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by

RICHARD FORDHAM
RUTH THOMPSON
JULIE HOLMES
CATHERINE HODKINSON

MARCH 1986

DISCUSSION PAPER 14

UNIVERSITY OF YORK

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Richard Fordham, Research Fellow
Ruth Thompson, District Occupational Therapist
Julie Holmes, Research Assistant
Catherine Hodkinson, Research Fellow

The Authors

Richard Fordham B.A., M.A., is presently Research Fellow on the 'Economics of Orthopaedics' project.

Ruth Thompson, M.Sc., Dip. C.O.T., is District Occupational Therapist of the Huddersfield Health Authority.

Julie Holmes, R.M.N., is a Research Assistant seconded to the Department of Community Medicine, Huddersfield Health Authority.

Catherine Hodkinson B.Sc., is a Research Fellow seconded to the Department of Community Medicine, Huddersfield Health Authority.

The Authors wish to thank the Kings Fund, London and Yorkshire Regional Health Authority for the financial support necessary for this project.

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The Centre for Health Economics is a Designated Research Centre of the Economic and Social Research Council and the Department of Health and Social Security.

Acknowledgements

We wish to thank the Orthopaedic Surgeons and Geriatricians at Huddersfield for agreeing to cooperate with this study and for adopting the changes in working practice necessary for its implementation. Many changes were required of the respective divisions including re-designation of beds, extra patient responsibility, changes in working relationships with the opposite specialty, timing of ward rounds and travel between hospitals. All these impositions were, however, accepted in good faith. In addition, the consultants and their staff allowed the research team complete access to patients and their hospital records, enabling us to collect high quality information throughout the study.

We should like to thank, therefore, Mr. J.E. Cleary, Mr. G. Hird (retired), Mr. A.W. Milling and Mr. H.M. Williams, Consultant Orthopaedic Surgeons and Dr. N.K. Chakravorty, Dr. Datta (temporary locum), Dr. D. Harling (retired), Dr. J. Pritchard and Dr. D. Walker, Consultant Physicians in Geriatric Medicine.

We wish to thank the nursing, physiotherapy, occupational therapy and social work staff at both Huddersfield Royal Infirmary and St. Luke's Hospital for their considerable help and cooperation in our study. Many of the day-to-day arrangements for the running of the project and collection of data relied on these groups of staff and we were grateful for their constant enthusiasm and questionning approach.

In particular we wish to thank: Mrs. B. Banks, Nursing Officer - Orthopaedics, H.R.I.; Sister Gee and Sister Hargreaves H.R.I.; Mrs. J. Thompson, Nursing Officer and Sister Rhodes, St. Luke's Hospital. Mrs. Dorothy Smith,

Superintendent Physiotherapist, H.R.I. and Miss Pat Waite, St. Luke's Hospital. Mrs. Jenny Beaumont, Head Occupational Therapist and Mrs. Val Summers, St. Luke's Hospital and Mrs. Diane Taylor, Social Worker H.R.I. and Mrs. Barton, St. Luke's Hospital.

We should also like to thank Dr. Peter Gardner, District Medical Officer for allowing his department to become the local headquarters of the research project and for putting up with the disruption of normal business which occurred from time to time.

We should like to thank all those members of staff who came along to the seminars on this project which we held at the Health Authority during the study. These helped to keep us on the ball and to formulate the discussions raised in this final paper.

We should like to thank Professor Alan Williams for his endless source of enthusiasm, critical appraisals and general support. This helped to keep us going at times when others would have flagged!

Finally, thank you Gail and Barbara for typing many a draft of this report.

Despite all those people that took part in this study we reluctantly have to accept that any errors contained in this report must remain our responsibility!

December 1985

I ABSTRACT

Having identified WOMEN over 65 with the condition, fractured neck of femur, as the main cause of slow throughput and low bed availability on the acute orthopaedic wards at Huddersfield, it was decided to review existing management policies towards this group of patients.

After consultation with the Orthopaedic and Geriatric Specialties, it was decided that a possible means of improving throughput was to instigate a policy of joint Geriatric-Orthopaedic management for these patients. It was envisaged that this scheme might also improve the quality of care and therefore the outcome of treatment.

Six orthopaedic rehabilitation beds at St. Luke's, a mainly long stay hospital, three miles from the District General Hospital (D.G.H.), were converted into Geriatric-Orthopaedic beds. This site at the time was the main base for the district Geriatric Service as well as providing some Orthopaedic rehabilitation beds.

A standardised format of Geriatric-Orthopaedic management was agreed between the two specialties. Patients admitted with this condition during the course of the year commencing March 1984, were then randomly assigned by the research team, to either the new joint management system or to single specialty Orthopaedic management as before.

The evaluative criteria on which the two systems were judged can be divided into two main categories, namely costs (to the Hospital sector) and benefits (to the individual patients and to the Hospital sector).

Costs taken into consideration included the number of bed days utilised (as a general indicator of fixed costs)

and staff inputs into rehabilitation, e.g. physiotherapist's, occupational therapist's, social worker's time (as indicators of variable costs).

Benefit, or outcome of treatment, was measured by the ability of patients in the trial to undertake standard 'activities of daily living' tests (A.D.L.s) at fixed intervals up to and including discharge (e.g. patients ability to stand, dress, etc.). Outcome was also measured in terms of a therapist's prognosis and success in returning patients back to their home environment.

