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The actual role of general practice in the Dutch health-care system

RESULTS OF THE SECOND DUTCH NATIONAL SURVEY OF GENERAL PRACTICE

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ABSTRACT
A second Dutch national Survey of General Practice was carried out in 2001 with the aim of providing actual information about the role of general practice in the Dutch health-care system for researchers and policy makers. Data were collected on different levels (patients, general practitioners, practices) and included morbidity (self-report and presented to general practitioners), diagnostic and therapeutic interventions, doctor–patient communication, and background characteristics. Compared to 1987 (the first National Survey), Dutch general practitioners had organized their work more efficiently. Patients were less satisfied (78% satisfied) about the organizational aspects of general practice care than about the care actually provided (90% satisfied). Dutch general practitioners provide high-quality care: on average their performance was in 74% of cases in accordance with national guidelines. Communication in general practice had become less "social" and more medically oriented compared to 1987. General practice still acts in a gatekeeper role; this is illustrated by 96% of contacts handled solely by the general practitioner.

INTRODUCTION

The need perceived by policy makers in 1998 for actual information on the role of general practice in the Dutch health-care system and the advice of the 1997 Public Health Status and Forecasts Report (Ruwaard and Kramers 1998) to install a nationwide monitoring system on morbidity, use of health services and their sociodemographic and health-related determinants were the driving forces in realizing the second Dutch National Survey of General Practice (DNSGP-2). General practice is the optimal setting in the Netherlands for providing information on the population's health and illness and the use of health services for several reasons: (1) the general practitioner (GP) is the first and only freely accessible medical professional in the Dutch health-care system and people are used to visiting their GP first if they have a health problem; (2) the GP is the gatekeeper in the Dutch health-care system controlling access to specialized medical care; (3) virtually all non-institutionalized Dutch citizens are registered with a GP so the total practice population represents the general population, and information about the wider population is automatically available. For these reasons, doctor-defined

health problems as presented to GPs in the Netherlands provide a valid profile of morbidity in the population and of indications for specialized medical care. The role of primary care in the health-care system in the Netherlands is comparable to that in other European countries, e.g. the United Kingdom, whose National Morbidity Surveys (Fleming 1991) inspired the conduct of the national surveys in the Netherlands.

A first National Survey carried out in 1987 provided a comprehensive and representative picture of the role of general practice (Velden 1999). However, this picture does not reflect general practice as it is today. Since 1987 major changes have taken place: evidence-based guidelines on more than 80 health problems have been published and implemented, computers have replaced paper records, out-of-hours care has been reorganized and is now delivered by large groups of GPs in cooperation, and the number of single-handed GP practices has decreased substantially. It was hoped that a second survey would provide a real understanding of the actual role of general practice in the Dutch health-care system.

On the basis of consultations with a large number of policy makers and researchers the DNSGP-2 was designed on the basis of six research themes:

1. Morbidity in the population and in general practice
2. The use of health services
3. Morbidity and use of health services in relation to sociodemographic subgroups
4. Quality of care
5. GP–patient communication
6. Organization and workload

This article gives an overview of the methods used in this survey and a summary of the main results with the aim of showing how the survey could contribute to research and health policy. Where possible the role of general practice is compared with that in 1987.

METHODS

Design

The study was carried out in 104 general practices including 195 GPs. The practices participated in the National Information Network of General Practice (LINH) which has been providing annual reference information on consultation rates, prescribed medication and referrals since 1992 based on routine electronic medical records. The 104 practices were representative of Dutch GPs with regard to all important characteristics (e.g. age, gender, level of urbanization of the practice location, deprivation of the area) except for practice type (single-handed practices were relatively underrepresented). The total practice population of approximately 400,000 was representative of the Dutch population with regard to age, gender, and type of health-care insurance (public/private). For the survey routine data collection in the practices was substantially expanded on a temporary basis in 2001 to include the following modules:

- Collection of sociodemographic data among the entire practice population.
- Health interview survey among a 5% random sample of the practice population and a comparable survey among representatives of the four largest migrant communities.
- Extraction of data on morbidity and interventions from the routine electronic medical records (continuous registration of diagnoses for each presented health problem was supported by specific software).
- Videorecording of consultations.
- Practice visits and questionnaires for the GPs and practice staff.

