BRITISH MEDICAL JOURNAL VOLUME 293 1 NOVEMBER 1986

# PRACTICE OBSERVED

## Practice Research

### Randomised trial of treatment of hypertension in elderly patients in primary care

JOHN COOPE, THOMAS S WARRENDER

Abstract
A randomised trial of the treatment of hypertension in 884 patients aged 60 to 79 years at the onset showed a reduction of 18.1 mm Hg in blood pressure over a mean follow up period of 44 years. The principal antihypertensive agents were atenoled and bendroffuside. There was a reduction in the rate of fatal stroke in the treatment group to 30% of that in the control group (9% confidence interval 11-48%, p=0.025). The rate of all strokes (fatal and non-fatal) in the treatment group was 5% of period (period period p

This trial was designed in 1975 with the main aim of finding out whether the treatment of hypertension in patients between the ages of 60 and 79 vera reduced the incidence of stroke or coronary disease or affected cardiovascular or overall mortality. At that date, although validation of the treatment of vourger patients with although validation of the treatment of vourger patients with very consistent of the patients of the control of th

Bollington Medical Centre, Bollington, Cheshire SK10 SJL JOHN COOPE (\*\*\*RCO\*\*\*), general practitioner March, Cambridgeshire PE15 98T THOMAS S WARRENDER, MB, OrB, general practitioner

Correspondence to: Dr Coope

in Briain made it possible to recruit patients from a known population base for a multicentre study. The pilor stage was completed in 1977 and most of the participating centres were recruited between 1978 and 1981. In the early 1970 there was no othical committee for studies in general practice. After the pilot stage a pilot committee was invited to review the study before it was continued and to advise on continuing problems. This consisted of an expert on hypertension. a general physican, a cardiologist, and a statistician. Subudiary aims of the trial were it to estimate the "cost" of such treatment in side effects and unwanted morbidity, and it to follow compare mortality and merbdity in this group with that in the hypertensive patients.

This paper reports the main outcomes of the trial in terms of cardiovascular disease in the treatment and control groups and also the incidence of side effects.

PATIENT SELECTION

The trush population consisted of patients aged 60 to 79 years who were registered in 13 general practices in England and Wales. A data card was inserted in the modelal records of all the patients in this age range, who were definited from age-ser registers. Patients with the following conditions were excluded from participating in the treatment trust areas floritations. Avaing pharmacological treatment, or any serious concomitant disease limiting the prospect of frundal living. Untreasted hypertension with while levels persistently above 280 mm Fig systolic or 120 mm Fig disastolic or patients already being treated for hypertension within three months were further reason on the data cards, and these patients were not screened. In some cases causes for exclusions were not) accovered acid running screening and these patients were withdrawn before randomisation.

Fatients were most of acident effect during screening, and these patients were withdrawn before transformation contained to the patients were not become an experiment of the patient was reasonable for the patient seated. They were read to the nearest 2 mm Hig. Cuffs with range

## BRITISH MEDICAL JOURNAL VOLUME 293 1 NOVEMBER 1986

Allogother 10 718 patients aged 60 to 79 years men 4731, women 5987 were screened. This constituted 78% of the total age range on the practice in Eached were screened. The constituted 78% of the total age range on the practice in Eached were 1871 patients because fined accordions and 1165 because they were on treatment for hypertensaues, 302 were hypertensaue with unwilling to paraspier in the souls, 4 notion 1684 patients were included in the treatment trail, 419 in the treatment group and 45% in the control group. Table 1 gives the characteristics of these patients. The groups were well

	group		group	
No of patients			465	
No of patient-years	1845		2055	
No of men	122	294	151	32
No of women	.9.	715	314	68
Mean SD age years	64 7	5.2	68 8	5.1
Mean SD weight Ag	150.4	28 6	151.2	30 4
Smokers >	28		21	
Mean SD systolic blood pressure mm Hz	196	16 -	196 1	15 6
Mean SD diantols blood pressure mm Hg	99 "	12.0	98.0	11.8
Mean SD blood urea mmoi 1	5.6	5 1.45	5.5	
Meso SD serum creatinine mmol !	88 9		86 9	19 2
Mean SD fasting blood glucose mmoi?	4.71		4.7	
Mean SD serum sodium mmoli	140 4		140 3	2 64
Mean SD serum potassium mmoi l	43	4 0 45	4.3	0 49
Left ventricular hypertrophy on electrocardiogram 5				11
Cardiac enjargement on chest it ray examination.		22		11

