

Gender Differences in Practice Style: A Dutch Study of General Practitioners

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The differences between female and male general practitioners (GPs) were studied regarding three different factors: 1) Do female GPs see more female patients than their male colleagues in the same practice?; 2) Are female GPs confronted with different types of health problems from their male colleagues?; and 3) Do female GPs provide different services to their patients? Data from the Dutch National Study on Morbidity and Interventions in General Practice were used. All practices in this study with both female ($n = 23$) and male ($n = 27$) GPs were selected. This resulted in detailed data on 47,254 consultations, 62% of which were with female patients. The three research questions all received an affirmative response: 1) female patients tend to choose female general practitioners; 2) female GPs see different health problems from their male colleagues, and that is only partly because the patient so chooses; and 3) besides the expected differences in female-specific problems, there is a clear GP-gender effect in the presence of 'social' and 'metabolic' problems in the female GP's consultations. Some differences in the provision of services between male and female GPs occurred, with female GPs spending more time on their patients and having a stronger tendency to provide continuity of care. In addition to a gender effect (both physician and patient) a part-time effect in most issues studied was observed. Key words: gender; general practice; patients' preference; morbidity; interventions; part-time working. (Med Care 1993; 31:219-229)

The classical dyad in the medical encounter consists of a male physician and a female patient. Approximately 60% of all pa-

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tients who visit Dutch primary health care practitioners are women.¹ This seems to be a fairly universal phenomenon.²⁻⁷ The male-to-female ratio for general practitioners (GPs) shows a completely different picture, and—in the Netherlands at least—an even more unbalanced one: in 1991, 87% of independently established Dutch GPs were men, and only 13% were women.⁸ A greater participation of female doctors in general practice can be expected as a result of the sharp increase of female medical students in the last 10 years—a recognized phenomenon in the western world.⁹⁻¹⁶

Because the number of female medical students is growing, gender issues have at-

tracted attention in the medical field. Nowadays, there is a general call for more female GPs to enable patients to choose between a male and a female GP and to enhance the quality of care for specific health problems.¹⁷⁻¹⁹ The underlying assumption is that women prefer a female GP and that some health problems are more easily presented to and differently cared for by a female GP. It is interesting to test the legitimacy of such a call from a scientific point of view. An examination of the literature shows that for each of these issues some questions remain unanswered and some results have yet to be confirmed.

Patients' preference for a specific type of physician is generally measured by asking for the patients preference in a questionnaire.²⁰⁻²⁴ In most of these studies, patients seem to have a preference for a physician of the same sex,²²⁻²⁵ although in one study a general preference for female physicians has been reported.²⁶ However, some studies also suggest that, until recently, there was a general preference for male physicians among male and female patients.^{19,22} Female patients often report that they prefer female doctors for sex-specific health problems,^{20,22,26} for embarrassing or intimate problems,^{23,27} or for behavioral problems;²² at this moment it is unclear whether female patients prefer female doctors for other types of health problems, or perhaps more generally, regardless of the specific types of health problems. Sometimes the validity of these questionnaire-based measures of preference as measures of the real preference for male or female physicians is questioned, and it is suggested that they are more likely measures of a general sex bias.^{22,28} This validity problem is not encountered in studies in which patients preference is measured by looking at the patient's actual consultation behavior. In such studies, it is assumed that the patient shows his or her preference for a male or female physician by making an appointment with a physician of his or her choice. In these studies, female patients gen-

erally chose female physicians.^{2,7,17,28,30} The generalizability of the results of most of these studies is dubious however, because the study took place in only one general practice with male and female physicians,^{7,17} or because data from larger data-sets are analyzed, without being corrected for the availability of female and male physicians.¹¹ The latter is a problem because of the uneven distribution of female and male GPs, while the most important factor in choosing a GP is geographical accessibility.¹⁹ A new study is necessary with the participation of an equally available and sufficient number of female and male GPs.

The literature on the *prevalence of various problems* presented to male and female GPs, or the type of diagnoses made by male and female GPs is much more scarce. There is some evidence from morbidity surveys that female physicians are more often visited for genitourinary problems and preventive procedures.^{2,7} In one British study, some differences in morbidity pattern were found between male and female GPs, but the overall conclusion of this study was that "there seems to be no recognizable pattern in differences in morbidity seen by women and men doctors other than for gender associated conditions."^{2(p 755)} However, this conclusion is based on one study only; more research on different data sets is necessary to confirm this conclusion.

Still less knowledge exists on *gender differences in the services provided*. In a recent American study, female doctors were shown to spend more time with their patients, especially with their female patients,³¹ a result that was not confirmed in a British study;¹¹ female doctors seem to have a more favorable attitude to psychosocial factors in patient care, patient education, and health counseling,⁹ although it is not yet clear whether this attitude is also reflected in actual practice behavior. One recent Canadian study, after adjustment for other factors, demonstrated that women provided more counseling and psychotherapy,¹⁶ and also

ordered more laboratory tests, a result that was also found in England.¹¹ In this study, however, we concluded that the percentage of women in the 15-to-44 age group accounted for most of the differences between men and women doctors rather than the sex of the doctor. Again, it would seem desirable to find out if these results can be replicated.

Accordingly, the present study has been designed, taking into account what is known from literature. Three research questions have been formulated:

1. Do female patients have a preference for female GPs?;
2. Are female GPs confronted with other types of health problems when compared with their male colleagues?;
3. Are female physicians different from their male colleagues with respect to the services that they provide to their patients?

Methods

We used data from the NIVEL National Study of Morbidity and Interventions in General Practice, a large nationwide study among 161 GPs working in 103 practices.^{32,33,34} We based selection of participating GPs on a stratified (according to region, urbanization and distance to a general hospital), random sample of all Dutch GPs. The GPs registered detailed information about all patient contracts in a 3-month period, with four groups (together) covering 1 year (April 1987 to April 1988). Data recorded included patient characteristics, characteristics of the consultation (e.g. first or repeat consultation, length of consultation, time of the day), problems presented and physician's diagnoses (classified in the International Classification of Primary Care), and services provided (diagnostic services, treatment, prescriptions, referrals). To ensure maximal uniformity in the data-collection process, all participating doctors were trained in the use of the classification systems. A written instruction with definitions was provided to keep at hand during the

consultation.³² Before the registration period started, all elements of the registration form were tested in each individual practice while a research assistant was present. During the registration period, a research assistant visited each practice to check the data for completeness and irregularities and to discuss problems that might have arisen. The doctors received feedback on their practice profile compared to the 'average' practice profile in the National Study on Morbidity and Interventions in General Practice, a service that was highly appreciated by the doctors and provided an extra opportunity for data control.