Figure 1 provides an overview of the sampling frames and measuring instruments. The measurements are described in more detail below. A detailed description of the study design has been published elsewhere (Westert et al. 2005).

[FIGURE 1]

Sociodemographic data

All persons listed in the participating practices at the start of the study (n=385,461) received a short questionnaire by mail in four languages (Dutch, English, Turkish, Arabic) to collect data on education, occupation, type of health care insurance, and ethnic origin. This questionnaire also included the so-called one-item scale on perceived health (Mossey and Shapiro 1982). The questionnaire was accompanied by a recommendation letter from the recipient's own GP. The response to the questionnaire was 76.5% (n=294,999).

Health interview surveys

For a health interview survey a 5% all-age random sample (n=19,685) was drawn from the persons listed in the practices. These potential interviewees were invited to participate in a 90-min personal interview in their homes. The interview included mainly validated instruments on health, use of health services, and determinants thereof (e.g. lifestyle, socialization). The interview also contained questions about opinions on general practice care. The interviews were randomly distributed over four consecutive 3- month periods to avoid seasonal variation. The health interview survey had a response rate of 64.5% (n=12,699).

A second interview survey was conducted among a random sample of 2682 adults of four migrant communities (originating from Turkey, Morocco, Surinam and Netherlands Antilles). Their ethnic origin was derived from the questionnaire on sociodemographic characteristics. This interview contained largely the same instruments as the interview described above. However, a section with questions on cultural identity and adaptation was added. The response rate was 49.9% (n=1339).

Data from electronic medical records

The following data from one calendar year (2001) were extracted from the electronic medical records in the computer systems of the participating practices:

- Diagnoses made in all GP patient contacts during one year, coded according to the International Classification of Primary Care (ICPC) (Lamberts and Wood 1987); contacts for the same health problems were clustered afterwards into disease episodes.
- Diagnostic interventions, e.g. laboratory tests.
- Therapeutic interventions, including prescribed medication which was coded according to the ATC classification (WHO Collaborating Centre for Drug Statistics Methodology 2002), referral to paramedic services and medical specialists.
- Consultations: number, type.

The data from 1.5 million contacts, 950,000 disease episodes, 2.1 million drug prescriptions and more than 100,000 referrals were stored in a central database.

Videorecording of consultations

On a voluntary basis, 142 of the 195 GPs (73%) participated in the recording of on average 20 consultations on videotape during a randomly chosen weekday. Consultations with 2784 patients were recorded (11.9% of the patients refused recording). These patients also filled in three questionnaires: immediately before and after the consultation and 2 weeks later. These videorecordings were mainly used for analysis of GP–patient communication.

Practice visits and GP and practice staff questionnaires

A practice visit instrument (Homberg et al. 1998) was used to collect data in a standardized way on the organization and management of the participating practices. In addition, written questionnaires, including a time allocation measuring instrument were filled in by the participating GPs and their practice staff. The practice visits were completed in 98 practices (response rate 94%); the response rates for the questionnaires varied from 78% to 96%.

Analyses

A crucial feature of the data collection was the use of unique anonymized patient and practice identification codes in all data modules which enabled linking of data on different levels. The DNSGP-2 database has a hierarchical structure with medication prescriptions nested within consultations, consultations nested within patients, patients nested within GPs, and (non-single-handed) GPs nested within practices. This hierarchical structure allowed multilevel modelling.

The results described here were derived from the final reports of the first and second survey. When comparing 1987 and 2001, statistical tests are not presented. With large sample sizes, small differences are easily statistically significant but not necessarily relevant.

Privacy aspects

The DNSGP-2 was carried out in accordance with Dutch legislation on personal privacy. The privacy regulation for the study was approved by the Dutch Data Protection Authority.

