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## **Eurocommunication II**

### **A comparative study between countries in Central- and Western-Europe on doctor-patient communication in general practice**

#### **FINAL REPORT**

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## Summary

The main aim of the Eurocommunication-II study was to investigate the influence of different European healthcare systems (gatekeeping system with registered patients; GPs' employment status; payment system) on doctor-patient communication in general practices. Firstly, in three Central-European countries (Estonia, Poland and Rumania) and Sweden differences in doctor-patient communication were studied and, secondly, differences in relevance and performance of communication aspects from the patients' perspective. Lastly, it was studied if differences in doctor-patient communication and in relevance and performance of communication aspects were related to healthcare system characteristics, taking into account patient and GP characteristics. The present study was additional to the Eurocommunication-I Study (1996-1999), that was carried out in the same way in six Western-European countries (Netherlands, United Kingdom, Spain, Belgium, Germany and Switzerland). Therefore, the data of the two Eurocommunication Studies could be combined in order to make comparisons between all ten countries and to answer the last research question.

The Eurocommunication-II Study population included 2146 patients of 117 GPs ; in the Eurocommunication Study-I 190 GPs and 3674 patients participated.

Data were collected by means of patient and GP questionnaires, GP registration forms, and by the observation of videotaped consultations. GPs' and patients' verbal and GPs' non-verbal behaviour were measured. Data were analyzed by oneway and bivariate analysis, multilevel, multivariate analysis and correlations (Pearson's  $r$ ).

The study showed that the communication patterns in the three Central-European countries Estonia, Poland and Rumania differed between each other and that therefore, these countries cannot be considered as a group of countries with similar communication patterns. They also differed from the Western-European countries, but differences were mostly not along the east-west line. The exception was the division of speaking time; in Central-Europe patients got less time to tell their story than in Western-Europe. Consultation time was longer in non-gatekeeping countries (except in Germany). Affective behaviour (social talk, showing empathy, concerns, reassurances) was relative to instrumental behaviour (information exchange) more frequent in the United Kingdom, Germany and Switzerland. In Rumania GPs and patients talked more about psychosocial issues than in Estonia and Poland, and also more than in Sweden, Germany and the Netherlands. The importance patients attached to biomedical and psychosocial communication aspects slightly differed between the countries, with exception of Rumania (high valued) and Poland (low valued). The expectations were mostly reflected in the GPs' performance, especially patients with psychosocial problems nearly always got help. Still there are patients who did not talk with their doctor about communication aspects that were important for them.

The study showed that healthcare system characteristics at the macro level partly explained doctor-patient communication. The chance of social talk and facilitation was higher in gatekeeping countries, but showing empathy and concern and agreements was lower than in the non-gatekeeping countries. Self-employed GPs were likely to be less affective (except facilitation), but their patients showed more affective behaviour like concerns and agreements.

There was no clear relationship between payment system and affective behaviour. GPs' instrumental behaviour (asking questions, giving information and advices) about biomedical issues was likely to be higher in non-gatekeeping countries, but their patients were likely to talk more about psychosocial issues. In consultations of employed GPs there was more information exchange between GPs and patients. In fee-for-service systems the chance of psychosocial talk was higher than in the two other payment systems. The different combinations of healthcare system characteristics did not fit the actual situation in any country, there were only some combinations actually present in a country. This makes the influence of these macrolevel characteristics on doctor-patient communication at the microlevel difficult to entangle.

The patients' characteristics, at the micro-level, turned out to be more important than GPs' and healthcare system characteristics in explaining communication differences, both with respect to the type and the content of the communicative behaviour. Patient characteristics as gender, age, educational level, GPs' knowledge of the patient and especially the type of health problems presented, i.e., psychosocial or biomedical, appeared to influence doctor-patient communication at least as much as healthcare system characteristics did. GPs characteristics were less likely to influence the communication patterns. Cultural and contextual factors may also play an important role in the communication process. Therefore, it was recommended to include these factors in future communication studies. The economic benefit of doctor-patient communication should also be investigated, because good communication may contribute to the cost-effectiveness of healthcare. Apparently, the relationship between macro level characteristics and doctor-patient communication, at the micro-level, is more complicated than has been assumed. Given the inter-country differences found in the Eurocommunication Studies, comparison of studies on doctor-patient communication in different countries should be handled with caution.

### **Major cooperative links**

Cooperation with the universities and institutions mentioned above has resulted in the present Final Report as well as in two Progress Reports. More cooperative studies and scientific articles on specific themes will be carried out by researchers of the universities and institutions which participated in the Eurocommunication Studies-I and II.

Furthermore, researchers from Estonia, Rumania and probably Poland are working to get their doctoral's degree based on the Eurocommunication-II Study.

The cooperation between the ten countries involved in the Eurocommunication Studies I and II was the onset for the establishment of the European Association for Communication in Healthcare (EACH). The primary objective of EACH is to stimulate the growth of an active network of researchers and teachers. All countries who participated to the Eurocommunication Studies are involved in EACH, apart from researchers and teachers of universities and institutes from many other European and non-European countries, and it is expected that still more people from different countries will be a member of EACH. Already groups of researchers from different countries have been formed who cooperate in order to study international and supranational issues in healthcare. The first international conference (on Communication and Healthcare) organised by EACH took place from 16th-18th September 2002 at the Warwick University, Warwick, United Kingdom.



## **Joint/individual publications and patents**

Tähepõld Heli. Estonian family doctors III Conference 24-25 september, 1999. The Estonian Journal of Family Doctors 1999.

Tähepõld Heli, Brink-Muinen A. van den, Heidi-Ingrid Maaros. Sampling of family doctors and patients in Estonia for the videoconsultation study Eurocommunication-II. Paper presented at the WONCA Conference 2001, Tampere, Finland, 3-7 June 2001.

H. Tähepõld, H-I Maaros. Videoconsultation in family medicine. Paper presented at the conference of family doctors in Estonia, Sept 2000.

H. Tähepõld, H-I Maaros. Family doctors` consultations in Estonia. Paper presented at the Conference of family doctors in Estonia, September 2001.

Maaros H.-I, Tiik M, Kalda R, Tähepõld H, Veskimägi M, Põlluste K. Use of telemedicine in family medicine. Eesti Arst (Estonian Physician) 5:275-278, 2001

R. Kalda, H. Sarapuu, U. Takker, H. Tähepõld, Lüdimois S, A. Pikk H-I. Maaros. The Observation of the consultation as an active learning method in the introductory course of family medicine for undergraduate students. Paper presented at the Conference of the European Society of General Practice/ Family Medicine- WONCA Region Europe, Tampere, Finland, June 2001.

Heli Tähepõld, Heidi- Ingrid Maaros, Ruth Kalda, and Atie van den Brink- Muinen. The Structure and Duration of Consultations in Estonian Family Practice. Paper presented at the WONCA Europe Conference, London, United Kingdom, 2002.

Brink-Muinen A. van den, Sandra van Dulmen, Jozien Bensing.. European doctor-patient communication: a tower of Babel? Paper presented at the International Conference of Psychology & Health, Rolduc, Kerkrade, the Netherlands, May 2002.

H. Tähepõld, A. van den Brink- Muinen. Structure and duration of the consultations in family practice: analysis of videotapes of the consultations in the Eurocommunication-II study. Poster presented at the WONCA Europe Conference, London , United Kingdom, June 2002.

Brink-Muinen A. van den, Sandra van Dulmen, Jozien Bensing. European doctor-patient communication: a tower of Babel? Paper presented at the International Conference on Communication in Healthcare. Warwick, United Kingdom, September 2002.

Brink-Muinen A. van den, Sandra van Dulmen, Jozien Bensing. The Eurocommunication Studies I and II. Poster presented for the Ministry of Health, Welfare and Sports, October 2002.



# 1 Background / rationale

## 2.1 Introduction

In medical encounters communication is crucial, because, at the doctors' side, discovering the true nature of the patient's problem, translating it into a diagnosis, and communicating this to the patient is largely dependent on successful communication between doctor and patient. The patients, in their turn, want to "know and understand their problem" and they want to "feel known and understood by the doctor".

Communication is carried out through an exchange of verbal and non-verbal information.<sup>1-9</sup>

The quality of doctor-patient interaction influences patient satisfaction and compliance and outcomes of medical treatment.<sup>10-18</sup> Good communication skills, adequate consultation time and knowledge of the patient's history appear to be positive correlates of successful doctor-patient interaction.<sup>19,20</sup> These features of doctor-patient communication have an impact on the following parameters of the outcome of care: patient satisfaction<sup>10-13</sup>, adherence to doctor's prescriptions and advice<sup>14-16</sup>, prevention of somatic fixation<sup>17</sup>, referral and prescription rates<sup>18</sup>, and recognition of mental disorders.<sup>19,20</sup> It follows that doctor-patient communication has an impact on the patients' health and on the cost-effectiveness of medical care. Dissatisfied or non-compliant patients and unnecessary prescriptions and referrals may lead to non-optimal healthcare and to unnecessary costs in healthcare.

With the ongoing shift from acute to chronic diseases, from instrumental interventions to lifestyle related health promotion, from cure to care, and from doctor-centred to patient-centred behaviour, the emphasis on doctor-patient communication will only increase in the future. Moreover, consultations will be more often cross-cultural in the future because societies become more and more multicultural. Further, the European harmonization will result in the integration of healthcare and healthcare policies which may stimulate cross border healthcare in Europe<sup>21</sup>. This has recently led to the exchange of medical professionals and patients. Belgian general practitioners (GPs), for instance, have left their own country and started a practice in the Netherlands, because in Belgium there is a surplus of GPs and the working circumstances are worse than in the Netherlands. In addition, German GPs are inviting Dutch patients to visit a German doctor.

So, it will become still more usual that doctors and patients from different countries and cultures meet each other in the consultation room. Therefore, doctor-patient communication may be influenced by factors related to national (and cultural) differences, apart from patient and GP characteristics and apart from language problems. The main aim of this study is to investigate the consequences of these healthcare system

characteristics on doctor-patient communication.

If and how national characteristics, at the macro level, influence doctor-patient communication, at the micro level, has been studied in the Eurocommunication-I Study<sup>22,23</sup> for the first time. The present Eurocommunication-II Study, a comparative study between countries in Central- and Western-Europe on doctor-patient communication in general practice, is additional to the first study, as will become clear in the next section.

## 2.2 Healthcare system characteristics

The following healthcare systems characteristics are considered important with regard to the role and the position of GPs and are expected to influence doctor-patient communication.

### *a. General practitioner as gatekeeper with registered patients versus freely accessible medical specialist care without registered patients*

In a healthcare system where GPs serve as gatekeepers, their role is central and in favour of continuity of care.<sup>24</sup> They are the first physicians to have contact with health problems and they decide whether patients are referred to medical specialists. GPs are usually responsible for making the first diagnosis, requiring a thorough evaluation of the medical and emotional aspects of the symptoms and the possible psychological nature of the complaints. This gatekeeping system is in contrast with those where patients have direct access to medical specialists and patients themselves decide what kind of care they need. In countries with a gatekeeping system patients are usually registered with one GP (i.e., there are fixed patient lists), whereas in countries where the GPs have no gatekeeping role there is no obligation for patients to register with one GP. The patients are free to choose a doctor and may even visit different doctors.

### *b. Employment status*

Another divergent characteristic is the employment status of GPs. Sometimes they work in salaried employment, whereas in other countries they are self-employed.

### *c. Payment system*

Three different payment systems can be distinguished: a fee-for-service system in which GPs are paid according to the medical interventions performed; a capitation system where they receive a fixed amount of money for every patient; a mixed system of fee-for-service and capitation fee.

In the Eurocommunication-I Study six Western-European countries were involved; the Netherlands, United Kingdom, Spain, Belgium, Germany and Switzerland. In these countries, three combinations were present as regards GPs' gatekeeping role (with registered patients) or not and GPs' employment status (Table 1). There were several combinations of healthcare system characteristics with the different payment systems.

Four countries took part in the present study: Sweden, Estonia, Poland and Rumania. The study adds the variant of no gatekeeper/salaried employment (which variant is present in Sweden) to the three variants healthcare system characteristics present in the first study. Moreover, the current study provides the opportunity to compare the performance of GPs working under different transient circumstances in three countries of Central Europe (Estonia, Poland and Rumania), where healthcare systems are in a transition from centralized state systems (Semashko model) to one of the Western models, with the performance of their Western-European colleagues in different healthcare systems.

In the present report the influence of healthcare system characteristics in the 10 countries will be analysed on the combined data of Eurocommunication-I and –II by which it is possible to include the three healthcare system characteristics mentioned above.

Table 1 Healthcare system characteristics of the 10 participating countries

	gatekeeper	employee	payment
<b>Eurocommunication-I</b>			
Netherlands	yes	no	mixed
United Kingdom	yes	no	capitation
Spain	yes	yes	capitation
Belgium	no	no	fee for service
Germany	no	no	fee for service
Switzerland	no	no	fee for service
<b>Eurocommunication-II</b>			
Sweden	no	yes	fee-for-service
Estonia	yes	no	capitation
Polanda	yes	no	capitation
Rumania	yes	no	mixed

### 1.3 The Eurocommunication-I Study

Before presenting the results of the second Eurocommunication Study, the main results of the earlier Eurocommunication-I study will be summarized.<sup>22,23</sup> The study population included 3674 patients of 190 GPs in 6 European countries. Two of three of the Western healthcare system variants were present in this study. However, the fee-for-service reimbursement system went together with the non-gatekeeping role of GPs in the three respective countries and could, therefore, not independently be analysed. Moreover, only in Spain GPs were working as employees. Therefore, in this first study the GPs' gatekeeper role (going together with patient lists) was the only distinctive healthcare system characteristic taken into account.

#### 1.3.1 Patient-reported importance and performance of communication aspects

The patients of the non-gatekeeping doctors (in Belgium, Germany and Switzerland) considered the discussion of communication aspects more important than did the patients in the gatekeeping countries. These aspects were distinguished into biomedical and psychosocial aspects. Examples of biomedical communication aspects are talking about the meaning and the seriousness of health problems, explanation of the likely course of illness and of test results. Psychosocial aspects are, e.g., liking help for emotional problems, anxiousness or liking support for difficult time a patient has. The importance of psychosocial issues was particularly highly valued by patients in the non-gatekeeping countries. As these patients reported, their doctors indeed discussed more often those issues that were important from the patients' perspective, whether they presented a psychosocial problem or not. The agreement between importance and performance of communication aspects was generally high, although better with respect to psychosocial than biomedical communication aspects. However, the non-gatekeeping general practitioners talked to their (not registered) patients relatively about psychosocial issues more often than necessary when considered in terms of the importance attached.

Patient characteristics (such as gender, age, education), psychosocial problems, poor health and feelings of depression were important in explaining differences in the importance and performance of communication aspects. Talking about biomedical issues was more important for males, the relatively young and patients in poor health. Talking about psychosocial issues was important for both male and female patients, especially for patients having psychosocial problems, relatively poor health or feelings of depression.

General practitioner characteristics did not seem to affect the importance or performance of these aspects, with one exception. Doctors and patients talked more about psychosocial issues when the doctor diagnosed the patient's problem as psychosocial, or suspected a psychosocial aspect in the problem presented.

### *1.3.2 Doctor-patient communication*

In general, there were many similarities in doctor-patient communication between the six countries. Affective talk as showing empathy and concern, and social talk showed no great diversities, and if there were differences they were mostly not along the gatekeeping/non-gatekeeping line. Spanish, Belgian and Dutch doctors and patients were somewhat less affective than the other ones. In the gatekeeping countries (and registered patients) the general practitioners and patients more frequently used affective expressions such as paraphrasing and checks of understanding (partnership building). Differences in instrumental behaviour between gatekeeping systems were limited. In all countries patients asked only few questions, but gave more information to their doctor than reversely. Instrumental communication was somewhat less usual in the UK, Spain and Germany. There was comparatively more talk about psychosocial than medical topics in Switzerland, Belgium and the UK. The GPs and patients talked more about psychosocial issues when the patient attached more importance to discussion of these issues, and when the GP diagnosed the patient's problem as psychosocial.

The different emphasis on biomedical versus psychosocial talk, either when giving information, asking questions or counselling, did not reflect the line between gatekeeping and non-gatekeeping healthcare systems in all respects. In gatekeeping systems with registered patients less time was spent in biomedical talk, such as history taking and routine questions, which may be due to the higher continuity of care in these countries with registered patients. However, there was not more time spent to psychosocial talk. The doctors in the gatekeeping countries were more patient centred, especially with respect to a doctor picking up cues from a patient.

Some striking differences were found, as on length of consultation. In Belgium and Switzerland consultations are the longest (about 15 min.), twice as long as in Germany and Spain. The English and Dutch consultations took about 10 min. Another interesting and unexpected finding was that gatekeeping GPs didn't have a better knowledge of their patients than other GPs. Apparently, registration with one GP as in the gatekeeping countries, does not necessary lead to having a better knowledge of their patients. This may indicate that non-registered patients do not tend to switch doctors.

Patient characteristics, especially the psychosocial components of health, seemed to exert most influence on the communication style of both doctors and patients. In consultations with patients with poor health and no psychosocial problems there was a lot of biomedical talk between doctor and patient. Patients with psychosocial problems (indicated either by the general practitioners or by the patients themselves) and reporting relatively good health (logically) discussed psychosocial issues more often. Influences from patients' gender, age and education were also found. Female patients, for example, discussed biomedical health problems more extensively than males, they asked more questions, gave more information and expressed more affective behaviour, such as showing feelings of concern, empathy and optimism, especially when the doctor was female. More highly educated patients were asked fewer questions by the doctor, but they themselves asked more questions and they

obtained more information from their doctors. At the general practitioner level, female doctors were more likely to show affective behaviour in that they paid more attention to patients' feelings and emotions.