No difference was found in the length of hospital stay between the two groups. A marked difference was found in some of the staff inputs to patients, making joint management in total £93 per patient more expensive than ordinary orthopaedic management (1985 prices).

No difference was found in the 'quality' of patients during treatment or upon discharge as measured by A.D.L. tests. A Prognosis Score was given to each patient and was unaffected by the joint management regime. Destination on discharge was also unaffected by joint management. Follow up of discharged patients is currently under way. This involves observation of the death rate since leaving hospital and obtaining details of functional abilities and home circumstances of survivors. This follow up study will form a separate report.

II INTRODUCTION

It has been argued quite strongly both by Orthopaedic Surgeons and Geriatricians[1] that joint specialty responsibility for elderly cases of orthopaedic trauma, especially

females with fractured necks of femur, can be highly advantageous both to the patient and the hospital service alike.

Joint Geriatric - Orthopaedic management, it is claimed, facilitates a pattern of post-operative management which concentrates on the elderly person's general health, not simply on the orthopaedic repair. This can lead to swifter mobilisation, a more appropriate rehabilitation programme and a better chance of returning the patient to a 'normal' existence upon discharge. Devas[1] commenting on Geriatric - Orthopaedic management says it...

> "will soon show an overall saving of beds and which is most important, greatly augment the facilities of rehabilitation to the consequent benefit of the patients who are then able to return home to an independent existence."

Studies notably in Edinburgh[2] and Nottingham[3] appear to support this hypothesis, in so far as Geriatric - Orthopaedic management reduces length of hospital stay. Apart from using length of stay as a general proxy for cost, no study so far has looked at the real resource implications in terms of staff time and other variable costs of this policy. In addition to expected savings in hospital resources, it is claimed that joint management produces patients who are better equipped to return home to an independent existence. We set out therefore also to test this proposition.

These evaluative criteria were built into a trial of Geriatric - Orthopaedic management which took place in Huddersfield between March 1984 and March 1985. The two specialties decided that any further commitment to this policy should be reserved until the end of the trial period in the light of the information about costs and benefits.

A Geriatric - Orthopaedic system of patient management was created from existing resources. This relied on some sacrifices from each specialty in the form of i) six beds from the Orthopaedic surgeons for a combined unit and ii) an

undertaking from the Geriatricians that patients allocated for joint management would be given equal priority with any existing Geriatric patients.

Both specialties came to an agreement as to the nature of the joint Geriatric - Orthopaedic regime, the features of which were :

1. Patients admitted initially on to the main Orthopaedic ward at the D.G.H.

2. Early post-admission assessment by the Geriatrician on the Orthopaedic ward.

3. Joint decision making about date of transfer to Geriatric - Orthopaedic Unit.

4. Joint Consultant Ward rounds once a week and liaison away from the bed side.

5. Joint responsibility to determine the programme of rehabilitation.

6. Joint junior medical cover.

7. Joint decisions about discharge or transfer.

8. Joint responsibility for facilitating discharge, or transfer.

The three Orthopaedic surgeons and the three Geriatricians each 'paired off' for the convenience of relating to the same opposite number during the study.

Patients included in the trial not receiving joint management were treated as before, solely by the Orthopaedic specialty, although, as before, a Geriatrician's advice could be sought where necessary. Patients under this regime could also be transferred to an Orthopaedic rehabilitation bed at St. Luke's hospital.

III PATIENTS AND METHODS

During the course of the year there were 133 admissions of fractured neck of femur in female patients over 65 years. 108 of these were included in the trial, 25 patients being excluded on grounds determined prior to the beginning of the trial.

The main group of exclusions were patients transferred from other hospitals or other Health Authorities who fell under another Consultant's jurisdiction and who could not or did not wish to be selected for combined Geriatric - Orthopaedic management. The only other reasons for exclusion were patients with terminal illness and patients with a long standing history of dementia, which accounted only for 6 cases.

Within the first few days following admission patients were randomly allocated either to joint or single specialty management by the authors, the appropriate Consultants and nursing teams were then informed. This initiated joint management where appropriate.

50 patients were allocated for joint management(study group)and 58 patients to single specialty management (control group). The progress of these patients through the trial is shown in Figure 1.

