

# Multipractice studies: how representative are the participating doctors?

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**SUMMARY.** General practitioners participating in a multipractice study were compared with those who refused to participate. We found that younger doctors, doctors in partnerships, and doctors with many patients were represented more among participants. However, no correlation was found between the number of patients examined for urinary tract infection in connection with the study.

### Introduction

**M**ULTIPRACTICE studies are necessary in order to compare and evaluate different aspects of general practice such as procedures and treatment. Results from hospital studies cannot always be applied to general practice, mainly because hospital patients differ from patients in general practice. They are specially selected for hospital treatment by general practitioners, because of the nature of their problems.

In general, a single practitioner is not able to collect enough patients with a defined disease or condition to conduct a controlled clinical trial within a reasonable period of time. Therefore clinical trials in general practice are usually planned and conducted as multipractice studies.

Among the problems involved is the question of how representative the participating practitioners are. They differ from their colleagues in one respect—they have a different attitude towards research in general practice. However, this does not necessarily mean that their patients, their treatment, and their results would differ from those of non-participating doctors.

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### Method

In this study the general practitioners who agreed to take part in a multipractice study were compared with their colleagues who refused to participate. We also examined the correlation between the participating practitioners' activity within the study in relation to various sociological variables, such as graduation year, type of practice, numbers of patients registered in the practice, and membership of the Danish College of General Practitioners.

We asked 1,176 general practitioners to take part in a controlled clinical trial on the treatment of urinary tract infection in general practice. Of these, 314 agreed to take part.

Information about the 1,176 practitioners was obtained from the Danish Medical Association register. Participants were asked to state practice size and a statistical comparison of practice size by county was obtained from the Public Health Service.

### Results

A strong correlation was found between the practitioners' seniority and their willingness to participate (Table 1). In the six counties only 10 per cent of the 153 practitioners who had graduated before 1940 agreed to participate, compared with 43 per cent of the 201 practitioners who graduated after 1970.

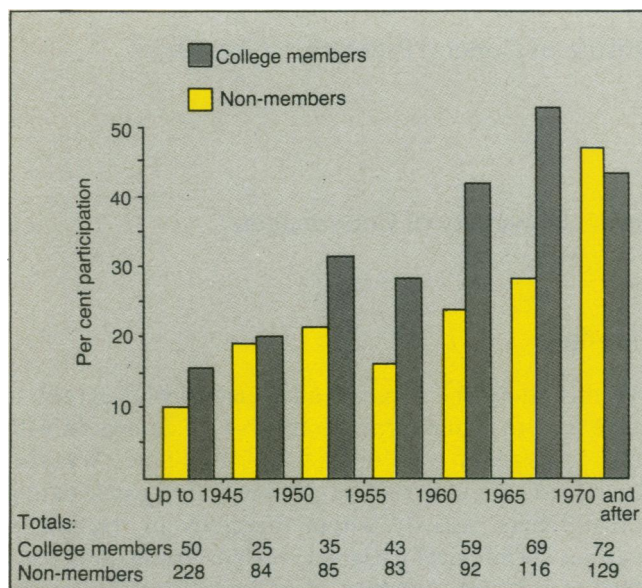
In the six counties there were 353 members of the Danish College of General Practitioners. Among these, 38 per cent agreed to take part, whereas only 23 per cent of the 821 non-members agreed.

Further analysis revealed that this difference was caused to some extent by the difference in seniority between members and non-members. In Figure 1 the participants are classified according to year of graduation and membership of the College. College members

**Table 1.** Participation in relation to graduation year.

	Year of graduation							
	Before 1940	1940 to 1944	1945 to 1949	1950 to 1954	1955 to 1959	1960 to 1964	1965 to 1970	After 1970
Total number of general practitioners	153	125	109	120	130	151	185	201
Number of participants	15	17	21	31	29	46	68	87
Percentage	10	14	19	26	22	30	37	45

Information was unavailable for 2 doctors



**Figure 1.** Percentage participation of doctors by year of graduation.

**Table 2.** Number of patients examined for urinary tract infection in general practice in relation to the seniority of the doctor, practice type and practice size.