The main conclusion was that health care system characteristics of countries are less important for doctor-patient communication than was expected, and that the relationship between macro and micro level characteristics is more complicated than was assumed beforehand.

#### **1.4 Conditions that influence doctor-patient communication**

It has become increasingly clear that the processing of information is positively influenced by affective behaviour (verbal and non-verbal expressions of interest and concern), a patient-centred attitude, and probing instrumental behaviour (asking questions, giving information and advice). A number of helpful conditions can be identified, such as taking adequate time for a patient, familiarity with a patient and knowledge of a patient's history.

There may, however, be obstacles interfering with the quality of communication which result from the structure of the healthcare system.

It was assumed that in gatekeeping systems where patients are not registered with a GP and secondary care is accessible without a GP's referral, doctors better knew a patient's history. However, the Eurocommunication-I Study showed that GPs in non-gatekeeping countries, where patients are not registered with one GP and have direct access to specialist care, were more instead of less familiar with their patient population.<sup>22</sup> Perhaps these general practitioners make special efforts to discourage their patients from visiting another doctor, which might be applicable to Belgium where there is a surplus of doctors. By paying them attention and ensuring their satisfaction as much as possible they may try to keep patients in their own practice and in this way earn more money. The patients therefore probably feel no need to change from one GP to another GP or to a medical specialist, although they are free to do so. Instead, they may prefer to consult their own doctor who knows their problems and psychosocial background, is well known to them, and in whom they have confidence. The continuity of care seems important for all patients, irrespective of the healthcare system.

Another assumption of the first Eurocommunication Study was that self-employed doctors might choose to maximize their workload, whereas doctors who are employed may feel less time pressure, because they have a fixed salary and, therefore, they would

have longer consultations<sup>24</sup> which gives more time to talk with patients, especially about psychosocial issues. In Spain, the only country where GPs were employees, there was more psychosocial talk indeed, but consultation time was not longer than in the other countries.<sup>22</sup>

A payment system based on medical interventions (fee-for-service) might lead to higher workload and to increasing income through less talking with patients and carrying out interventions instead. The saying “time is money” may apply best to doctors working on a fee-for-service basis. This expectation was indeed reflected in the first study in the higher number of instrumental treatments in fee-for-service systems, but not in a lower amount of talking with the patients.

Based on the findings of the Eurocommunication-I Study, which only partly reflected the expectations beforehand, the influence of the three healthcare system characteristics on doctor-patient communication is not expected to reflect the lines of gatekeeping/not gatekeeping GPs, salaried versus self-employed GPs, and the different payment systems. Further, patient characteristics may be stronger related to doctor-patient communication than healthcare system characteristics.

One of the prerequisites for effective (intercultural)communication is that doctors and patients agree on the patients’ health problem and understand, acknowledge and respect each other’s explanatory models for health and illness. Discrepant models may influence the way problems are presented and the outcomes of the consultation, such as satisfaction and compliance.<sup>25</sup> Scarce research in the field of cultural differences confirms that mutual understanding is more often worse between cross-cultural than same-cultural patients.<sup>26,27</sup> Misunderstanding may result in an incorrect diagnosis by the doctor and non-compliance by the patient.<sup>28</sup> So, in examining doctor-patient communication in different countries with different healthcare systems, it is important to keep in mind cultural differences between countries.<sup>29</sup>

Depending on the role of primary care in the various healthcare systems, it was considered that patients might differ in the importance they attach to different communication aspects. This difference may also depend on the healthcare system characteristics, apart from GP and patient characteristics. What patients consider worth discussing with their doctors and the doctors’ performance is likely to depend on society’s prevailing norms and values and those gathered by doctors through their medical education.<sup>30-33</sup> Patients might prefer a different emphasis on affective and instrumental behaviour, and different degrees of a patient centred approach, and a different emphasis on certain topics like labour, prevention, psychological issues and prescription or laboratory tests.<sup>34-38</sup> In these respects, east-west and rural-urban differences play an important role as well.<sup>39</sup>

## **1.5 Research questions**

The following questions will be answered for the four countries of the Eurocommunication-II Study:

1. Are there differences in doctor-patient communication between countries?
2. Are there differences between countries in relevance and performance of communication aspects from the patients’ perspective?

The third question concerns the Eurocommunication-I and II Study:

3. Are differences in doctor-patient communication and in relevance and performance of communication aspects related to healthcare system characteristics?



## 1.6

### Participating countries

In this section the healthcare systems of the four countries that participated in the Eurocommunication-II Study are described (see for the Eurocommunication-I countries the final report of the first study<sup>22</sup>).

#### Estonia.

Estonia has had a tradition of family medicine/general practice since the first period of independence (1918-1940). Under Soviet period this was changed with a system of primary medical care provided by different specialists in polyclinics. In early 1990s it was decided to reintroduce family practice as a specialty into the Estonian health care. In 1991, the first group of trainees started the in-service retraining courses. In the next year family practice was recognised as an academic discipline and in 1992 the department of Family Medicine was opened at Tartu University. Since 1993 a full time residency programme is available, which takes 3 years. At present the total number of trained family doctors is over 600. The total need for family doctors in Estonia is about 807.

Today, Estonian family medicine can be summarized as follows:

The family practice is generally the first point of contact with the health care system and is free for every insured person. Non-insured people must pay investigations and analyses themselves.

Emergency services are free for every person. The family doctors act as partial gatekeepers, there exist free access to psychiatrist, traumatologist, gynaecologist, ophthalmologist, dermato-venerologist, specialist on tuberculosis and dentist. The other specialists require referral from family doctors. The abovementioned services are also provided by family doctors.

The family doctors works as independent contractors with sickfunds and there exists a combined payment system (capitation fee (80%), fee-for-service part, basic fee for practice to cover equipment, information technology, transportation, continuous medical education and some extra payments. Each person can freely choose their personal family doctor. There is a system of patient lists. The allowed average list size per family doctor is 1900 (st.dev.  $\pm 400$ ). In fact, the average list size is 1780 patients.

About half of the family doctors in Estonia work as single-handed family doctors (mostly in rural areas), the rest work in group practices. The average size of a group practice is 3-4 doctors, but there are also some large practices, including more than 8 family doctors.

#### Poland.

Healthcare in Poland is in a transition period. As a result physicians with different background are employed at present. Those working within old structures (sometimes as gatekeeper) and those who are new style family physicians on a signed contract (self employed). The planned goal is to establish primary care services based on self-employed family physicians in the position of a gatekeeper.

Nowadays most doctors in primary healthcare work on fixed salaries independent of the

services offered and the number of patients seen. Family physicians working on contracts have registered patients (fixed lists of 2000-2500 patients). Each medical university has its family medicine department. At the period of data collection for the study Eurocommunication-II there was a three year vocational training. It was offered to those who completed basic medical education. The training was based on hospital training but efforts were made to direct it more towards primary care. Those who were already working as a medical doctor, could undertake a 6-month course in family practice. Only doctors with at least 5 years experience in primary healthcare can participate. Nowadays the training is 4 years for young and 2 years for experienced doctors.

#### Rumania.

In the old system Rumanian GPs are in salaried employment. A transition to a National Health Service is being under consideration. Within such a framework the GP will become a self-employed doctor with a contract with NHS. The contract is based both on capitation fee and fee for service (mixed system). The GP is a gate-keeper according to the law, but there are some by-passes, especially for polyclinics. Vocational training is being developed. In 1997, about 3000 of the 15.000 Rumanian GPs will have got a vocational training. Vocational training lasts three years and was introduced in 1991.

#### Sweden.

The Swedish healthcare system resembles Belgium, Germany and Switzerland in the lack of a gatekeeping system and is similar to Spain in its salaried employment of most GPs. The payment system is based on fee-for-services. The profession of GP is considered a specialty and students are trained as such during five years.

The vocational training of GPs may also influence doctor-patient communication<sup>40-43</sup>, but training cannot be considered as a structural healthcare system characteristic. Vocational training is now obligatory in the participating countries, but its content and time of starting differs between countries. Within the Central-European countries most GPs will have had such training,, but some have not been trained as a GP.

## 1. Objectives

The main objective of the present study was to investigate how the characteristics of various healthcare systems affect doctor-patient communication in general practice, additional to the Eurocommunication-I Study. By combining the two studies, the influence of healthcare system characteristics could be investigated for the three main characteristics, i.e., gatekeeping (going together with registered patients), employment system and payment system. This objective is consistent with the research on the efficiency and quality of healthcare delivery.

This study compares differences in doctor-patient communication between countries in a micro-analytical way. Moreover, by the extension to Central-European countries it is possible to study the relationship between doctor-patient communication and the three main healthcare system characteristics, i.e., gatekeeping function of GPs (and registered patients), employment status and payment system.

The study also has a community added value. To date, doctor-patient communication has been studied in only a few areas, usually around centres of education in the North-Western European region and North America. Apart from some exceptions, there is not a clear picture of the daily work and routines of GPs regarding doctor-patient communication in Europe. In several respects this (second) international study has an added value as compared to the national approach in a limited number of countries that is the situation until now. Added value is expected with respect to scientific development, policy making and medical education.

The long-term objective of the first Eurocommunication Study was to establish an international research programme on comparison of doctor-patient communication. This has resulted in an extension of the first study to the present study in Central-European countries and Sweden, and in the establishment of the European Association for Communication in Healthcare (EACH). Cooperation with the researchers from the 10 Eurocommunication countries has been and will be continued. This has already resulted in the publication of joint articles, and it is also the aim for the future to publish articles in scientific journals, based on the Eurocommunication data.



### **3 Methods, statistics, ethical aspects**

In this chapter, a short description is given of the methods and statistics used. For a more detailed description as well as for the results of the six Eurocommunication-I countries, see the final report of this former study.<sup>22</sup>

#### **3.1 Sample methods**

The study design was cross-sectional. The sampling method differed per country due to the GPs' willingness to participate or its practicability. The GPs were recruited by means of a random sample of large regions (300 GPs in Estonia, 100 GPs in Sweden), samples of two big cities and surroundings (Poland) and health centres (Rumania). The 'snowball' method was used if necessary. Language background was taken into account in Rumania; also some practices in the Hungarian-speaking region were included. In Poland and Rumania doctors were included who had and who had not followed a vocational training to become a GP. In the old healthcare system of Poland and Rumania, before the vocational training started, the doctors were more general internists than GPs. Patients consulting the GP on the day(s) of data collection were approached at random in the practice. Their informed consent was asked before their consultation. Both the GPs and the patients signed an informed consent form.

#### **3.2 Study population**

According to the study proposal, in the four European countries data were collected among GPs and their patients. Twenty-five to thirty-five GPs per country were included, 64.1% of them were women (Table 2).

Table 2 Number and % of GPs by GPs' gender and by country

	male GPs		female GPs		Total
	N	%	N	%	N
Estonia	3	11.1	24	88.9	27
Poland	16	45.7	19	54.3	35
Rumania	9	30.0	21	70.0	30
Sweden	14	56.0	11	44.0	25
Total	42	35.9	75	64.1	117

In total 2146 patients (62.6% women) participated in the study, in all participating countries more female than male patients visited male and female doctors ( Table 3).

Table 3 Number and % of patients by patients' and GPs' gender and by country

	male GPs				female GPs				male and female GPs				
	M- pat. N	%	F- pat. N	%	M- pat. N	%	F- pat. N	%	M- pat. N	%	F pat. N	%	N
Estonia	23	39.7	35	60.3	171	37.3	287	62.7	194	37.6	322	62.4	516
Poland	127	40.7	185	59.3	141	38.5	225	61.5	268	39.5	410	60.5	678
Rumania	52	33.5	103	66.5	128	33.5	253	66.5	193	33.5	383	66.5	576
Sweden	93	44.1	118	55.9	55	33.3	110	66.7	148	39.4	228	60.6	376
Total	295	40.1	441	59.9	495	36.1	875	63.9	803	37.4	1343	62.6	2146

### 3.3 Representativeness

In order to know to what extent the GPs of the Eurocommunication Study-II are representative of the entire GP population in each participating country, a comparison was made with the study population of the Task Profile Study (TPS).<sup>24</sup> To be compatible with earlier research, the same GP questionnaire was used as in the GP Task Profile Study<sup>38</sup> (except for beliefs and attitudes). This similarity facilitated the comparison of the two groups of GPs on certain characteristics, including age, gender, and whether they had followed vocational training. On the basis of this comparison, the representativeness of the participating GPs and the resulting generalization of the results could be examined.

In all four countries as much female doctors participated as in the TPS. In the three Central-European countries the introduction of the vocational training was visible in the higher percentages of doctors who followed this training compared to the year (1994) in which the TPS Study was carried out (Estonia 96%, Poland 82%, Rumania 58%). It is

obvious that the Estonian and Polish doctors are somewhat younger, because they specifically followed the vocational training. In Sweden less GPs had followed this training than the TPS GPs. Due to the sampling method, more Polish and Rumanian doctors practise in an inner city compared to the TPS doctors. (Appendix 1, Table 1).

The non-response rate of patients was 7.8%, which is lower than in previous studies using video recordings, e.g., in the first Eurocommunication Study the non-response rate was 21%. Non-response analysis revealed no differences in gender and age of the patients, but the psychosocial background of health problems (as assessed by the GPs) was higher in the non-response group. Generally small differences in health problems presented (Appendix 1, Table 2). In the response group there were less psychological and social problems presented, but more circulatory problems. So, it can be concluded that the representativeness of the present study is satisfying in nearly all respects.

### **3.4 Data collection**

The data were gathered from 1999 to 2001. The decentralized data collection drawing on the observation of videotaped consultations, patient and GP questionnaires and GP registration forms gave rise to some problems, but ultimately all data were collected satisfactorily and mostly in good time.

#### *Procedures*

GPs completed a questionnaire on personal and practice characteristics on the day of the videotaping or afterwards, in which case they returned the questionnaire by post. Patients completed a questionnaire before and after their visit.

Mostly, twenty consultations of the participating GPs in each country were videotaped. Of these consultations, of each GP 15 were rated; five extra consultations were videotaped for several reasons (anticipating withdraw by patients afterwards; damage of videotape). In order to avoid bias because of adaptation to the video camera the first consultations were skipped.

Videotaped patients (not companions) were registered on a registration form (log sheet) by the GP.

#### *Camera installation*

The video-camera had a fixed position in the consultation room. The whole consultation was recorded in order to be able to register the total length of the consultation and physical examination. If possible, the camera was positioned in such a way that the GP's full face was shown and the patient from aside or from behind. The physical examination was performed out of the sight of the camera, but still the doctor-patient communication during the physical examination was auditively recorded.

### **3.5 Measurement instruments**

The measurement instruments, the scale composition and the reliability of the measurements were extensively described in the Eurocommunication Study-I.<sup>22</sup> The instruments can be summarized as follows:

#### *Patient questionnaire (Appendix 2.1)*

The patient questionnaires were translated by the researchers of the participating countries from English to their own language. Thereafter, they were re-translated into English language by professional translators. The questionnaires were about demographic characteristics (sex, age, living circumstances, employment, education, health problems coded following the International Classification of Primary Care (ICPC)<sup>44</sup>; health status and general health perception (COOP/WONCA

charts which are validated for cross-cultural use<sup>45</sup>); patient-reported relevance and performance of communication aspects (QUOTE-COMM<sup>23</sup>).

#### *GP registration form (Appendix 2.2)*

Videotaped patients (not companions) were registered on a registration form by the GP (in English language). For each patient the GP answered questions about gender; age; number of years the patient has been on the GP's list; patient's reason for encounter and GP's medical diagnosis (max. 3, ICPC-coded), GP's acquaintance with the patient, assessment of psychosocial background of the patient's problems; doctor's own evaluation of his/her medical and psychosocial performance and the quality of the doctor-patient relationship.

#### *Observation protocol (Appendix 2.3)*

By means of observation of the videotaped consultations the following aspects were measured: verbal affective and instrumental behaviour by means of Roter's Interaction Analysis System<sup>46</sup>, referring to non-verbal behaviour (affect ratings, patient-directed gaze); content of the consultation (symptoms discussed, prescription, referral, diagnostics, patient education, prevention); patient-centredness; consultation characteristics (length of consultation, physical examination, interruptions).

Uniform measurement methods were used to facilitate reliable comparisons between countries. All observers of each country (2 or 3 per country) were native speakers, trained in coding the videotaped consultations in the same way and always by the same person in order to reach as high a reliability as possible between observers within one country as well as between observers from different countries. The inter-rater reliability (irr) between the observers of the doctors' and patients' verbal behaviour in Estonia was very good. The irr in Sweden was high, with only one exception; asking clarification (Appendix 1, Table 3). However, in the analyses this category was taken together with paraphrase/checks for understanding, which resulted in the category 'facilitation'. The irr of facilitation behaviour was good. The irr-ratings of Poland and Rumania could not be included in this final report, due to misunderstandings. It is, however, expected that these irr-ratings are as good as in Sweden and Estonia, because the training of the observers was equal in all four countries. The irr-ratings will surely be included in future articles.

#### *GP questionnaire (Appendix 2.4)*

Relevant information was collected about: background characteristics; variables affecting GP's time for the patient; variables affecting GP's competence; professional working characteristics; professional beliefs and attitudes.