RESULTS

Efficiency

Compared to 1987, Dutch GPs had organized their work more efficiently (Table 1). In fewer hours per week than in 1987 they handle 10% more patient contacts, although the average duration of the consultations has remained stable (mean 10 min per patient, varying from 8 min for eye problems to 13 min for social problems). This efficiency move has been achieved by a decrease in the number of home visits (from 17.0% to 8.5%), by a higher number of telephone contacts and by delegating more tasks to the practice support staff. The mean scale score for delegation of medical tasks was 7.1 (maximum score 13; standard deviation 2.7). The high variation between practices in this respect indicates that there is still room for more efficient practice organization.

[TABLE 1]

Patient views

In 2001, 77% of the practice population had at least once contact with the practice. Patients were less satisfied about the organization of general practice care (78%) than about the care actually provided (90%) (Table 2). More patients than in 1987 were worried about whether they would be able to contact a GP during evenings and nights. Also, they considered their GP to be less willing to offer a home visit if necessary.

[TABLE 2]

Quality of care

On the basis of 139 quality indicators covering 61 guidelines for the optimal management of health problems issued by the Dutch College of General Practitioners, the GPs performance was on average in 74% of the cases in agreement with these guidelines. However, the variation between different types of indicators (e.g. diagnostic performance, prescription of medication) and between GPs was substantial. For example, the first- choice antibiotic in case of pelvic inflammatory disease in women (doxycycline) was never prescribed in 20% of the practices.

GP–patient communication

Analysis of the systematic observations of videorecorded consultations showed that GPs communicated more about medical issues and had less ‘social talk’ with their patients compared to 1987. Also, GPs less frequently perceived the treatment of psychosocial problems as their task than 14 years previously. This is in contrast with a higher rate of perceived psychological problems in 2001 than in 1987.

Gatekeeper role

In 2001, the GP still acted as gatekeeper for the Dutch health-care system. This is illustrated by the fact that 96% of the consultations were handled solely by the GP without referral to any other health-care professional. The rate of new referrals to medical specialists in 2001 amounted to 153 per 1000 listed patients per year and was lower than in 1987 (184 per 1000; Table 1).

Sociodemographic groups

The accessibility of general practice was equal for all sociodemographic subgroups. This is illustrated by an equal consultation rate in all subgroups after adjustment for health status. However, the results also show an increase in differences in health status between subgroups compared to 1987 (Table 3). For example, the unemployed more frequently reported an unhealthy lifestyle and bad health than in 1987.

[TABLE 1]

DISCUSSION

The profile of general practice in the Netherlands has undoubtedly changed compared to 14 years ago. General practice is more efficient, and appears more “businesslike” than in 1987. However, compared to 1987, patients are less satisfied, especially about the organizational arrangements. GPs are less convinced about whether the management of psychosocial problems is part of their task but people report psychological problems more frequently. These issues indicate a discrepancy between demand and supply. So far, it is unclear how this will develop in the near future. Many other aspects of the role of general practice fit into the future plans as developed by the professional GP organizations. General practice will become part of an integrated primary care service, including large-scale organizations for out-of-hours care.

With regard to the quality of care, substantial variation was found between practices. Although these findings indicate the need for more in-depth analysis to identify factors related to this variation, it is clear that the quality of general practice care can still be improved. The DNSGP-2 has succeeded in providing reference data on general practice in the Netherlands. For quality of care these data can be used for benchmarking by individual GPs or on a regional level, thus providing transparency towards patients and other actors in the health-care system.

The LINH who acted as “carrier” for the data collection of this study profited by continuing the registration of contact diagnoses on a continuous basis allowing national reference data on morbidity presented to GPs to be available on a continuous basis (www.linh.nl). The data collected have been used and are still being used extensively to answer additional research questions by the organizing institutes, and by numerous other research groups in the Netherlands. This had resulted at the time of this report (June 2005) in 17 publications in international scientific journals (Bot et al. 2005; Cardol et al. 2005; Duijn et al. 2005a, 2005b; Hoeymans et al. 2004, 2005; Jones et al. 2004; Koning et al. 2005; Muller et al. 2005; Nuyen et al. 2005; Opstelten et al. 2005; Otters et al. 2004a, 2004b, 2005; Schrojenstein Lantman-de Valk et al. 2004; Velden 1999; Volkers et al. 2004; Zwaanswijk et al. 2003), two PhD theses, and many national publications. This also reflects the efficiency of this survey: the data can be used for numerous additional studies besides the primary research questions.

