 new medico-social problems, 24 new unmet

needs, and 16 new active symptoms were discovered at the second assessment in many of which some improvement can be expected with time and effort.

One criticism that is sometimes levelled at the concept of geriatric screening is that such programmes identify problems and needs for which there are few answers. This criticism is perhaps more against the identification of social problems than of systemic disease. Williams (1972) refutes this argument by stating: "Even if it is impossible to treat effectively all the conditions found, life can be made more tolerable if the condition is known to the doctor." However, this study has shown that improvement can be achieved in areas of need other than organic illness and that the general health and welfare of the patient can be improved. As with all research this study has raised other questions and interest is now being shown in attempting to define ways in which those problems which seem to be resistant to improvement can in fact be helped.

Conclusion

Clearly a selective assessment system can leave other patients as needy as those assessed–undetected and unhelped. We consider that this assessment system is too comprehensive and too consuming of staff time and resources to be applied to all elderly patients. Work has been started on the development of a postal screening questionnaire as a means of identifying those who are in need of full assessment. The preliminary results are encouraging and will be reported in due course.

References

Barber, J. H. & Wallis, J. B. (1976). *Journal of the Royal College of General Practitioners,* 26, 106-114.

Williams, E. I. (1974). *Journal of the Royal College of General Practitioners,* 24, 341-346.

Williams, E. I., Bennett, F. M., Nixon, J. V., Nicholson, M. R. & Gabert, J. (1972). *British Medical Journal,* 2, 445-448.