### **3.6 Statistics**

The significance of the different relationships was calculated as follows:

- independent (random) samples: 'difference of proportions' or 'difference of means' test
- means: t-test or (for more than 2 groups) oneway analyses (option Tukey)
- bivariate analyses: chi square test
- correlations and inter-rater reliability: Pearson's correlation coefficient
- multivariate (two-level) multilevel analysis: regression coefficient

The data of the Eurocommunication Study-I (1996-1999) and the Eurocommunication Study-II (1998-2002) were combined to be able to investigate the influence of different healthcare system characteristics on doctor-patient communication in ten countries.



Multilevel analysis was used to investigate which characteristics at the levels of the country, GP and patient explained differences in doctor-patient communication, the relevance of communication aspects and the performance perceived by the patients. This analysis accounts for the clustering of patients within GP practices, GPs within countries and healthcare system characteristics within groups of countries.<sup>47,48</sup> Patients of one GP might be, on the average, more alike than those of different GPs, and therefore cannot be considered as completely independent measurements. In this way, the variance at the country, GP and patient level is taken into account by means of the intraclass correlation coefficient. In order to facilitate the interpretation of the results of the multilevel analyses, the control variables were centered around the mean.

### **3.7 Ethical aspects**

All recordings and questionnaires were only identifiable by corresponding codes. The videotapes were rated in the countries themselves, and thus the privacy regulations of the separate countries were applied.

In Sweden the study proposal was sent to several ethical committees for consent. These committees made the restriction that the video recordings should only be used for research. In the other countries there were no restrictions from ethical committees.

All doctors and patients signed an informed consent form.



## 4 Results, conclusion, discussion

In the present report the main findings are described and discussed, following the three research questions. More detailed results on communication, GP and patient characteristics are presented in the Appendix of this report. Firstly, the results of the Eurocommunication-II Study are described. Thereafter, the main results of the two Eurocommunication Studies together are presented.

### 4.1 The Eurocommunication-II Study

#### 4.1.1 *GP and patient characteristics*

Comparison of GP characteristics between the countries (Appendix 1, Table 4) showed that the Estonian doctors were the youngest and worked shorter as a GP compared to the other GPs. In Poland the GPs worked more often in solo practices (75%), in Estonia 25% did so, whereas all Swedish and nearly all Rumanian GPs worked in health centres. All Rumanian doctors practised in (inner) cities, just like half of the Polish doctors. In Sweden and Estonia about two third of the GPs worked in rural areas.

The patients in Estonia and Poland were younger than those in Rumania and Sweden (Appendix 1, Table 5). In Rumania relatively more female patients were included in the study than in the other countries. The Polish patients lived less often alone than the Swedish and Estonian ones. The percentage of patients between 28 and 65 years old who were employed was the highest in Sweden and the lowest in Poland. The patients' educational level differed especially between Poland and the other countries; the Polish patients were lower educated than the other ones.

#### 4.1.2 *Communication patterns*

The first research question to be answered was: Are there differences in doctor-patient communication between countries?

Comparing the communication patterns of GPs and patients between the four countries, the following overall characterizations, relative to the other countries, can be given of the consultations. More detailed figures are shown in the Appendix 1, Tables 6, 7 and 8.

Estonia: verbally affective behaviour was in total more often shown in Estonia than in the other three countries; GPs' social talk and rapport building, such as showing concern, worry and empathy, was medium, but at the patients' side there was more social talk and rapport building than in the other countries; there were many agreements of both GPs and patients; paraphrasing and checking what was told by the patient for accuracy of information, was more often shown by the Estonian than the Swedish GPs and patients, but less than in Poland and Rumania.

The Estonian patients showed more affective than instrumental behaviour compared to

the Rumanian and Swedish patients, but the GPs in the four countries did not differ in this respect; the instrumental behaviour of the GPs and patients showed a more biomedical than psychosocial orientation than in Rumania, whereas the Estonian patients also talked more about biomedical issues than the patients in Sweden; the GPs showed an average percentage of information-giving and counselling; the patients did this less often than the Swedish patients; giving directions was on average; asking clarification was as low as in Sweden and lower than in the other two countries; there was much speaking time for the GP, so the patients had fewer time for to tell their story than in the other countries; the Estonian GPs had more eye contact than their Polish colleagues, but less than in Sweden; the consultation length was on average; there was less time spent to physical examinations in Estonia than in Sweden.

Poland: social talk of both the GPs and the patients was in Poland higher than in the other countries, whereas rapport building, especially empathy, was the lowest in Polish consultations, excepted Rumanian patients who showed the fewest empathic utterances; GPs and patients equally used paraphrases and checks for understanding as Rumanian GPs and patients, but more than the Estonian and Swedish ones; the emphasis was on talking about biomedical issues, more than in Rumania, Estonia and – at the patients' side – in Sweden; patients showed relatively more affective behaviour than the Rumanian and Swedish patients, but the GPs did not differ; the Polish GPs asked more questions than their Swedish colleagues, the Polish patients more than the Rumanian ones; the Polish GPs and their patients talked more about biomedical than psychosocial matters with each other; more orientations and directions were given by the Polish doctors than elsewhere; asking clarification by GPs and patients was on average; the GPs' speaking time was as much as in Rumania, and less than in Estonia; the patient-directed gaze was relatively low; there was a medium consultation length; physical examinations took less time than in Sweden and Rumania.

Rumania: the Rumanian GPs generally showed less affective behaviour than the Estonian GPs, their patients also less than the Polish patients; there were especially less agreements shown in the Rumanian consultations; GPs' and patients' rapport building was higher than in two of three of the other countries, the GPs showed more empathy, the patients more concerns; instrumental behaviour (asking questions and giving information and advices) was comparatively to affective behaviour more common in Rumania and Sweden than on the two other countries; the content of the doctor-patient communication was much more psychosocial than biomedical oriented compared to the other countries; the Rumanian doctors gave less information but more advices to their patients than the other doctors; the patients asked less questions and they gave less information than the Swedish patients; with average information giving/counseling; relatively much psychosocial talk of GPs and patients; the division of the speaking time of GPs and patients was average; GPs' patient-directed gaze was also medium, just like the consultation length; the physical examinations were more extended than in Estonia and Poland.

Sweden: in the Swedish consultations there was less affective behaviour than in Estonia, both of the GPs and the patients; social talk between doctors and patients was more unusual than in the Central-European countries; more agreements were given than in Rumanian consultations; the GPs showed more empathy and concern, but they gave less reassurances than the other GPs, the patients' rapport building was also relatively low;

there was also less paraphrasing and checking for understanding; in Sweden instrumental behaviour was relatively more often shown than affective behaviour; there was an emphasis on information and advice giving expressed in much biomedical talk by both the doctors and their patients, which was almost equal to Poland; the patients in Sweden asked more questions than those in Estonia and Rumania; giving orientations and directions and asking for clarification was less often shown in Sweden; the conversational contribution of the Swedish GPs was lower compared to their colleagues, so their patients had more speaking time than the patients elsewhere; the doctors looked much more at their patients; the Swedish consultations were long with relatively less physical examinations, but the exams took more time than in the three Central-European countries.

#### 4.1.3 *Patient-reported relevance and performance of communication aspects*

The second research question was: Are there differences between countries in relevance and performance of communication aspects from the patients' view?

The importance the patients (of 18 years and older) attached to communication aspects (based on scale scores) showed clear differences between the four countries (Appendix 1, Table 9).

Generally, Polish patients considered the discussion of both biomedical and psychosocial communication aspects less important than the patients in Sweden and Estonia did. Likewise, in Poland the patients said more often that the doctors had not talked about these aspects. In Rumania, on the contrary, the patients valued talking about biomedical and psychosocial communication aspects much higher than the patients from the other countries. In all countries biomedical aspects were higher valued by the patients and more often performed, from the patients' perspective, than the psychosocial ones.

The separate communication aspects showed that the Rumanian patients considered most psychosocial aspects very important, and that they like their doctor's help for anxiousness and when they experience difficult time (psychosocial aspects) much more than the patients from the other countries (Appendix 1, Table 10). The higher relevance appears to be reflected in the relatively more psychosocial talk in Rumania.

There were both correspondences and discrepancies between what the patients considered important and what the doctors actually did (Appendix 1, Table 11). The agreement was generally high, although somewhat better with respect to psychosocial than biomedical communication aspects. Most of patients' expectations were fulfilled, but some aspects, that were important from the patients' perspective were still not fulfilled with about a quarter of the patients. However, there were more patients who said that the GP talked about (especially psychosocial) problems although they said before the consultation that this was not important for them. This may imply that these patients are more satisfied than patients whose expectations were not fulfilled.

#### 4.1.4 *Variables at the GP level*

GP reimbursement and working schedule are indicators for the amount of time a GP could spend to his patients (Appendix 1, Table 12). In Sweden all GPs were salaried employees, in Estonia and Rumania nearly all GPs were self-employed. The Polish GPs were also often self-employed, but about one third of them were employees like the Swedish GPs. An appointment system was common in Sweden, but less common in Estonia and Poland, and largely lacking in Rumania. The Swedish GPs allocated most time for the patient, resulting in relatively more service hours. The Rumanian GPs could spend less time and, therefore, they had less (regular) service hours. In Sweden the GPs' workload, expressed as numbers of (home) visits and telephone calls, was the lowest compared to the other countries. In Poland workload was the highest.

Several factors may affect the competence of GPs (Appendix 1, Table 13). Most of the GPs had finished a vocational training, but the Rumanian GPs were an exception to this rule, probably because in this country vocational training has started rather recently.

All participating GPs had regularly contact with other GPs. Contacts with medical specialists varied across countries. The Rumanian and Estonian GPs had the most frequent contact with medical specialists, the Swedish GPs had the least regular contacts with medical specialists and also with pharmacists. Regular contact with nurses was quite usual in Sweden, but not in Rumania, whereas contact with social workers was totally absent in Rumania. The Rumanian doctors spent most time in staying up-to-date and additional training courses, the Swedish doctors less than their colleagues. Professional involvement was rather uncommon in Sweden, but in every country most GPs were scientifically involved.

GPs' professional working characteristics are shown in Appendix 1, Table 14. The Swedish doctors had relatively more equipment themselves, the Rumanian GPs less. Access to laboratory facilities was always possible in Sweden, but in Rumania less often. For X-ray facilities the division was equal. The Swedish doctors practised most often applied medical techniques, the involvement in the treatment and follow-up of diseases was about the same in all countries, just like being the doctor of first contact.

Preventive medicine was relatively most frequently done in Estonia and Poland, except for cervix cancer, in Sweden screening was less usual. The Swedish doctors were never involved in health education, the Rumanian doctors most often in education about diet.

Professional attitudes and beliefs (Appendix 1, Table 15) include job satisfaction, which was highest in Estonia, and lowest in Poland. The Swedish GPs said taking risks with the patient (waiting, no immediate treatment) more than in the three other countries. Patient orientation and the belief in possible psychological influences on diseases showed no differences.

In their own eyes, the Rumanian doctors stood on top regarding their performance, be it medical, psychological or in doctor-patient relationship (Appendix 1, Table 16), whereas the other doctors evaluated themselves about the same.

#### 4.1.5 *Variables at the patient and consultation level*

The GPs in the Central-European countries said to know their patients to the same extent, but in Sweden the doctors knew their patients less well (Appendix 1, Table 17). This was in line with the period their patients were listed as a patient and the number of contacts during the last year.

The health status of the Rumanian patients was worst (a higher score means a worse status), in all respects (Appendix 1, Table 18). There were only few differences between the other countries.

The top-three of patients' reasons for visit (Appendix 1, Table 19) were musculoskeletal, circulatory and respiratory problems, whereas in Sweden also skin problems were often presented (Rumanian data are missing in this table and the following tables). The GPs' diagnoses largely accorded with the patients' reasons for visit (Appendix 1, Table 20).

Diagnostic procedures (Appendix 1, Table 21) were most common in Estonia and Poland and less in Sweden. Most diagnostics were done within the own practice.

Instrumental treatment (Appendix 1, Table 22) was an exception in the GP-consultations in all three countries (in general, more than 90% of the consultations were without any instrumental treatment).

Prescriptions were less often given by the Estonian GPs and most often by the Polish doctors (Appendix 1, Table 23). An equal percentage of the patients got a referral, but in Sweden relatively patients were more often referred to primary care and in Estonia more often to secondary care.

## 4.2

### The Eurocommunication-I and II Studies

Firstly, the main results on doctor-patient communication and patient-reported relevance and performance of communication aspects of the two studies are described. Next, the influence of healthcare system characteristics on communication and relevance and performance is presented.

#### 4.2.1 *Doctor-patient communication*

A rough comparison of doctor-patient communication between the 10 participating countries (Table 4) points out many differences, both between and within the Western- European and the Central-European countries (see for more detailed information Appendix 1, Table 24 - 26). In Belgium, Switzerland and Sweden the consultations lasted longest, whereas the Spanish and German GPs had the shortest consultations. In the Central-European countries the consultation length had an average length, as in the Netherlands and the United Kingdom.

The eye contact (GP's patient-directed gaze) was relatively longer in the United Kingdom and Sweden and shorter in Spain, Belgium and Poland.

There is a striking difference in the speaking time of the doctors compared to the patients' between the three Central-European and the seven Western-European countries. In Estonia, Poland and Rumania the GPs give less room to their patients to tell their story or to ask questions or advices, especially in Estonia. This east-west difference may be related to the more traditional GPs in Eastern Europe, for the changement to the modern Western-European healthcare model has not yet been finished.

Affective behaviour, such as showing empathy, concerns, agreements and giving reassurances, was more usual in English, German and Swiss consultations, whereas in Belgium, Sweden, Poland and Rumania doctors and patients communicated in a less affective way with each other. Asking questions (instrumental behaviour) was most often done by the GPs and their patients in Sweden and Rumania; much information and many advices were given in Sweden as well as in the Netherlands and Belgium. The ratio of instrumental versus affective behaviour reflected the findings mentioned above for the greater part. Asking questions and giving information and advices was divided in biomedical and psychosocial issues. The ratio between these two types of issues showed that the communication in the Netherlands, Germany, Sweden, Estonia and Poland was more biomedical than psychosocial oriented compared to the other countries, where psychosocial talk was more common. This may indicate at a north-south division of European countries. The southern temperament of people in Rumania, Spain, Switzerland and (french-speaking) Belgium may be related to more emotional talk. This is one of the cultural aspects that might cause problems when comparing communication between countries, just like the possible more hierarchical doctor-patient relation between Eastern and Western countries.

Table 4 Comparison<sup>1</sup> of consultation characteristics and communication patterns between 10 European countries

	consultation length	eye contact	GPs' speaking time	affective behaviour	asking questions	inform/ advices	ratio instrum/ affect behav <sup>2</sup>	ratio biomed/ psysoc talk <sup>3</sup>
NETH	0	0	0	0	-	+	+	+
UK	0	+	-	+	-	-	-	-
SPA	-	-	-	0	0	0	+	-
BEL	+	-	0	-	-	+	+	-
GER	-	0	0	+	-	0	-	+
SWI	+	0	0	+	-	0	-	-
SWE	+	+	0	-	+	+	+	+
EST	0	0	+	0	0	0	+	+
POL	0	-	+	-	0	-	+	+
RUM	0	0	+	-	+	-	+	-

<sup>1</sup> + means more than average; 0 means average; - means less than average

<sup>2</sup> + means relatively more instrumental and less affective behaviour as compared to other countries

<sup>3</sup> + means relatively more biomedical and less psychosocial behaviour as compared to other countries

#### 4.2.2 Patient-reported relevance and performance of communication aspects

There were mostly slight differences between the ten countries, but the patients in Rumania and Poland were rather different from the patients elsewhere (Appendix 1, Table 26). The Rumanian patients valued communication about biomedical as well as psychosocial aspects much higher, especially compared to the Polish patients. The doctors mostly performed the communication aspects that were important from the patients' perspective, actually more often than was important for the patients beforehand. The Polish doctors, however, less often communicated about these aspects, but more often than was important from the patients' perspective. In Rumania, relevance and performance of the communication aspects was high and in balance.



#### 4.2.3 *Influence of healthcare system characteristics*

The third research question was: Are differences in doctor-patient communication and in relevance and performance of communication aspects related to healthcare system characteristics?

The independent influence of the three healthcare system characteristics, taken into account GP and patient characteristics, was varying and regarding doctor-patient communication greater than expected on the base of the results of the Eurocommunication-I Study (Appendix 1, Tables 27 - 29). The influence of GPs' gatekeeping role was greater than was found in the first Eurocommunication Study, but in that study the other healthcare system characteristics, GPs' employment status and the payment system, was not taken into account. For, the gatekeeping role went together with the payment system and the Spanish GPs were the only ones who were employees.

The influence of the three healthcare system characteristics on communication will be described separately, next will be explored whether the combinations of these influences are present in the countries investigated, and thereafter a short description is given of the influence of GP and patient characteristics.

##### Affective behaviour

In general, the chance of affective behaviour was higher in the countries with a gatekeeping system (Netherlands, United Kingdom, Spain, Estonia, Poland and Rumania) (Appendix 1, Table 27). The GPs were likely to talk with their patients more about non-medical issues (social talk) and to check and paraphrase more often (facilitation) than in the non-gatekeeping countries. The GPs in the non-gatekeeping systems might give more agreements and more rapport building utterances (empathy, concern), whereas their patients were likely to do this less often than the patients in the gatekeeping countries.

The employed (Spanish and Swedish) GPs were likely to show less affective behaviour than their self-employed colleagues, as giving agreements, rapport building utterances, but they might show more facilitating talk. Their patients were also likely to give more agreements, but also more empathic utterances and concerns, and less facilitation utterances. Thus, the employment status had for the greater part different influences on GPs' and patients' affective behaviour.

