PRACTICE OBSERVED

Effect on prescribing of the limited list in a computerised group practice

W G IRWIN, K A MILLS, K STEELE

Abstract

The prescribing of drugs in the therapeutic classes that are affected by the government's limited list was investigated in a computerised group practice of just over 3000 patients. Prescribable drugs in categories that are affected by the list were identified for two consecutive six month periods before and one six month period after the introduction of the list. A significant decrease in the prescribing of cough and cold remedies, vitamins, and antacids occurred after the list was introduced, whereas no change occurred in the prescribing of laxatives, benzodiazepines, or analgesics. The prescribing of iron and penicillin increased significantly after the list was introduced, whereas the use of H_2 antagonists and non-steroidal anti-inflammatory drugs showed no significant change.

Introduction

The limited list was introduced on 1 April 1985. Its limitations produced apprehension in the medical profession. It was born out of a desire by the Department of Health and Social Security to reduce prescribing costs, which in 1983 were £1400 million. A blacklist of medicines was introduced which restricted prescribing under the National Health Service in certain categories—namely, tonics and bitters, cough and cold remedies, antacids, laxatives, analgesics for mild to moderate pain, and benzodiazepine sedatives and tranquillisers—to selected medicines, some generic, some proprietary.

The *Audits Great Britain Drug Index*, a survey set up to monitor the list by a panel of 200 pharmacists throughout Britain, claimed an overall decrease of 25% in the number of drugs prescribed in the categories affected by the list.[1] The aim of our study was to analyse retrospectively the data stored in the computer in one group practice to identify any change in prescribing patterns after the list was introduced.

Department of General Practice, The Queen's University of Belfast
W G IRWIN, MD, FRCGP, professor
K A MILLS, BSC, research assistant
K STEELE, DCH, MRCGP, senior lecturer

Correspondence to: Dr K Steele, Dunluce Health Centre, 1 Dunluce Avenue, Belfast BT9 7HR, Northern Ireland.

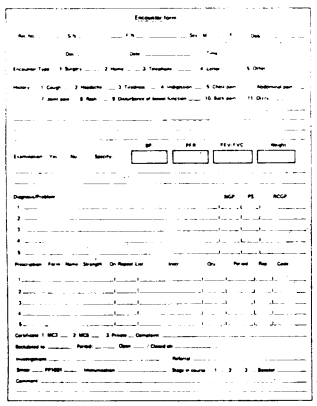
Method

The study was carried out in a group practice of just over 3000 patients that is attached to the department of general practice. Three general practitioners, each a principal holding a joint contract with the university and the Eastern Area Health and Social Services Board (Northern Ireland), provide medical care. On 1 August 1984 they were joined by another practitioner on a half time service contract.

The practice records were first put onto computer early in 1983. The original system consisted of an Apple II microcomputer with a Winchester hard disk to provide sufficient storage space. (The system has recently been upgraded to a Stride 440 multiaccess machine to cope with increased storage requirements and meet research needs.) The recording of patient consultations began in October 1983 with the general practitioners filling in encounter forms (figure). The drugs prescribed were entered in the appropriate section (prescription). When a general practitioner wished a particular drug to be prescribed through the computerised repeat medication system he indicated this by filling in the number of repeats in the column marked "Rep."

Drugs that had been prescribed in the therapeutic groups that are affected by the limited list (whether in generic or proprietary form) were identified for two consecutive six month periods (1 April 1984 to 30 September 1984 and 1 October 1984 to 31 March 1985) before and one six month period (1 April 1985 to 30 September 1985) after the introduction of the list. These included drugs that had been issued both by the repeat medication system and during consultations. Figures for the six month period, 1 October 1983 to 31 March 1984, after the general practitioners had started to record encounters were ignored to allow for user mishandling.