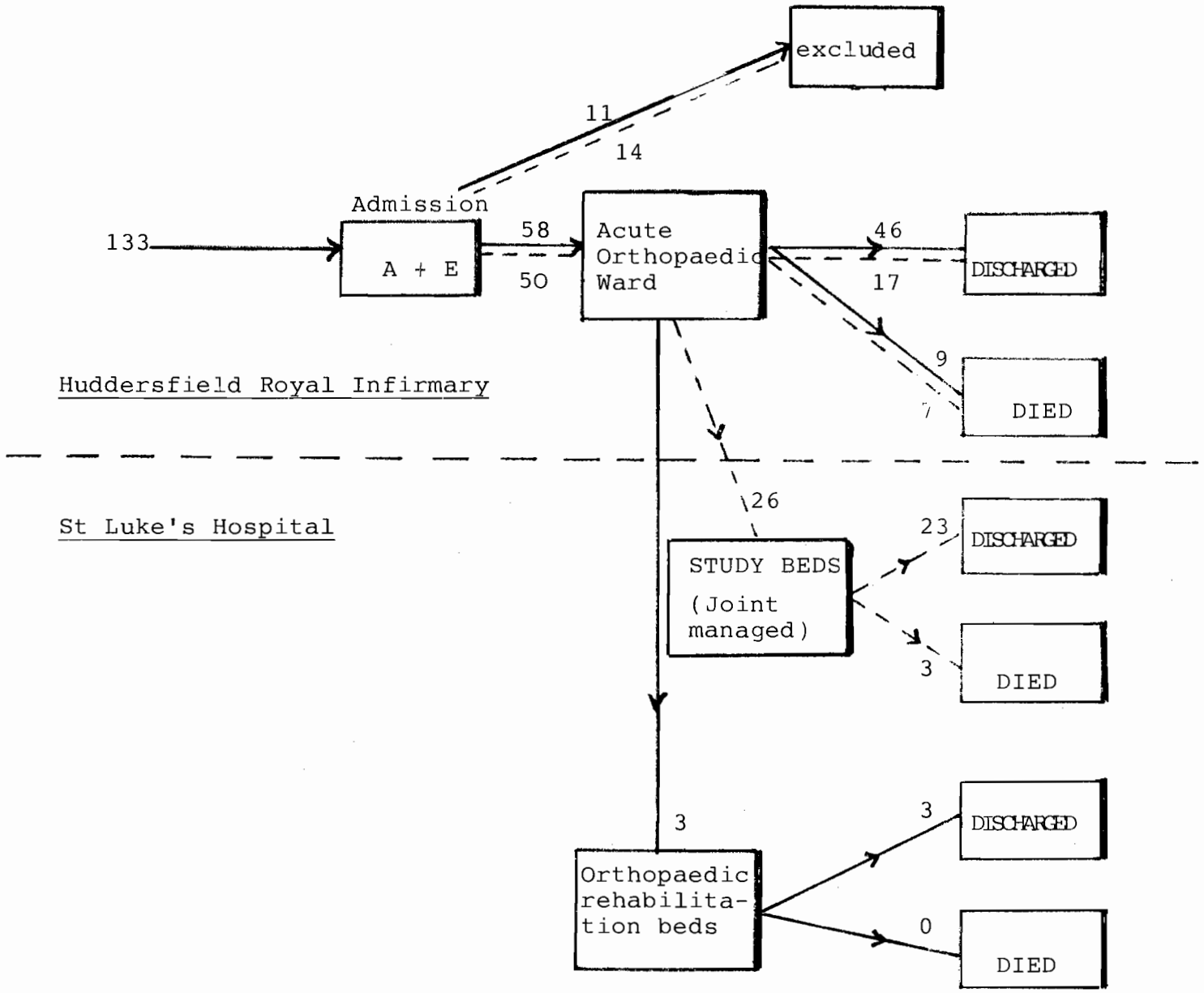
It can be seen from Figure 1 that all patients were initially admitted to the acute Orthopaedic Ward. Internal fixation of fractures was carried out in the main Orthopaedic theatres. The majority of the control group remained on this ward until discharge (46).

At the early post-operative stage (within ten days of admission) arrangements were made for patients in the study group to be transferred to a jointly managed bed. The mean length of stay (M.L.O.S) before transfer was approximately 18 days. This was slightly longer than expected due to some of the study beds becoming blocked during the course of the trial.

ORTHOPAEDIC-GERIATRIC MANAGEMENT

RANDOMISED CONTROL TRIAL

F L O W C H A R T



58 CONTROL GROUP ————————

50 STUDY GROUP ----------

EXCLUSIONS

17 from other hospitals in district
2 from other districts
6 consultant exclusions

25

Just under half (24 patients) of the study group patients were not transferred to these beds, this was either due to death occurring before transfer (7 patients) or because progress was good enough to allow discharge from the acute ward (17 patients, M.L.O.S. = 24 days). However all study group patients received joint management, despite the variation in its duration.

The arrangements for joint management were monitored by the research team and on the whole worked well. However each pair of Consultants adopted their own particular style of joint management within the principles of the agreed protocol.

The conditions in which the trial were conducted were not particularly ideal for joint management. The distance and geography between the two units was a major obstacle, in terms of communication and accessibility. At the time the Geriatricians had no beds at the D.G.H. and therefore lacked regular contact with the main acute unit. However, both parties regularly visited each others unit for assessments and ward rounds as required of them.

During the course of the study one Geriatrician and one Orthopaedic Surgeon retired, a locum and three permanent appointments joined the Staff. This caused much less disruption than had been anticipated with the new incumbents willing to participate in the Study.

The remedial and nursing staff also adapted well to the new system of management. The physiotherapists, occupational therapists and social workers enthusiastically participated in the Study. The nurses on the wards in both Units ensured that the co-ordination of the transfer of patients ran smoothly and with the minimum possible delay.

IV RESULTS

i. The costs of treatment

The amount of hospital resources consumed by each patient

included in the trial was recorded using a specially designed 'patient profile'. The costs looked at were the overall costs of treatment as expressed by the number of bed days used, as well as inputs to treatment which were expected to vary according to the type of regime chosen. The latter included physiotherapy, occupational therapy, social work costs in addition to costs peculiar to the joint Geriatric - Orthopaedic management system (e.g. extra Geriatric input, medical travel and ambulance costs).

The mean length of stay of discharge and deaths in the study group was 56 days compared to 44 days in the control group. The range of length of stay for the two groups can be seen in Figure 2 and although they are seemingly different in shape they cannot be shown to be statistically different due to the small numbers involved in each age group. As a consequence of this, we cannot assume that any difference in cost (in terms of bed utilisation) exists between the two groups.