The influence of the payment system was restricted to the difference between the fee-for-service system (Belgium, Germany and Switzerland) versus the capitation and the mixed system. In fee-for-service systems there was more chance of social talk between doctors and patients; more agreements and more rapport building utterances by the patients, but less by their doctors; and the GPs were likely to give more paraphrases and more checks (facilitating behaviour). The influence of a capitation versus mixed system was varying for doctors and patients; sometimes equal, sometimes opposite to each other. So, there was no clear relationship between payment system and affective behaviour.

When combining the influence of the three healthcare system characteristics, no combination appears to fit the actual situation in any country, with two exceptions. The GPs were likely to give more agreements in non-gatekeeping systems, with self-employed GPs who are paid per intervention (fee-for-service system), which combination of characteristics is present in Belgium, Germany and Switzerland. On the contrary, the patients were more likely to show agreement in gatekeeping countries, with self-employed GPs and a capitation payment system. This combination is present in the United Kingdom, Estonia and Poland.

##### Instrumental behaviour

The healthcare system characteristics independently influence especially the content of the communication, i.e., biomedical and psychosocial talk, when taking into account GP and patient characteristics (Appendix 1, Table 28). Talking about biomedical issues by the doctors and the patients might occur more frequently in the countries without a gatekeeping system, whereas the GPs in the gatekeeping countries are likely to talk more about psychosocial issues, but the patients not. The

patients of the non-gatekeeping GPs were likely to ask more questions and give more information to their doctors.

The GPs working as employees (in Spain and Sweden) are likely to ask more questions and to give more information and advices to their patients than their colleagues who are self-employed. Apart from the remaining conversation, the employed GPs and their patients might talk more often about biomedical and psychosocial matters.

Further, the chance of talking about psychosocial issues is higher and of the chance of talking about biomedical talk is lower in fee-for-service systems than in the two other systems. The patients living in countries with a capitation or mixed system are likely to ask more questions and to give more information to their doctor.

The Swedish communication pattern seems to fit the combined influence of the healthcare system characteristics no gatekeeping and employed GPs, but the capitation system does not agree with the combination favouring biomedical talk. The Spanish communication pattern fits the influence on psychosocial talk. At the patients' side, instrumental talk (asking questions and giving information) was more likely in non-gatekeeping countries having no fee-for-service system and where GPs are employees, which combination is present in Sweden.

#### Patient-reported relevance and performance of communication aspects.

The influence of the gatekeeping role of GPs was restricted to the performance of psychosocial communication aspects (Appendix 1, Table 29). In non-gatekeeping countries the patients reported that the GP more often talked about psychosocial matters.

The patients of self-employed doctors valued, compared to the other patients, talking about biomedical issues lower and they said that the doctors actually did this less often during the consultation.

With respect to the GPs working in a fee-for-service system it was found that the patients attached more importance to biomedical talk, compared to the other payment systems. Moreover, there was more talked about these biomedical issues indeed. Besides, in a mixed system of capitation and fee-for-service the patients reported more psychosocial talk.

Biomedical relevance and performance is expected to be higher in countries where the GPs are working as employees and in a fee-for-service system. This combination, however, is not present in any of the ten countries. The importance attached by the patients to talking about psychosocial matters was not related to healthcare system characteristics, this kind of communication would be found more often in non-gatekeeping countries where no fee-for-service system was present. This does not fit to any of the Western- and Central-European countries involved in the studies.

#### The influence of GP and patient characteristics

The relation between GP and patient characteristics and doctor-patient communication revealed some interesting findings.

In consultations of high educated patients who presented a biomedical problem and who were well known to the GP the chance of social talk was higher, especially if the GP's workload was low.

Rapport building, like showing empathy, concern and worries and (asking for) reassurances, was more likely in consultations of female GPs with female and old patients who were low educated and well known to the doctor and who had psychosocial problems.

Biomedical talk was more likely when the patient was young, had a biomedical problem and a poor health, and was relatively unknown by the GP. Old GPs with a low workload might talk more often about psychosocial matters if such problems were presented and especially if the patient was young and in good (physical) health.

Asking questions was more likely when the GP's workload was not high and when the patient was low educated, had a poor health and was unknown to the GP. The GP might ask more questions if the patient's problem was diagnosed as psychosocial, but the patient, on the contrary, might ask less questions in such consultations. The doctor was likely to give more information to female and high

educated patients who had depressive feelings; at the patient's side, more information was likely to be given by young and male patients with a psychosocial problem and by patients who were not known very well by the doctor.

### **4.3 Limitations of the study**

Attention needs to be paid to certain limitations of the study. The sampling method differed per country for reasons of the varying willingness of GPs to participate, or for other practical reasons. A consequence of the differences between the sampling methods may have been that the doctors were not quite representative for their colleagues in their own country, so that comparisons between countries may be biased. Attention is paid to these possible problems below. It was therefore considered that a comparison could be made between the four countries of the Eurocommunication-II Study, although the picture of the GPs' communication may be somewhat more positive.

One of the intentions of the present study was to include an equal number of male and female doctors so that the studies could be continued on gender differences between the four gender dyads (male GP/male patient, male GP/female patient, female GP/male patient, female GP/female patient). In Estonia only few male doctors practise as a GP, so in this country only three men participated in the study. In Sweden and Poland about as much men as women took part, whereas in Rumania more women than men were involved. However, the percentages of male and female GPs reflected the actual situation in these countries.

Comparison with the Task Profile Study<sup>23</sup> (Appendix 1, Table 1) with regard to other possibly confounding characteristics showed some differences that were probably due to the still ongoing change of healthcare systems in the Central-European countries, e.g., differences in vocational training (in the Central-European countries vocational training started rather recently), having a solo practice (Rumania) and doctors' age (Estonia and Poland). Lastly, in Poland and Rumania less GPs from rural areas took part in the study, which may have caused some bias in type of patients and their problems. On the patients' side, there were some biases (Appendix 1, Table 2) caused by patients' refusal. Refusing patients presented more often psychosocial problems to the GPs. Their refusal for participation in the study is probably related to the intimate and private character of such problems.

In spite of the limitations mentioned above, this second cross-national study on doctor-patient communication revealed interesting results for discussion and they yield recommendations for healthcare policy and the education of GPs in the Central-European countries.

### **4.4 Conclusion and discussion of the Eurocommunication Studies I and II**

The present Eurocommunication-II Study that was additional to the Eurocommunication-I Study has yielded more knowledge about the influence of healthcare system characteristics on doctor-patient communication. The study has resulted in a lot of interesting findings about differences in communication between countries from Central- and Western-Europe.

#### *4.4.1 Doctor-patient communication*

The Eurocommunication-I and -II Studies showed that, in general, there were many similarities, but also important differences in doctor-patient communication between the countries. The communication patterns in the three Central-European countries Estonia, Poland and Rumania partly differed from the Western-European countries, but also between each other. In other words, differences were mostly not along the east- west line and, besides, the Central-European countries

cannot be considered as a group of countries with similar communication patterns, although their healthcare systems are rather similar and in a transition process from centralized state systems (Semashko model) to one of the Western models.

Differences were found, for instance, between Rumania, where the communication was more psychosocial oriented, whereas in Poland and Estonia the orientation was more biomedical. Additionally, in Estonia the communication was more affective (empathy, concern, reassurance) than in Poland and Rumania. However, in the Western-European countries United Kingdom, Germany and Switzerland communication was still more affectively oriented.

There was one striking similarity between the Central-European communication; the GPs took more speaking time than their Western-European colleagues and, therefore, their patients got (or took) less time to tell their story. Maybe, this difference is due to the only recent and not yet totally completed change to the gatekeeping system. Patients may not yet be used to discuss (especially psychosocial) problems with the GP. Another reason could be that in Central-Europe the power distance between doctors and patients is greater than in Western countries.

Such an explanation refers to differences in cultural norms and values that may influence the communication patterns.

Different cultural background may also be apparent in the more psychosocial orientation in Rumanian consultations compared to Poland and Sweden, or in the relatively little social talk about non-medical matters between Swedish GPs and patients in comparison with Belgian doctors and patients. Likewise, in the United Kingdom giving signs of agreement was more common than in other countries and cultures, e.g., in Rumania and

Spain.

Further, one type of affective behaviour may be more following the prevailing norms, i.e. more normal, in one country or culture than in another one. In Sweden, for instance, rapport building is likely to be more normal than social talk. And in the Netherlands, showing agreement may be more usual than rapport building.

These are only some examples of how cultural differences may effect communication and, therefore, the quality of healthcare and the patients' health. It is a challenge for future research to determine which cultural characteristics are reflected in the communication between doctors and patients.

Besides differences in language, also differences in health attitudes and health beliefs may play a role in (mis)communication between doctors and patients. Differences in communication patterns in intercultural medical encounters and their effect on patient outcomes is thus an important field of research in the future.

Another interesting result to be mentioned is that the consultation length is longer in the non-gatekeeping countries (Belgium, Germany, Switzerland and Sweden) than in the countries where the GPs act as gatekeepers. Based on the results of the Eurocommunication Study I, it was found that characteristics of patients have as much effect on consultation length as the characteristics of countries and GPs combined.<sup>49</sup> Apparently, the relationship between the organization of healthcare systems and consultation length deserves further exploration, because the length of consultation definitely has an important impact on healthcare costs.<sup>24</sup>

#### 4.4.2 *Patient-reported relevance and performance of communication aspects*

The importance patients attached to biomedical and psychosocial communication aspects slightly differed between the countries, with exception of Rumania (high valued) and Poland (low valued). Again, this may be due to cultural aspects, but these expectations of patients are also likely to be related to the patients' former experiences of talking about the communication aspects. For, the patients in these countries also reported that the doctors discussed these aspects frequently (in Rumania) and seldom (in Poland), respectively. A study of all patient consultations within one illness episode might reveal more insight into doctor-patient communication during an illness period. Patients with psychosocial problems appeared to get help indeed if they said to need help. However, there are still patients who did not feel helped by the GP, which is a warning to health policymakers. For, patients' perceptions are important in the drive of policymakers towards good quality of healthcare.

Besides, there were also patients who said that the GP talked about (especially psychosocial) problems although they said before the consultation that this was not important for them. On the one side, in view of the quality of healthcare the reasons why the patients' preferences were not always met should be traced, because this might result in a continuation or even deterioration of the patients' health problems. On the other side, somatisizing or psychologizing of health problems may neither meet a good healthcare quality.

#### 4.4.3 *Influence of healthcare system characteristics*

The influence of the three healthcare system characteristics on doctor-patient communication was diverse and ambiguous, because the chance of a specific type of communication was sometimes higher in a country where one characteristic was present, but lower for the other characteristics present in that country. Despite the participation of ten countries with different combinations of healthcare system characteristics, there were only some combinations actually present in a country. This makes the influence of these macrolevel characteristics on doctor-patient communication at the microlevel difficult to entangle. The finding that in fee-for-service systems the chance of psychosocial talk was higher than in the two other payment systems was interesting. For, it was assumed that doctors being paid per intervention would talk less and especially less about psychosocial problems, because talking about these kind of problems generally take more time than talking about biomedical problems. The longer consultations in these countries, however, support this finding too. Apparently, they try to satisfy their patients by giving time to their patients, listening well and discussing all problems in order to keep them in their practice.

Patient characteristics as gender, age, educational level and especially the type of health problems presented, i.e., psychosocial or biomedical, appeared to influence doctor-patient communication at least as much as healthcare system characteristics. GPs characteristics were less likely to influence the communication patterns.

An interesting finding was that the extent of knowledge (familiarity) of the patients, from the doctors' side, was likely to stimulate affective behaviour such as social talk and rapport building. In the Eurocommunication-I Study it was found that in non-gatekeeping countries the doctors knew their

patients better than in gatekeeping countries. This was, however, not true for the non-gatekeeping Swedish GPs who reported that their patients were less familiar to them than the GPs in the other countries said. Moreover, the Rumanian doctors reported to know their patients better than the doctors in all other countries. Familiarity seems important and, therefore, its relationship with communication and healthcare characteristics needs further investigation.

In view of the ongoing integration of Europe, and because strengthening the role of primary healthcare is one of the aims of healthcare policy in Europe<sup>21</sup>, it is necessary to further investigate the influence of cultural and contextual factors on the communication process. Translating cultural norms and values into well applicable measurement instruments would be the first step to such research.

## 4.5 Exploitation of the results and recommendations

### *Scientific value*

The two studies are the first observational studies on communication between GP and patient in which international comparisons have been made. The joined research efforts of the participating teams is quite beneficial to further scientific development in this field. Scientists from different traditions and stages of development in the field of patient-doctor interaction have been brought together. The network of researchers and centres involved in this area has been expanded. Methodologies and instruments have been more harmonized, which increases opportunities to compare future studies. Especially for the countries in Central Europe the study provided the opportunity to gain acquaintance with observation research and the needed equipment to carry out such data-collection and -analysis. Moreover, the studies were the first researches on doctor-patient communication in most of the countries that participated in the Eurocommunication Studies. Finally, these international comparative studies have shown that doctor-patient communication research in one country or culture can not just be compared with research in other countries or cultures. Therefore, a warning to researchers may be given to be aware of possible biases when comparing different communication studies carried out in different countries (which also may apply to the present studies).

### *Healthcare policy*

Nowadays GPs' function in healthcare is highly appreciated in many countries as a means to improve cost-effectiveness of care. Doctor-patient communication and continuity of care are expected to contribute to this cost-effectiveness. Therefore, changes in policy measures as a result of these studies may have an economic benefit. Study into the cost-effectiveness and the possible economic benefit of a high quality of communication may show the importance of good communication skills and training doctors in these skills.

These studies have provided more insight in patient-doctor communication under different healthcare system conditions and thus can give important inputs to health policy. It will be of special interests in the Central-European situation, where healthcare policy is still in a developmental stage.

### *Education and training*

Different communication styles among the participating countries which have been found in this study will certainly provoke reflections in these countries about the role of communication training in medical curricula. Vocational training programmes in general practice and continuous medical education schemes have been developed (and are still being developed), and the acquisition of communication skills by students is a major aspect. Again, this is a fortiori true in the Countries of Central-Europe. Methods and experiences of vocational training centres in the Western-European countries can be exchanged with the countries of Central- Europe and can be adapted on the basis of

the results of the present study. One example may be to give the patients more time to tell their problem and to give information to their GP.

Traditional beliefs, differences in understanding health problems and treatment are some of the interrelated factors that may generate differences between cultures. Cultural aspects should be addressed in the professional and postgraduate education and training of doctors' communication skills. With the integration of Europe now in progress cross-cultural healthcare will surely become more commonplace in the near future.

#### *Future studies*

A promising extension of communication research may be to study the role of contextual or non-specific (placebo) factors in medical encounters. Most important non-specific factors identified so far are, apart from (especially affective) communication; patients' beliefs, expectations and emotions, physicians' attitudes and expectations.<sup>50</sup>

Studies on specific themes will be carried out by researchers of the participating universities and institutions in the ten countries which participated in the Eurocommunication Studies-I and- II. New questions generated include comparisons at a cross-national level of:

- patient centeredness;
- the reflection of patient-reported importance and performance in actual doctor-patient communication;
- cultural influences on doctor-patient communication;
- comparison of urban and rural areas;
- comparison of differences in communications within countries, e.g., between historically and conservative, e.g., the Wroclaw region as the historically Central Poland, and Krakow being a conservative region; or between the Flemish and Walloon part of Belgium.
- patient participation in decision making
- comparison between Western-European countries and Eastern-European countries
- patients' hidden agenda
- consultation length
- cost – effectiveness of doctor-patient communication

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## **Appendix 1**

### **Tables 1 - 29**



Table 1 GPs of the Eurocommunication II Study compared with GPs of the Task Profile Study with respect to background and practice characteristics, by country

	Estonia		Poland		Rumania		Sweden	
	Eur	TPS	Eur	TPS	Eur	TPS	Eur	TPS
% women	88.9	93.9	54.3	42.0	70.0	74.0	44.0	35.4
% voc training	96.3*	12.3	82.4*	18.9	57.7*	25.6	84.0*	95.7
% solo	25.9	23.6	76.5	76.2	7.1*	31.4	0.0	1.9
% inner city	0.0	6.1	47.1*	21.2	70.4*	34.1	8.0	10.5
% rural	37.0	33.7	29.4	41.6	0.0*	17.0	12.0	10.5
age:								
- mean	38.6*	43.9	41.3*	44.8	43.3	40.8	46.2	47.0
- stdev	5.5	9.1	7.1	10.6	8.9	7.6	6.9	6.1
N GPs	27	165	35	275	30	231	25	209

\* P ≤ .05

Table 2 Non-response analysis of patients with respect to gender, age, psychosocial background of health problems and type of health problems (ICPC chapters)

	resp (N=1668)	non- resp (N=141)
% women	62.8	59.6 *
age:		
- mean	45.2	48.0
- st dev	23.8	21.1
psysoc background		
- mean	2.7	3.2 *
- st. dev.	1.5	1.5
<u>% health problems:</u>		
general/unspecified	12.3	18.8 *
blood	1.2	1.2
digestive	8.0	9.4
eye	2.6	2.1
circulatory	20.8	10.9 *
musculoskeletal	14.4	12.2
neurological	3.9	3.9
psychological	3.8	9.1 *
respiratory	15.4	17.3
skin	4.5	1.2
endocrine/metabolic	4.0	2.1
urology	3.0	2.1
pregnancy/fam.planning	0.8	0.0
female genital system	1.7	2.1
male genital system	0.5	1.2
social	0.4	2.1 *
N health problems	2879	329