The prescribing of drugs in four therapeutic classes that are not directly affected by the list—iron, the penicillins, the H_2 antagonists (cimetidine and ranitidine), and non-steroidal anti-inflammatory drugs—was also investigated for the study period. We hypothesised that prescribing in those groups might increase because practitioners could offer fewer alternatives or previously unused generic formulations in some of the affected categories—namely, vitamins (which include iron and vitamin combinations), cough and cold remedies (excluding inhalations and topical nasal decongestants), antacids, and analgesics. The participating doctors never prescribe bitters and tonics, so these were excluded from the study.



The form on which consultations with patients were recorded. BP = blood pressure; PFR = peak flow rate; FEV/FVC = forced expiratory volume/forced vital capacity; NGP = patient (N) or general practitioner (GP) initiated consultation; PS = added to problem summary in A4 card; RCGP = Royal College of General Practitioners.

Results

The figures in the table refer to the number of individual prescription items issued in each therapeutic group. The results are expressed numerically and as a rate per 1000 surgery consultations to allow an accurate comparison to be made between the three study periods. Statistical analysis was performed using a method employed by the Registrar General for comparison of death rates (see table).[2] Significance is taken as $p<0.05$. The list of patients remained fairly constant over the study period, increasing from 3081 in May 1984 to 3169 in May 1985.

Discussion

The prescribing of vitamins has been reduced significantly since the introduction of the limited list. Only in the case of repeat prescriptions did a significant decrease occur between the two study periods before the introduction of the list. (Among the patients who received repeat medication in this category is a small group who have a dependency problem.) The general practitioners thought that in some cases patients were demanding vitamins for non-essential reasons, and they invoked the government's regulations to prevent this where possible. There has been a significant rise in the prescribing of iron preparations since the inception of the list. It seemed probable that some patients on iron and vitamin combinations had had iron preparations substituted. Inspecting the case notes confirmed this.

The prescribing of cough and cold remedies showed an overall significant seasonal increase between periods A and B and a consequent decrease between periods B and C. The decrease, however, between periods B and C was so great that there was a significant fall in prescribing between the equivalent seasonal periods A and C. The small number of repeat items issued in this therapeutic group did not show any change throughout the three study periods. Those are accounted for by patients with a dependency problem. In 1983 the West German government introduced a "negative list" of drugs (similar to our limited list), which comprised several categories including cough and cold remedies.[3] There was evidence that German doctors were consequently prescribing more potent products for coughs and influenza. A

Number of prescription items issued in each therapeutic group

	Period A 1 April 1984–30 Sept 1984 (3267 consultations)		Period B 1 Oct 1984–31 March 1985 (3701 consultations)		Period C 1 April 1985–30 Sept 1985 (3667 consultations)		Significance*		
	No	No/1000 consultations	No	No/1000 consultations	No	No/1000 consultations	A/B	B/C	A/C
Vitamins:									
Patients receiving scripts	96	29·4	97	26·2	48	13·1	NS	S↓	S↓
Total No of items	146	44·7	144	38·9	57	15·5	NS	S↓	S↓
Iron:									
Patients receiving scripts	18	5·5	16	4·3	45	2·3	NS	S↑	S↑
Total No of items	22	6·7	34	9·2	72	19·6	NS	S↑	S↑
Cough and cold remedies:									
Patients receiving scripts	199	60·9	366	99·5	165	44·9	S↑	S↓	S↓
Total No of items	274	83·9	497	134·3	244	66·5	S↑	S↓	S↓
Penicillins:									
Patients receiving scripts	178	54·5	318	85·9	313	85·4	S↑	NS	S↑
Total No of items	196	60·0	391	105·6	365	99·5	S↑	NS	S↑
Antacids:									
Patients receiving scripts	93	28·5	110	29·7	110	30·0	NS	NS	NS
Total No of items	163	49·9	256	69·2	187	51·0	S↑	S↓	NS
H_2 antagonists:									
Patients receiving scripts	99	11·9	50	13·5	65	17·7	NS	NS	S↑
Total No of items	65	19·9	114	30·8	140	38·2	S↑	NS	S↑
Laxatives:									
Patients receiving scripts	54	16·5	73	19·7	69	18·8	NS	NS	NS
Total No of items	112	34·3	177	47·8	140	38·2	S↑	NS	NS
Analgesics:									
Patients receiving scripts	242	74·1	272	73·5	251	68·4	NS	NS	NS
Total No of items	400	122·4	466	125·9	411	112·1	NS	NS	NS
Non-steroidal anti-inflammatory drugs:									
Patients receiving scripts	175	53·5	180	48·6	208	56·7	NS	NS	NS
Total No of items	340	104·0	357	96·5	380	103·6	NS	NS	NS
Benzodiazepines:									
Patients receiving scripts	175	53·6	164	44·3	182	49·6	NS	NS	NS
Total No of items	410	125·5	480	129·7	525	143·2	NS	NS	S↑