Contention of the traditional sensity Blood ures 1 mmol (=6 mg 100 ml Serum creatinine 1 mmol)=0.011 mg 100 ml Blood glucose 1 mmol |=18 mg 100 ml Serum sodium and serum potassum 1 mmol |=1 mEa1.

### REDUCTION OF BLOOD PRESSURE

Figure 2 shows the level of blood pressure in the control and treatment group throughout the real. There is a consistent difference of about 18 mm. Hg in systolic persure and 11 mm Hg in distolic persure between the wing groups. The control group shows a reduction of about 18 mm Hg from their minual systolic pressure and a bout 10 mm Hg in distolic persure. The mean and about 10 mm Hg in distolic persure.

### SYMPTOM QUESTIONNAIRES

Eighty three per cent of the treatment group and 81% of the control group were given self administered symptom questionnaires. Patients were incouraged to fill in the questionnaire on their own. A few, however, had to

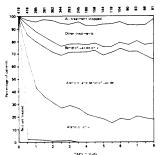
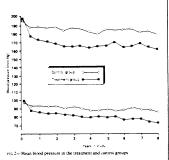


FIG 1-Percentage of patients on various treatment regimen



## NURSE RECRUITMENT AND TRAINING

BRITISH MEDICAL JOURNAL VOLUME 293 1 NOVEMBER 1986 TREATMENT REGIMEN

TREATMENT REGISES.

The principal annihyperiensive agents used were atensiol and bendinguancia, and these were introduced supposed in that order annihilation. The control of the control

complete it.

After the patients had been in the trial for two years the biochemical tests and electrocardiograms were repeated, but no medical examinations were

and electrocardiograms were repeated, but no medical examinations were performed.

Patients in the control group who developed sustained blood pressures above 280 1/20 or who had strokes were treated. They were followed up in the trial, however, and further recordable events included in the final analysis Cardac complications such as ventrusular failure were trated in the way. Patients who could not attend the medical centre were followed up at home.

The following recordable events were entered on the trial cards from the medical notes invocardial infarction, major stroke, minor stroke, transient ischemic attack, congestive heart failure, arrail pholiation, clinical poort, daleten, non-fatal cancer, vertago, dazi speits, and desti. Maior recordable expenses the control of the cont

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have beigh from the nurse. There were no significant differences between the percentages of patients in the control and treatment groups who complianted eight separate symptoms table III.

The relatives' questionnaire was filled in by either a close relative or a freezio of the patient in 16% and 6% of the culfibilities complied. The question on sexual activity was excluded as it caused too much embarrasiment. The question on sexual activity was excluded as it caused too much embarrasiment. The questionnaire is worself or each question and a global score computed for the patient on a range of 0-35. High scores indicast increasing group in 2-40 was demined, 19.5 Therefore, no difference emerged in the response to the relatives' questionnaire.

There were II patients in the treatment group who reported classal good developed duabetes during the runs.