\* p ≤ .05

Table 3 Interrater reliability by country (Pearson's correlation coefficient)

	Countries	
	Estonia	Sweden
<b>2.3 General Practitioner</b>		
social behaviour	.92	.83
agreement	.96	.77
verbal attention	.89	.73
showing concern	*	*
reassurance	.99	*
paraphrase	.96	*
disagreement	*	*
giving directions	.99	.90
asking clarification	*	.32
<i>asks questions:</i>		
- medical/therapeutical	.95	.83
- lifestyle/psychosocial	.90	.73
<i>gives information:</i>		
- medical/therapeutical	.99	.92
- lifestyle/psychosocial	*	.60
<i>counsels:</i>		
- medical/therapeutical	.86	*
- lifestyle/psychosocial	.73	*
other utterances	*	.69
<b>2.4 Patient</b>		
social behaviour	.91	.95
agreement	.87	.92
verbal attention	*	*
showing concern	.98	*
reassurance	*	*
paraphrase	*	*
disagreement	*	*
giving directions	*	*
asking clarification	.99	*
<i>asks questions:</i>		
- medical/therapeutical	.99	.96
- lifestyle/psychosocial	*	*
<i>gives information:</i>		
- medical/therapeutical	.99	.90
- lifestyle/psychosocial	*	.77
other utterances	*	.79

\* &lt; 2% of the total of utterances



Table 4 GP's personal and practice characteristics per country

	Countries			
	1 Estonia	2 Poland	3 Rumania	4 Sweden
% male	11,1 <sup>2,4</sup>	45.7 <sup>1</sup>	30.0 <sup>4</sup>	56.0 <sup>1,3</sup>
age:				
- mean	38.6 <sup>4</sup>	41.3	43.3	46.2 <sup>1</sup>
- st.dev.	5.5	7.1	8.9	6.9
number of years GP:				
- mean	5.8 <sup>2,3</sup>	11.8 <sup>1</sup>	14.0 <sup>1</sup>	10.7
- st.dev.	4.8	8.7	10.3	5.7
% solo practise	25.9 <sup>2,3,4</sup>	76.5 <sup>1,3,4</sup>	7.1 <sup>1,2</sup>	0.0 <sup>2</sup>
practice location				
% inner city	0.0 <sup>2,3</sup>	47.1 <sup>1,4</sup>	70.4 <sup>1,4</sup>	8.0 <sup>2,3</sup>
% urban	29.6 <sup>2</sup>	2.9 <sup>1,3,4</sup>	29.6 <sup>2</sup>	28.0 <sup>2</sup>
% suburban	0.0	2.9	0.0	4.0
% urban/rural	33.3 <sup>2,3</sup>	17.6 <sup>1,3,4</sup>	0.0 <sup>1,2,3</sup>	48.0 <sup>2,3</sup>
% rural	37.0 <sup>3,4</sup>	29.4 <sup>3</sup>	0.0 <sup>1,2,4</sup>	12.0 <sup>1,3</sup>
total (n)	27	35	30	25
P ≤ .05				
1	Score differs significantly from score of country 1 (Estonia)			
2	Score differs significantly from score of country 2 (Poland)			
3	Score differs significantly from score of country 3 (Rumania)			
4	Score differs significantly from score of country 4 (Sweden)			

Table 5 Patients' personal characteristics

	Countries			
	1 Estonia	2 Poland	3 Rumania	4 Sweden
age:				
- mean	40.4 <sup>3,4</sup>	42.6 <sup>3,4</sup>	48.3 <sup>1,2</sup>	50.6 <sup>1,2</sup>
- st.dev.	24.4	24.0	22.3	22.0
% male	37.6	39.5 <sup>3</sup>	33.5 <sup>2</sup>	39.4
% living situation:				
living alone	16.8 <sup>2</sup>	11.4 <sup>1,4</sup>	12.7	21.9 <sup>2</sup>
living with:				
- partner	45.7 <sup>3,4</sup>	49.0 <sup>3,4</sup>	58.9 <sup>1,2</sup>	62.0 <sup>1,2</sup>
- children	34.9 <sup>2,3</sup>	43.8 <sup>1,3,4</sup>	9.0 <sup>1,2,4</sup>	31.9 <sup>2,3</sup>
- parents or others	32.9 <sup>2,3,4</sup>	40.7 <sup>1,3,4</sup>	19.3 <sup>1,2,4</sup>	13.8 <sup>1,2,3</sup>
% employed (≥18)	43.1 <sup>2,3,4</sup>	31.8 <sup>1,3,4</sup>	36.1 <sup>1,2,4</sup>	54.5 <sup>1,2</sup>
% employed (18-65)	56.9 <sup>2,4</sup>	43.1 <sup>1,3,4</sup>	52.9 <sup>2,4</sup>	77.4 <sup>1,2,3</sup>
% educ. level (≥18)				
- low	46.4 <sup>2,3</sup>	40.6 <sup>1,3</sup>	29.4 <sup>1,2,4</sup>	44.4 <sup>3</sup>
- middle	26.5 <sup>2,3,4</sup>	49.6 <sup>1,3,4</sup>	33.6 <sup>1,2,4</sup>	16.7 <sup>1,2,3</sup>
- high	27.1 <sup>2,3,4</sup>	9.7 <sup>1,3,4</sup>	37.0 <sup>1,2</sup>	39.0 <sup>1,2</sup>
Total (n)	516	678	576	376
P ≤ .05				
1	Score differs significantly from score of country 1 (Estonia)			
2	Score differs significantly from score of country 2 (Poland)			
3	Score differs significantly from score of country 3 (Rumania)			
4	Score differs significantly from score of country 4 (Sweden)			

Table 6 Affective and instrumental behaviour of GPs (%)<sup>1</sup>

	Countries			
	1 Estonia	2 Poland	3 Rumania	4 Sweden
<u>affective behaviour:</u>				
social behaviour	7.1 <sup>2,3,4</sup>	9.1 <sup>1,4</sup>	8.8 <sup>1,4</sup>	4.4 <sup>1,2,3</sup>
agreement	14.1 <sup>2,3</sup>	8.8 <sup>1,3,4</sup>	4.4 <sup>1,2,4</sup>	13.7 <sup>2,3</sup>
<i>rapport building</i>	5.4 <sup>2,3,4</sup>	4.2 <sup>1,3,4</sup>	7.1 <sup>1,2</sup>	6.7 <sup>1,2</sup>
- verbal attention	2.7 <sup>2,3,4</sup>	1.0 <sup>1,3,4</sup>	3.3 <sup>1,2,4</sup>	4.8 <sup>1,2,3</sup>
- showing concern	0.8	0.9	1.0 <sup>4</sup>	0.7 <sup>3</sup>
- reassurance	1.9 <sup>3,4</sup>	2.3 <sup>3,4</sup>	2.8 <sup>1,2,4</sup>	1.2 <sup>1,2,3</sup>
paraphrase	4.0 <sup>2,3,4</sup>	5.0 <sup>1,4</sup>	4.9 <sup>1,4</sup>	2.7 <sup>1,2,3</sup>
disagreement	0.1 <sup>2,3</sup>	1.0 <sup>1,4</sup>	0.9 <sup>1,4</sup>	0.0 <sup>2,3</sup>
total affective beh.	30.7 <sup>2,3,4</sup>	28.1 <sup>1</sup>	26.2 <sup>1</sup>	27.5 <sup>1</sup>
<u>instrumental behaviour:</u>				
giving directions	10.8 <sup>2,4</sup>	12.7 <sup>1,4</sup>	11.9 <sup>4</sup>	8.2 <sup>1,2,3</sup>
asking clarification	3.8 <sup>2,3,4</sup>	5.6 <sup>1,3,4</sup>	8.0 <sup>1,2,4</sup>	2.1 <sup>1,2,3</sup>
<i>asks questions:</i>	17.7 <sup>4</sup>	17.7 <sup>4</sup>	19.2	20.9 <sup>1,2</sup>
- medical/therapeutical	14.2 <sup>4</sup>	14.5 <sup>4</sup>	14.1 <sup>4</sup>	17.4 <sup>1,2,3</sup>
- lifestyle/psychosocial	3.5 <sup>3</sup>	3.2 <sup>3</sup>	5.1 <sup>1,2,4</sup>	3.5 <sup>3</sup>
<i>gives information:</i>	22.8 <sup>3,4</sup>	22.5 <sup>3,4</sup>	7.9 <sup>1,2,4</sup>	29.9 <sup>1,2,3</sup>
- medical/therapeutical	20.3 <sup>3,4</sup>	20.2 <sup>3,4</sup>	6.8 <sup>1,2,4</sup>	26.2 <sup>1,2,3</sup>
- lifestyle/psychosocial	2.5	2.3	1.1	3.7
<i>counsels:</i>	10.7 <sup>2,3,4</sup>	8.7 <sup>1,3,4</sup>	19.1 <sup>1,2,4</sup>	6.4 <sup>1,2,3</sup>
- medical/therapeutical	8.8 <sup>3,4</sup>	7.7 <sup>3,4</sup>	14.6 <sup>1,2,4</sup>	5.9 <sup>1,2,3</sup>
- lifestyle/psychosocial	1.9 <sup>2,3,4</sup>	1.0 <sup>1,3</sup>	4.5 <sup>1,2,4</sup>	0.5 <sup>1,3</sup>
<i>gives info/counsels</i>	33.5 <sup>3</sup>	31.2 <sup>3,4</sup>	27.0 <sup>1,2,4</sup>	36.3 <sup>2,3</sup>
- medical/therapeutical	29.3 <sup>3,4</sup>	28.0 <sup>3,4</sup>	21.5 <sup>1,2,4</sup>	31.9 <sup>1,2,3</sup>
- lifestyle/psychosocial	4.4	3.3 <sup>3</sup>	5.6 <sup>2,4</sup>	4.2 <sup>3</sup>
biomedical talk	43.5 <sup>3,4</sup>	41.8 <sup>3,4</sup>	35.4 <sup>1,2,4</sup>	49.8 <sup>1,2,3</sup>
psychosocial talk	7.9 <sup>3</sup>	6.6 <sup>3</sup>	10.8 <sup>1,2,4</sup>	7.9 <sup>3</sup>
other utterances	3.4 <sup>2,3,4</sup>	4.6 <sup>1,3</sup>	7.6 <sup>1,2,4</sup>	5.1 <sup>1,3</sup>
total instrumental beh.	69.3 <sup>2,3,4</sup>	71.9 <sup>1</sup>	73.9 <sup>1</sup>	72.5 <sup>1</sup>
ratio instr/affect beh.	2.3	2.6	2.8	2.6
ratio biomed/psysoc	5.5	6.3	3.3	6.3
N consultations	401	525	450	373

<sup>1</sup> % relative to the total count of utterances

P ≤ .05

1 Score differs significantly from score of country 1 (Estonia)

2 Score differs significantly from score of country 2 (Poland)

3 Score differs significantly from score of country 3 (Rumania)

4 Score differs significantly from score of country 4 (Sweden)

Table 7 Affective and instrumental behaviour of patients (%)<sup>1</sup>

	Countries			
	1 Estonia	2 Poland	3 Rumania	4 Sweden
<u>affective behaviour:</u>				
social behaviour	11.4 <sup>3,4</sup>	12.3 <sup>3,4</sup>	8.3 <sup>1,2,4</sup>	4.4 <sup>1,2,3</sup>
agreement	13.9 <sup>2,3,4</sup>	11.8 <sup>1,3</sup>	4.7 <sup>1,2,4</sup>	10.2 <sup>1,3</sup>
<i>rapport building</i>	4.3 <sup>2,3,4</sup>	2.3 <sup>1,3,4</sup>	3.5 <sup>1,2,4</sup>	1.5 <sup>1,2,3</sup>
- verbal attention	0.2 <sup>2</sup>	0.4 <sup>1,3,4</sup>	0.2 <sup>2</sup>	0.4 <sup>2</sup>
- showing concern	3.7 <sup>2,3,4</sup>	0.7 <sup>1,3</sup>	2.3 <sup>1,2,4</sup>	0.6 <sup>1,3</sup>
- reassurance	0.4 <sup>2,3</sup>	1.6 <sup>1,3,4</sup>	1.0 <sup>1,2,4</sup>	0.5 <sup>2,3</sup>
paraphrase	1.2 <sup>2,3</sup>	2.4 <sup>1,4</sup>	2.3 <sup>1,4</sup>	0.7 <sup>2,3</sup>
disagreement	0.5 <sup>3,4</sup>	0.6 <sup>3,4</sup>	0.2 <sup>1,2</sup>	0.1 <sup>1,2</sup>
total affective beh.	31.2 <sup>3,4</sup>	29.4 <sup>3,4</sup>	18.9 <sup>1,2</sup>	17.0 <sup>1,2</sup>
<u>instrumental behaviour:</u>				
giving directions	0.0 <sup>2,3</sup>	1.5 <sup>1,3,4</sup>	2.3 <sup>1,2,4</sup>	0.4 <sup>2,3</sup>
asking clarification	2.9 <sup>3,4</sup>	3.2 <sup>3,4</sup>	5.9 <sup>1,2,4</sup>	0.6 <sup>1,2,3</sup>
<i>asks questions:</i>	4.9 <sup>4</sup>	5.9 <sup>3</sup>	4.8 <sup>2,4</sup>	6.5 <sup>1,3</sup>
- medical/therapeutical	3.8 <sup>2,4</sup>	5.0 <sup>1</sup>	4.3 <sup>4</sup>	5.8 <sup>1,3</sup>
- lifestyle/psychosocial	1.1	0.9	0.5	0.7
<i>gives info/counsels:</i>	56.7 <sup>4</sup>	54.2 <sup>3,4</sup>	58.8 <sup>2,4</sup>	69.2 <sup>1,2,3</sup>
- medical/therapeutical	45.9 <sup>3,4</sup>	44.5 <sup>3,4</sup>	38.2 <sup>1,2,4</sup>	52.7 <sup>1,2,3</sup>
- lifestyle/psychosocial	10.8 <sup>3,4</sup>	9.7 <sup>3,4</sup>	20.7 <sup>1,2,4</sup>	16.5 <sup>1,2,3</sup>
biomedical talk	49.7 <sup>3,4</sup>	49.5 <sup>3,4</sup>	42.5 <sup>1,2,4</sup>	58.5 <sup>1,2,3</sup>
psychosocial talk	11.9 <sup>3,4</sup>	10.6 <sup>3,4</sup>	21.2 <sup>1,2,4</sup>	17.2 <sup>1,2,3</sup>
other utterances	4.2 <sup>3,4</sup>	5.8 <sup>3</sup>	9.2 <sup>1,2,4</sup>	6.3 <sup>1,3</sup>
total instrumental beh.	68.8 <sup>3,4</sup>	70.6 <sup>3,4</sup>	81.1 <sup>1,2</sup>	83.0 <sup>1,2</sup>
ratio instr/affect beh.	2.2	2.4	4.3	4.9
ratio biomed/psysoc	4.2	4.7	2.0	3.4
N consultations	401	525	450	373

<sup>1</sup> % relative to the total count of utterances

P ≤ .05

- 1 Score differs significantly from score of country 1 (Estonia)
- 2 Score differs significantly from score of country 2 (Poland)
- 3 Score differs significantly from score of country 3 (Rumania)
- 4 Score differs significantly from score of country 4 (Sweden)

Table 8 Consultation characteristics per country

	Countries			
	1 Estonia	2 Poland	3 Rumania	4 Sweden
<b>mean length of:</b>				
consultations:				
- mean	9.1 <sup>4</sup>	9.5 <sup>4</sup>	9.2 <sup>4</sup>	14.5 <sup>1,2,3</sup>
- st.dev.	5.0	5.1	4.9	9.4
physical exams				
- mean	2.1	2.0	2.6	5.5 <sup>1,2,3</sup>
- st.dev.	2.0	1.5	1.6	5.4
interruptions:				
- mean	1.1	1.1	1.1	2.1 <sup>1,2,3</sup>
- st.dev.	1.1	1.8	1.5	1.8
% eye contact	41.7 <sup>2,4</sup>	24.6 <sup>1,3,4</sup>	44.2 <sup>2,4</sup>	79.7 <sup>1,2,3</sup>
% consultations with:				
physical exam:	79.8	75.2	76.0	69.2
% time spent to physical exam:	21.7 <sup>3,4</sup>	20.6 <sup>4</sup>	28.7 <sup>1,2,4</sup>	36.4 <sup>1,2,3</sup>
% consultations with interruptions:	28.7	27.6	23.1	8.8
% GPs' conversational contribution:	62.3 <sup>2,3,4</sup>	59.8 <sup>1,4</sup>	59.9 <sup>1,4</sup>	56.4 <sup>1,2,3</sup>
N consultations	401	525	450	373

P ≤ .05

1 Score differs significantly from score of country 1 (Estonia)  
2 Score differs significantly from score of country 2 (Poland)  
3 Score differs significantly from score of country 3 (Rumania)  
4 Score differs significantly from score of country 4 (Sweden)

Table 9 Biomedical and psychosocial relevance and performance (mean scale scores and st.dev.) per country