For this study we used select portions of the National Study's data set. We selected all group practices with male and female GPs (21 group practices with 27 male and 23 female GPs) to equalize patients' opportunity to choose between a male and a female GP. In this way, distance to the practice location can be ruled out as a possible explanation for differences between male and female GPs, as well as other relevant factors such as the composition of the practice population, the particular characteristics of the neighborhood, and the availability of other health services in the surroundings. There was no significant difference between the age distribution of male and female GPs; the mean age was 38.2 years for male GPs and 41.8 years for. As part-time jobs are common for female physicians but can also be an alternative explanation for differences found between male and female physicians, the group practices have been grouped into practices with female partners working less than a 0.6 full-time-equivalent ($n = 10$) and practices with female partners working more than a 0.6 full-time-equivalent ($n = 11$). For reasons of intelligibility these groups are called "part-time working," respectively "full-time working."

In this article, (which is part of a larger study) we used only the routine consultation data for the analyses; home visits, emergencies, and special consultations were ex-

cluded. Altogether 47,254 patients from the selected group practices were examined by the doctors; 29,322 of these patients were women (62.0%). To distinguish between GP and patient gender effects, the results are presented for both patient sexes. In this way it is also possible to study the different types of dyads (male-male, male-female, female-male, female-female). The age-sex register of the patients consulting male and female GPs is presented in Table 1. As there are some differences in the age-sex register between male and female GPs and as age is an important factor in morbidity figures, a direct standardization for age was performed for all analyses presented. Furthermore, an additional standardization for morbidity was performed in analyzing the last research question. The influence of GPs gender will be analyzed under different conditions: 1) with part-time versus full-time working female physicians; and 2) with male versus female patients.

Results

Gender Preferences in Patient Contacts

Contacts with female patients comprise 55.3% of the total workload of male physicians and 71.1% of the female physician's workload. In Figure 1 the result of gender

preferences in terms of the sex distribution of patient contacts is presented for each of the 21 group practices with male and female GPs. If there had been no gender preferences, the male/female patient ratio would have been equal for male and female GPs and, as a consequence, each bar in Figure 1 would have had zero length. In none of the group practices is there an over-representation of female patients with male doctors; in contrast, in all but one of the 21 practices, the female GPs examine a significantly higher proportion of female patients as compared with their male colleagues in the same practice. In the only practice where there is no such difference, the female GP works only 1 day per week. The differences are larger in those practices where the female GP works 0.6 full-time equivalent or more. Female patients more often choose a female GP than do male patients if and when they have the opportunity to choose one; this tendency is stronger, as there is more opportunity.

Gender Differences in the Problems Presented

The morbidity pattern of the International Classification of Primary Care (ICPC) chapters for male and female GPs is presented in Figure 2. A detailed Table is pre-

TABLE 1. Age Distribution of Consulting Patients, by GP's and Patients' Sex and Female GP's Involvement in Practice

Age (years)	♀GP < 0.6 FTE				♀GP ≥ 0.6 FTE			
	♂Patient		♀Patient		♂Patient		♀Patient	
	♂GP	♀GP	♂GP	♀GP	♂GP	♀GP	♂GP	♀GP
0-14	11.8	14.9 ^a	6.5	6.6	13.6	20.4 ^b	11.3 ^b	9.1
15-44	43.2	48.4 ^a	52.0	57.7 ^b	48.7 ^a	45.8	50.4 ^b	59.0
45-54	13.9	10.8	11.9	11.6	12.6	12.3	11.8	11.3
55-64	15.9 ^b	9.9	13.1 ^b	10.2	11.6	10.6	12.1 ^b	9.0
≥65	15.2	16.0	16.5 ^b	13.9	13.5 ^b	10.8	14.4 ^b	11.6
N	5157	1310	7701	3360	7621	3844	8887	9374

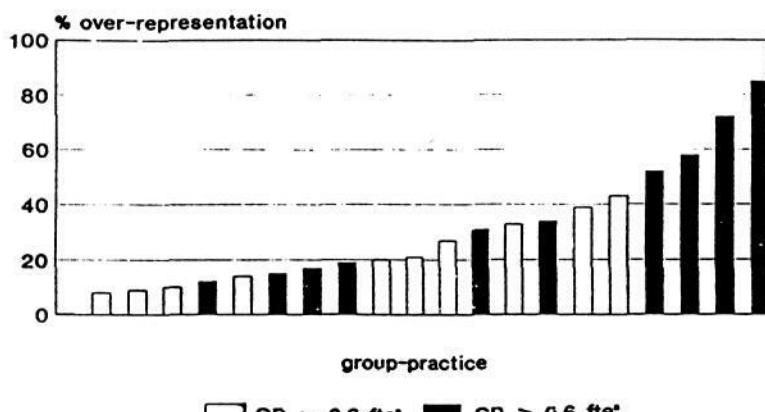
♀, female; ♂, male.

FTE, full-time equivalents.

^a P < 0.001

^b P < 0.01

FIG.1. Over-representation of female patients with female doctors in 21 group practices.



sicians, but social problems are presented more often to female physicians by both male (2.8% vs. 1.9%) and female (3.1% vs. 1.8%) patients. The same can be said of the endocrinologic/metabolic problems (2.9% vs. 1.7% for the male patients; 3.1% vs. 2.4% for the female patients).

Gender Effects in Provided Services

In Table 2 some consultation characteristics are presented for female and male GPs under two conditions (full-time and part-time; male and female patients). Despite a direct standardization for patients' age, and morbidity, some differences remain in the consultation characteristics. On average, female physicians spend more time with their patients than their male colleagues (not presented in table): 32.7% (vs. 25.7%) of their consultations last longer than 10 minutes (Note: the average consultation length in the Netherlands is 8.1 minutes³⁵). In group practices with part-time working female physicians there are also more long consultations than in group practices with full-time working female GPs (34.0% vs. 24.8%). In addition, female patients also have longer consultations than men (30.8% vs. 23.2%). As a combined effect consultations of more

than 10 minutes occur 2.3 as often among part-time working female GPs with female patients as compared with full-time working male GPs with male patients.