*S = significant ($p<0·05$);
Statistics based on the test used for comparison of death rates[2]: $z = \sqrt{SE_1^2 + SE_2^2}$, where SE = standard error, $SE^2 = m^2/d$, m = rate, and d = number of years.

similar pattern was noted in this study. The expected seasonal rise in the prescribing of penicillin of 75% between periods A and B was followed by a decrease of only 6% between periods B and C. There was also a significant increase in the prescribing of penicillin between the seasonally equivalent periods A and C. Doctors tended to prescribe the more potent antibiotic when their range of symptomatic remedies was limited. Perhaps this trend will be reversed as practitioners become more familiar with the available symptomatic preparations.

The prescribing of antacids has not changed with regard to the number of patients receiving scripts or the number of items issued on repeat prescriptions. Non-repeat antacid prescribing, which had been increasing significantly between periods A and B, decreased significantly between periods B and C. This decrease was not reflected by a significant rise in H_2 antagonist prescribing between periods B and C (except for repeat items). The significant rise in prescribing of these drugs between periods A and C may be secondary to the addition of H_2 antagonists to the data sheet for non-ulcer dyspepsia in July 1984. The DHSS claim that since the inception of the limited list prescribing of H_2 antagonists has increased by approximately 15% overlooks this trend.[4]

Although the prescribing of laxatives decreased this was not significant. The decrease was due to fewer non-repeat items being prescribed, whereas before 1 April 1985 there had been a significant increase in non-repeat laxative prescribing that was mainly attributable to increased prescribing of fibre in period B. There was no significant change in analgesic prescribing throughout the study periods. This probably reflects the genuine needs of patients for pain killing drugs and the reasonable range still prescribable under the NHS. Prescribing of non-steroidal anti-inflammatory drugs did not alter over the study period. Although there was a significant rise in non-repeat benzodiazepine prescribing over the study period, there is no evidence that it was directly affected by the limited list. It is reassuring that any rise has been in non-repeat prescribing. This reflects the attitude of the practitioners in the study, who felt that repeat prescribing of these drugs can lead to addiction. The figures also reflect the difficulty experienced in changing patients to alternative treatment.

We suggest that the limited list has had a limited effect in the practice studied. The prescribing of vitamins, cough and cold remedies, and antacids decreased significantly, whereas the prescribing of iron and penicillins has increased since the limited list was introduced. Analgesic prescribing appears to be impervious to the influence of the list, whereas benzodiazepine use is still on the increase.

A recent study by Anderson and Reilly showed that generic prescribing can save approximately 8·8% of the drug bill.[5] The Greenfield report recommended not only that general practitioners should participate in making policy on therapeutics but also that local formularies and generic prescribing should be introduced.[6] If the DHSS would encourage this perhaps it would lead to cost effective changes in prescribing habits instead of the mixed reponse consequent upon sanctions being imposed.

We thank Dr Desmond Merrett for statistical advice and Miss Jennifer Windrum for typing the manuscript.

