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Original Article

The Impact of Clinical Trials on the Treatment of Lung Cancer

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Abstract. A large number of clinical trials have been conducted in lung cancer, but very few surveys have attempted to assess their impact on actual clinical practice. A questionnaire was therefore designed to address this question, and, in addition, to collect information on the numbers of patients referred and entered into trials by radiotherapists and medical oncologists in 1991.

The questionnaire was sent to all 295 radiotherapists and medical oncologists in the UK, and the response rate was 81%. The respondents had 12 640 lung cancer patients referred to them and entered 2352 of them into trials. These numbers indicate that only 40% of all lung cancer patients are referred to a radiotherapist or medical oncologist, and suggest that, overall, fewer than 5% are entered into trials.

Large multicentre randomized clinical trials were widely quoted as having an impact, and participants in trials were more likely to adopt trial results into their practice.

Keywords: Clinical practice; Clinical trials; Impact; Lung cancer

INTRODUCTION

Nearly 40 000 people in the UK die from lung cancer each year [1,2], thus any changes in their survival, quality of life or associated economic measures can have a major effect on many patients, doctors and support staff.

Clinical trials are assumed to play an essential role in the development and evaluation of new treatment regimens and in the confirmation of the role of standard treatments. However, despite the fact that a large number of clinical trials, both randomized and non-randomized, have now been conducted in lung cancer, very few surveys have attempted to assess the impact that these trials have had on clinical practice.

Benghiat [3], considering all cancer disease sites, concluded that only a few specific trials appeared to have made an impact in the UK. The factors that these few trials had in common were that they were national rather than local, British rather than overseas, and that the majority of those clinicians influenced by the results were themselves participants in the trial.

Priestman et al. [4], as part of the Royal College of Radiologists' Fractionation Survey, which sought to define the range of radiotherapy regimens used in the UK for common clinical situations, also investigated the factors which influenced the choice of fractionation schedule. The results suggested that, when it came to choosing the treatment for a patient, results from clinical trials influenced the choice in only 1%–5% of cases.

The principal aim of our survey was to assess the impact of lung cancer trials on clinical practice, by asking repondents to list: 'Which trials have influenced your practice?'. This was the approach adopted by Benghiat, but his results, quoting the numbers of clinicians, gave no indication of the potential number of patients this could affect. We therefore also wanted to discover the actual number of patients whose treatment may have been changed. By conducting this survey we were able to assess the percentage of lung cancer patients being entered into clinical trials, multicentre randomized trials in particular, and to examine Benghiat's finding that those most influenced by trials were the participants.

We were also interested in trying to assess the influence of the results of two recently published large multicentre lung cancer trials conducted by the MRC Lung Cancer Working Party. The first palliative radiotherapy trial [5] for non-small cell lung cancer (NSCLC) had shown that 17 Gy in 2 fractions was as effective in palliating symptoms as the standard regimen of 30 Gy in 10 fractions. The fourth small cell trial [6] compared 'maintenance chemotherapy' (12 courses of a four-drug chemotherapy regimen) versus 'no maintenance chemotherapy' (six courses of the same regimen), and showed no advantage to continuing chemotherapy beyond six courses. Thus, both trials, if generally adopted, could have a major impact on clinical practice, by potentially saving patients undergoing, clinicians prescribing and hospitals funding unnecessary treatment.

Finally, we took this opportunity to survey the journals which were read regularly by the clinicians, as it is important for authors of trial reports to choose the publications where their results will obtain maximum exposure to relevant readers.

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METHODS

A draft questionnaire was designed, consisting of nine questions requesting the number of new lung cancer patients referred in 1991, the number entered into trials, the trials which had changed or confirmed standard practice, the reasons for not entering eligible patients into trials, the reasons why patients were ineligible, what might influence clinicians to participate in trials, and, finally, the reasons, other than the results of trials, for changes in practice.