The way a GP manages his or her consultations is indicated by three variables: 1) who took the initiative for the consultation?; 2) is it a first or a repeat consultation of a problem presented in earlier consultations?; and 3) is the consultation concluded with a new appointment? In the full-time group a consistent picture emerges: male GPs have more first consultations, more consultations on the patient's initiative, and fewer consultations that end in a new appointment. These results pertain to both male and female patients. In the part-time group no such picture is seen: there is only a difference between male and female physicians in the amount of consultations on the patient's initiative; this is higher among female physicians, regardless of the sex of the patient.

Female physicians are less sure about the diagnosis than their male colleagues, regardless of their involvement in practice and regardless of the sex of their patient; part-time working female GPs consider more complaints in their psychosocial context as their male colleagues, a result that is not found among full-time working GPs.

TABLE 2. Consultation's Characteristics by GP's and Patients' Sex and Female GP's Involvement in Practice (%)

	♀GP < 0.6 FTE				♀GP ≥ 0.6 FTE				Overall %	
	♂Patient		♀Patient		♂Patient		♀Patient			
	♂GP	♀GP	♂GP	♀GP	♂GP	♀GP	♂GP	♀GP		
Time of consultation										
>10 min.	28.2	29.6	34.6	41.8 ^a	17.9	24.5 ^a	21.9	33.4 ^a	28.0	
First consultation	44.6	45.2	41.9	43.8	49.6 ^a	45.8	48.4 ^a	44.9	45.6	
Patient-initiated	62.7	71.1 ^a	63.1	70.6 ^a	74.1 ^a	69.6	75.7 ^a	73.3	69.1	
Further appointment	69.5	68.2	72.6 ^a	70.2	58.6	66.8 ^a	57.7	66.0 ^a	65.7	
Psychological aspect	23.9	35.8 ^a	29.0	41.1 ^a	31.6	31.5	33.8	33.8	31.2	
Unsure/doubt	9.3	16.4 ^a	9.6	15.9 ^a	10.7	14.8 ^a	10.3	14.0 ^a	15.4	
N	5157	1310	7701	3360	7621	3844	8887	9374	47254	

♀, female; ♂, male.

FTE, full-time equivalent.

^a P < 0.001.

Table 3 presents an overview of services provided by male and female GPs for their male and female patients. Regardless of the sex of the patient, full-time working women doctors ordered more laboratory tests, wrote down fewer prescriptions, and performed fewer technical-medical interventions. They did more passive and active counseling, but registered fewer reassurances as compared with their male colleagues. They also gave less information. Generally the same picture emerges when we compare part-time working female GPs with their male colleagues, with one notable exception: this particular group of female physicians is in general much more active in providing information, general health education, and lifestyle advice as compared with their male colleagues.

Discussion

This study has some limitations. Because of the study's design, only group practices

with male and female physicians have taken part in the study. It is possible that a self-selecting group of physicians is drawn to such group practices; the majority of Dutch GPs work in single-handed practice. This limits the generalizability of the study. It is also possible that some of the differences that we found are the result of an agreement between the partners in the group practices (for instance agreements on antenatal care). One final warning is necessary about the validity of some of the measures for the services provided, especially the "softer" services: information giving, counseling, and general health education. While, in general, there is little doubt whether a GP has taped a patient's ankle or not, in some instances no such clear distinction can be made in case of (for instance) information giving. Despite the training, the written definitions provided, and the very careful process of data collection, some physician-specific inaccuracies are possible. An observational study is

TABLE 3. Provided Services by GP's and Patients' Sex and Female GP's Involvement in Practice (%)

	♀GP < 0.6 FTE				♀GP ≥ 0.6 FTE				Overall %	
	♂Patient		♀Patient		♂Patient		♀Patient			
	♂GP	♀GP	♂GP	♀GP	♂GP	♀GP	♂GP	♀GP		
Internal diagnostics	76.2	74.0	73.2	72.1	77.2	76.1	75.6	74.2	75.0	
External diagnostics	6.1	6.6	8.8	11.7 ^a	5.6	7.3 ^a	7.5	8.9 ^a	7.8	
Counselling:										
Passive/listening	14.2	18.9 ^a	16.6	18.7 ^b	9.7	17.4	10.4	15.9 ^a	14.2	
Active/exploring	17.4	15.5	20.1 ^a	15.5	12.9	20.5	13.5	17.3 ^b	16.4	
Reassuring	15.7	13.4	17.6 ^a	13.0	17.5	10.4	18.4 ^a	11.0	15.3	
Information about:										
Health problems/treatment	38.6	51.4 ^a	38.3	45.6 ^a	49.4 ^a	38.6	46.6 ^a	34.3	41.8	
General health education	3.2	5.3 ^a	3.5	5.6 ^a	4.3	3.8	4.1	4.3	4.1	
Wait and see	5.1	4.9	4.2	4.2	5.9	5.0	5.6 ^b	4.7	5.0	
Lifestyle advice	3.0	5.2 ^b	2.4	4.1 ^b	3.3	2.7	1.8	2.4 ^b	2.7	
Medical treatments	9.5 ^a	6.3	5.6	4.9	8.9	7.6	6.6 ^a	4.9	6.7	
Prescription	41.2	41.0	44.0 ^a	39.3	42.5 ^b	39.7	46.6 ^a	43.2	43.1	
Medication without prescription	1.3	4.5 ^a	1.9	4.3 ^a	3.7	2.8	3.1	2.9	2.9	
Referral primary care	4.4	4.3	3.6	2.9	3.9	4.7	3.4	4.0	3.8	
Referral medical specialist	6.5	5.7	4.9	5.3	6.2	5.8	4.6	5.1	5.4	
Consultation	1.6	2.9 ^b	1.2	2.3 ^a	1.5	1.7	0.8	1.1	1.3	
N	5,157	1,310	7,701	3,360	7,621	3,844	8,887	9,374	47,254	

♀, female; ♂, male.

FTE, full-time equivalent.

^a P < 0.001.

^b P < 0.01.

better equipped to measure this group of variables.

Despite these limitations, this study reveals some interesting results. To start with the main conclusion, gender issues indeed seem important in general practice.

First, it is clear from our data that compared with male patients female patients tend to choose a female GP if and when they have the opportunity to do so; this tendency is strongest with patients of full-time working female GPs.