No difference was found in the length of stay between the pairs of Consultants (see Appendix A), although this cannot be proved statistically due to the small numbers involved.

The variable treatment costs measured in the study are summarised in Table 1, showing which costs were statistically significantly different.

In terms of significantly different costs between the two forms of patient care, Geriatric-Orthopaedic management is £93 more expensive per patient than single specialty management. The composition of these additional costs are shown in Figure 3.

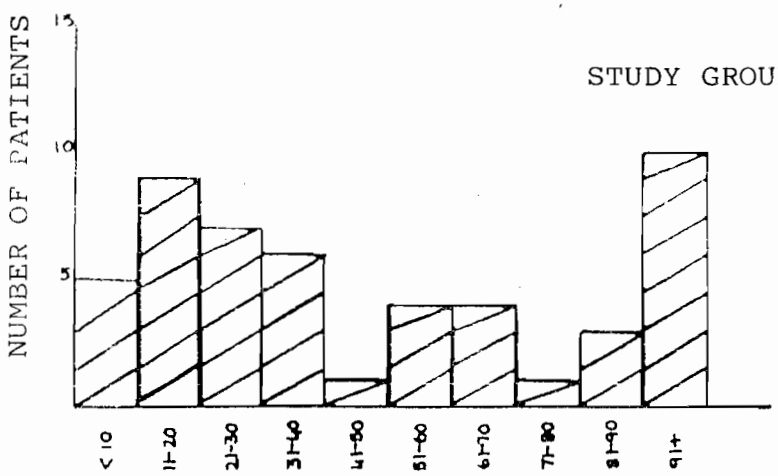
If these extra costs incurred by joint management however are looked at in relation to total costs however, we find that they represent a very small increase (3.6%) (see Appendix B). This extra cost alone, we feel should not act as a deterrent in running a joint mangement scheme.

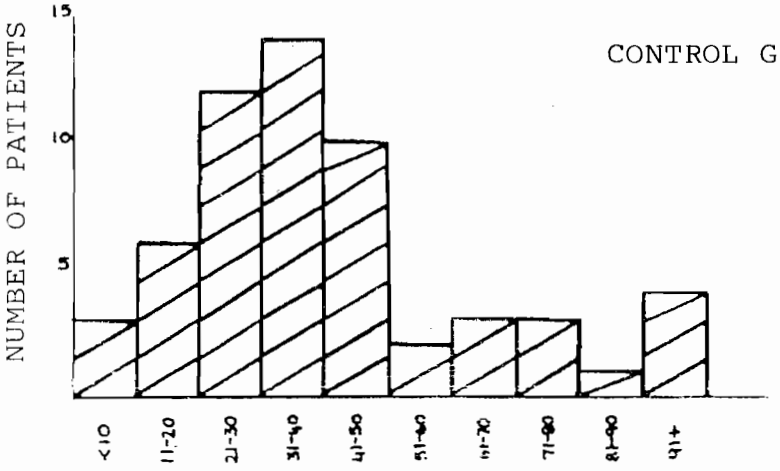
These costs could have been reduced further however if the arrangements for joint Geriatric/Orthopaedic management had

FIGURE 2

COMPARISON OF LENGTHS OF STAY

(DEATHS AND DISCHARGES)





LENGTH OF STAY (DAYS)	STUDY GROUP PATIENTS	CONTROL GROUP PATIENTS
< 10	5	3
11-20	9	6
21-30	7	12
31-40	6	14
41-50	1	10
51-60	4	2
61-70	4	3
71-80	1	3
81-90	3	1
91+	10	4
	50	58

TABLE 1. A COST-BENEFIT STUDY OF GERIATRIC - ORTHOPAEDIC MANAGEMENT OF FRACTURED NECK OF FEMUR : A RANDOMISED CONTROL TRIAL