The draft questionnaire was piloted by sending it to eight clinicians, who were asked for their comments on its design and content. They were also asked to try to complete the questionnaire in order to assess the ease and relevance of the questions and to give us an idea of the range of answers we might expect. As a result of this pilot run the questionnaire was greatly simplified and the final version contained only six questions (Appendix A).

The survey consisted of the consultant radiotherapists and medical oncologists on the current membership lists of the Royal College of Radiologists and Royal College of Physicians, respectively. Our time schedule for the project was as follows:

1 February 1992 – Questionnaire and covering letter sent out

1 March 1992 – Second copy of questionnaire sent to non-responders

1 April 1992 – 'Progress report' sent to the whole survey population

1 May 1992 – Final request sent to non-responders

1 June 1992 – Database closed

RESULTS

Response to the Questionnaire

The questionnaire was sent to a total of 295 clinicians, comprising 232 radiotherapists and 63 medical oncologists. In all, 239 (81%) questionnaires were returned, 183 (79%) from radiotherapists and 56 (89%) from medical oncologists; these form the basis for the analyses. For one radiotherapist who replied on behalf of his department, the numbers of patients seen and the number entered into trials were divided equally between him and his 12 colleagues.

Number of Patients Seen and Number of Patients Entered Into Trials

The number of new lung cancer patients referred to clinicians in 1991 is shown in Table 1. The median number of new lung cancer patients per clinician for the two disciplines was 50 and six, respectively; 18% of radiotherapists saw more than 100 new lung cancer patients, compared with only 4% of medical oncologists.

Clinicians who responded to the questionnaire, but indicated that they were not referred any lung cancer patients in 1991, were not asked to complete the remainder of the questionnaire. The following results are based on responses from 157 radiotherapists and 38 medical oncologists who were referred lung cancer patients.

Table 1. Number of new lung cancer patients referred to clinicians in 1991

No. patients referred to each clinician	No. radiotherapists (n=183) (%)	No. medical oncologists (n=56) (%)
0	26 (14)	18 (32)
1–10	10 (5)	20 (36)
11–50	64 (35)	13 (23)
51–100	51 (28)	3 (5)
101–150	22 (12)	2 (4)
151–250	9 (5)	0 (0)
250+	1 (1)	0 (0)
No. patients referred	**Radiotherapists**	**Medical oncologists**
Total	11 568	1072
Mean	63.2	19.1
Median	50	6

Table 2 shows the number of patients who were entered into clinical trials in 1991. The median number of patients entered by the clinicians who were referred lung cancer patients was three by radiotherapists, and six by medical oncologists. Overall, medical oncologists entered 57% of the lung cancer patients referred to them into trials, compared with 15% by the radiotherapists.

Table 2. Number of lung cancer patients entered into trials in 1991 (based on the clinicians who were referred lung cancer patients)

No. patients entered into trials	No. radiotherapists (n=157) (%)	No. medical oncologists (n=38) (%)
0	70 (45)	12 (32)
1–10	40 (26)	11 (29)
11–50	41 (26)	12 (32)
51–100	5 (3)	3 (8)
100+	1 (1)	0 (0)
No. patients entered into trials	**Radiotherapists**	**Medical oncologists**
Total	1738	614
Mean	11.1	16.2
Median	3	6

The type of trial into which these patients were entered is shown in Table 3. Of the patients entered by radiotherapists, more than half (55%) were entered into multicentre randomized trials, compared with only a third (35%) of the patients entered by medical oncologists. Medical oncologists entered nearly half (45%) of their patients into single centre

Table 3. Types of trials into which patients were entered in 1991

Type of trial	Radiotherapists		Medical oncologists	
	Clinicians	Patients (n=1738) (%)	Clinicians	Patients (n=614) (%)
Multicentre randomized	56	959 (55)	15	217 (35)
Multicentre non-randomized	6	70 (4)	1	8 (1)
Single centre randomized	28	423 (24)	6	112 (18)
Single centre non-randomized	27	286 (16)	17	277 (45)

Table 4. Trials quoted by radiotherapists as having an influence on their clinical practice (mentioned by ≥3 radiotherapists or potentially affecting ≥250 patients per annum)