TABLE II—Percentages of patients in the treatment and control groups of moderate or severe tide effects

	Treatmen		Control group a = 377		
Sale effect	Moderate	Severe	Moderate	Severe	
Headaches	18		17	,	
Turedoess	47	1	45		
Breachiesaness	35	11	3.2	•	
Duzness	29	5	26	4	
Depression	14	2	12	0	
Industrion	15	•	22	•	
Wornes	36	4	36	3	
General illness	24	2	19	2	

## BIOCHEMICAL RESPONSE TO TREATMENT

Table IIII shows the for instruction. Table IIII shows the for instruction groups at the first and second examinations during the trial. There was a significant increase in blood urse, creations, using a durine concentrations in the treatment group. The increase in blood urse was workly to be a significant increase as blood urse was workly as the contraction of the treatment group on as the trial progressed. The mean serious postsum concentrations was almost unalizered, being 0.07 monks.mEq.1 lower in the teatment group on the first examination and 0.08 minos final-2 lower on the teatment group on the first examination and 0.08 minos final-2 lower on the teatment group on the first examination and 0.08 minos final-2 lower on

	Treatment group		Control group				r-test	
	Mean	SD	No	Mean	SD	No	p value	
				THE SALES				
Hb g di	14 14		353		1 33	372	NS	- 1 52
Urea mmoil-		1 71	356		.1.59		p<0.001	3 42
Creatinine mmol:	95 16	20 92	276	89 45	19 56	312	p<0.0001	4 19
Blood glucose								
m.moi 1		1 35	318		1 23		p<0.005	3 00
Unclaced manol !	0.34	0.09	357	0.33	0.09	370	p<0.0001	8 25
Serum sodium								
manoi i	139 85	2.54	355	140 39	2 82	377	p<0.005	- 2 94
Serum potassium								
mmoi l	4 23			4 30			p<0.05	-198
Choiesterol mmoi?	6.83	1.45	326	6 86		347	NS	-030
Packed cell volume	0-42	0.04	321	0.43	0.04	331	NS	- 1 64
			second es	-				
Hb adl	14 19	1.42	246	14 2"				- 0 86
Ures mmoil		2 03	246		1 89		p<0.0005	3 49
Creatingne mmoi!	94 18	28:76	197	89.96	26 52	200	p< 0.05	2 27
Blood shucose								
mmoi ?		1 14	225	4.78			NS	1 06
Uncacid mmol1	0.36	0.09	245	0.32	0 09.	227	p<0.0001	6 60
Serum sodium								
manoi l	140-05	3 06	246	140-61	2 43	232	p<0.005	- 3-03
Serum potassium								
mmol )	4 22	0.58	245	4 30		231		-2:12
Cholesteroi mmol?	6.63	1.38	218	66		210	NS	-0.52
Packed cell volume	0.43	0.06	244	0.43	0.04	233	NS	-0 39

Conservant 3/ to Iranhamal Image—Blood ures: I manol 1=6 mg 100 mi. Serum creatinane I manol 1=0 011 mg 100 mi. Blood glucose: I manol 1=18 mg 100 mi. Unic acid. I mmol 1=16 mg 100 mi. Choissecoi 1 annol 1=3 d mg 100 mi. Packed cell volume: 1=100%. Serum sodoum and potassuum. I mmol 1=1 mEq.:

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MORTALITY AND MORBIDITY MORTALITY AND MORBIOITY
Table IV gives the incidence rates of fatal and maior non-fatal events in the treatment and control group with the 9% confidence intervals. There was no significant difference in the total mortalists in the two groups. The rate of fatal stroke in the treatment group was 0.30 of that in the control group confidence interval 0.11-0.8 %, 2–52.1, if if p=0.00.5. The rate of all stroke in the treatment group was 0.56 of that in the control group confidence interval 0.13-0.0%, 2–45, 3p=0.00.3. Figure 3.50-was late table analysis of the proportion of patients who had a stroke of any kind by the interval lance entiry to the trail in the treatment and commit group.