	Biomedical		Psychosocial	
	relevance	performance	relevance	performance
1 Estonia	2.82 <sup>2,3,4</sup> (0.96)	2.82 <sup>2,3</sup> (0.85)	1.70 <sup>2,3</sup> (0.86)	1.88 <sup>2,3,4</sup> (1.04)
2 Poland	1.98 <sup>1,3,4</sup> (0.83)	2.23 <sup>1,3,4</sup> (0.84)	1.39 <sup>1,3,4</sup> (0.70)	1.55 <sup>1,3,4</sup> (0.84)
3 Rumania	3.17 <sup>1,2,4</sup> (0.49)	3.18 <sup>1,2,4</sup> (0.51)	2.15 <sup>1,2,4</sup> (0.58)	2.16 <sup>1,2</sup> (0.59)
4 Sweden	2.54 <sup>1,2,3</sup> (0.77)	2.80 <sup>2,3</sup> (0.76)	1.63 <sup>2,3</sup> (0.77)	2.11 <sup>1,2</sup> (0.92)
F	216.00 ***	136.14 ***	97.11 ***	51.28 ***

\*\*\* P ≤ .001

1 Score differs significantly (P ≤ .05) from score of country 1 (Estonia)  
2 Score differs significantly (P ≤ .05) from score of country 2 (Poland)  
3 Score differs significantly (P ≤ .05) from score of country 3 (Rumania)  
4 Score differs significantly (P ≤ .05) from score of country 4 (Sweden)

Table 10 Relevance: % patients (18 years and older) considering communication aspects (utmost) important, and Performance: % patients answering GP (really) performed communication aspects; by country

	Countries			
	1 Estonia	2 Poland	3 Rumania	4 Sweden
<b>Biomedical aspects</b>				
<i>I would like Dr. to tell me what my symptoms mean</i>				
relevance	66.8 <sup>2,3</sup>	43.3 <sup>1,3,4</sup>	96.7 <sup>1,2,4</sup>	71.8 <sup>2,3</sup>
performance	74.8 <sup>2,3</sup>	60.1 <sup>1,3,4</sup>	96.1 <sup>1,2,4</sup>	75.0 <sup>2,3</sup>
<i>I want Dr. to talk with me about my problem</i>				
relevance	65.2 <sup>2,3</sup>	21.9 <sup>1,3,4</sup>	95.7 <sup>1,2,4</sup>	68.5 <sup>2,3</sup>
performance	76.7 <sup>2,3,4</sup>	36.3 <sup>1,3,4</sup>	96.6 <sup>1,2,4</sup>	88.1 <sup>1,2,3</sup>
<i>I want Dr. to explain the likely course of my problem</i>				
relevance	61.7 <sup>2,3</sup>	40.3 <sup>1,3,4</sup>	93.3 <sup>1,2,4</sup>	61.4 <sup>2,3</sup>
performance	56.9 <sup>2,3,4</sup>	47.9 <sup>1,3</sup>	93.7 <sup>1,2,4</sup>	45.9 <sup>1,3</sup>
<i>I want Dr. to explain how serious my problem is</i>				
relevance	63.5 <sup>2,3,4</sup>	37.0 <sup>1,3,4</sup>	90.0 <sup>1,2,4</sup>	54.4 <sup>1,2,3</sup>
performance	63.1 <sup>2,3,4</sup>	44.3 <sup>1,3</sup>	89.9 <sup>1,2,4</sup>	46.2 <sup>1,3</sup>
<i>I want to be examined for the cause of my condition</i>				
relevance	63.3 <sup>2,3</sup>	47.2 <sup>1,3,4</sup>	93.7 <sup>1,2,4</sup>	66.4 <sup>2,3</sup>
performance	70.5 <sup>3</sup>	69.4 <sup>3</sup>	92.5 <sup>1,2,4</sup>	75.4 <sup>3</sup>
<i>I would like Dr. to explain some test results</i>				
relevance	57.4 <sup>2,3,4</sup>	33.7 <sup>1</sup>	28.2 <sup>1</sup>	30.4 <sup>1</sup>
performance	50.9	38.0	27.2	37.0
<b>Psychosocial aspects</b>				
<i>I feel anxious and would like Dr's help</i>				
relevance	36.8 <sup>2,3,4</sup>	22.8 <sup>1,3,4</sup>	92.7 <sup>1,2,4</sup>	43.9 <sup>1,2,3</sup>
performance	42.3 <sup>2,3</sup>	34.9 <sup>1,3,4</sup>	94.1 <sup>1,2,4</sup>	43.1 <sup>2,3</sup>
<i>I have emotional problems for which I would like some help</i>				
relevance	18.5 <sup>2,3</sup>	12.4 <sup>1</sup>	9.5 <sup>1,4</sup>	14.3 <sup>3</sup>
performance	28.9 <sup>2,3,4</sup>	16.3 <sup>1,3</sup>	8.7 <sup>1,2,4</sup>	19.1 <sup>1,3</sup>
<i>I'm having difficult time and would like some support</i>				
relevance	17.1 <sup>2,3</sup>	12.2 <sup>1,3,4</sup>	79.4 <sup>1,2,4</sup>	19.5 <sup>2,3</sup>
Performance	37.1 <sup>2,3,4</sup>	20.2 <sup>1,3,4</sup>	77.9 <sup>1,2,4</sup>	69.2 <sup>1,2,3</sup>
<i>I want Dr. to explain my emotional problems</i>				
Relevance	20.9 <sup>2,3</sup>	9.3 <sup>1,4</sup>	8.9 <sup>1,4</sup>	16.0 <sup>2,3</sup>
Performance	23.2 <sup>2,3,4</sup>	13.3 <sup>1,3</sup>	9.1 <sup>1,2,4</sup>	17.0 <sup>1,3</sup>
N patients	403	542	509	342

p ≤ .05

1 Score differs significantly (P ≤ 0.05) from score of country 1 (Estonia)

2 Score differs significantly (P ≤ 0.05) from score of country 2 (Poland)

3 Score differs significantly (P ≤ 0.05) from score of country 3 (Rumania)

4 Score differs significantly (P ≤ 0.05) from score of country 4 (Sweden)

Table 11 Discrepancies and correspondences between relevance and performance: % patients (18 years and older) considering communication aspects (not) important and (not) performed by GP and country

	Countries			
	1 Estonia	2 Poland	3 Rumania	4 Sweden
<b>Biomedical aspects</b>				
<i>Dr. told me what my symptoms mean</i>				
important/performed	58.0	38.9	94.9	59.5
important/not performed	8.3	4.7	1.8	12.1
not important/performed	16.6	21.1	1.2	15.7
not important/not performed	17.2	35.2	2.2	12.7
<i>Dr. talked with me about my problem</i>				
important/performed	55.6	17.5	94.8	64.2
important/not performed	8.9	5.0	0.8	4.2
not important/performed	21.0	18.7	1.8	24.1
not important/not performed	14.6	58.8	2.6	7.5
<i>Dr. explained the likely course of my problem</i>				
important/performed	42.5	28.5	90.9	32.8
important/not performed	19.5	12.4	2.4	28.1
not important/performed	15.6	19.1	2.8	13.4
not important/not performed	22.4	.9	4.0	25.7
<i>Dr. explained how serious my problem is</i>				
important/performed	47.0	25.4	85.1	22.8
not important/performed	15.8	19.0	3.8	14.8
not important/not performed	21.1	43.4	6.1	30.8
<i>Dr. examined me for the cause of my condition</i>				
important/performed	49.4	43.6	91.1	57.1
important/not performed	13.9	3.9	2.6	9.2
not important/performed	20.6	25.6	1.4	18.3
not important/not performed	16.1	26.8	4.9	15.4
<i>Dr. explained some test results</i>				
important/performed	39.5	27.9	20.9	17.0
important/not performed	17.6	6.1	7.2	13.4
not important/performed	12.0	9.8	6.4	20.0
not important/not performed	30.9	56.2	65.6	49.6
<b>Psychosocial aspects</b>				
<i>Dr. gave me some help for my anxiousness</i>				
important/performed	23.9	19.9	90.7	28.4
important/not performed	13.0	2.8	2.2	15.6
not important/performed	17.7	14.7	3.4	15.0
not important/not performed	45.3	62.6	3.7	41.0
<i>Dr. gave me some help for my emotional problems</i>				
important/performed	13.8	8.3	8.3	8.1
important/not performed	4.4	4.3	1.2	6.3
not important/performed	14.1	7.5	0.4	11.1
not important/not performed	67.7	80.0	90.1	74.6

Table 11 - continued -

	Countries			
	1 Estonia	2 Poland	3 Rumania	4 Sweden
<b>Psychosocial aspects</b>				
<i>Dr. gave some support for the difficult time I have</i>				
important/performed	12.2	8.9	72.0	16.6
important/not performed	5.3	3.0	7.6	3.0
not important/performed	24.4	10.8	6.0	52.4
not important/not performed	58.1	77.2	14.4	28.1
<i>Dr. explained my emotional problems</i>				
important/performed	13.2	5.9	8.3	8.9
important/not performed	7.5	3.5	0.6	7.1
not important/performed	9.1	7.4	0.8	8.3
not important/not performed	70.2	83.2	90.3	75.5
N patients (18 years and older)	403	542	509	342
1	Score differs significantly ( $P \leq 0.05$ ) from score of country 1 (Estonia)			
2	Score differs significantly ( $P \leq 0.05$ ) from score of country 2 (Poland)			
3	Score differs significantly ( $P \leq 0.05$ ) from score of country 3 (Rumania)			
4	Score differs significantly ( $P \leq 0.05$ ) from score of country 4 (Sweden)			

Table 12 Variables affecting GPs' time for the patient per country

	Countries			
	1 Estonia	2 Poland	3 Rumania	4 Sweden
% employment				
- salaried	14.8 <sup>2,4</sup>	38.2 <sup>1,3,4</sup>	7.4 <sup>2,4</sup>	100.0 <sup>1,2,3</sup>
- self-employed, contr.	85.2 <sup>2,4</sup>	58.8 <sup>1,3,4</sup>	92.6 <sup>2</sup>	0.0 <sup>1,2</sup>
- self-employed, no contr.	0.0	2.9	10.3	0.0
% appointment system	66.7 <sup>3,4</sup>	50.0 <sup>4</sup>	39.6 <sup>1,4</sup>	92.0 <sup>1,2,3</sup>
allocation in minutes:				
- mean	17.5 <sup>3,4</sup>	16.7 <sup>4</sup>	13.9 <sup>1,4</sup>	24.9 <sup>1,2,3</sup>
-st.dev.	3.1	8.0	5.7	5.6
services hours per week:				
- mean	36.3	37.7	33.9 <sup>4</sup>	40.9 <sup>3</sup>
-st.dev.	17.7	12.7	9.4	6.4
workload per week <sup>a</sup> :				
- mean	150 <sup>2,4</sup>	202 <sup>1,3,4</sup>	150 <sup>2,4</sup>	96 <sup>1,2,3</sup>
-st.dev.	36.3	54.4	38.0	28.1
$P \leq .05$				
1	Score differs significantly from score of country 1 (Estonia)			
2	Score differs significantly from score of country 2 (Poland)			
3	Score differs significantly from score of country 3 (Rumania)			
4	Score differs significantly from score of country 4 (Sweden)			

Table 13 Variables related to GPs' competence per country

	Countries			
	1 Estonia	2 Poland	3 Rumania	4 Sweden
% voc training finished	96.3 <sup>3</sup>	82.4 <sup>3</sup>	57.7 <sup>1,2,4</sup>	84.0
% contact > 3 times p.y. with:				
- GPs	96.3 <sup>2</sup>	79.4 <sup>1,3</sup>	100.0 <sup>2</sup>	92.0
- medical specialist(s)	80.8 <sup>4</sup>	69.7	81.0 <sup>4</sup>	47.8
- pharmacist(s)	52.0	61.3	63.2	40.0
- nurse(s)	64.7 <sup>4</sup>	85.7 <sup>3,4</sup>	50.0 <sup>2,4</sup>	100.0
- social worker(s)	47.8 <sup>3</sup>	41.4 <sup>3</sup>	0.0 <sup>1,2,4</sup>	29.2
hours up-to-date:				
- mean	15.2	16.9 <sup>4</sup>	21.9 <sup>4</sup>	11.2 <sup>2,3</sup>
- st.dev.	9.9	13.8	16.3	8.3
% professional involved	96.3 <sup>2,4</sup>	72.7 <sup>1,2,3</sup>	100.0 <sup>2,4</sup>	16.7 <sup>1,2,3</sup>
% scientific involved	70.4	82.4	85.7	91.7
% additional training	29.6 <sup>3</sup>	30.3 <sup>3</sup>	65.0 <sup>1,2,4</sup>	20.8 <sup>3</sup>
total (n)	27	35	30	25

P ≤ .05

- 1 Score differs significantly from score of country 1 (Estonia)
- 2 Score differs significantly from score of country 2 (Poland)
- 3 Score differs significantly from score of country 3 (Rumania)
- 4 Score differs significantly from score of country 4 (Sweden)



Table 14 GPs' professional working characteristics per country

	Countries			
	1 Estonia	2 Poland	3 Rumania	4 Sweden
equipment:				
- mean	11.6 <sup>3,4</sup>	10.5 <sup>3,4</sup>	6.4 <sup>1,2,4</sup>	16.3 <sup>1,2,3</sup>
- st.dev.	3.0	4.3	3.0	2.1
% direct access to:				
- laboratory facilities	92.6	88.6	73.3 <sup>4</sup>	100.0 <sup>3</sup>
- X-ray facilities	88.5	90.6	92.0	92.0
medical techniques:				
- mean	1.6 <sup>4</sup>	1.5 <sup>4</sup>	1.6 <sup>4</sup>	2.9 <sup>1,2,3</sup>
- st.dev.	0.5	0.6	0.3	0.6
treated diseases:				
- mean	2.6	2.5	2.5	2.6
- st.dev.	0.4	0.5	0.8	0.4
first contact:				
for all problems				
- mean	2.6	2.6	2.9	2.8
- st.dev.	0.3	0.6	0.4	0.4
for female problems				
- mean	2.3 <sup>3</sup>	2.2 <sup>3,4</sup>	3.1 <sup>1,2,4</sup>	2.6 <sup>2,3</sup>
- st.dev.	0.3	0.7	0.5	0.6
for psychosocial problems				
- mean	2.2 <sup>3,4</sup>	2.3 <sup>4</sup>	2.6 <sup>1</sup>	2.8 <sup>1,2</sup>
- st.dev.	0.3	0.6	0.5	0.4
for acute problems				
- mean	2.8	3.0	2.8	2.8
- st.dev.	0.4	0.8	0.5	0.6
% screening for:				
- hypertension	22.2	29.4	14.3	12.0
- cervix cancer	4.0 <sup>3,4</sup>	6.1 <sup>3,4</sup>	35.7 <sup>1,2</sup>	32.0 <sup>1,2</sup>
- cholesterol	33.3	35.3	50.0 <sup>4</sup>	12.0 <sup>2,3</sup>
% health education:				
- smoking	11.1	11.8	0.0	0.0
- diet	11.1	6.1	25.0 <sup>4</sup>	0.0 <sup>3</sup>
- alcohol	7.4	14.7 <sup>4</sup>	3.6	0.0 <sup>2</sup>
total (n)	27	35	30	25

P ≤ .05

- 1 Score differs significantly from score of country 1 (Estonia)
- 2 Score differs significantly from score of country 2 (Poland)
- 3 Score differs significantly from score of country 3 (Rumania)
- 4 Score differs significantly from score of country 4 (Sweden)

Table 15 GPs' professional attitudes and beliefs per country

	Countries			
	1 Estonia	2 Poland	3 Rumania	4 Sweden
job satisfaction:				
- mean	3.8 <sup>2,3</sup>	3.1 <sup>1,4</sup>	3.3 <sup>1</sup>	3.5 <sup>2</sup>
-st.dev.	0.7	0.5	0.6	0.5
risk taking:				
- mean	1.9 <sup>4</sup>	1.9 <sup>4</sup>	2.2 <sup>4</sup>	3.5 <sup>1,2,3</sup>
-st.dev.	0.6	0.7	1.0	0.7
patient orientation:				
- mean	3.5	3.7	3.7	3.8
-st.dev.	0.3	0.5	0.6	0.4
psych. influence on diseases:				
- mean	0.7	0.5	0.6	0.4
Total (n)	27	35	30	25

P ≤ .05

1 Score differs significantly from score of country 1 (Estonia)  
2 Score differs significantly from score of country 2 (Poland)  
3 Score differs significantly from score of country 3 (Rumania)  
4 Score differs significantly from score of country 4 (Sweden)

Table 16 GPs' evaluation of his/her own performance

	Countries			
	1 Estonia	2 Poland	3 Rumania	4 Sweden
medical performance:				
- mean	7.6 <sup>2,3</sup>	8.0 <sup>1,3,4</sup>	9.2 <sup>1,2,4</sup>	7.5 <sup>2,3</sup>
-st.dev.	1.8	1.9	1.2	1.5
psychosocial performance:				
- mean	7.5 <sup>3</sup>	7.5 <sup>3</sup>	9.2 <sup>1,2,4</sup>	7.5 <sup>3</sup>
-st.dev.	1.8	2.3	1.2	1.5
doctor-patient relationship:				
- mean	7.8 <sup>3</sup>	7.9 <sup>3</sup>	9.4 <sup>1,2,4</sup>	7.9 <sup>3</sup>
-st.dev.	1.8	2.1	1.2	1.4
Total (n)	27	35	30	25

P ≤ .05

1 Score differs significantly from score of country 1 (Estonia)  
2 Score differs significantly from score of country 2 (Poland)  
3 Score differs significantly from score of country 3 (Rumania)  
4 Score differs significantly from score of country 4 (Sweden)