	No. of patients in trial	No. clinicians	Total no. patients referred
Specific trials			
MRC 1st palliative radiotherapy [5]	374	56	4356
MRC 4th small cell [6]	542	18	993
CHART bronchus trial[a]	600[b]	10	720
MRC 2nd palliative radiotherapy [7]	235	9	1509
MRC selective treatment in SCLC [8]	162	5	334
MRC 5th small cell[c]	491	4	295
MRC 4th non-small cell[a]	509	3	570
West of Scotland oral etoposide [9]	27	1	250
Series of trials			
MRC SCLC trials		24	1755
MRC NSCLC trials		24	1421
University College Hospital trials		6	520
West Midlands MIC chemotherapy		4	445
Groups of individual trials			
Chemotherapy in SCLC		15	1422
Radiotherapy in SCLC		3	315
Surgery in SCLC		2	320
PCI in SCLC		3	280
Radiotherapy in NSCLC		6	510
Chemotherapy in NSCLC		5	660
Postoperative radiotherapy		3	247

[a]Protocol available from MRC Cancer Trials Office, 1 Brookland Avenue, Cambridge CB2 2BB.
[b]Target figure.
[c]In preparation.

non-randomized studies; radiotherapists entered only 16%.

Thus, overall, 8% of the lung cancer patients referred to radiotherapists, and 20% of those referred to medical oncologists, were entered into multicentre randomized trials.

The Impact of Lung Cancer Trials

As mentioned above, one radiotherapist responded on behalf of his large department, and as we have no information on the trials which influenced these individual clinicians, they have been excluded from the following analyses of replies from the remaining 144 radiotherapists.

Overall, 104 (72%) of the 144 radiotherapists, and 29 (76%) of the 38 medical oncologists reported that the results of trials had influenced their clinical practice. Although most clinicians gave details of individual trials, some quoted series of trials conducted by single organizations (e.g. MRC small cell trials) and some merely quoted trials relating to specific treatments (e.g. chemotherapy trials in NSCLC). Tables 4 and 5 have therefore been divided into these three sections, and, where feasible, the remaining individual studies have been combined together to form groups (e.g. radiotherapy in SCLC) and added to the third section.

In an attempt to gauge the potential impact on

Table 5. Trials quoted by medical oncologists as having influenced their practice (mentioned by ≥3 medical oncologists or potentially affecting ≥150 patients per annum)

	No. of patients in trial	No. clinicians	Total no. patients referred
Specific trials			
MRC 4th small cell [6]	542	6	221
Oral etoposide [10]	40	5	34
Series of trials			
UCH Trials		5	93
West Midlands MIC Trials		3	41
Groups of individual trials			
Chemotherapy in SCLC		15	457
Radiotherapy in SCLC		4	195
Chemotherapy in NSCLC		7	241

Table 6. Mean number of trials mentioned as influential by number of patients entered into trials

No. of patients entered into trials	Radiotherapists		Medical oncologists	
	Clinicians (n=144[a])	Mean no. trials	No. clinicians (n=38)	Mean no. trials
0	70	0.9	12	1.5
1–10	40	1.6	11	1.8
11–50	28	2.1	12	1.7
>50	6	3.8	3	2.7

[a]Excludes the 13 clinicians where one replied on behalf of the whole department.

patients, the number of new lung cancer patients referred to those clinicians who stated they had been influenced by a particular trial has also been included. This number represents the total number of lung cancer patients referred; clearly not all of these will be suitable for a particular form of treatment. For example, it is estimated that at least 70% of new lung cancer patients referred to radiotherapists will have inoperable NSCLC suitable for palliative radiotherapy (Macbeth, personal communication).