Second, female GPs see a different morbidity pattern from their male colleagues; for part-time working female GPs this is mainly to be found in the disproportionate amount of gynecologic problems; for the full-time GPs there is a much more variegated picture. In addition to the expected over-representation of female-specific health problems (family planning/pregnancy, gynecology) and under-representation of male-specific health problems (male genital system), these female physicians also see more social and endocrine problems and less musculoskeletal and respiratory problems. Moreover, these differences pertain to both patient sexes. Male patients as well as female patients tend to present more social problems and endocrine problems when confronted with a female GP. The former is interesting, because it includes relational problems; the latter category is interesting because it includes metabolic and eating disorders. It is not clear from our data which is the cause and which is the result of this phenomenon. Perhaps male patients who are willing to discuss their social and/or metabolic problems with a GP tend to choose a female GP rather than a male GP. Conversely female GPs by their attitude and questions stimulate patients to discuss social and metabolic problems. In all probability, both situations occur as doctor and patient tend to socialize each other. Of course the same can be said about the underrepresentation of musculoskeletal and respiratory problems with female physicians; these types of health prob-

lems are more popular in the male physician's consultation room. The GP's gender is important in general practice; GPs seem to attract not only patients of the same sex, but also specific types of health problems, regardless of the sex of the patient. These types of health problems correspond with the existing sex-biases or stereotypes: "masculine" health problems (around the male genital system and the musculoskeletal system, which incorporates health problems arising from sports-related accidents, job injuries, and so on) are overrepresented with the male GPs; "feminine" health problems (around gynecology and family planning/pregnancy, but also around human relationships, food habits, and so on) are overrepresented with the female GPs. With part-time working female GPs only the differences in sex-specific morbidity become apparent; with full-time working GPs there also seems to be a more subtle or indirect gender effect. This may explain why only marginal differences around these types of health problems are found in earlier studies, where no distinction was made between full-time and part-time working female GPs.^{7,11}

The third conclusion that can be drawn from this study is that female GPs and male GPs seem to develop a different working style. As noted in previous studies,³¹ the female GPs from this study tend to have longer consultations, especially when they have a part-time job and when confronted with female patients.

The service profile of female GPs is similar to what is known from other studies,^{11,16} with female GPs doing more counseling and ordering more laboratory tests, but writing fewer prescriptions and doing fewer technical-medical interventions. The situation of information giving is a bit complicated: part-time working female GPs seem to be more active in a variety of information-giving activities than full-time female GPs; the full-time female GPs in our study registered even less information giving than their male colleagues. Why this is not clear at the mo-

ment. Results from other studies indicate that female GPs have a higher number of information-giving utterances.^{31,36} One possible explanation is that, in these studies, no distinction was made between full-time and part-time working female GPs. Our study clearly indicates some important differences within the group of female physicians between those with a full-time and those with a part-time job. As many women doctors prefer a part-time job, it is possible that in those studies the part-time effect is measured instead of the gender effect. Another possible explanation is that there could be a trade-off effect between information giving and counseling, which becomes most prominent under time pressure (of all subgroups studied, the full-time working female physicians proved to have—by choice or by force—the tightest appointment schedule). Information giving is considered active and instrumental behavior, whereas counseling is considered passive and affective behavior. This is consistent with feminist literature in which male behavior is dominated by active and instrumental types of behavior, whereas female behavior is dominated by passive and affective behavior. A last explanation that cannot be ruled out pertains to the validity of the registered communication variables as has been stated before. Because of the puzzling results, more research on this issue is necessary, partly with other research methods (preferably observation methods).^{31,36}

From the way they manage their consultations it seems that full-time female GPs have a special interest in the continuity of care (relatively many repeat consultations visits, many visits on the GPs initiative, and many follow-up appointments). This tendency towards continuity of care can also be interpreted as a consequence of the female GP's greater uncertainty about the exact diagnosis of the patient's health problems, or, of course, the female GP's greater willingness to admit such uncertainty. This is similar to the female GP's stronger tendency to

order laboratory tests. All in all, a picture emerges of a female GP who is or admits more often than her male colleague that she is not sure about what exactly is wrong with the patient, and consequently orders laboratory tests and asks the patient to come back for a repeat visit (with which the patient complies). Whether this particular work style must be considered precise and quality enhancing, or instead as insecure and medicalizing, can not be determined from these data, but is an interesting topic for further research.

A last result that has to be discussed is the unexpected but highly relevant distinction between part-time and full-time working female physicians. Part-time working female GPs seem to spend more time on their patients, time that seems to be largely spent on information giving and counseling, two important types of behaviour in preventive and psychosocial care. Possibly as a result, they are more sensitive to the psychosocial aspects of the patient's health problems. Conversely, with part-time working female GPs, patient's preferences are a bit less marked as compared with their full-time working colleagues, possibly because of their restricted availability; there is also less continuity in care, as expressed in proportion of repeat visits, contacts on GP's initiative, and further appointments. This study clearly demonstrates the relevance of part-time versus full-time working as a research topic in itself.

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Appendix Percentage^a of total number of consultations with reason for encounter^b, by GP's sex and female GP's involvement in practice

	GP < 0.6 FTE			GP ≥ 0.6 FTE ^a		
	♂GP	♀GP	ratio ♀/♂	♂GP	♀GP	ratio ♀/♂
General and unspecified	11.5	10.2	0.89	9.5	10.1	1.06
Blood	1.3	1.2	0.92	1.2	1.1	0.92
Digestive	8.3	8.0	0.97	8.9	9.1	1.02
Eye	2.7	2.3	0.85	3.3	2.9	0.88
Ear	4.9	4.7	0.96	5.3	4.9	0.92
Circulatory	12.0	13.3	0.11	9.2	10.3 ^c	1.12
Musculoskeletal	24.1 ^d	20.6	0.85	27.0 ^d	23.8	0.88
Neurological	5.5	4.9	0.89	5.7	5.2	0.91
Psychological	6.3	5.8	0.92	4.9	4.8	0.98
Respiratory	14.3	13.4	0.94	15.9 ^d	13.2	0.83
Skin	11.2	11.5	1.03	13.9	13.1	0.94
Endocrine, metabolic	3.3	3.5	1.06	2.0	3.1 ^d	1.55
Urology	2.2	2.2	1.00	1.5	1.8	1.20
Pregnancy, family planning	6.4	6.8	1.06	3.9	6.7 ^d	1.72
Female genital system	4.7	8.9 ^d	1.89	4.3	7.5 ^d	1.74
Male genital system	0.8	0.5	0.62	1.1 ^d	0.6	0.54
Social	2.6	2.3	0.88	1.8	3.0 ^d	0.67
N	12858	4670		16508	13218	

♂, male; ♀, female.

FTE, full-time equivalent.

^a As one consultation can have more than one reason for encounter the total adds up to more than 100%.

^b Classified in the International Classification of Primary Care (ICPC).

^c P < 0.01.

^d P < 0.001.

