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To cite this article: Nils C Lönberg & Bent Guttorm Bentsen (1984) Record Keeping in Norwegian General Practice, *Scandinavian Journal of Primary Health Care*, 2:4, 151-157, DOI: [10.3109/02813438409017713](https://doi.org/10.3109/02813438409017713)

To link to this article: <https://doi.org/10.3109/02813438409017713>



Published online: 12 Jul 2009.



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Record Keeping in Norwegian General Practice

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ABSTRACT. Routines of medical record keeping were studied in a random sample of 50 out of 228 general practitioners in two counties, Møre & Romsdal and Sør-Trøndelag. One doctor refused to participate and one had retired. The 48 physicians were interviewed and a questionnaire was completed with details about their record keeping. The standard of the records was assessed according to legibility, quality of notes, past history and tidiness using a score system.

All general practitioners had records for every patient, but the quality of the records varied considerably. More than 50 per cent used handwriting in progress notes, which varied from diagnostic labels to extended reports. Few records contained accessible background information about the patient concerned, and many records contained large amounts of old and irrelevant papers. The record-scores varied from 3 to maximum 10 with an average of 6.7.

Higher Standards of recording in general practice are called for, since the quality of records does not only affect the individual patient, but, in the end, the quality of medical care in general.

KEY WORDS: Medical records. Record Keeping. General practice. Family practice. Assessment.

INTRODUCTION

The patient records in general practice reflect the doctor's knowledge, findings, decisions and actions regarding his patients. Even for a physician claiming to have an excellent memory, his knowledge about the individual patient will, after all, depend heavily upon his record.

Good patient care requires good recording routines. Research and teaching in general practice demand a minimum standard – and the medico-legal aspects should be kept in mind (1).

The continuous improvement of the physician's work is, in fact, based on experience. This demands systems of information which allow access to our earlier observations to find out what we did and why, or more the painful question: What did we do *wrong* and why?

The record is of limited value if progress notes are

illegible or insufficient, if information is lacking, or when the files are full of huge amounts of old and irrelevant papers.

To find out the state of recording routines among Norwegian general practitioners, a random sample was studied.

The aim was:

- To observe and assess the present state of their records.
- To propose principles for the improvement of the medical records.

The process of improving medical records has been going on since the middle of the 1960s, and a number of suggestions for recording principles in general practice have been put forward (2–7).

Quality studies of recording routines are few. Cormack (1970) reviewed earlier studies which included some assessment of records in general practice (8). In his own practice he studied the real content of the records compared with information needed. This study revealed that there was little information of family and social life in the records (8). In 1971 he published a study of a random sample of 201 Scottish general practitioners' use of medical records, of whom 167 answered a questionnaire. Cormick concluded that there was a need for radical reforms (9).

Dawes (1972) presented a study in which he examined records from eight general practices out of a sample of 13 (10) in North Humberside, England. Less than half of the episodes had any symptoms recorded, and only one third had physical signs noted. Westbury (1978) studied recording habits among 82 out of a sample of 102 family physicians in Alberta, Canada. He was using a postal questionnaire. He found various areas for concern, especially insufficient notes, lack of social information and poorly organized charts (11).

No such study has been conducted in the Scandinavian countries.

MATERIAL

The physicians

In two Norwegian counties: Sør-Trøndelag and Møre & Romsdal, 228 general practitioners were registered in December 1982 by the health authorities. Physicians over 70 years and doctors without a practice in the region were excluded. This left just 200 doctors of whom 50 were selected at random. These physicians were sent an introductory letter and were then contacted by telephone.

Only one of the physicians refused to participate, with the reason "one does not give one's jewels away" and "I do not owe my colleagues anything". Another doctor had retired from active practice. The final sample therefore comprised 48 general practitioners. Because some of them belonged to the same group-practice, these doctors represented 41 different practices with a total of 131 general practitioners.

The physicians' age distribution is shown in fig 1.

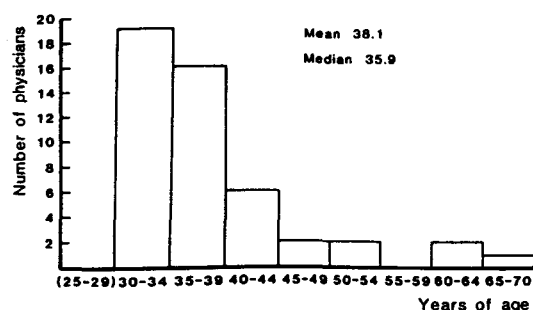


Fig 1. Age distribution of 48 general practitioners. The RFEC-Feasibility Study.