Table 4 shows the trials which were most frequently reported as having a significant effect on the clinical pratice of radiotherapists. This table contains all of the trials mentioned by three or more radiotherapists, or those potentially affecting 250 or more patients per annum. The individual trial mentioned most frequently was the MRC first palliative radiotherapy trial (which compared 30 Gy in 10 fractions against 17 Gy in 2 fractions for inoperable NSCLC patients). This trial was specifically mentioned by 56 (39%) of the 144 radiotherapists who were referred lung cancer patients in 1991. These 56 clinicians were referred a total of 4356 lung cancer patients, which represents the potential population whose treatment may have been changed by this trial. A further 24 radiotherapists quoted the MRC series of NSCLC trials (which included the first palliative trial).

Table 4 also shows, for each of the specific trials, the size of the trial by listing the numbers of patients entered; it was noticeable that all the trials which had the most influence were large, the first three all involving more than 350 patients.

Table 5 shows the trials which had the most influence on the practice of medical oncologists, either in terms of three or more clinicians mentioning the trial or, since far fewer patients were seen, potentially affecting the treatment of 150 or more patients per annum. The individual trial mentioned most frequently was the MRC fourth small cell trial, which influenced the practice of six (16%) of the 38 medical oncologists and which could possibly have affected the treatment of a maximum of 221 patients.

In an attempt to discover whether clinicians who enter patients into trials are themselves most influenced by the results of trials, Table 6 shows the mean number of trials mentioned as affecting clinical practice by the number of patients actually entered into trials. There is clear evidence that radiotherapists who enter the largest number of patients into trials are most influenced by trial results. For those who did not enter any patients into trials in 1991 the mean number of trials mentioned was 0.9 and this figure rises to 1.6, 2.1 and 3.8 for those entering 1–10, 11–50 and >50 patients respectively. Similar figures were reported for the medical oncologists, although one might have expected them to be more influenced by the results since they enter a much higher percentage of their patients into trials.

For the 104 radiotherapists and 29 medical oncologists who said they were influenced by trials, Table 7 shows the type of trials mentioned as having an impact on clinical practice. Whereas 95% of radiotherapists were influenced by multicentre randomized trials and only 11% by single centre non-randomized studies, the respective percentages for medical oncologists were 72% and 31%.

Table 7. Types of trials mentioned as having an impact on clinical practice

Type of trial	No. radiotherapists (n=104) (%)	No. medical oncologists (n=29) (%)
Multicentre randomized	99 (95)	21 (72)
Multicentre non-randomized	2 (2)	5 (17)
Single centre randomized	10 (10)	8 (28)
Single centre non-randomized	11 (11)	9 (31)

The Impact of Specific MRC Lung Cancer Trials

Clinicians were asked specifically whether they were aware of the results of two recently published MRC trials.

The First MRC Palliative Radiotherapy Trial for Inoperable NSCLC (30 Gy in ten fractions versus 17 Gy in two fractions which showed no difference in survival or adverse effects)

Of the 144 radiotherapists who were referred lung cancer patients in 1991, 143 (99%) were aware of the results of the MRC first palliative radiotherapy trial, and 80 (48%) had changed their practice, either as a result of this trial or the series of radiotherapy

fractionation trials conducted by the MRC. A number of radiotherapists stated that this trial had not changed their practice because they were already using reduced fractionation, or were using it for specific subgroups of patients. There was also concern expressed that a short course of high doses would result in increased toxicity and that it did not allow the normal doctor/patient relationship to develop. Several, therefore, preferred a regimen of between 20 and 25 Gy in 5 or 6 fractions.

Of the 38 medical oncologists who were referred lung cancer patients, 32 (84%) were aware of the results of the first palliative trial. However, as this was a trial of radiotherapy regimens, it was not directly relevant to most medical oncologists, and thus only three mentioned that it had changed their practice.

Of the 83 clinicians (80 radiotherapists, three medical oncologists) who were influenced to change their practice by this trial, 13 participated in the trial, and a further 17 worked in participating hospitals. The remaining 53 clinicians changed their practice despite not taking part in this trial.