VARIABLE TREATMENT COSTS

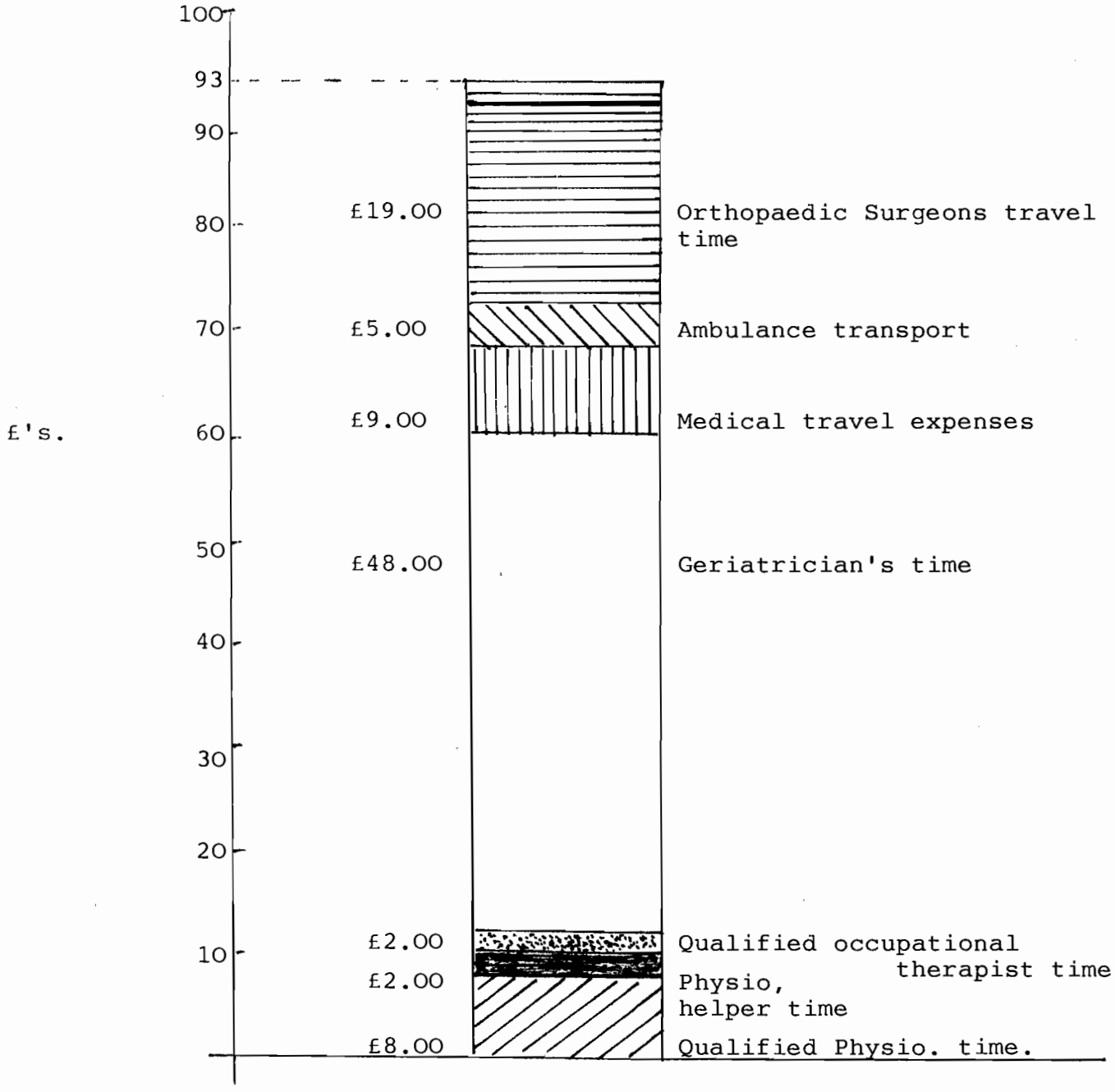
INPUT	STUDY GROUP			CONTROL GROUP			
	Total Time (Hours)	Total Cost (£)	Cost per patient (£)	Total Time (Hours)	Total Cost (£)	Cost per patient (£)	Signicant difference (P < .05)?
Qualified physio-therapist	258	1218	24	198	935	16	yes
Physio-therapist helper	39	112	2	3	9	.2	yes
Qualified occupational therapist	75	354	7	63	297	5	yes
Occupational therapist helper	3	9	2	18	52	9	no
Social worker involvement	33	174	3	65	348	6	no
Aids and Appliances Supplied	-	1713	34	-	1590	27	no
Geriatricians time (incl. travel time)	250	2378	48	-	-	-	yes
Medical travel expenses (Mileage)	-	425	9	-	-	-	yes
Orthopaedic Surgeons travel time	78	964	19	-	-	-	yes
Ambulance transfer	-	262	5	-	-	-	yes
		7609	151.2		3231	55.1	

Figure 3

GERIATRIC/ORTHOPAEDIC MANAGEMENT

ADDITIONAL COSTS INCURRED PER

JOINTLY MANAGED PATIENT



been on a single hospital site. This would have made joint management only 2% more expensive.

It is clear that without significant savings in bed days, joint management proved to be a marginally more expensive regime.

ii. The benefits of treatment

In addition to looking at the comparative costs of the two forms of management, benefits to patients were also measured.

Activities of Daily Living

A series of patient assessments were devised by the authors designed to measure the outcome of treatment at different stages. These were particularly directed at how well patients returned to 'normal' physical and social functioning following admission to hospital.

Assessments of the patient's ability to STAND, GET IN AND OUT OF BED, GET IN AND OUT OF A CHAIR, WALK 5-10 STEPS, DRESS (Top and lower half), were made.

These 'Activities of Daily Living' (A.D.L.'s) were tested at the 4th week stage during hospital stay and at discharge to ascertain speed of recovery as well as progress up to leaving hospital.

Each of these activities was graded, using the Standardised Scoring System outlined below in Table 2.

TABLE 2 SCORING SYSTEM

- Patient able to do test . . . .

1 = independently
2 = with the help of aids
3 = with the help of people
4 = with the help of people and aids

- Patient not able to do test . . . .

5 = Not well enough to be tested
6 = Non-weight bearing
7 = Not tested - other reason
8 = Discharged
9 = Died

The level $P < .05$ of Statistical Significance is applied throughout. The results of these tests are shown in Appendix C.

Summary of A.D.L. results

From the activities of daily living tested it is clear that no significant differences in outcome - either at the discharge or 4th week stage - were observed between those receiving joint Geriatric/Orthopaedic management and Orthopaedic management alone.

The A.D.L. tests, nonetheless highlight the functional abilities of patients with fractured necks of femur and demonstrate the pattern of functioning we might expect to find in a typical patient. Some activities are obviously harder than others for patients to undertake without assistance of some kind.