The majority of the physicians were between 30 and 40 years of age, with only a few over 50. The age and sex distribution corresponds with that of all Norwegian general practitioners. Five of the doctors were women.

Length of hospital training, including the compulsory pre-authorization internship of one year, varied from one to six years with an average of 1.7 years. The compulsory training also includes six months training in general practice.

Thirteen of the doctors were recognized as "Almenpraktiker Dnlf", corresponding well to the overall percentage in Norway. "Almenpraktiker Dnlf" is similar to a speciality certification.

Years of experience in general practice varied from two months to 37 years, with an average of about eight years (mean = 8.9, median = 7.9).

The practices

The 41 practices varied from the solo-practitioners without any auxiliary personnel to six doctors with many employees. Practices with three or four doctors dominated as seen in fig 2.

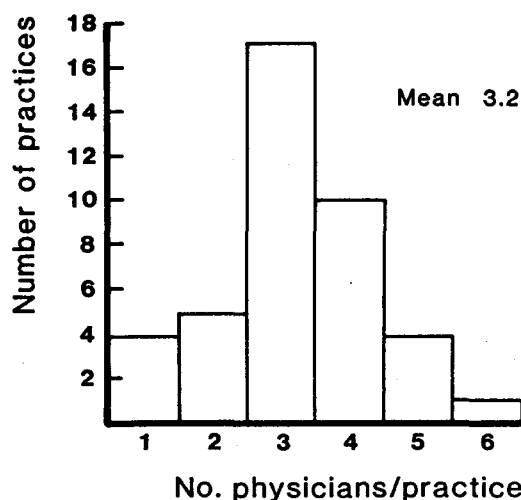


Fig 2. Number of physicians in 41 different practices (comprising 131 physicians).

Eighteen of the practices had trainees who are included in the number of the doctors in the individual practice.

The number of employees per doctor varied from zero to 1.7 persons. The distribution is shown in fig 3. Two general practitioners had no employee.

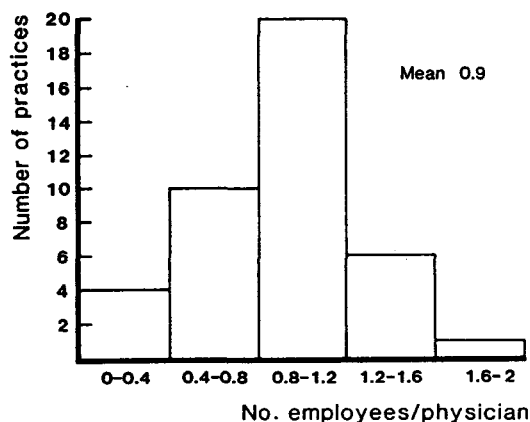


Fig 3. Number of employees per physician in 41 different practices.

The remuneration systems of general practitioners in Norway are mainly of three different kinds: Some are exclusively in private practice, some are in subsidized practices, or employed by the municipality with a fixed salary. No practice has a regular "on-the-list" system of patients.

Of the practices 52% were located in towns with populations of more than 10,000; 15% in smaller towns, and 33% in the countryside. The probable relationship between record keeping and these background variables will be discussed later.

METHOD

A questionnaire with about 60 variables was worked out. Personal interview was considered the best method because a postal questionnaire could be expected to be answered only by a minority. In order to visit the 48 doctors in their offices in the county of Sør-Trøndelag and of Møre & Romsdal, a six weeks journey of 5,700 km was undertaken.

The interview lasted about one hour. All doctors answered all the questions, and the interviewer was allowed to look into all the records. All doctors accepted the publishing of the information obtained. Naturally complete anonymity was granted.

Initially all details concerning the doctors themselves, the practices, the filing systems, and the recording routines were compiled in the questionnaire. Then the doctors were asked to comment on recording problems, both generally and in particular with regard to their own records. Finally a record score was made according to legibility, quality of progress notes, past history and tidiness, using the following assessment:

- Legibility* 0 = almost illegible handwriting
1 = handwriting of average quality
2 = easily legible handwriting
3 = typewriting.
- Quality of notes* 0 = no notes of value
1 = diagnostic labels only
2 = insufficient notes/exaggerated notes
3 = adequate notes.
- Past history* 0 = no information in the record
1 = some relevant hospital letters present
2 = summary of past illnesses present.
- Tidiness* 0 = disorder with many irrelevant papers

1 = fairly arranged record with less than six papers

2 = recorded updated without old papers.

Total score: maximum 10 points.

The assessment was made by the doctor and the interviewer together, without any disagreement.