					95% confidence
	Treatment group	group.	Rate treatment rate control	p value	tate rario
Sarakes					
Fatal	22 4	* 3 15	0.90	< 0.025	0 11 0 84
Mayor	2.5	39 8	0.70	NS.	0.23-2.12
Manor	60 11	7 8 16	0.77	NS	0 36-1 65
Transieni ischaemic attacks	16 3	2.4 5	0.6"	NS	0.16-2.77
All strokes	12 5 23	21 4 44	0.51	< 0.03	0 35-0 %
Coronary array attacks					
Fatal	13 6 25	13 6 28	1 00	N5	0.58-1.71
Non-fatal	4 10	4 9 10	1 11	NS	0.46-2.68
All coronary attacks	19 0 35	18 5 38	1 03	NS	C 63-1 63
Ventricular fasture					
Facai	22 4	19 4	1.11	NS	0.28-4-45
Non-fatal	9 8 18	15 6 32	0 63	85	0/35-1/11
Reported annurystus					
Fatal	11 2	10 2	1.01	NS	0.16-190
Death from hypersentine					
arphrepach;	0	0 48 1			
Fasai pulmonary embolus	1 06 2	0			
Controversión destis excluding bulmonary					
embols	19 0 35	24 3 50	0.78	NS	0.51-1.20
Comm					
Fatai	9.2 17	49 10	1 89	NS	0 85-4 06
Non-fatal	6.5 12	6 3 13	1 03	NS	0 47-2 25
All cancers	15 7 29	11 2 23	1 40	NS	0 81-2 42
All deaths	32.5 60	33 6 69	0.97	NS	0.70-1.42
No of patients	419	465			
Papers-years	1845	2055			

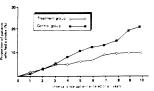


FIG. 3—Proportion of patients who had a stroke transient ischaemic attack, minor, major, or fatal by the interval since entry to the trial.

Analysis of subsets of patients by age at first admission to the study. 50-69 years 170-79 years and by set; table V-shows a similar reduction in total stroke for all these groups. The study, however, was no large mough for these differences to be significant.

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TABLE N—The rate of all strokes in the treatment and control group; per 1000 patient-vears according to the age at the initial screening and the sex of the patient. Numbers of strokes in bravelshess:

	Treatment group	Control group	Significance 1
Age years			
60.69	* * *	14 3 20	85
·0. ~0	18 7 14	34 4 24	NS
All ages	12 5 28	21 4 44	p=: 0 03
*1			
Men	16 4 4	31 9 21	NS
Women	10 7 14	16.5.23	NS
Both series	12.5.23	22 4 44	p<0.03

Treatment group		Control group	
Fasai +-1*		Fasai =-10	
Bronchus		Bronchus	1
Stomach	1	Stomach	)
Rectum	1	Common bale dust	- 1
Liver	1	Carcinomatosis cause	
Breast	- 3	unknown	1
Thyroad	- 1	Colon	2
Katne		Brain	1
Userine bods		Prostate	1
		Fibrosarcoma	
		Lympharic leukaemia	
Non-total n=12		Non-Josef #= 13	
Colon	2	Bronctrus	- 1
Breast	2	Oesophagus	- 1
Carcinomatous cause		Colos	
unknown		Rectum	1
Utering body	2	Breast	4
Vulva	1	Uterine body	- 1
Bladder	1	Prostate	1
Lymphetic leukaemia	1	Brun	- 1
Basal criticar comma	2	Basal cell carcunoma	- 1

### MOKING IN RELATION TO STROKE AND MYOCARDIAL INFARCTION

SMOKING IN RELATION TO STROKE AND MYOCARDIAL INTARCTION
As more of the treatment group than the control group moded (2Ps, w. 2Ps, the incidence of smoding in those who had strokes and important and a structure of the stroke of the stroke of the strokes. Provided infarctions was examined in the two groups. Of those who had strokes, 3Ps, in the treatment group incided against 2Ps, in the course of the stroke of the strok

There was a non-significant excess of fatal cancers in the treatment group table VI. The excess was enturely in cancers of the bronchus treatment eight, control one. Before randomisation 1165 patients were excluded because they were already being treated for hypertension. The mortality of these excluded patients was computed for comparison with patients in the treatment trial. The rarte per 1000 patient-years were rotal intensity 39 to, stroke 73, coronary arters disease 117, and all cardiovisacitie disease 23.9. These are choosely smaller to those in the treatment trial see table VII.