Table 17 GPs' knowledge of patients

	Countries			
	1 Estonia	2 Poland	3 Rumania	4 Sweden
number of years patient with the GP:				
- mean	4.5 <sup>2,4</sup>	3.5 <sup>1,3</sup>	4.5 <sup>2,4</sup>	2.8 <sup>1,3</sup>
-st.dev.	6.4	4.3	4.6	3.5
number of contacts during the last year:				
- mean	4.5 <sup>2,3,4</sup>	6.7 <sup>1,3,4</sup>	5.9 <sup>1,2,4</sup>	1.6 <sup>1,2,3</sup>
-st.dev.	4.5	6.5	5.1	2.2
knowing the patient:				
- mean	3.4 <sup>3,4</sup>	3.4 <sup>3,4</sup>	3.9 <sup>1,2,4</sup>	2.3 <sup>1,2,3</sup>
-st.dev.	1.3	1.4	1.2	1.4
Total (n)	27	35	30	25

P ≤ .05

- 1 Score differs significantly from score of country 1 (Estonia)
- 2 Score differs significantly from score of country 2 (Poland)
- 3 Score differs significantly from score of country 3 (Rumania)
- 4 Score differs significantly from score of country 4 (Sweden)

Table 18 Patients' health status and general health perception

	Countries			
	1 Estonia	2 Poland	3 Rumania	4 Sweden
physical fitness:				
- mean	2.4 <sup>2,3,4</sup>	2.9 <sup>1,3</sup>	3.4 <sup>1,2,4</sup>	2.8 <sup>1,3</sup>
-st.dev.	1.5	1.4	0.7	1.5
feelings:				
- mean	2.5 <sup>2,3</sup>	2.1 <sup>1,3</sup>	3.0 <sup>1,2,4</sup>	2.2 <sup>1,3</sup>
-st.dev.	1.2	1.2	0.9	1.3
daily activities:				
- mean	1.9 <sup>2,3,4</sup>	1.7 <sup>1,3,4</sup>	3.0 <sup>1,2,4</sup>	2.2 <sup>1,2,3</sup>
-st.dev.	1.1	1.1	0.8	1.1
social activities:				
- mean	1.8 <sup>2,3</sup>	1.5 <sup>1,3,4</sup>	2.3 <sup>1,2,4</sup>	1.9 <sup>2,3</sup>
-st.dev.	1.1	1.0	1.0	1.2
change in health:				
- mean	2.9 <sup>2,3,4</sup>	3.1 <sup>1,3,4</sup>	3.5 <sup>1,2,4</sup>	3.3 <sup>1,2,3</sup>
-st.dev.	1.1	1.1	0.8	0.9
overall health:				
- mean	3.3 <sup>3</sup>	3.5 <sup>3</sup>	3.7 <sup>1,2,4</sup>	3.3 <sup>3</sup>
-st.dev.	1.2	1.0	1.1	1.2
pain:				
- mean	2.9 <sup>2,3</sup>	3.2 <sup>1,3,4</sup>	3.9 <sup>1,2,4</sup>	3.0 <sup>2,3</sup>
-st.dev.	1.5	1.6	1.1	1.4
Total (n)	516	678	576	376

P ≤ .05

- 1 Score differs significantly from score of country 1 (Estonia)
- 2 Score differs significantly from score of country 2 (Poland)
- 3 Score differs significantly from score of country 3 (Rumania)
- 4 Score differs significantly from score of country 4 (Sweden)

Table 19 Patients' health problems<sup>1</sup> (ICPC-coded)

	Countries		
	1 Estonia	2 Poland	3 Sweden
general/unspecified	12.9 <sup>2</sup>	18.5 <sup>3</sup>	10.9 <sup>1,2</sup>
blood	0.7	1.1	0.2
digestive	7.2	7.7	7.4
eye	1.2 <sup>2</sup>	3.7 <sup>1,3</sup>	1.3 <sup>2</sup>
ear	3.0	2.6	4.1
circulatory	20.5 <sup>3</sup>	17.0 <sup>3</sup>	10.9 <sup>1,2</sup>
musculoskeletal	18.2	16.3 <sup>3</sup>	22.5 <sup>2</sup>
neurological	5.3	4.3	4.2
psychological	1.9 <sup>3</sup>	1.4 <sup>3</sup>	5.2 <sup>1,2</sup>
respiratory	20.1 <sup>3</sup>	18.4 <sup>3</sup>	11.6 <sup>1,2</sup>
skin	3.8 <sup>2,3</sup>	1.7 <sup>1,3</sup>	12.9 <sup>1,2</sup>
endocrine/metabolic	2.0	3.6	2.2
urology	1.2	2.7	2.8
pregnancy/family planning	1.0 <sup>2</sup>	0.1 <sup>1</sup>	0.4
female genital system	0.7	0.7	2.0
male genital system	0.1 <sup>3</sup>	0.2 <sup>3</sup>	1.5 <sup>1,2</sup>
social	0.1	0.0	0.0
Total (n) health problems	736	915	542

<sup>1</sup>% of the total of health problems

P ≤ .05

- 1 Score differs significantly from score of country 1 (Estonia)
- 2 Score differs significantly from score of country 2 (Poland)
- 3 Score differs significantly from score of country 3 (Sweden)

Table 20 GPs' diagnoses<sup>1</sup> (ICPC-coded)

	Countries			
	1 Estonia	2 Poland	3 Rumania	4 Sweden
general/unspecified	17.0 <sup>3,4</sup>	18.2 <sup>3,4</sup>	5.5 <sup>1,2</sup>	8.7 <sup>1,2</sup>
blood	1.1	1.9 <sup>2,4</sup>	0.9	0.3 <sup>2</sup>
digestive	6.3 <sup>3</sup>	7.0 <sup>3</sup>	10.7 <sup>1,2</sup>	7.6
eye	1.3 <sup>2,3</sup>	3.0 <sup>1</sup>	3.6 <sup>1</sup>	1.7
ear	3.3	1.9 <sup>4</sup>	1.6 <sup>4</sup>	4.6 <sup>2,3</sup>
circulatory	16.7 <sup>3,4</sup>	19.9 <sup>3,4</sup>	27.7 <sup>1,2,4</sup>	10.6 <sup>1,2,3</sup>
musculoskeletal	15.6	13.5 <sup>4</sup>	13.6 <sup>4</sup>	19.3 <sup>2,3</sup>
neurological	3.7	4.2	3.3	3.8
psychological	2.7 <sup>4</sup>	4.5 <sup>4</sup>	4.4 <sup>4</sup>	7.9 <sup>1,2,3</sup>
respiratory	20.1 <sup>2,3,4</sup>	14.1 <sup>1</sup>	13.0 <sup>1</sup>	12.2 <sup>1</sup>
skin	3.9 <sup>2,4</sup>	1.9 <sup>1</sup>	3.3 <sup>4</sup>	12.0 <sup>1,2,3</sup>
endocrine/metabolic	2.6	4.4	4.7	4.6
urology	1.9 <sup>3</sup>	2.6	4.1 <sup>1</sup>	2.8
pregnancy/family planning	1.5 <sup>4</sup>	0.5	0.8	0.0
female genital system	1.0	1.0	2.5	2.1
male genital system	0.2 <sup>4</sup>	0.6	0.2 <sup>4</sup>	1.7 <sup>3</sup>
social	0.8	0.8	0.1	0.0
Total (n) health problems	839	1248	1022	606

<sup>1</sup>% of the total of diagnoses

P ≤ .05

- 1 Score differs significantly from score of country 1 (Estonia)
- 2 Score differs significantly from score of country 2 (Poland)
- 3 Score differs significantly from score of country 3 (Rumania)
- 4 Score differs significantly from score of country 4 (Sweden)

Table 21 Content of the consultation: diagnostic procedures for health problems

	Countries		
	1 Estonia	2 Poland	3 Sweden
% diagnostic procedure(s)	71.3 <sup>3</sup>	67.3 <sup>3</sup>	48.8 <sup>1,2</sup>
% diagn. proc. in own practice	87.5	84.5	86.0
Total (n)	550	769	512
diagn. proc. in own practice:			
- urine	3.3 <sup>3</sup>	2.8 <sup>3</sup>	7.1 <sup>1,2</sup>
- blood test	12.1 <sup>3</sup>	10.6 <sup>3</sup>	31.8 <sup>1,2</sup>
- smear	0.4	0.6	0.0
- X-ray	1.6	0.5	0.0
- ultrasound	0.2	0.3	0.0
- other X	10.1 <sup>2,3</sup>	0.2 <sup>1,3</sup>	5.4 <sup>1,2</sup>
- allergy patch/skin test	1.6 <sup>2</sup>	0.0 <sup>1</sup>	0.3
- ECG	3.7	3.6	5.1
- endoscopy	0.2 <sup>3</sup>	0.0	2.7 <sup>1</sup>
- eye test	0.4	0.3	0.6
- ear test	2.5	1.9	2.4
- blood pressure	3.7 <sup>2,3</sup>	21.9 <sup>1</sup>	17.3 <sup>1</sup>
- weight	0.0	0.9	0.6
- pregnancy test	0.4	0.0	0.0
- other	59.7 <sup>3</sup>	56.9 <sup>3</sup>	26.2 <sup>1,2</sup>
Total (n) diagn. proc. in own pract.	343	437	215

P ≤ .05

- 1 Score differs significantly from score of country 1 (Estonia)  
 2 Score differs significantly from score of country 2 (Poland)  
 3 Score differs significantly from score of country 3 (Sweden)

Table 22 Content of the consultation: instrumental treatments for health problems

	Countries		
	1 Estonia	2 Poland	3 Sweden
% instrumental treatment(s)	6.3 <sup>2</sup>	3.8 <sup>1,3</sup>	9.3 <sup>2</sup>
Total (n) health problems	523	754	486
% type of treatments :			
- injection	39.1	21.4	40.0
- syringing ear	0.0 <sup>2</sup>	32.1 <sup>1</sup>	15.6
- wound care	0.0	3.6	2.2
- minor surgery	8.7	0.0 <sup>3</sup>	22.2 <sup>2</sup>
- bandaging/taping/resetting	21.7 <sup>3</sup>	7.1	2.2 <sup>1</sup>
- vaccination	21.7	32.1 <sup>3</sup>	6.7 <sup>2</sup>
- blood taking	4.3	0.0	8.9
- other	4.3	3.6	2.2
Total (n) instr.treatments	33	29	45

P ≤ .05

- 1 Score differs significantly from score of country 1 (Estonia)  
 2 Score differs significantly from score of country 2 (Poland)  
 3 Score differs significantly from score of country 3 (Sweden)

Table 23 Content of the consultation: prescriptions and referrals for health problems

	Countries		
	1 Estonia	2 Poland	3 Sweden
% prescriptions	45.0 <sup>2,3</sup>	64.8 <sup>1,3</sup>	53.0 <sup>2,3</sup>
Total (n)	536	766	489
% no referral	82.4	83.0	83.1
% referral primary care	7.4 <sup>3</sup>	7.1 <sup>3</sup>	18.2 <sup>1,2</sup>
% referral secund.care	81.5 <sup>2,3</sup>	58.3 <sup>1,3</sup>	43.9 <sup>1,2</sup>
% unknown	11.1 <sup>2,3</sup>	34.6 <sup>1</sup>	37.9 <sup>1</sup>
% new referral:			
- primary care	7.7 <sup>3</sup>	7.5 <sup>3</sup>	16.9 <sup>1,2</sup>
- secondary care	82.1 <sup>2,3</sup>	56.1 <sup>1,3</sup>	44.1 <sup>1,2</sup>
- unknown	10.3 <sup>2,3</sup>	36.4 <sup>1</sup>	39.0 <sup>1</sup>
% repeat referral:			
- primary care	0.0 <sup>2,3</sup>	7.7 <sup>1,3</sup>	28.6 <sup>1,2</sup>
- secondary care	66.7 <sup>3</sup>	65.4 <sup>3</sup>	42.9 <sup>1,2</sup>
- unknown	33.3 <sup>2</sup>	26.9 <sup>1</sup>	28.6
Total (n)	533	760	491

P ≤ .05

1 Score differs significantly from score of country 1 (Estonia)  
2 Score differs significantly from score of country 2 (Poland)  
3 Score differs significantly from score of country 3 (Sweden)

Table 24 Affective and instrumental behaviour of GPs (%)<sup>1</sup>, and type of talk (%<sup>1</sup> and ratio)

	Countries									
	Neth	UK	Spain	Belg	Germ	Switz	Estonia	Poland	Rumania	Sweden
social behaviour	7.0	9.3	8.7	9.2	6.7	7.2	7.1	9.1	8.8	4.4
agreement	13.9	21.7	10.6	12.7	15.7	17.0	14.1	8.8	4.4	13.7
rapport building	2.9	4.2	1.9	2.7	6.7	5.9	5.4	4.2	7.1	6.7
facilitation	11.4	9.6	13.7	5.0	9.2	8.5	7.8	10.6	12.9	4.8
asks questions	10.2	11.2	18.4	14.7	13.7	14.5	17.7	17.7	19.2	20.9
gives info/counsels	40.4	30.3	33.9	37.2	34.3	32.5	33.5	31.2	27.0	36.3
ratio instr/affect	2.0	1.3	2.2	2.4	1.8	1.7	2.3	2.6	2.8	2.6
biomedical talk	42.1	33.0	39.4	40.6	39.2	36.2	43.5	41.8	35.4	49.8
psychosocial talk	8.5	8.5	12.9	11.3	7.8	10.8	7.9	6.6	10.8	7.9
ratio biomed/psysoc	5.0	3.9	3.1	3.6	5.0	3.4	5.5	6.3	3.3	6.3

<sup>1</sup> relative to the total count of patients' utterances

Table 25 Affective and instrumental behaviour of patients (%)<sup>1</sup>, and type of talk (%<sup>1</sup> and ratio)

	Countries									
	Neth	UK	Spain	Belg	Germ	Switz	Estonia	Poland	Rumania	Sweden
social behaviour	7.7	9.8	10.7	9.6	8.0	9.9	11.4	12.3	8.3	4.4
agreement	14.0	22.3	13.3	15.8	21.5	22.0	13.9	11.8	4.7	10.2
rapport building	1.4	2.7	3.7	1.0	4.9	3.0	4.3	2.3	3.5	1.5
facilitation	3.0	3.6	3.2	2.3	2.6	2.5	4.1	5.6	8.2	1.3
asks questions	4.1	3.5	5.2	5.3	4.7	3.1	4.9	5.9	4.8	6.5
gives info/counsels	64.5	51.0	60.1	56.1	54.2	52.0	56.7	54.2	58.8	69.2
ratio instr/affect	2.9	1.7	2.3	2.5	1.7	1.6	2.2	2.4	4.3	4.9
biomedical talk	51.0	34.3	46.0	38.8	40.7	33.7	49.7	49.5	42.5	58.5
psychosocial talk	17.6	20.2	19.3	22.6	18.2	21.4	11.9	10.6	21.2	17.2
ratio biomed/psysoc	2.9	1.7	2.4	1.7	2.2	1.6	4.2	4.7	2.0	3.4

<sup>1</sup> relative to the total count of patients' utterances

Table 26 Biomedical and psychosocial relevance and performance (mean scale scores and st.dev.) per country

	biomedical		psychosocial	
	relevance	performance	relevance	performance
Netherlands	2.58 (.86)	2.73 (.82)	1.59 (.81)	1.88 (.93)
United Kingdom	2.07 (.73)	2.64 (.80)	1.57 (.74)	1.95 (1.02)
Spain	2.50 (.90)	2.68 (.85)	1.62 (.90)	1.77 (1.00)
Belgium	2.71 (.92)	2.88 (.84)	1.71 (.88)	2.16 (1.04)
Germany	2.75 (.88)	2.86 (.89)	1.68 (.84)	2.06 (1.06)
Switzerland	2.50 (.94)	2.86 (.85)	1.67 (.86)	2.22 (1.13)
Estonia	2.82 (0.96)	2.82 (0.85)	1.70 (0.86)	1.88 (1.04)
Poland	1.98 (0.83)	2.23 (0.84)	1.39 (0.70)	1.55 (0.84)
Rumania	3.17 (0.49)	3.18 (0.51)	2.15 (0.58)	2.16 (0.59)
Sweden	2.54 (0.77)	2.80 (0.76)	1.63 (0.77)	2.11 (0.92)



Table 27 Multilevel analysis (regression coefficients) of verbal affective behaviour (%), controlled for the characteristics of health care systems, GPs and patients (means are calculated in Hierarchical Linear Models)