Gender Differences in Practice Style: A Dutch Study of General Practitioners

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The differences between female and male general practitioners (GPs) were studied regarding three different factors: 1) Do female GPs see more female patients than their male colleagues in the same practice?; 2) Are female GPs confronted with different types of health problems from their male colleagues?; and 3) Do female GPs provide different services to their patients? Data from the Dutch National Study on Morbidity and Interventions in General Practice were used. All practices in this study with both female ($n = 23$) and male ($n = 27$) GPs were selected. This resulted in detailed data on 47,254 consultations, 62% of which were with female patients. The three research questions all received an affirmative response: 1) female patients tend to choose female general practitioners; 2) female GPs see different health problems from their male colleagues, and that is only partly because the patient so chooses; and 3) besides the expected differences in female-specific problems, there is a clear GP-gender effect in the presence of 'social' and 'metabolic' problems in the female GP's consultations. Some differences in the provision of services between male and female GPs occurred, with female GPs spending more time on their patients and having a stronger tendency to provide continuity of care. In addition to a gender effect (both physician and patient) a part-time effect in most issues studied was observed. Key words: gender; general practice; patients' preference; morbidity; interventions; part-time working. (Med Care 1993; 31:219-229)

The classical dyad in the medical encounter consists of a male physician and a female patient. Approximately 60% of all pa-

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tients who visit Dutch primary health care practitioners are women.¹ This seems to be a fairly universal phenomenon.²⁻⁷ The male-to-female ratio for general practitioners (GPs) shows a completely different picture, and—in the Netherlands at least—an even more unbalanced one: in 1991, 87% of independently established Dutch GPs were men, and only 13% were women.⁸ A greater participation of female doctors in general practice can be expected as a result of the sharp increase of female medical students in the last 10 years—a recognized phenomenon in the western world.⁹⁻¹⁶

Because the number of female medical students is growing, gender issues have at-

tracted attention in the medical field. Nowadays, there is a general call for more female GPs to enable patients to choose between a male and a female GP and to enhance the quality of care for specific health problems.¹⁷⁻¹⁹ The underlying assumption is that women prefer a female GP and that some health problems are more easily presented to and differently cared for by a female GP. It is interesting to test the legitimacy of such a call from a scientific point of view. An examination of the literature shows that for each of these issues some questions remain unanswered and some results have yet to be confirmed.

Patients' preference for a specific type of physician is generally measured by asking for the patients preference in a questionnaire.²⁰⁻²⁴ In most of these studies, patients seem to have a preference for a physician of the same sex,²²⁻²⁵ although in one study a general preference for female physicians has been reported.²⁶ However, some studies also suggest that, until recently, there was a general preference for male physicians among male and female patients.^{19,22} Female patients often report that they prefer female doctors for sex-specific health problems,^{20,22,26} for embarrassing or intimate problems,^{23,27} or for behavioral problems;²² at this moment it is unclear whether female patients prefer female doctors for other types of health problems, or perhaps more generally, regardless of the specific types of health problems. Sometimes the validity of these questionnaire-based measures of preference as measures of the real preference for male or female physicians is questioned, and it is suggested that they are more likely measures of a general sex bias.^{22,28} This validity problem is not encountered in studies in which patients preference is measured by looking at the patient's actual consultation behavior. In such studies, it is assumed that the patient shows his or her preference for a male or female physician by making an appointment with a physician of his or her choice. In these studies, female patients gen-

erally chose female physicians.^{2,7,17,28,30} The generalizability of the results of most of these studies is dubious however, because the study took place in only one general practice with male and female physicians,^{7,17} or because data from larger data-sets are analyzed, without being corrected for the availability of female and male physicians.¹¹ The latter is a problem because of the uneven distribution of female and male GPs, while the most important factor in choosing a GP is geographical accessibility.¹⁹ A new study is necessary with the participation of an equally available and sufficient number of female and male GPs.

The literature on the *prevalence of various problems* presented to male and female GPs, or the type of diagnoses made by male and female GPs is much more scarce. There is some evidence from morbidity surveys that female physicians are more often visited for genitourinary problems and preventive procedures.^{2,7} In one British study, some differences in morbidity pattern were found between male and female GPs, but the overall conclusion of this study was that "there seems to be no recognizable pattern in differences in morbidity seen by women and men doctors other than for gender associated conditions."^{2(p 755)} However, this conclusion is based on one study only; more research on different data sets is necessary to confirm this conclusion.

Still less knowledge exists on *gender differences in the services provided*. In a recent American study, female doctors were shown to spend more time with their patients, especially with their female patients,³¹ a result that was not confirmed in a British study;¹¹ female doctors seem to have a more favorable attitude to psychosocial factors in patient care, patient education, and health counseling,⁹ although it is not yet clear whether this attitude is also reflected in actual practice behavior. One recent Canadian study, after adjustment for other factors, demonstrated that women provided more counseling and psychotherapy,¹⁶ and also

ordered more laboratory tests, a result that was also found in England.¹¹ In this study, however, we concluded that the percentage of women in the 15-to-44 age group accounted for most of the differences between men and women doctors rather than the sex of the doctor. Again, it would seem desirable to find out if these results can be replicated.

Accordingly, the present study has been designed, taking into account what is known from literature. Three research questions have been formulated:

1. Do female patients have a preference for female GPs?;
2. Are female GPs confronted with other types of health problems when compared with their male colleagues?;
3. Are female physicians different from their male colleagues with respect to the services that they provide to their patients?

Methods

We used data from the NIVEL National Study of Morbidity and Interventions in General Practice, a large nationwide study among 161 GPs working in 103 practices.^{32,33,34} We based selection of participating GPs on a stratified (according to region, urbanization and distance to a general hospital), random sample of all Dutch GPs. The GPs registered detailed information about all patient contracts in a 3-month period, with four groups (together) covering 1 year (April 1987 to April 1988). Data recorded included patient characteristics, characteristics of the consultation (e.g. first or repeat consultation, length of consultation, time of the day), problems presented and physician's diagnoses (classified in the International Classification of Primary Care), and services provided (diagnostic services, treatment, prescriptions, referrals). To ensure maximal uniformity in the data-collection process, all participating doctors were trained in the use of the classification systems. A written instruction with definitions was provided to keep at hand during the

consultation.³² Before the registration period started, all elements of the registration form were tested in each individual practice while a research assistant was present. During the registration period, a research assistant visited each practice to check the data for completeness and irregularities and to discuss problems that might have arisen. The doctors received feedback on their practice profile compared to the 'average' practice profile in the National Study on Morbidity and Interventions in General Practice, a service that was highly appreciated by the doctors and provided an extra opportunity for data control.