RESULTS

The filing systems

The 41 filing systems varied in size from about 2,000 records to about 80,000. In two cases the number of records filed could not be estimated. The number of records does not reflect the number of "regular customers", because list-patients do not exist. All filing systems in Norway consequently, will contain records and papers concerning patients who are only in contact with the practice once or occasionally.

The age of the filing system was defined as the age of the oldest records still in use. This varied from one to about 35 years, with an average of 11 years.

The filing systems were organized in different ways. In 33 practices of the 41 visited the records were organized according to date of birth. In the remaining eight practices the records were organized according to family name in alphabetical order. No one used family folders or a family filing system.

The record cover

Folded A-4 size covers were used in 31 practices, five practices used A-5 envelopes, and one practice collected the papers of the individual patients in torn off corners from old envelopes. Four practices had no special cover in use, but the first sheet of progress notes comprised some basic information about the patient. Only one practice had the old A-6 cards in use.

Sheets for the progress notes

The size of the paper used did not always correspond to the size of the cover, because the few filing systems with A-5 envelopes used A-4 sheets which were folded. Most of the sheets had lines and the majority had one or more vertical line(s). Paper colour was usually white or light yellow, but some practices used blue sheets for progress notes in order to separate these easily from supplementary papers.

Patient identification

All practices recorded surname, first name, date of birth and address. Further information was recorded as shown in table I.

Table I. Patient identification on the records of 48 physicians in percent.

	Physicians
Family name)	
Surname)	
Date of birth)	100
Address)	
Telephone	90
Place of work	46
Occupation	42
Unique identification No.	40
Telephone: place of work	27
Maiden name	8

Patients past history and background

None of the doctors used a questionnaire to collect information from the patients about past illnesses and social and family background. Nowhere was this information accessible on a separate sheet. Only two doctors asked patients about their past history when visiting the practice for the first time.

The recorded information about the past history is shown in table II.

Table II. Patient background information in the records of 48 physicians in percent.

	Physicians
Drug allergies	92
Drug dependence	46
Hospital admittance	21
Family illnesses	13
Social conditions	6
Gynecological information	4
Tobacco/Alcohol	4

For continuous information, various additional problem lists, flow charts etc were used as shown in table III.

Table III. Separate charts in the records of 48 physicians in percent.

	Physicians
Antenatal care	90
Laboratory tests	63
Pathological test	21
X-ray	19
Medication	15
Diabetes control	6
Health problems (previous & present)	4

Separate charts for antenatal care and for laboratory test were very often used. Only two of the practices used a problem list.

Progress notes

Only 16% of the doctors took rough notes during the encounter before transferring them to the record. Notes from office encounters were written according to table IV.

Table IV. The way of making notes in the records under varying contactforms in percent. (N=48)

	In office	In home	By telephone
Handwritten	52	56	54
Typed by physician	21	13	6
Typed by secretary	19	25	19
Mixed handwritten/typed	8	4	16

The legibility of the hand-writing seemed to influence the quality of the notes. A number of doctors whose notes were handwritten admitted that these had a tendency to be too short and inadequate. Doctors dictating their records almost invariably made notes of considerable length, much longer than average.

Notes from home-visits were often not recorded at all, partly because the doctors did not take the record with them, or because they forgot to record the visit in the office.

When recording, the writing might differ from normal, e.g. doctors who usually typed might write by hand and vice versa. Notes from indirect encounters were rarely recorded.

Renewal of prescriptions was usually received and written down in the records by the staff.

Drawings or photos were occasionally used in the record by two or three physicians. One doctor used them regularly.

Supplementary papers such as letters from hospital, specialists etc, which turned out to be the main source of information about the patient's past history, were most often filed in the record without any system or chronology. However, 29% of the doctors had these papers well organized. In two cases they were filed separately from the record.

The physician's comments

Practically all doctors believed that typewritten records and records with information about the patients' past history would be desirable. The reasons for the gap between this ideal and the reality will be discussed later. The doctors' comments are shown in table V.

Table V. Physicians' desires for record keeping in percent. (N=48)

	Physicians
Typed record	35
Summary of past history	33
Chart of laboratory tests	25
Notes of better quality	23
Medication list	15
Computerized record	15
Chart for X-ray	6
A-4 sized record	6

Quality assessment of the records

The quality of the individual doctor's records was assessed according to the records' probable value for another doctor, and not least for the doctor himself. The basic criterias used are described earlier under "Method".

The total-scores varied from three to ten, with a distribution as shown in fig 4.

The figure displays a striking Gaussian distribution with a mean of 6.7 out of a maximum of 10 points.

When correlating the total score to the individual physician's characteristics, it was only possible to see trends. However, these differences were not statistically significant. It was the individual physician who stood out. However, one group of physicians tended to score best: Older physicians in group-practices and with auxiliary personnel of more than 1.2 per doctor.