Discussion

In this population of elderly patients with hypertension blood pressure was reduced by 18.11 mm Hg for an average follow up period of 4 4 years. There was no effect on overall mortality or on extraction of 4.49 years. There was no effect on overall mortality or on extraction of 4.49 with the neichdene of stroke, manily apparent in fixal and major strokes. There was a 22% reduction of a cardiovascular death, but this was not significant.

The absence of an effect on overall mortality was partly due to a non-significant increase in the death from cancer in the treatment group. These were manily vancers of the bronchus. No reason can be green for this, and it is probably a fortunious clusteromen and in the two age groups 60-69 years and 70-79 years at randomission. It was more evoder in non-sinckers, however, who showed a 50% reduction in overall stroke rate on treatment. The small number of reported transsent ischaeme attacks in due to two causes. Many patients who had such attacks later had serious strokes and were included in the enumeration of these events. The definition of transient sichaeme attacks also strictly excluded patients who had remained to the serious strokes and were included in the enumeration of these events. The definition of transient sichaeme attacks also strictly excluded patients who had remained to the serious strokes and the serious strokes and were included in the enumeration of these events. The definition of transient sichaeme attacks also strictly excluded patients who had remained to the serious strokes and the serious strokes and were included in the enumeration of these events. The definition of transient sichaeme at track also strictly excluded in the same definition of the serious strokes. The lack of any effect of treatment on Study in Hypertension that \$\theta\$-blockade may reduce the incodence of mortality of myocardial infarction or on the incodence of mortality forms the first track in the treatment and the serious strokes and the serious strokes and the serious

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recordable events were Drs D G Bervers, G Howitt, and J I Mann. Dr Klim McPheron advised on statistical management Professor Sir Raymond Holfenburg gar a shace on topoping the study. Dr G McFwart coded the electrocardograms. We thank Professor G Rose and Dr G Watt for advise on writing this paper. In prend Chemical Industries, Pharmaceuticals Division. Macclesfield, provided financial support for the vitody.

References

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(Special No. Nichame MM.) Industrial PS. De offer of impression drugs in the quality of a factor of the properties of the p

# Definition of events

There were used by the past committee in usaging train endpoints.

Non-fault of Typical pain, with cellur development which is a second of a Non-fault of Typical pain, with cellur development body. In American to the electrocardogram indicative of a magnificant pain and proceeding in the process of a non-faccion pain and the past of a faccion pain which a post particular particular on complete corchison of a coronary artery.

Souther fault by in which a post particular committee to the order of a reportable unfarction or complete corchison of a coronary artery.

Generally which are controlled a coronary artery of the controlled and a coronary artery development of the coronary development of the coronary development of the coronary artery development of the coronary development of the coronary artery development of the coronary development of t

Transient inchange, analoh. Focal central nervous system symptoms or ugan occurring suddenly and disappearing within 24 hours. Amsurous fugar was included but not colled "postering fooss." tracks such a fine particular Minor transfer. Focal central nervous system symptoms and ugan occurring walk out of the house, by a small defent after a most. The potent touch Mayor maker. Focal central nervous system symptoms and ugan occurring suddenly and leaving a substantial defent after a most. The patient could collect her defent of the system of the state of the collect Cause of death. The defination of cause of death took into account the principal cause of death rather than the mode of death. Patient stype, for stratuce, as a result of pocumona consequent on a stroke were classified as having ded from strake.