References

1 Anonymous. *Audits Great Britain Drug Index*. AGB Temperton House, East Harding Street, London EC4P 4HP, 1985.
2 Anonymous. *Registrar General's statistical review for England and Wales*. Part 1. London: HMSO, 1971.
3 Anonymous. FRG government. Negative list report. *Scrip* 1985 Jan 16: 1.
4 Cowling J. Many more drugs may go back on the limited list. *General Practitioner* 1985 Nov 29: 1.
5 Anderson RJ, Reilly PM. Generic alternatives in general practice. *Br Med J* 1986;288: 1129.
6 Department of Health and Social Security. *Report of the informal working group on effective prescribing*. London: DHSS, 1983. (Greenfield report.)

(Accepted 2 June 1986)

Role of general practitioners in the care of disabled young adults

F S W BRIMBLECOMBE, D L KUH, C J LAWRENCE, R C SMITH

Abstract

Services for handicapped children end when these patients become young adults. In the Exeter Health Authority district 383 disabled young adults were interviewed about their unmet needs. Many wished for advice and counselling. A quarter had not visited their general practitioner in the previous year, and two thirds of these had not had a general assessment or seen a specialist.

Introduction

Generally, handicapped children and their families are well cared for, but what happens when these children grow up? We evaluated the continuity of care in young chronically disabled adults in the Exeter Health Authority district and studied the nature and extent of their unmet needs.[1]

University of Exeter
F S W BRIMBLECOMBE, CBE, FRCP, honorary professor of child health
D L KUH, MA, research fellow, department of child health
C J LAWRENCE, BSC, lecturer, department of mathematical statistics and operational research
R C SMITH, MB, MRCP, medical research fellow, department of child health

Correspondence to: Professor F S W Brimblecombe, Bowmoor House, Royal Devon and Exeter Hospital (Wonford), Barrack Road, Exeter EX2 5DW.

Methods

A confidential register was made of every person and their families in the district who were aged 16 to 25 and suffering from a life long impairment. Patients in whom a primary psychiatric illness led to the handicap were excluded.

Five hundred and two young people who were suffering from mental retardation, physical impairment, and sensory impairment were sampled, of whom 383 (76%) agreed to be interviewed (table I). The catchment area contains 30 775 people aged 16 to 25. From those identified from all the registers we ascertained that 2·6% had an appreciable mental, physical, or sensory impairment.

Our control group comprised 152 non-handicapped young people who were drawn from general practice age-sex registers and matched for age, sex, and place of residence. Both the study group and the control group were interviewed by the same interviewers using similar questionnaires for the two groups. In addition, the parents and the main service provider (where one existed) were interviewed. The main service provider is an outsider who is concerned in the care of the young adult, such as a member of the school staff, a nurse, a social worker, or an occupational therapist. The questionnaires covered the nature and extent of the disability if any; type of education, training, employment, or current occupation; proficiency at daily living activities including personal mobility and transport; need for personal help or aids; general health; contacts with general practitioners, hospitals, specialists, and paramedical services; proficiency at money management; social activities; friends; personal relationships; living arrangements; holidays; behavioural problems; self image and confidence; expectations and ambitions for the future; and areas of need.

TABLE I—*Predominant impairment*

	No sampled from all registers	No who refused to be interviewed	No (%) who agreed to be interviewed	No in revised category of predominant impairment after interview
Severe mental handicap	145	20	125 (86)	115
Mild mental handicap	91	36	55 (63)	62
Physical handicap	198	45	153 (76)	132
Sensory handicap	68	18	50 (72)	45
Psychiatric handicap				2
No appreciable handicap				27
Total No	502	119	383 (76)	383