Other measures of outcome

Prognosis

In addition to the A.D.L. tests a more general score of prognosis was devised. This was given to each patient by the Occupational Therapist responsible for treatment upon discharge from the study. Prognosis was based on a straightforward 'good', 'fair' and 'poor' classification. The results are shown below:

TABLE 3

	Good	Fair	Poor	Died	Not Tested
Study Group	18	6	7	10	9
Control Group	14	16	9	9	10

No significant difference was found in the prognosis of patients.

Place of discharge

The following results were found when comparing the outcome of survivors :-

Table 4.

	Home	Residential Care	Other hospital/ other specialty	Still in hospital*
Study Group	24	5	8	3
Control Group	35	6	7	1

(* These patients were still in hospital two months after the end of the study).

No significant difference was found in the outcome of discharged patients.

V COMPARISON OF THE STUDY AND CONTROL GROUPS

To ensure that randomisation had produced similar groups, some characteristics of patients were compared. These were:

- Reasons for exclusion from trial
- Age composition
- Source of admission
- Type of fracture
- Type of internal fixation used in repair
- Time interval between admission and operation
- Death rate.

None of the above characteristics differed significantly between the Study and Control Group (See Appendix D.)

In addition, two indicators were used in order to gain some impression of the 'quality' of patients admitted to the study. These were:

i) a self-reported assessment of the level of pre-admission functional ability.
ii) an early post-operative mobility assessment.

Self-reported functional assessment

The Study Assessor interviewed each patient at an early stage of admission to ascertain functional activity prior to hospitalisation. This was based on the patient's own self-reported level of independence in dressing, toileting and cooking. The scoring system used was the same as in Table 2.

The following results were obtained:

TABLE 5

Dressing (self-reported level of ability prior to admission)

	Level of Ability				
	1	2	3	4	Nil response
Study Group	34	0	0	0	16
Control group	37	1	0	0	20

TABLE 5 continued

Toileting (self-reported level of ability prior to admission)

	Level of Ability				
	1	2	3	4	Nil response
Study Group	32	1	1	0	16
Control Group	38	0	0	0	20

Cooking (self-reported level of ability prior to admission)

	Level of Ability				
	1	2	3	4	Nil response
Study Group	25	0	7	0	18
Control Group	31	0	7	0	20

Prior to admission most patients in both groups reported that they were independent particularly in dressing and toileting. Cooking was a more dependent activity, most commonly undertaken with the help of other people. No significant difference however was found between the two groups in the level of independence of any of these three activities. However it should be emphasised that the self-reported scores were not confirmed from any other independent source.

Post-operative mobility assessment

Although not an assessment of function prior to admission to hospital, this assessment undertaken at an early stage of post-operative recovery, can reflect the patients general physical and mental health up to and including operation.

Description of assessment:

10th post-operative day - ability to stand at the 10th post-operative day to try to give a baseline indication of the patient's ability. However this does vary with the type of internal fixation, therefore this may not have been the most appropriate point to establish a baseline.

The following results were obtained:

TABLE 6.

	Level of ability									
	1	2	3	4	5	6	7	8	9	Total
Study Group	0	11	6	14	2	5	7	0	5	50
Control Group	3	12	4	22	2	4	9	0	2	58

Most patients at the 10th post-operative day were able to stand with the help of aids and/or people. Some patients however due to the type of internal fixation used were unable to be tested at this stage. No significant difference was found between the two groups of patients.

Summary of comparison of the Study and Control Groups

From the characteristics measured no apparent differences in the types of patients allocated to each group was found. Qualitatively, from the two tests performed, no significant difference was discernable.

Conclusion

Much enthusiasm and optimism has been expressed in the medical literature for combined Geriatric-Orthopaedic management of traumatic orthopaedic surgery in the elderly. Existing studies have shown that where jointly managed units have been created that savings in bed days utilised can be achieved, although no evidence exists to date that joint management increases the overall proportion of patients successfully rehabilitated nor improves the quality of life of discharge patients.

Our study must sound a note of caution in this debate without necessarily disrupting the harmonious relationships that exist already between these two specialties. How typical the results of this joint management experiment are and how far they can be extrapolated to other districts, we are sure will be the topic of some debate.

We realise that the number of patients treated in this study by joint management are relatively small and that a learning process requiring more patients may be needed before improvements are made. Greater experience in joint specialty cooperation might yield different results but unfortunately a longer term study of this kind was not possible within the overall time-scale of our project.

We believe that future projects of this kind will however encounter some of the practical problems which the Huddersfield experiment met, and that the outcome of this type of venture could possibly be repeated by others. This is particularly relevant where a joint Geriatric-Orthopaedic system of management is created from existing resources by a marginal shift in use, where personnel must make-do-and-mend and continue to have responsibility for other patients.

Ideally, patients should be managed on one hospital site where their treatment can be overseen from start to finish by both Orthopaedic Surgeons and Geriatricians. In this study patients started off on the acute orthopaedic ward at the main District General Hospital and were transferred in the early post-operative period to jointly managed Geriatric/ Orthopaedic beds. Apart from the inconvenience of this arrangement for patients and staff, patients could not be looked after by the same set of nurses, physios, occupational therapists and social workers during hospital stay. This arrangement may not have facilitated optimal team management regarded as essential in the process of rehabilitation.

At the early stage of admission it has been suggested by proponents of the joint management concept that the Geriatrician must have immediate and on-going access to patients. Our study patients were admitted to the District General Hospital three miles from the base of the Geriatricians and whilst at least one early post-operative visit was made in each case, this distance was an obvious disadvantage to daily patient contact.