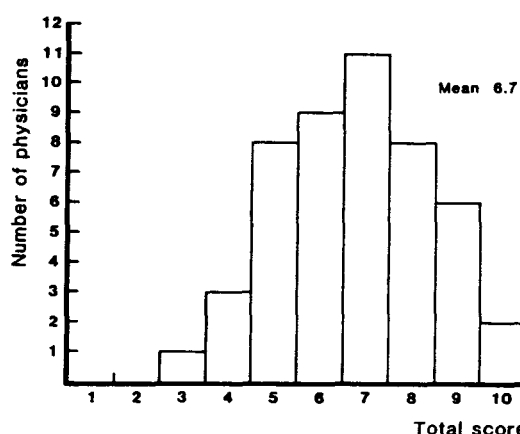


Fig 4. Assessment of medical records of 48 physicians. Total score (maximum 10 points).

Different standards of recording among 48 general practitioners were expected, and this study revealed that the principles for recording are nearly as numerous as the physicians. In addition, many records were clearly of unsatisfactory standard.

This may be due to various factors:

Lack of training, information and standards.

The attitude that typewriting is impossible or unnecessary because: "I read my own hand-writing". "I cannot type". "I cannot afford to have a secretary".

Lack of summary sheets.

Lack of sense of relevance of supplementary papers.

Lack of time: real or imagined.

Few doctors seem to take medico-legal aspects into consideration when keeping records. Legal proceedings against general practitioners in Norway are rare.

Legibility

More than 50% of the physicians still write by hand in their records. The quality of the physicians' handwriting was surprisingly uniform, being just "legible".

Quality of progress notes

The majority of doctors considered their progress notes to be of sufficient quality with statements of the patients' subjective symptoms, objective findings, decisions and actions. However, they were aware of the pitfall of the too short handwritten note and the tendency to "talk too much" when dictating. At first

the idea was to measure the length of notes in some way, but this was dropped as it would have been very timeconsuming and difficult.

Past history and background information

Only two doctors routinely asked patients about past illnesses when visiting the practice for the first time. The great majority relied upon earlier hospital letters which often summarize the most important past illnesses.

Tidiness

Few doctors regularly update their records including the necessary destruction of old and irrelevant papers. "Lack of time" is the excuse most used.

DISCUSSION

The assessment principles

The scoring scale system may be controversial. An assessment of the quality of the individual doctor's records may or may not bear any relation to the standard of care in his practice. A possible relationship between record quality and quality of care would demand advanced techniques, which would be extremely sensitive and of little use. Good doctors with bad records *do* exist, and good records which reveal incompetence probably exist too. But how do we assess the quality of a physician? Our basic aim in this study was to evaluate and assess the records according to their relevance, accessibility and consistency for *another* doctor, e.g. a newcomer to the practice.

Consequently we found the criteria legibility, quality of notes, past history, and tidiness of greatest importance. Even if these criteria are to be accepted, their relative weight might be discussed. Which ones are the most important? After all, when keeping records an important goal should be slim and well organized files. This is a question of routines rather than time.

We thought that legibility and quality of notes were the most important because past history can be added or even corrected. Being ignorant of the patient's past history is a serious matter even when his problems seem to be minor complaints. Most serious diseases present at first diffuse complaints, and our efforts must be focused on minimizing "doctor's delay". Too

often also family history and social information were ignored. These may frequently be the key to problemsolving. It may be that general practitioners, with their longterm contact with patients, have all the background information they need apart from their records.

CONCLUSION

The optimal record should satisfy the following minimum requirements:

1. Be typewritten.
2. Have notes with sufficient information according to problem orientation or the SOAP-principles (3): Subjective symptoms, Objective findings, Assessment, and Plan.
3. Be chronological with important events summarized.
4. Include summary sheet with information about past history, social life, and, best of all, a problem list.
5. Be updated and free from irrelevant papers and have supplementary information organized.

It is desirable to have common accepted standards for records in general practice. Ideally there should be a standard record and filing system for all general practitioners. A patient's record could then easily be moved from one physician's filing system to another's. Standards would be raised in the efforts to improve primary medical care through better communication and better information;—first of all in clinical practice;—secondly for teaching and research. Good medical records do not only concern the individual patient and the individual physician, but ultimately the quality of medical care in general.

ACKNOWLEDGEMENTS

Acknowledgements to the Norwegian Medical Association for a research grant, to 48 general practitioners in the counties of Sör-Trøndelag and Møre & Romsdal for taking part in the study, and to Mrs Berit Eggen for skilful secretarial assistance.

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