### Appendix 2

Self administered symptom questions

Please tack (in the appropriate box)

Are you troubled with headaches? rarely moderately a lot
 Do you feel more used than usual?

no occasionally much more 7. Do you worry about your health? not at all some times

some times all the time 8. Do you feel well? yes only moderately not at all

### 100 YEARS AGO

TOW TEARS AGO

The Babbor of Border is quitt at home emong the people, and towers them the Border and the stable that the peer some trouble which the stable prevalent supervisions as to charant against students, which are worth preserving among the records of medical follower. For many years is bisboured as a country practio in Strophere, and the remedies behinder to be efficacions in many compliaints absolutely surprised him. In case of a slong the towers pand of a casal to meet a particular box, the reason being that the bostsman was a seventh soon, and any remedy suggested by a seventh sow outdit it was thought, do good. Another popular remedy was to peas daileren over and under a breat sevent times; another horroble things at round the each, and another things was to make a child better to the first mouth. It was supposed, too, that anybody riding on a probable horror could cure the whongs cough. He had least as ownsin pertending to charm away a tamoor on the lips of another woman with elder put which was got it sight were in the Bible, but on being told that they were not, the said the was sure they were in the Thryer-book, and this was equally accorrect. A farmer, who had the toottabeth, had given to him some gained it were to put in his notice in North Stropshire; and perhaps some of our readers can add to this contracts budget of surviving superstitions. [Brital Madeed James 1]

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The mortality from all causes and from principal cardiovascular endopoints in these treated patients was nearly the same as that for patients who were included in the control group of the treatment patients who were included in the control group of the treatment of those who are customarily accepted for antihyperensiate treatment in this age range.

The trial was observation controlled without placebox. The degree to which lack of bilinding of observers might have led to bas in the identification of events must therefore be considered. The largest difference between the groups was in the incidence of strokes, and as this was mainly apparent in futal and masor non-futal records were requirely servitured by observers from outside the medical centres and that all events were referred to a pilot committee that was binded to the treatment that the patients were records were requirely servitured by observers from outside the medical centres and that all events were referred to a pilot committee that was binded to the treatment what the patients were receiving must reduce this source of bis further. With regard to coronary events in which no difference was found between the group, observer bas it less likely.

As both patients and decrease over what treatment was being. As both patients and decrease were already of an extraction of the patients. Both control and treatment groups, however, attended at similar intervals throughout the study, and apart from their antihypertensive treatment they received medical care from the same dectors. No difference in listency or activates between the two groups was identified in the questionnaires that were completed by relatives. Random zero applymonamomenters th

TABLE VII—Comparison of the number of deaths in the combined treatment and control groups in the European Working Party on High Blood Pressure in the Elder's study and in this study.

	European Working Party study	This	
No of patients	140	834	
Patient-years	1013	1900	
Mean age years	**2	69	
Percentage of men	80	31	
Blood pressure at start			
of trial	182.101	196.99	
All deaths	284	129	
Cardiovascular deaths	160	85	
Stroke deaths	52	19	
Coronary artery deaths	76	53	
Non-cardsovascular deaths	115	44	

The other major trial in elderly patients was that organised by the European Working Party for Hypertension in the Elderly (EWPHE: 'The mean age in the European trial was 72 against 69 in our study. Both trials had similar numbers of men and women and patient-years. The treatment regimens were different because EWPHE did not use a β-blocker. The mean blood pressure at onsert on our study was 18-699 compared with 182 101 in the EWPHE on our study was 18-699 compared with 182 101 in the EWPHE object. The European protocol was doubted bind.

Both studies produced a similar reduction in the incidence of stroke by treatment, but EWPHE also thowed a reduction in coronary mortality. Table VII gives the numbers of deaths from all

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sattiss Medical poersal. Volcule 293 1 Novimber 1986 causes and for major endpoints in the two studies. Mortalin from most causes in the European study was at least double that in the trail reported her. About a third of this increase can be accounted for by the difference in mean age between the trails. The remainder of the difference, however, suggests a population with much more pathology than the patients in our study and may reflect the fact that the European patients were drawn from clinic attenders, whereas the European patients were drawn from clinic attenders, whereas percent of the EWPHE patients had a cardiovascular complication at entry. The difference in coronary mortality may be due to the prevalence in the control patients in the European study of mild ventricular decompensation, and thus they would have been vulnerable at the time of myocardial infarction. The different interations and thus they would have been vulnerable at the time of myocardial infarction. The different interations are considered coronary mortality, but this carrier treatment infarctly addressed the problem in delectry patients. The patients were older than ours and were in residential homes. Only overall mortality was reported, and this was not altered by treatment.