The Fourth MRC Small Cell Trial (12 courses of chemotherapy versus six courses which showed no advantage in prolonging treatment)

Of the 144 radiotherapists, 130 (90%) were aware of the results of the MRC fourth small cell trial, and 18 had changed their practice as a direct result of it. A further 24 had changed their practice as a result of the series of trials in SCLC conducted by the MRC. Most of those who did not change their practice were either already using six or fewer courses of chemotherapy, or rarely saw patients with SCLC.

Thirty-five (92%) of the 38 medical oncologists were aware of the results of this trial, and six had since changed their practice. The majority who did not change indicated it was because they already gave six or fewer courses.

Of the 48 clinicians (42 radiotherapists, six medical oncologists) who changed practice as a result of this trial, or the series of MRC small cell trials, ten participated in the trial or worked in participating hospitals. Thus, 38 clinicians changed their practice despite not taking part in this trial.

Journals

In response to the question: 'Which medical journals do you always read?', a total of 51 different journals was mentioned. The mean number of journals mentioned was 3.8 by the radiotherapists, and 4.5 by the medical oncologists.

Table 8 shows the ten most frequently quoted journals for radiotherapists and medical oncologists. The only journals which were reported as always being read by more than half of the radiotherapists were the *British Medical Journal* (76%) and *Clinical Oncology* (75%). For medical oncologists these were the *Journal of Clinical Oncology (71%), the British Journal of Cancer* (68%), the *British Medical Journal* (63%) and *The Lancet* (55%).

Table 8. The ten most frequently quoted journals always read by clinicians

	No. clinicians (%)
Radiotherapists	
British Medical Journal	109 (76)
Clinical Oncology	108 (75)
The Lancet	56 (39)
International Journal of Radiation Oncology Biology and Physics	54 (38)
Radiotherapy Oncology	35 (24)
British Journal of Cancer	31 (22)
British Journal of Radiology	28 (19)
Cancer	22 (15)
New England Journal of Medicine	21 (15)
Journal of Clinical Oncology	15 (10)
Medical oncologists	
Journal of Clinical Oncology	27 (71)
British Journal of Cancer	26 (68)
British Medical Journal	24 (63)
The Lancet	21 (55)
New England Journal of Medicine	12 (32)
European Journal of Cancer	8 (21)
Cancer	8 (21)
Cancer Research	8 (21)
Annals of Oncology	8 (21)
Journal of the National Cancer Institute	6 (16)

DISCUSSION

Our survey supports the findings of Benghiat [3] in demonstrating that, of all trials, large multicentre UK randomized trials have the most impact on changing clinical practice. We have confirmed that participants in trials are influenced by the results, although there was evidence from the two specific MRC trials studied that non-participants were also influenced.

The results of our survey indicates that radiotherapists were strongly influenced by the MRC series of radiotherapy fractionation trials, which is an area of treatment where clarification was needed, and the results have been well accepted and incorporated into clinical practice. The fact that these trials recommended a shorter regimen may have made them easier to adopt. The recent audit by the Royal College of Radiologists [11] showed that 59% of centres now use one or two fractions for palliative radiotherapy, and, of those who do so, 56% cited the results of trials as the reason for changing.

The situation for medical oncologists is somewhat different as they see far fewer lung cancer patients, and a very wide range of chemotherapy regimens is used; thus, it is more difficult to organize and conduct large randomized chemotherapy trials. Nevertheless, the fact that medical oncologists are most influenced by multicentre randomized trials suggests that suitable trials need to be designed to encourage participation, and the fact that they enter over 50% of their patients into trials indicates a strong commitment to such research.

Overall, the surprisingly small number of trials which were reported as having a significant effect on clinical practice may appear disappointing when one considers how many trials have been conducted in the UK. However, one must remember that trials are not always designed to bring about changes in clinical practice, they may be run to confirm current practice, or to investigate a new theory, and indeed the results of many trials are negative (i.e. the 'standard' treatment is not found to be significantly different from the 'experimental' treatment). Even trials which show a significant difference in the treatment groups may need to be replicated before the results are accepted (Parmar and Simon, personal communication). One should therefore not expect all trials to have an immediate discernible effect. With the recent emergence of overviews, even trials which are not large enough individually to produce a reliable positive or negative answer can be valuable [12].