For this study we used select portions of the National Study's data set. We selected all group practices with male and female GPs (21 group practices with 27 male and 23 female GPs) to equalize patients' opportunity to choose between a male and a female GP. In this way, distance to the practice location can be ruled out as a possible explanation for differences between male and female GPs, as well as other relevant factors such as the composition of the practice population, the particular characteristics of the neighborhood, and the availability of other health services in the surroundings. There was no significant difference between the age distribution of male and female GPs; the mean age was 38.2 years for male GPs and 41.8 years for. As part-time jobs are common for female physicians but can also be an alternative explanation for differences found between male and female physicians, the group practices have been grouped into practices with female partners working less than a 0.6 full-time-equivalent ($n = 10$) and practices with female partners working more than a 0.6 full-time-equivalent ($n = 11$). For reasons of intelligibility these groups are called "part-time working," respectively "full-time working."

In this article, (which is part of a larger study) we used only the routine consultation data for the analyses; home visits, emergencies, and special consultations were ex-

cluded. Altogether 47,254 patients from the selected group practices were examined by the doctors; 29,322 of these patients were women (62.0%). To distinguish between GP and patient gender effects, the results are presented for both patient sexes. In this way it is also possible to study the different types of dyads (male-male, male-female, female-male, female-female). The age-sex register of the patients consulting male and female GPs is presented in Table 1. As there are some differences in the age-sex register between male and female GPs and as age is an important factor in morbidity figures, a direct standardization for age was performed for all analyses presented. Furthermore, an additional standardization for morbidity was performed in analyzing the last research question. The influence of GPs gender will be analyzed under different conditions: 1) with part-time versus full-time working female physicians; and 2) with male versus female patients.

Results

Gender Preferences in Patient Contacts

Contacts with female patients comprise 55.3% of the total workload of male physicians and 71.1% of the female physician's workload. In Figure 1 the result of gender

preferences in terms of the sex distribution of patient contacts is presented for each of the 21 group practices with male and female GPs. If there had been no gender preferences, the male/female patient ratio would have been equal for male and female GPs and, as a consequence, each bar in Figure 1 would have had zero length. In none of the group practices is there an over-representation of female patients with male doctors; in contrast, in all but one of the 21 practices, the female GPs examine a significantly higher proportion of female patients as compared with their male colleagues in the same practice. In the only practice where there is no such difference, the female GP works only 1 day per week. The differences are larger in those practices where the female GP works 0.6 full-time equivalent or more. Female patients more often choose a female GP than do male patients if and when they have the opportunity to choose one; this tendency is stronger, as there is more opportunity.

Gender Differences in the Problems Presented

The morbidity pattern of the International Classification of Primary Care (ICPC) chapters for male and female GPs is presented in Figure 2. A detailed Table is pre-

TABLE 1. Age Distribution of Consulting Patients, by GP's and Patients' Sex and Female GP's Involvement in Practice

Age (years)	♀GP < 0.6 FTE				♀GP ≥ 0.6 FTE			
	♂Patient		♀Patient		♂Patient		♀Patient	
	♂GP	♀GP	♂GP	♀GP	♂GP	♀GP	♂GP	♀GP
0-14	11.8	14.9 ^a	6.5	6.6	13.6	20.4 ^b	11.3 ^b	9.1
15-44	43.2	48.4 ^a	52.0	57.7 ^b	48.7 ^a	45.8	50.4 ^b	59.0
45-54	13.9	10.8	11.9	11.6	12.6	12.3	11.8	11.3
55-64	15.9 ^b	9.9	13.1 ^b	10.2	11.6	10.6	12.1 ^b	9.0
≥65	15.2	16.0	16.5 ^b	13.9	13.5 ^b	10.8	14.4 ^b	11.6
N	5157	1310	7701	3360	7621	3844	8887	9374

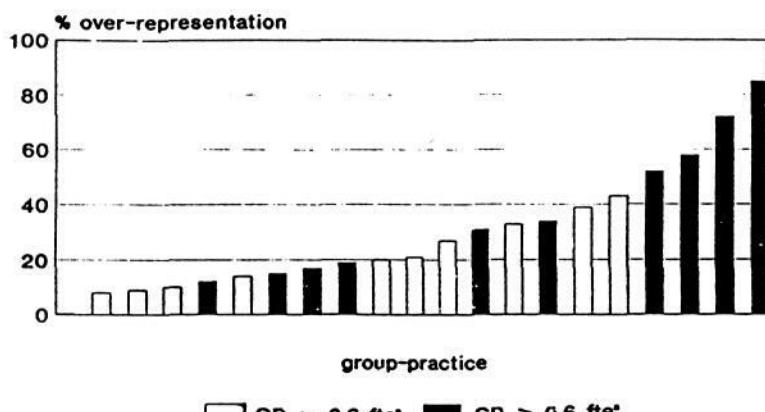
♀, female; ♂, male.

FTE, full-time equivalents.

^a P < 0.001

^b P < 0.01

FIG.1. Over-representation of female patients with female doctors in 21 group practices.



sicians, but social problems are presented more often to female physicians by both male (2.8% vs. 1.9%) and female (3.1% vs. 1.8%) patients. The same can be said of the endocrinologic/metabolic problems (2.9% vs. 1.7% for the male patients; 3.1% vs. 2.4% for the female patients).

Gender Effects in Provided Services

In Table 2 some consultation characteristics are presented for female and male GPs under two conditions (full-time and part-time; male and female patients). Despite a direct standardization for patients' age, and morbidity, some differences remain in the consultation characteristics. On average, female physicians spend more time with their patients than their male colleagues (not presented in table): 32.7% (vs. 25.7%) of their consultations last longer than 10 minutes (Note: the average consultation length in the Netherlands is 8.1 minutes³⁵). In group practices with part-time working female physicians there are also more long consultations than in group practices with full-time working female GPs (34.0% vs. 24.8%). In addition, female patients also have longer consultations than men (30.8% vs. 23.2%). As a combined effect consultations of more

than 10 minutes occur 2.3 as often among part-time working female GPs with female patients as compared with full-time working male GPs with male patients.