The retirement is in the Medical Research Council trial of treatment of trial patients were older than ours and were in residential homes. Only overall mortality was reported, and this was not altered by treatment. The patient-years of treatment to provide the patients of the patients of the patients of the patients of the patients. Both used p-shockers and discretic as the main agents for lowering blood pressure and both showed no effect on the incidence of fatality of heart attacks but a reduction in strokes. The ratio however, of patient-years of treatment to strokes prevent a district of the patients of the patients

The particular presiscs were Dn T S Tarrender, J Lubrana, Nime P Threadgal March. Cambodgeabare, Dn LA, Pake, M E Charleson, I G Cower, M C Donagher, Dn LA, Pake, M E Charleson, I G C Brown, M C Donagher, J M Miller, A Mather, Nurse A Long, Gesalle Hulm Helath Gentre, Chebruser Dn J Judos Hara and G Watt. Mrs M Hart, Narue W Doyle The Health Centre, Ghyncorveg, Glamorgan, Dr N Gonack, Nurse M Ruballa Rugby, Dn M Arnall and G Arnall, Nurse D Brown i Tumperies, Cheshure, Dn S L Barley, P G Brown, S Burgone, J Shagh, P Bradels, Nurse T Cannelly Lach Health Centre, Chester, Dn J S Baley, and J D Mennes, Nurse M Hunt Block Lane Clans, Chadderton, Dn C A H Mart, R Ort, K Wonell, Nunse E Cannell, Nunse E American and T Hottle, Martine, Martine,

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# Good Practice

# What is a good GP?

NICHOLAS L BISHOP

The government's constituence document on primary health care, published lesi April, pus forward suggestions for mecouvaging good practice among founds describ. One suggestion tust that is apply opense allowed many led to behalf or describ. One suggestion that the less of parties allowed as a standard or a postgraduate electronic owners. Such parameters are, of course, easy to define all the superior than the superior of the superior point of two, or that of their health collections country point of two, or that of their hospital collarageas—see first stay to define If that that on much let I SIAT has togethe the two set of a range of people choose took through the most of the superior that the superior that the superior than the superior that the superior that the superior that the superior that the superior than the superior than the superior than the superior than the superior that the superior than the superior t

Many of my patient referrals are direct from GPs, and so there is ample opportunity to assess the various styles of practice. I carefully avoid the use of the word "quality" at this early stage, though this is the essence of the whole article. If one is to accept that there are different qualities of GP, and the title presupposes that there are different qualities of GP, and the title presupposes that there are different qualities of GP, and the title presupposes that there are different qualities of GP, and the title presupposes that there are different distinguish the good from the not so good? By what standards are we to measure and from whose point of view? The received held title who is always available and good for what and attendance when you present with a difficult clinical problem. Similarly, the keep young deaph, is well bin ung with newly framed diplomas, will undoubtedly handle your brittle diabetes with great aplomb but may not be the one turn to for support when recently bereaved. Fortunately 1 do not have to crack this chestnut—but samply address the issue from my weepont as a redologist.

The complete of the complete of the present of the chest of the complete of the chest of th

So my first requirement of a good GP is prior consideration of the usefulness of the examination that the GP is requesting. In many instances this necessitates a depth of radiological knowledge beyond

Royal Sussex County Hospital, Brighton BN2 5BE NICHOLAS L BISHOP, MB, FRCR, consultant radiologist

that normally acquired by a trainee GP. How specific is a barium meal when disposing besting patter ulter? How good is ultrasound at excilcting carcinoma of the patterness? What is the importance of "clear lungs" on the chest x ray film when the pattern has basemoptysa? If the referring doctor is not fully aware of the limitations of the test requested, then the doctor cannot make maximum use of the result. To sequent this knowledge it may be necessary for the doctor to encourage local radiologist to issue opposition of the control of the c