We are not aware of any study in the world which is comparably comprehensive. Most studies are either limited to national population-based health interview surveys or morbidity studies in general practice. Comparable studies—a challenge for researchers and health-care policy makers—could be used for international comparisons on the role of primary care and general practice in the various health-care systems (Health Council of the Netherlands 2004).

This study could only be carried out because of two essential elements of Dutch general practice: the widespread use of electronic medical records and the system of patients listed with a GP. The planned centralization of electronic medical records will undoubtedly facilitate a future third survey. Recently it has also become clear that the list system will survive the 2006 health-care insurance reform in the Netherlands. The prospects for a third survey are therefore good.

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TABLES AND FIGURES

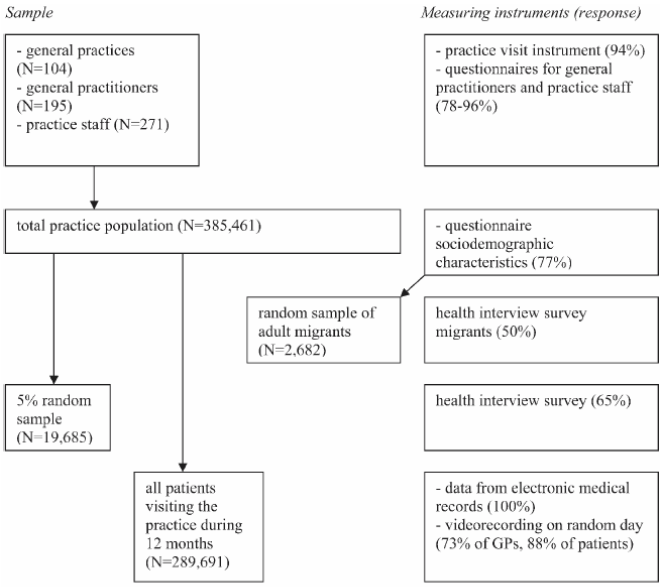

Fig. 1 Sampling frames, measuring instruments and response rates

Table 1 Basic figures relating to general practice care in the Netherlands in 2001 and 1987

	2001	1987
Consultations in the surgery (% of all contacts)	74	71
Home visits (% of all contacts)	9	17
Telephone consultations (% of all contacts)	11	4
Self-reported GP contact rate (mean per listed patient per year)	3.9	3.6
Duration of a GP–patient consultation (mean minutes)	9.7	9.9
Number of drug prescriptions (mean per listed patient per year)	5.7	3.7
Number of new referrals to medical specialists (per 1000 listed patients per year)	153	184

Table 2 Patients' views on the organization and the content of general practice care in 2001 and in 1987; percentages of patients who agree

	2001	1987
	n=8007	*n*=7679
My GP takes me seriously	91	83
My GP explains well what is the matter with me	95	83
My GP is prepared to visit me at home	84	93
My GP takes enough time	89	91
My GP is accessible in the evening/night	87	90
Once in a while I am worried about the accessibility in the evening/night	12	8

Table 3 Self-reported chronic conditions by education level in persons aged 25 years and over in 2001 and 1987; percentages

	2001 (*n*=8940)			1987 (*n*=8679)		
	Education level			Education level		
	Low	Medium	High	Low	Medium	High
Migraine/serious headache	16.5	19.5	15.9	11.6	10.9	8.4
High blood pressure	21.9	13.7	10.9	16.3	8.8	6.1
Serious back symptoms	20.0	13.7	10.3	21.9	15.6	10.1
Diabetes mellitus	10.3	4.0	2.0	5.1	1.4	1.2