TABLE II—*Type of residence by age of study and control groups*

	16-18 years		19-21 years		22-25 years	
	Study group	Control group	Study group	Control group	Study group	Control group
	No (%)	No (%)	No (%)	No (%)	No (%)	No (%)
Living as parental home or with other family members	84 (82)	33 (97)	112 (76)	36 (67)	77 (58)	21 (33)
Living independently	6 (6)	1 (3)	12 (8)	17 (32)	35 (26)	43 (67)
Supervised lodgings			1 (1)	1 (2)	4 (3)	
Living as residential care: hospital, staffed hostels, care communities, etc	13 (13)		22 (15)		17 (13)	

TABLE III—*Visits to family doctor in past year*

No of visits	No (%) of young adults	
	Study group (n = 333)	Control group (n = 147)
None	82 (25)	44 (30)
1-5	190 (57)	84 (57)
6-10	33 (10)	12 (8)
10	28 (8)	7 (5)

Note. The handicapped young people living as residential care are not included.

TABLE IV—*Self image and self esteem of young handicapped adults*

	Study group (%)	Control group (%)
I often think things are too much for me	30	15
Other people often decide things for me	26	11
The way other people treat me often makes me angry	42	21
Sometimes I think I have to work harder than anyone else to prove how good I am	49	25
I often feel lonely	32	12
People often make fun of me	29	14
In groups of people I often feel the odd one out	36	14
I am very uncomfortable in the company of strangers	40	23

For each of these, $p<0·001$. The difference is significant at the 0·1% level.
Note: The minimum sample size used for comparison was 273.

The interviews were carried out by three health visitors, one with experience with deaf people, a nurse, two teachers, a social worker, and an occupational therapist. All were middle aged women who were prepared to listen.

Results

More than three quarters (80%) of the 383 handicapped young adults were living at home (table II) and so might rely on their family doctor for primary medical care. Many of the young adults were not receiving the medical services that they, their families, or the main service provider wanted: 66 (17%) thought that a full medical assessment would be helpful and 69 (18%) wanted genetic counselling, 99 (26%) sexual counselling, 68 (18%) family counselling, 37 (10%) advice on behavioural problems, and 100 (26%) advice about basic health problems: many said that they had not had enough information about their disability and did not know who to turn to for medical advice. Several had never seen their family doctor alone but would have liked to do so. Less than half (48%) had seen a specialist in the previous year. The unmet medical need was identified by the young adult in 10·4% of cases, by their families only in 4·2%, and by their main service provider alone in 1·5%.

The handicapped young adults did not visit their family doctor more often than the control group, except for a small number who made more than 10 visits a year (table III). Of the 82 who had not seen their family doctor in the previous year, 28 (34%) had not seen a hospital specialist or undergone a general assessment. Almost all of them and their families seemed unaware that their family doctor might be able to help.

Many of the handicapped young people have low self esteem and expectations for their future lifestyle (table IV). The families emphasised the inadequacy of their own preparation for the transition of their disabled child into adulthood.

Discussion

The findings show that there is often little communication between handicapped young adults and general practitioners. Handicapped children are cared for by specialised services and bypass the family doctor. Such services are withdrawn when the children reach 16 or 19, just when they are likely to experience behavioural, sexual, and depressive problems that can be dealt with by the family doctor. Moreover, a full interdisciplinary reassessment of the handicapped young adult is mandatory in the light of medical advances, possible changes of the patient's condition, and his or her increasing maturity. As specialist medical care outside hospitals is not sufficiently organised to provide this service, the general practitioner should arrange for such a reassessment. Knowledge about all local resources and facilities to help these disabled people is essential. The family doctor is also often uniquely placed to reconcile the conflicts arising in a family in which there is a handicapped young adult.

The second phase of the Exeter project is to work with all statutory and voluntary services to help to create enabling services in each locality that are more patient oriented than those now available. Meanwhile, we ask family doctors to pay more attention to the needs of handicapped young adults in their practice.

Reference

1 Brimblecombe FSW, Lapp JH, Kuh D, Smith RC. *The needs of handicapped young adults*. Royal Devon and Exeter Hospital, Exeter: Psychiatric Research Unit, 1985. Mimeograph.

(Accepted 7 August 1986)