On the cost side of the joint management equation, our study has shown no savings in bed-days utilised despite a

similar quality of patient and place of discharge pattern in both of the groups compared. Some improvement in the length of stay of cases of fractured neck of femur might have been expected since in comparison with Regional and National indicators[4] this was higher than average (see Table 7). Without savings of this kind a more intensive regime, such as joint management, inevitably proved to be more expensive in real terms. The magnitude of this additional expense however is quite small in proportion to total hospital costs and we feel this alone should not deter the consideration of such a system.

TABLE 7. Average length of hospital stay of patients over 75 years with fractured neck of femur 1983/84.

Huddersfield	Yorkshire Region	England
46.7 days	34.8 days	34.4 days

On the benefit side of the equation however we might have expected some better results from the higher levels of inputs utilised by the study group. This we did not discover from the A.D.L.'s tests, comparing prognoses and analysing place of discharge. Future Geriatric-Orthopaedic collaborations should, we feel, take particular care in assessing the impact on length of hospital stay and the personal benefits to patients.

If at all possible studies should also take account of the quality of life of patients after discharge from hospital. The authors are currently following up those patients discharged back into the community and will report in due course on this exercise.

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Appendix A

Length of Stay by Consultant team

1. Joint Geriatric-Orthopaedic management

*	No. of Patients	Mean Length of Stay (days)
Pair A	1	16
" B	16	52
" C	3	81
" D	15	64
" E	1	27
" F	14	52

* Due to retirements, pairings changed during the study. The most constant pairings are underlined.

2. Orthopaedic management only

	No. of Patients	Mean Length of stay (days)
Consultant A	17	33
" B	3	72
" C	12	47
" D	26	48

Appendix B

1. Average length of stay for all cases of fractured neck of femur in study

$$= \frac{44 + 56}{2} = 50 \text{ days}$$

Average cost per day (over both units) $= \frac{69.64 + 32.88}{2} = £51.26$

Average cost per patient = $50 \times 51.26 = £2,563$

2. Total cost per study patient = £2563 + £151.2 = £2714.2

Total cost per control patient = £2563 + £55.1 = £2618.1.

$\therefore$ % increase $= \frac{2714.2 - 2618.1}{2618.1} \times 100 = 3.6\%$.

Appendix C

TABLE A. STANDING

Description of assessment:

Standing - the ability to stand, as correctly as possible with even weight distribution through both feet with or without aids and/or people. General posture should be reasonable.

4th week score

	Level of ability									
	1	2	3	4	5	6	7	8	9	Total
Study group	2	2	3	3	16	0	4	13	7	50
Control group	3	11	4	2	9	0	9	17	3	58

Progress at the 4th week was not significantly different (x^2_6 0.05 = 11).

Discharge score

	Level of ability									
	1	2	3	4	5	6	7	8	9	Total
Study group	13	14	4	0	5	0	4	0	10	50
Control group	17	16	6	1	6	0	3	0	9	58

On discharge, most patients in both groups undertook this activity independently or with the help of an aid (frame or sticks). No significant difference was found between the two groups. (x^2_6 0.05 = 0.51).

Level of Ability key

1 = Independently
2 = With the help of aids
3 = With the help of people
4 = With the help of people and aids
5 = Not well enough to be tested
6 = Non-weight bearing
7 = Not tested - other reason
8 = Discharged
9 = Died.

Appendix C contd.

TABLE B. GETTING IN AND OUT OF BED

Description of assessment :

Getting in/out bed - the ability to sit correctly on the side of the bed, swing the legs onto the bed and lie comfortably on the bed with or without help and to reverse the procedure to get out of bed.

4th week score

	Level of Ability									
	1	2	3	4	5	6	7	8	9	Total
Study Group	4	0	3	0	20	0	3	13	7	50
Control group	12	1	3	0	14	0	8	17	3	58

Progress at the 4th week was not significantly different between the two groups (x^2_6,0.05 = 9.6).

Discharge Score

	Level of Ability									
	1	2	3	4	5	6	7	8	9	Total
Study Group	19	1	5	3	8	0	4	0	10	50
Control group	32	1	3	0	10	0	3	0	9	58

On discharge most patients in both groups were able to undertake this activity independently. No significant difference was found between the two groups (x^2_6,0.05 = 6.3).

Level of Ability key

1 = Independently
2 = With the help of aids
3 = With the help of people
4 = With the help of people and aids
5 = Not well enough to be tested
6 = Non-weight bearing
7 = Not tested - other reason
8 = Discharged
9 = Died.

Appendix C contd.

TABLE C. GETTING IN AND OUT OF A CHAIR

Description of assessment :

Chair - the ability to sit down and stand up correctly from a reasonable height chair.

4th week score

	Level of ability									
	1	2	3	4	5	6	7	8	9	Total
Study Group	5	0	1	2	18	0	4	13	7	50
Control Group	10	3	3	3	11	0	8	17	3	58

Progress at the 4th week was not significantly different between the two groups (x^2_6, 0.05 = 12.)

Discharge score

	Level of ability									
	1	2	3	4	5	6	7	8	9	Total
Study Group	22	1	6	1	6	0	4	0	10	50
Control Group	29	4	4	1	8	0	3	0	9	58

On discharge most patients in both groups were able to undertake this activity independently. No significant difference was found between the two groups (x^2_6, 0.05 = 2.8.)