If we assume that our 81% response rate is representative of the whole survey population, it can be estimated that a total of approximately 16 000 new lung cancer patients were referred to radiotherapists and medical oncologists in 1991 (approximately 40% of the total cases in the UK), radiotherapists being referred approximately 14 750 patients and medical oncologists approximately 1250 patients. Of the remaining 24 000 patients, a small proportion will be successfully operated on by a chest surgeon and therefore never need to be referred to a radiotherapist or medical oncologist. We estimate that approximately half of all lung cancer patients will either be seen by their GP alone, or a chest or general physician with no further referral.

It can also be estimated that approximately 3000 patients, just under 20% of the patients seen by radiotherapists or medical oncologists, were entered into trials. This figure is composed of approximately 1500 being entered into multicentre randomized trials, 100 into multicentre non-randomized trials, 700 into single centre randomized trials and 700 into single centre non-randomized trials. In 1979, Tate et al. [13] reported that only just over 1% of newly diagnosed lung cancer patients were being entered into multicentre randomized trials. Although our figures do not allow us to estimate accurately the current situation (information is not available for almost 25 000 patients who are not referred to a radiotherapist or medical oncologist), the number of patients entered into trials does appear to have increased. A survey of the impact of trials on the clinical practice of chest physicians and thoracic surgeons is now needed to complete the picture for lung cancer and to estimate how many patients enter trials. In addition, the questions in our draft questionnaire which were subsequently dropped from the final version, regarding the reasons why patients were not entered into trials, also need consideration. A reliable answer to these questions could now be readily obtained by surveying the 88 clinicians identified in our survey who see more than 50 lung cancer patients per annum.

It is still disappointing that probably less than 5% of all lung cancer patients are being entered into trials. With lung cancer causing a quarter of all cancer deaths in the UK and 6% of all deaths [1,2], there is enormous scope for improving treatment through the organization of trials. Although major progress in improving the survival rate may have to wait for the emergence of new drugs, there are still many ways in which patients' quality of life can be improved: shorter durations of treatment, better palliation of symptoms and less toxicity. Of course patients can only be entered into multicentre randomized trials if the organizations exist to conduct them, if the trials' eligibility criteria allow the inclusion of a large number of patients, and if financial support is available for the necessary extra resources involved. Of the calculated 1500 patients entered into multicentre randomized trials in 1991, 474 (approximately one-third) were entered into MRC lung cancer trials.

At the time this survey was conducted, only the first palliative radiotherapy trial, of the series of MRC radiotherapy fractionation trials, had been published, and therefore a specific question on this was incorporated. Those clinicians who were not influenced by this trial were asked to give reasons. It was clear from their answers that there was still concern about the toxicity associated with large fraction radiotherapy to the mediastinum, and that many still preferred a more fractionated regimen, such as 20 Gy given in four or five daily fractions. This regimen is currently being compared with the 17 Gy in two fractions regimen in a randomized trial conducted by the Bristol Oncology Centre which is close to completing its proposed intake of 200 patients (protocol available from Dr G. J. Rees, Bristol Oncology Centre, Horfield Road, Bristol BS2 8ED).

Although there was excellent awareness of the results of the MRC fourth small cell trial, this being the trial most frequently mentioned by medical oncologists as having changed their practice, it clearly did not lead to as many changes in practice as the first palliative radiotherapy trial. There are a number of possible reasons for this. First many clinicians were already giving six or fewer courses of chemotherapy and the trial served to confirm their standard practice. Secondly, whereas very few radiotherapy fractionation trials have been carried out, many trials of different combinations and durations of chemotherapy have been conducted, and groups of trials considering similar policies influenced clinicians more than individual trials. Finally, this particular trial may have had more relevance to chest physicians, rather than medical oncologists who, as our figures suggest, may be more involved in trials of the earlier stages of treatment development (i.e. Phase I and II studies).