The way a GP manages his or her consultations is indicated by three variables: 1) who took the initiative for the consultation?; 2) is it a first or a repeat consultation of a problem presented in earlier consultations?; and 3) is the consultation concluded with a new appointment? In the full-time group a consistent picture emerges: male GPs have more first consultations, more consultations on the patient's initiative, and fewer consultations that end in a new appointment. These results pertain to both male and female patients. In the part-time group no such picture is seen: there is only a difference between male and female physicians in the amount of consultations on the patient's initiative; this is higher among female physicians, regardless of the sex of the patient.

Female physicians are less sure about the diagnosis than their male colleagues, regardless of their involvement in practice and regardless of the sex of their patient; part-time working female GPs consider more complaints in their psychosocial context as their male colleagues, a result that is not found among full-time working GPs.

TABLE 2. Consultation's Characteristics by GP's and Patients' Sex and Female GP's Involvement in Practice (%)

	♀GP < 0.6 FTE				♀GP ≥ 0.6 FTE				Overall %	
	♂Patient		♀Patient		♂Patient		♀Patient			
	♂GP	♀GP	♂GP	♀GP	♂GP	♀GP	♂GP	♀GP		
Time of consultation										
>10 min.	28.2	29.6	34.6	41.8 ^a	17.9	24.5 ^a	21.9	33.4 ^a	28.0	
First consultation	44.6	45.2	41.9	43.8	49.6 ^a	45.8	48.4 ^a	44.9	45.6	
Patient-initiated	62.7	71.1 ^a	63.1	70.6 ^a	74.1 ^a	69.6	75.7 ^a	73.3	69.1	
Further appointment	69.5	68.2	72.6 ^a	70.2	58.6	66.8 ^a	57.7	66.0 ^a	65.7	
Psychological aspect	23.9	35.8 ^a	29.0	41.1 ^a	31.6	31.5	33.8	33.8	31.2	
Unsure/doubt	9.3	16.4 ^a	9.6	15.9 ^a	10.7	14.8 ^a	10.3	14.0 ^a	15.4	
N	5157	1310	7701	3360	7621	3844	8887	9374	47254	

♀, female; ♂, male.

FTE, full-time equivalent.

^a P < 0.001.

Table 3 presents an overview of services provided by male and female GPs for their male and female patients. Regardless of the sex of the patient, full-time working women doctors ordered more laboratory tests, wrote down fewer prescriptions, and performed fewer technical-medical interventions. They did more passive and active counseling, but registered fewer reassurances as compared with their male colleagues. They also gave less information. Generally the same picture emerges when we compare part-time working female GPs with their male colleagues, with one notable exception: this particular group of female physicians is in general much more active in providing information, general health education, and lifestyle advice as compared with their male colleagues.

Discussion

This study has some limitations. Because of the study's design, only group practices

with male and female physicians have taken part in the study. It is possible that a self-selecting group of physicians is drawn to such group practices; the majority of Dutch GPs work in single-handed practice. This limits the generalizability of the study. It is also possible that some of the differences that we found are the result of an agreement between the partners in the group practices (for instance agreements on antenatal care). One final warning is necessary about the validity of some of the measures for the services provided, especially the "softer" services: information giving, counseling, and general health education. While, in general, there is little doubt whether a GP has taped a patient's ankle or not, in some instances no such clear distinction can be made in case of (for instance) information giving. Despite the training, the written definitions provided, and the very careful process of data collection, some physician-specific inaccuracies are possible. An observational study is

TABLE 3. Provided Services by GP's and Patients' Sex and Female GP's Involvement in Practice (%)

	♀GP < 0.6 FTE				♀GP ≥ 0.6 FTE				Overall %	
	♂Patient		♀Patient		♂Patient		♀Patient			
	♂GP	♀GP	♂GP	♀GP	♂GP	♀GP	♂GP	♀GP		
Internal diagnostics	76.2	74.0	73.2	72.1	77.2	76.1	75.6	74.2	75.0	
External diagnostics	6.1	6.6	8.8	11.7 ^a	5.6	7.3 ^a	7.5	8.9 ^a	7.8	
Counselling:										
Passive/listening	14.2	18.9 ^a	16.6	18.7 ^b	9.7	17.4	10.4	15.9 ^a	14.2	
Active/exploring	17.4	15.5	20.1 ^a	15.5	12.9	20.5	13.5	17.3 ^b	16.4	
Reassuring	15.7	13.4	17.6 ^a	13.0	17.5	10.4	18.4 ^a	11.0	15.3	
Information about:										
Health problems/treatment	38.6	51.4 ^a	38.3	45.6 ^a	49.4 ^a	38.6	46.6 ^a	34.3	41.8	
General health education	3.2	5.3 ^a	3.5	5.6 ^a	4.3	3.8	4.1	4.3	4.1	
Wait and see	5.1	4.9	4.2	4.2	5.9	5.0	5.6 ^b	4.7	5.0	
Lifestyle advice	3.0	5.2 ^b	2.4	4.1 ^b	3.3	2.7	1.8	2.4 ^b	2.7	
Medical treatments	9.5 ^a	6.3	5.6	4.9	8.9	7.6	6.6 ^a	4.9	6.7	
Prescription	41.2	41.0	44.0 ^a	39.3	42.5 ^b	39.7	46.6 ^a	43.2	43.1	
Medication without prescription	1.3	4.5 ^a	1.9	4.3 ^a	3.7	2.8	3.1	2.9	2.9	
Referral primary care	4.4	4.3	3.6	2.9	3.9	4.7	3.4	4.0	3.8	
Referral medical specialist	6.5	5.7	4.9	5.3	6.2	5.8	4.6	5.1	5.4	
Consultation	1.6	2.9 ^b	1.2	2.3 ^a	1.5	1.7	0.8	1.1	1.3	
N	5,157	1,310	7,701	3,360	7,621	3,844	8,887	9,374	47,254	

♀, female; ♂, male.

FTE, full-time equivalent.

^a P < 0.001.

^b P < 0.01.

better equipped to measure this group of variables.

Despite these limitations, this study reveals some interesting results. To start with the main conclusion, gender issues indeed seem important in general practice.

First, it is clear from our data that compared with male patients female patients tend to choose a female GP if and when they have the opportunity to do so; this tendency is strongest with patients of full-time working female GPs.