Level of Ability key

1 = Independently
2 = With the help of aids
3 = With the help of people
4 = With the help of people and aids
5 = Not well enough to be tested
6 = Non-weight bearing
7 = Not tested - other reason
8 = Discharged
9 = Died.

Appendix C contd.

TABLE D. WALKING 5-10 STEPS

Description of assessment :

Walking 5-10 steps - the ability to walk 5-10 steps with or without assistance maintaining reasonable weight bearing and posture.

4th week score

	Level of Ability									
	1	2	3	4	5	6	7	8	9	Total
Study group	0	5	0	3	19	0	3	13	7	50
Control group	0	12	1	6	11	0	8	17	3	58

Progress at the 4th week was not significantly different between the two groups (x^2_6, 0.05 = 11).

Discharge score

	Level of Ability									
	1	2	3	4	5	6	7	8	9	Total
Study Group	0	28	0	2	6	0	4	0	10	50
Control Group	1	31	2	4	8	0	3	0	9	58

On discharge most patients in both groups could manage this test with the assistance of a walking aid. No significant difference was found between the two groups (x^2_6, 0.05 = 2.2).

Level of Ability key

1 = Independently
2 = With the help of aids
3 = With the help of people
4 = With the help of people and aids
5 = Not well enough to be tested
6 = Non-weight bearing
7 = Not tested - other reason
8 = Discharged
9 = Died.

Appendix C contd.

TABLE E. DRESSING : TOP HALF OF BODY

Description of assessment :

The ability to dress top half correctly and to recognise sequence and put on clothes correctly with or without aids or people.

4th week score

	Level of Ability									
	1	2	3	4	5	6	7	8	9	Total
Study group	7	0	0	0	20	0	3	13	7	50
Control group	12	1	0	1	14	0	10	17	3	58

Progress at the 4th week was similar with some patients having achieved independence whilst the others still in hospital were not well enough to be tested. No significant difference between the groups was found (x^2_6, 0.05 = 7.3).

Discharge score

	Level of Ability									
	1	2	3	4	5	6	7	8	9	Total
Study Group	30	0	0	1	5	0	4	0	10	50
Control Group	34	3	1	1	7	0	3	0	9	58

At discharge most patients in both groups could dress the top half of their body independently. No significant difference was found between the two groups (x^2_6, 0.05 = 2.3).

Level of Ability key

1 = Independently
2 = With the help of aids
3 = With the help of people
4 = With the help of people and aids
5 = Not well enough to be tested
6 = Non-weight bearing
7 = Not tested - other reason
8 = Discharged
9 = Died.

Appendix C continued

TABLE F. DRESSING : LOWER HALF OF BODY

Description of assessment:

The ability to dress lower half of the body correctly bearing in mind precautions necessary with some varieties of internal fixation. The ability to recognise sequence and put on clothes correctly with or without aids or people.

4th week score

	Level of ability									
	1	2	3	4	5	6	7	8	9	Total
Study group	3	1	0	1	22	0	3	13	7	50
Control group	4	6	1	3	14	0	10	17	3	58

Progress at the 4th week was not significantly different between the two groups with most patients still in hospital not well enough to undertake this activity (x^2_6 0.05 = 11).

Discharge score

	Level of ability									
	1	2	3	4	5	6	7	8	9	Total
Study group	13	10	2	2	9	0	4	0	10	50
Control group	16	16	4	2	8	0	3	0	9	58

At discharge most patients were able either to dress their lower half independently or with the help of dressing aids. Some patients required the help of people and/or aids. No significant difference however was found between the two groups (x^2_6, 0.05 = 1.2).

Level of Ability key

1 = Independently
2 = With the help of aids
3 = With the help of people
4 = With the help of people and aids
5 = Not well enough to be tested
6 = Non-weight bearing
7 = Not tested - other reason
8 = Discharged
9 = Died.

Appendix D

COMPARISON OF THE STUDY AND CONTROL GROUPS

i) Reasons for Exclusion

	Study	Control
Confusion > 3 months	1	0
Terminal illness	1	1
Admission from other Specialty/hospital/district	10	8
Other reasons	2	2

($x^2_{3,0.05} = 7.815$)

ii) Age Composition

	Study	Control
65 - 74	8	7
75 - 84	16	22
85 - 94	24	27
95 +	2	2

($x^2_{3,0.05} = 7.815$)

iii) Source of Admission

	Study	Control
Own home	37	46
Residential Care	12	10
Other hospital/area	1	2

($x^2_{2,0.05} = 5.991$)

iv) Type of fracture

	Study	Control
Sub-capital	28	35
Trochanteric	10	18
Sub-trochanteric	12	5

($x^2_{2,0.05} = 5.991$)

v) Type of internal fixation used

	Study	Control
O.A. Screws	17	17
D.H. Screws	13	12
Pin and Plate	10	10
Austin-Moore Pros.	1	2

	Study	Control
Cemeted Hastings	5	11
Ender's Nail	0	1
Thompson Head Pros.	1	1
Not coded	3	4

($x^2_{6,0.05} = 12.59$)

vi) Time interval between admission and operation

	Study	Control
1 - 2 days	23	29
3 - 4 days	14	10
5 - 6 days	5	10
7 - 8 days	3	2
9 +	2	3
Not coded	3	4

($x^2_{4,\ 0.05} = 9.488$)

vii) Death Rate

	Study	Control
Deaths	10	9