An encouraging finding from the survey was that trial results have influenced a wider group of clinicians than just those who participate in the trials. In the case of the two specific MRC trials, although the majority of participants were influenced by the results to change their practice, it is very reassuring to see that a large number of influenced clinicians were non-participants. This surely is the acid test of the acceptance of a clinical trial.

There is little point in conducting trials if the results are not widely publicized, but it is clear that there is good awareness of the results of MRC trials, despite the fact that both of these trials were pub-

lished in a journal which did not figure highly on the list of journals which these clinicians always read. There are of course other ways of publicizing the results of trials and the MRC has always had a high profile at relevant conferences. Nevertheless, one might surmise that future publications could reach an even wider audience if they were published in either a general journal or a journal relevant to the particular trial.

This survey has generally confirmed the conclusions reached by Benghiat [3]. It has shown that a small number of multicentre randomized clinical trials have a major influence on the routine practice of clinicians in the UK, and that the majority of trials mentioned were British; but it does also indicate that some trials, at least, influence non-participants.

In other areas, however, our survey raises questions of concern:

1. *Why do the majority of new lung cancer patients never see a radiotherapist or medical oncologist?* Is it assumed that patients with advanced disease will not benefit from specialist treatment? A current MRC Lung Cancer Working Party trial is investigating the addition of radiotherapy to best supportive care (protocol available from MRC Cancer Trials Office, 1 Brooklands Avenue, Cambridge CB2 2BB).

2. *Why do the majority of radiotherapists and medical oncologists see fewer than 50 new lung cancer patients per annum, and approximately 15% see only between one and ten patients?* Should there not be more site specialization in oncology departments?

3. *Why do nearly half of the patients who are entered into trials, go into local and/or non-randomized trials?* We have shown that there is a strong commitment to local Phase II studies, especially by the medical oncologists, and this level of participation must continue. However, it is the large multicentre randomized trials which have an impact on clinical practice, and it is this area in particular which needs more encouragement, support and financial assistance to enable groups and individuals to collaborate and participate.

4. *Why are the results of so many trials not being incorporated into clinical practice?* Are the wrong questions being asked, or is there a need for better publicity, more overviews, and review articles in widely read journals?

Finally, with the emergence of audit, it is likely that there will be increasing pressure on everybody involved in clinicial trials to make sure that these important issues are addressed, that trials are well designed and results well publicized, and that, when applicable, changes are made in clinical practice.

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APPENDIX A

MRC
Medical Research Council

MRC Cancer Trials Office

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Name and address of
Radiotherapist/Medical Oncologist

THE IMPACT OF CLINICAL TRIALS ON THE TREATMENT OF LUNG CANCER

1. In 1991, **approximately** how many new lung cancer patients were referred to you?

If none, please indicate and return the questionnaire in the attached envelope, and we apologise for any inconvenience.

2. List any lung cancer trials that have significantly altered your clinical practice, and for each indicate the type of trial.

Trial name	Single centre?	Multi-centre?	Randomised? Yes	No

3. Are you aware of the results of the MRC 1st Palliative Radiotherapy Study (Br J Ca (1991), **63**, 265-270) which showed that 17Gy in 2f was as effective as 30Gy in 10f for inoperable NSCLC?

Yes ☐ No ☐

If yes, but this did not influence your practice, can you say why?

4. Are you aware of the results of the MRC 4th Small Cell Study (Br J Ca, (1989), **59**, 584 -590) which showed that 6 courses of 4 drug chemotherapy was as effective as 12 courses?

Yes ☐ No ☐

If yes, but this did not influence your practice, can you say why?

5. In 1991, **approximately** how many patients did you enter into lung cancer trials? ☐

Of these, how many were entered into each of the following groups?

Multicentre/ Randomised	Multicentre/ Non-randomised	Single centre/ Randomised	Single centre/ Non-randomised
☐	☐	☐	☐

6. Which medical journals do you **always** read?

Please return your completed questionnaire in the attached envelope

Thank you very much for your cooperation

Richard Stephens
Della Gibson

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