Second, female GPs see a different morbidity pattern from their male colleagues; for part-time working female GPs this is mainly to be found in the disproportionate amount of gynecologic problems; for the full-time GPs there is a much more variegated picture. In addition to the expected over-representation of female-specific health problems (family planning/pregnancy, gynecology) and under-representation of male-specific health problems (male genital system), these female physicians also see more social and endocrine problems and less musculoskeletal and respiratory problems. Moreover, these differences pertain to both patient sexes. Male patients as well as female patients tend to present more social problems and endocrine problems when confronted with a female GP. The former is interesting, because it includes relational problems; the latter category is interesting because it includes metabolic and eating disorders. It is not clear from our data which is the cause and which is the result of this phenomenon. Perhaps male patients who are willing to discuss their social and/or metabolic problems with a GP tend to choose a female GP rather than a male GP. Conversely female GPs by their attitude and questions stimulate patients to discuss social and metabolic problems. In all probability, both situations occur as doctor and patient tend to socialize each other. Of course the same can be said about the underrepresentation of musculoskeletal and respiratory problems with female physicians; these types of health prob-

lems are more popular in the male physician's consultation room. The GP's gender is important in general practice; GPs seem to attract not only patients of the same sex, but also specific types of health problems, regardless of the sex of the patient. These types of health problems correspond with the existing sex-biases or stereotypes: "masculine" health problems (around the male genital system and the musculoskeletal system, which incorporates health problems arising from sports-related accidents, job injuries, and so on) are overrepresented with the male GPs; "feminine" health problems (around gynecology and family planning/pregnancy, but also around human relationships, food habits, and so on) are overrepresented with the female GPs. With part-time working female GPs only the differences in sex-specific morbidity become apparent; with full-time working GPs there also seems to be a more subtle or indirect gender effect. This may explain why only marginal differences around these types of health problems are found in earlier studies, where no distinction was made between full-time and part-time working female GPs.^{7,11}

The third conclusion that can be drawn from this study is that female GPs and male GPs seem to develop a different working style. As noted in previous studies,³¹ the female GPs from this study tend to have longer consultations, especially when they have a part-time job and when confronted with female patients.

The service profile of female GPs is similar to what is known from other studies,^{11,16} with female GPs doing more counseling and ordering more laboratory tests, but writing fewer prescriptions and doing fewer technical-medical interventions. The situation of information giving is a bit complicated: part-time working female GPs seem to be more active in a variety of information-giving activities than full-time female GPs; the full-time female GPs in our study registered even less information giving than their male colleagues. Why this is not clear at the mo-

ment. Results from other studies indicate that female GPs have a higher number of information-giving utterances.^{31,36} One possible explanation is that, in these studies, no distinction was made between full-time and part-time working female GPs. Our study clearly indicates some important differences within the group of female physicians between those with a full-time and those with a part-time job. As many women doctors prefer a part-time job, it is possible that in those studies the part-time effect is measured instead of the gender effect. Another possible explanation is that there could be a trade-off effect between information giving and counseling, which becomes most prominent under time pressure (of all subgroups studied, the full-time working female physicians proved to have—by choice or by force—the tightest appointment schedule). Information giving is considered active and instrumental behavior, whereas counseling is considered passive and affective behavior. This is consistent with feminist literature in which male behavior is dominated by active and instrumental types of behavior, whereas female behavior is dominated by passive and affective behavior. A last explanation that cannot be ruled out pertains to the validity of the registered communication variables as has been stated before. Because of the puzzling results, more research on this issue is necessary, partly with other research methods (preferably observation methods).^{31,36}

From the way they manage their consultations it seems that full-time female GPs have a special interest in the continuity of care (relatively many repeat consultations visits, many visits on the GPs initiative, and many follow-up appointments). This tendency towards continuity of care can also be interpreted as a consequence of the female GP's greater uncertainty about the exact diagnosis of the patient's health problems, or, of course, the female GP's greater willingness to admit such uncertainty. This is similar to the female GP's stronger tendency to

order laboratory tests. All in all, a picture emerges of a female GP who is or admits more often than her male colleague that she is not sure about what exactly is wrong with the patient, and consequently orders laboratory tests and asks the patient to come back for a repeat visit (with which the patient complies). Whether this particular work style must be considered precise and quality enhancing, or instead as insecure and medicalizing, can not be determined from these data, but is an interesting topic for further research.

A last result that has to be discussed is the unexpected but highly relevant distinction between part-time and full-time working female physicians. Part-time working female GPs seem to spend more time on their patients, time that seems to be largely spent on information giving and counseling, two important types of behaviour in preventive and psychosocial care. Possibly as a result, they are more sensitive to the psychosocial aspects of the patient's health problems. Conversely, with part-time working female GPs, patient's preferences are a bit less marked as compared with their full-time working colleagues, possibly because of their restricted availability; there is also less continuity in care, as expressed in proportion of repeat visits, contacts on GP's initiative, and further appointments. This study clearly demonstrates the relevance of part-time versus full-time working as a research topic in itself.

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Appendix Percentage^a of total number of consultations with reason for encounter^b, by GP's sex and female GP's involvement in practice

	GP < 0.6 FTE			GP ≥ 0.6 FTE ^a		
	♂GP	♀GP	ratio ♀/♂	♂GP	♀GP	ratio ♀/♂
General and unspecified	11.5	10.2	0.89	9.5	10.1	1.06
Blood	1.3	1.2	0.92	1.2	1.1	0.92
Digestive	8.3	8.0	0.97	8.9	9.1	1.02
Eye	2.7	2.3	0.85	3.3	2.9	0.88
Ear	4.9	4.7	0.96	5.3	4.9	0.92
Circulatory	12.0	13.3	0.11	9.2	10.3 ^c	1.12
Musculoskeletal	24.1 ^d	20.6	0.85	27.0 ^d	23.8	0.88
Neurological	5.5	4.9	0.89	5.7	5.2	0.91
Psychological	6.3	5.8	0.92	4.9	4.8	0.98
Respiratory	14.3	13.4	0.94	15.9 ^d	13.2	0.83
Skin	11.2	11.5	1.03	13.9	13.1	0.94
Endocrine, metabolic	3.3	3.5	1.06	2.0	3.1 ^d	1.55
Urology	2.2	2.2	1.00	1.5	1.8	1.20
Pregnancy, family planning	6.4	6.8	1.06	3.9	6.7 ^d	1.72
Female genital system	4.7	8.9 ^d	1.89	4.3	7.5 ^d	1.74
Male genital system	0.8	0.5	0.62	1.1 ^d	0.6	0.54
Social	2.6	2.3	0.88	1.8	3.0 ^d	0.67
N	12858	4670		16508	13218	

♂, male; ♀, female.

FTE, full-time equivalent.

^a As one consultation can have more than one reason for encounter the total adds up to more than 100%.

^b Classified in the International Classification of Primary Care (ICPC).

^c P < 0.01.

^d P < 0.001.