	Number of participants	Percentage of participants			
		0	1-3	4-12	>12
<i>Graduation year</i>					
Before 1945	32	6	34	53	6
1945-1954	52	8	21	54	17
1955-1964	75	5	13	56	25
After 1964	155	7	26	45	22
<i>Practice type</i>					
Single	128	11	23	46	21
Group	38	11	21	47	21
Partnership	148	2	23	55	20
<i>Practice size</i>					
<1,000 patients	35	17	14	49	20
1,000-1,250 patients	54	4	13	50	33
1,251-1,500 patients	82	5	18	62	15
>1,500 patients	127	2	28	48	21

16 respondents did not report practice size

predominate in all age groups except for those graduating after 1970. Our data indicate that College members are more likely to participate in multipractice studies (Fischer's omnibus test:  $p < 0.01$ ).

In Denmark 42 per cent of practitioners work in single-handed practice, 12 per cent in group practice, and 46 per cent in partnerships. Only 20 per cent of practitioners in single-handed practice or group practice took part in the study, compared with 46 per cent of practitioners in partnerships.

Table 2 shows the number of patients examined for urinary tract infection during the study by practitioners working in the different types of practice. These figures are made comparable by correcting for practice size. There were no differences worth mentioning in activity between the different types of practice.

Table 3 shows the proportion of participants in relation to the number of patients registered per practitioner. Only patients aged 16 years or more are registered. It was found that only 15 per cent of the practitioners with fewer than 1,000 patients on their list took part, compared with 39 per cent of practitioners with more than 1,500 registered patients. However, the activity among the participants was nearly the same in all groups regardless of practice size (Table 2).

## Discussion

The validity of conclusions drawn from results obtained from multipractice studies largely depends on how representative the participating doctors are.

Cartwright (1978) reported that younger doctors are more likely to reply to questionnaires than older ones. In general practice single-handed doctors are less likely to take part than those working with others.

We confirmed that younger practitioners were much more likely to respond and take part. This study does not give any explanation for this phenomenon. In a future study we plan to examine the attitudes towards research in different groups of general practitioners.

It has always been assumed that College members are more interested in research than non-members and our results support this assumption. A result of this assumption has been that in the past only College members have been asked to take part in many multipractice studies. However, the fact that only one third of practitioners are members of the College and that a

**Table 3.** Participation in a multipractice study in relation to practice size.

Number of patients registered	Number of general practitioners	Participants N	Participants Percentage
<1,000	233	35	15
1,000-1,250	185	54	29
1,251-1,500	271	82	30
>1,500	329	127	39
Not known	158	16	10

relatively high proportion of non-members took part leads to the conclusion that non-members as well as College members should be asked to take part in multipractice studies.

We found that practitioners in partnerships were over-represented. A possible explanation might be that if one doctor in a partnership suggests taking part, his partners are usually easily persuaded. It should also be mentioned that there is some overrepresentation of younger doctors in group practice and in partnerships.

It was surprising that practitioners with a large number of registered patients were overrepresented. It might be expected that the practitioners with the heaviest workload would have difficulty in finding extra time to take part in a multipractice study. However, it seems that those who have a great capacity within their daily work also have greater reserves and interests in other activities.

A total of 314 practitioners took part in a study of urinary tract infection in general practice. This group was not representative of general practitioners in relation to seniority, practice type or size. This does not necessarily mean, however, that their methods of diagnosing urinary tract infection would differ from non-participating practitioners.

This fundamental question can only be answered indirectly, because voluntary participation in multipractice studies precludes our learning what non-participants are doing—and what participants will do when the study is over. In this study we have investigated whether a specified activity, namely the number of urinary tract infections diagnosed during a two-month period, would vary with sociological variables such as seniority, practice type, and practice size. As no correlation was found between these variables and despite the unrepresentative sample of doctors, it seems justifiable in some cases to draw general conclusions from multipractice studies. The problem of whether a project will change the interest and daily routine of a practitioner during the study period is not considered in this context.

#### Reference

- Cartwright, A. (1978). Professionals as responders: variations in and effects of response rates to questionnaires 1961-1977. *British Medical Journal*, 2, 1419-1421.

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