	Social talk		Agree		Rapport		Facilitation	
	GP	pat	GP	pat	GP	pat	GP	pat
<b>Country level</b>								
gatekeeper role (1=yes)	5.15 *	6.81 *	- 4.19 *	2.96 *	- 5.45 *	1.45 *	17.52 *	1.92 *
employment status (1=employed)	- 0.13	- 0.34	- 5.97 *	- 3.73 *	- 2.59 *	1.08 *	13.22 *	- 1.73 *
capitation system vs. fee-for-service system	- 2.89 *	- 4.20 *	4.06 *	- 6.03 *	4.51 *	- 2.18 *	-15.32 *	0.32
mixed system vs. fee-for-service system	- 4.76 *	- 6.29 *	0.81	-11.39 *	4.57 *	- 1.74 *	-13.95 *	0.40
capitation system vs. mixed system <sup>a</sup>	*	*	n.s.	*	n.s.	*	*	n.s.
<b>General Practitioner level</b>								
gender (1=female)	- 0.54	- 0.19	- 1.02	0.50	1.17 *	0.49 *	- 0.48	0.34
age	0.04	- 0.00	- 0.10 *	0.02	0.00	- 0.02	0.08 *	0.02
workload per week <sup>b</sup>	- 0.01	- 0.01 *	0.00	0.01 *	0.01 *	0.01 *	0.02 *	0.00
number of hours working per week	0.02	0.02	- 0.02	- 0.01	- 0.00	- 0.00	- 0.12	- 0.02
<b>Patient level</b>								
gender (1=female)	- 0.07	- 0.33	- 0.05	1.29 *	0.08	0.49 *	- 0.26	- 0.01
age	0.00	0.01	0.07 *	- 0.02	0.02 *	0.02 *	- 0.02 *	0.03 *
education (1=low, 2=middle, 3=high)	0.32 *	0.29	0.55 *	0.21	- 0.27 *	- 0.20 *	- 0.32	- 0.12
psysoc problem presented (1=yes)	- 0.62	- 0.82	0.73	- 1.04	0.56	- 0.25	1.09	- 0.40
emotional feelings (1=not at all, 5=extremely)	0.03	0.03	0.10	0.05	0.09	0.09 *	- 0.19	- 0.03
overall health (1=excellent, 5=poor)	- 0.44 *	- 0.67 *	0.18	- 0.35 *	- 0.08	0.12 *	0.15	- 0.03
psysoc diagnosis (1=yes)	- 0.92 *	- 1.30 *	2.47 *	- 1.36 *	0.47	0.02	- 1.39 *	- 0.61 *
psysoc background (1=no, 5=yes)	- 0.19 *	- 0.21 *	0.14	- 0.28 *	0.18 *	0.19 *	- 0.11	0.05
familiarity (1=bad, 5=good)	0.33 *	0.28 *	0.07	- 0.32 *	0.15 *	0.07 *	- 0.08	0.10 *

a : reference group=fee-for-service system

b : workload= number of consultations + (2 \* number of home visits) + (½ \* number of phone calls) per week

\* P ≤ .05

n.s. = not significant

Table 28 Multilevel analysis (regression coefficients) of verbal instrumental behaviour (%), controlled for characteristics of health care systems, GPs and patients (means calculated in Hierarchical Linear Models)

	ask questions		give info/counsel		biomed talk		psysoc talk	
	GP	pat	GP	pat	GP	pat	GP	pat
<b>Country level</b>								
gatekeeper role (1=yes)	- 2.07	- 1.41 *	- 1.08	- 9.71 *	- 8.42 *	-12.74 *	5.25 *	1.59
employment status (1=employed)	3.83 *	0.47	5.46 *	8.15 *	4.44 *	5.60 *	4.72 *	3.24 *
capitation system vs. fee-for-service	1.83	1.66 *	- 2.87	7.68 *	6.06 *	15.33 *	- 6.97 *	- 6.17 *
mixed system vs. fee-for-service	2.23	1.61 *	1.91	16.15 *	10.23 *	23.05 *	- 6.07 *	- 5.27 *
capitation system vs. mixed system <sup>a</sup>	n.s.	n.s.	n.s.	*	*	*	*	*
<b>General Practitioner level</b>								
gender (1=female)	- 0.33	- 0.20	- 0.88	- 1.58	- 1.23	- 2.39 *	0.17	0.59
age	- 0.07	- 0.04 *	- 0.05	- 0.01	- 0.17 *	- 0.21 *	0.06	0.15 *
workload per week <sup>a</sup>	- 0.01 *	0.00	0.01	0.00	0.01	0.01	- 0.12 *	- 0.01
number of hours working per week	0.02	0.01	0.02	0.01	0.03	0.01	0.01	0.00
<b>Patient level</b>								
gender (1=female)	- 0.14	0.37	1.22 *	- 1.81 *	0.67	- 0.79	0.32	- 0.49
age	- 0.05 *	0.01 *	- 0.00	- 0.05 *	- 0.02	- 0.01	- 0.14 *	- 0.03 *
education (1=low, 2=middle, 3=high)	- 0.61 *	0.02	0.65 *	- 0.35	- 0.05	- 0.65	0.09	0.35
psysoc problem presented (1=yes)	0.16	- 0.25	- 0.02	3.07 *	- 5.78 *	- 7.01 *	5.98 *	9.96 *
emotional feelings (1=not at all, 5=extremely)	- 0.32 *	0.09	0.42 *	- 0.21	- 0.14	- 0.86 *	0.24 *	0.75 *
overall health (1=excellent, 5=poor)	0.28 *	- 0.12	- 0.12	1.12 *	0.37	1.57 *	- 0.21	- 0.56 *
psysoc diagnosis (1=yes)	1.65 *	- 1.01 *	- 2.07 *	4.93 *	- 4.70 *	- 5.59 *	4.22 *	9.71 *
psysoc background (1=no, 5=yes)	- 0.09	0.01	0.13	0.39 *	- 0.39 *	- 0.40 *	0.44 *	0.78 *
familiarity (1=bad, 5=good)	- 0.41 *	0.07	0.00	- 0.40 *	- 0.35 *	- 0.26	- 0.04	- 0.06

a : reference group=fee-for-service system

b : workload= number of consultations + (2 \* number of home visits) + (½ \* number of phone calls) per week

\* P ≤ .05

n.s. = not significant

Table 29 Multilevel analysis (regression coefficients) of relevance and performance, controlled for characteristics of countries, GPs and patients (means are calculated in Hierarchical Linear Models)

	biomedical		psychosocial	
	relevance	performance	relevance	performance
<b>Country level</b>				
gatekeeper role (1=yes)	- 0.07	- 0.14	- 0.09	- 0.43 *
employment status (1=employed)	0.53 *	0.31 *	0.10	0.05
capitation system vs. fee-for-service	- 0.64 *	- 0.36 *	- 0.10	0.00
mixed system vs. fee-for-service	0.19	0.17	0.17	0.26 *
capitation system vs. mixed system <sup>a</sup>	*	n.s.	n.s.	n.s.
<b>General Practitioner level</b>				
gender (1=female)	- 0.03	- 0.04	- 0.02	- 0.01
age	- 0.00	0.00	0.00	0.00
workload per week <sup>a</sup>	0.00	0.00	0.00	0.00
number of hours working per week	- 0.02	0.00	0.00	0.00
<b>Patient level</b>				
gender (1=female)	- 0.07 *	- 0.07 *	0.01	0.02
age	- 0.01 *	0.00	0.00	0.01 *
education (1=low, 2=middle, 3=high)	0.02	0.00	- 0.04 *	- 0.04 *
psysoc problem presented (1=yes)	- 0.11	- 0.14 *	0.53 *	0.49 *
emotional feelings (1=not at all, 5=extremely)	0.04 *	0.02 *	0.13 *	0.14 *
overall health (1=excellent, 5=poor)	0.05 *	0.04	0.03 *	0.01
psysoc diagnosis (1=yes)	- 0.07	- 0.03	0.17 *	0.37 *
psysoc background (1=no, 5=yes)	0.02	- 0.01	0.04 *	0.05 *
familiarity (1=bad, 5=good)	- 0.02	0.01	0.01	0.02 *

a : reference group=fee-for-service system

b : workload= number of consultations + (2 \* number of home visits) + (½ \* number of phone calls) per week

\* P ≤ .05

n.s. = not significant



## **Appendix 2**

### **Measurements instruments**



## **Appendix 2.1**

### **Patient questionnaire**





## PERSONAL INFORMATION nr. ....

Please, complete or tick the next questions:

In what year were you born? year of birth: .....

Are you a man or a woman?  man  
 woman

Do you live alone?  no  
 yes

Do you live with:  
(tick all that concerns you)  partner  
 own children, number .....

other children, number .....

parents/parents-in-law

sisters/brothers

other adults

Are you employed?  no  
 yes, ..... hours per week

What is the highest level of education you attained?

none

primary school

secondary school

higher vocational training/university

For which health problem(s) are you visiting your GP today?

problem 1.....

problem 2.....

problem 3.....

Is this the first time you have visited your GP for these problems?

problem 1.  no  yes

problem 2.  no  yes

problem 3.  no  yes

## PATIENT QUESTIONNAIRE BEFORE CONSULTATION

Please tick for **each** item how important you think it is for your visit **today**.

If you consider an item as 'not applicable', please tick the last box.

For example: you are visiting the GP today for a routine control of your blood pressure. You do not have any symptoms, so some items, like nr.1 (about symptoms) and nr.4 (about emotional problems), are not related to your present problem. So, you would tick the box 'not applicable' for these items.

Another example: you are visiting your GP for stomach-ache for the first time. Then, item nr.3

and nr.8 are not related to your today's visit. So you would tick the box 'not applicable' for these items.

	not impor- tant	rather impor- tant	impor- tant	utmost impor- tant	not appli- cable
1. I would like Dr to tell me what my symptoms mean	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. I feel anxious and would like Dr's help	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3. I want a previous diagnosis confirmed	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4. I want Dr to talk with me about my problem	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5. I have emotional problems for which I would like some help	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6. I want to be examined for the cause of my condition	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7. I want Dr to explain my emotional problems	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8. I would like Dr to explain some test results	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9. I want Dr to explain the likely course of my problem	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
10. I'm having difficult time and would like some support	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
11. I want advice on a drug I am taking	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
12. I want Dr to explain how serious my problem is	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
13. I want medication for my problem	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
14. I want to be referred to a specialist	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

















## PATIENT QUESTIONNAIRE AFTER CONSULTATION

Please tick for **each** item if the Dr carried it out during your visit **today**.

If you consider an item as 'not applicable', please tick the last box.

	not	really not	really yes	yes	not appli- cable
1. Dr told me what my symptoms mean	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	0
2. Dr gave me some help for my anxiousness	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	0
3. Dr confirmed a previous diagnosis	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	0
4. Dr talked with me about my problem	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	0
5. Dr gave me some help for my emotional problems	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	0
6. Dr examined me for the cause of my condition	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	0
7. Dr explained my emotional problems	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	0
8. Dr explained some test results	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	0
9. Dr explained the likely course of my problem	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	0
10. Dr gave some support for the difficult time I have	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	0
11. Dr gave advice on a drug I am taking	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	0
12. Dr explained how serious my problem is	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	0
13. Dr gave me medication for my problem	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	0
14. Dr referred me to a specialist	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	0

**THANK YOU VERY MUCH FOR YOUR COOPERATION!**

## **Appendix 2.2**

### **GP registration form**









## EXPLANATORY NOTES ON THE GP REGISTRATION FORM

**Patient:** enter videotaped patients only and number them consecutively. If several patients attend together, enter only the patients with symptoms/health problems (companions should not be entered). If several patients with symptoms attend together, enter each patient in a separate row and give him/her a separate number

**Sex:** male or female

**Year of birth:** 19 .....

**How many years patient?** the number of years the patient has been on your list.

**How many visits last year?** the number of visits the patient made to your practice in the last year

**Know her/him:** indicate your acquaintance with the patient:

- 1: I do not know her/him at all
- 2: I hardly know her/him
- 3: average acquaintance
- 4: I know her/him rather well
- 5: I know her/him very well

**Reason for visit according to the patient:** record, in the patient's own words, the reason(s) for his/her visit. A maximum of three reasons can be entered. If a patient presents with one or two problems, the remaining column(s) should be left empty. For example:

1. "I want pills for my headache"
2. "I have back ache"
3. "I have had a temperature for three days"

**Problem according to the GP:** record, in your words, the patient's reasons for the visit.

For example:

1. headache
2. slipped lumbar disc
3. influenza

For each problem mentioned by the patient, circle (do NOT cross out) whether it is a new problem (N) or an existing (E) problem, and tick the box if you have prescribed medicine.

**Assessment of psychological background:** assess, on a 5-point scale, the extent to which psychological aspects are a factor in the patient's problems.

- 1: psychological aspects are not a factor in this consultation
- 2: psychological aspects are a factor in this consultation, but somatic aspects are more important
- 3: psychological aspects are as important as somatic aspects
- 4: somatic aspects are a factor in this consultation, but psychological aspects are more important
- 5: somatic aspects are hardly a factor in this consultation; psychological aspects are most important

**Evaluation:** the last three columns are reserved for your **evaluation** of your performance in **this** consultation. Assess your medical and psychological performance and the quality of your relationship with the patient on a 10-point scale, with 1 meaning "very bad" and 10 meaning "excellent".

For example:

- My performance was excellent = 10
- My performance was rather good = 7
- My performance was not good/not bad = 5
- My performance was rather bad = 3

On a comparable form, please register the characteristics of the patients who refused to participate in the study.



## **Appendix 2.3**

### **Observation protocol**



## **Appendix 2.3.1**

### **Roter's Interaction Analysis System**



## **Clusters Affective Behaviour (7 clusters)**

### **social behaviour:**

- personal remarks
- tells jokes/laughs
- shows approve - direct
- gives compliment - general

### **agreement:**

- shows agreement or understanding

### **paraphrasing:**

- paraphrases, checks for understanding

### **verbal attention:**

- empathy
- legitimizes
- shows partnership and support

### **showing concern:**

- shows concern or worry

### **reassurance:**

- reassures, encourages or shows optimism
- asks for reassurance

### **disagreement:**

- shows disapproval - direct
- shows criticism - general

## **Clusters Instrumental Behaviour (9 clusters)**

### **giving directions:**

- transition
- gives orientation, instructions

### **asking clarification:**

- bids for repetition
- asks for understanding
- asks for opinion

### **asking questions med/ther:**

- medical condition
- therapeutic regimen
- request for services

### **asking questions LS/PF:**

- lifestyle/social context
- psychosocial/feelings

### **giving information med/ther:**

- medical condition
- therapeutic regimen

### **giving information LS/PF:**

- lifestyle/social context
- psychosocial/feelings

### **counseling or directing behaviour med/ther:**

- medical condition
- therapeutic regimen

### **counseling or directing behaviour LS/PF:**

- lifestyle/social context
- psychosocial/feelings

### **other**

- other utterances
- unintelligible utterances

## **Clusters Affective Behaviour**

### **1. Social behaviour**

#### Personal Remarks, Social Conversation

Greetings, e.g., "Hello," "I'm Dr. Smith," "How's it going?" "How are you doing?"

Initiating contact through friendly statements that are part of a formal greeting, e.g., "Nice to meet you"

Goodbyes, e.g., "Goodbye now," "See you" or "Take care"

Return of friendly gestures and greetings, e.g., "Fine, than. How about you?"

Conversation on weather, sports or any non-medical or social topic of general health that is not related directly to the discussion of general health.

#### Laughs, Tells Jokes

Making of friendly jokes, trying to amuse or entertain, "kidding around," morbid jokes, e.g. "I might blow away in a strong wind", or nervous laughter

#### Approvals, compliments

"That's fine," "Good," "You're looking good today", "He's a great person"

Showing the other gratitude or appreciation, e.g., "I really appreciate what you're doing," "I don't know how I'd manage without you", "You're looking good today

Any expression of approval, praising, rewarding or showing respect or admiration directed to the other. Includes such statements "Please," "Thank you," "You're welcome, and "Nice to have met you" Includes respectful statements such as: "That's a good idea!"

### **2. Agreement**

#### Signs of agreement and understanding

e.g. "I see", "Yes, that's right", "O.K., alright", "I know", "Okay", "Oh, really"

#### Apologies

Includes conceding a point, social amenities and apologies that not indicate particular concerns for the other's feelings, e.g. "You were right", "I'm sorry"

#### Backchannel responses

e.g. 'hmmm'

### **3. Paraphrasing**

Mechanisms by which the speaker re-states or reflects back information he or she has been told by the other for the purpose of checking for accuracy of information, or for confirming a shared understanding of the facts or issues being discussed (i.e., in essence asking "Do I understand what you are saying?"), e.g.: "So it is very high?", "Do I have it right?"

Includes paraphrases or repetitions of the other's communication in either declarative or interrogative form, e.g.:

Pt. "I have a pain in my chest." (Gives-Med)

Dr. "So you have a pain in your chest." (Check)

Includes re-statements of information given by the other earlier in the visit, e.g.: "You said a bit earlier that you've been having trouble sleeping."

#### **4. Verbal attention**

##### Empathy

Statements which paraphrase, interpret, recognize or name the other's emotional state, e.g.:  
"This is distressing for you, I understand", "You must be worried"

##### Legitimizing

Statements indicating that other's actions or emotions are understandable or normal, e.g.:  
"It's natural to be concerned about your family"  
"Who wouldn't be afraid of cancer?"

##### Shows partnership and support

Statements which assure support and convey a sense of partnership, e.g.:  
"Let's try that. Maybe we can find a solution"

#### **5. Showing Concern**

A statement or nonverbal expression indicating that a condition or event is serious, worrisome, distressing or deserving special attention (such as comforting or other special consideration) and is of particular concern right now during the medical interview, e.g.:  
"I hope that you can give me something that can stop the pain"  
"I am so worried about my son"

Includes negative emotional descriptions of the medical situation or discussions of somewhat non-specific feelings, e.g., "strange," "weird" or "lousy"

Includes statements that ask for pardon and indicate concern for the other's feelings (does not include routine social amenities), e.g.: "Oh, I'm sorry this upset you."

#### **6. Reassurance, showing optimism**

Includes statements indicating optimism, encouragement, relief or worry or reassurance, e.g.:  
"I wouldn't worry about that"  
"I hope you'll be better next week"  
"Do you really think that I can stop smoking?"

Includes positive emotional descriptions of one's self, the medical situation, or discussions of somewhat nonspecific (e.g., "awesome" or "fantastic") feelings, even if describing a physical state, e.g.:  
"I'm feeling better than ever", "I've been doing great!"

#### **7. Disagreement**

Any indication of disapproval, criticism, complaint, rejection, coolness or disbelief directed expressly to the other present or to another not involved in the exchange. Statements that essentially contradict or refute something said by the other, or imply disagreement with or rejection of the other's hypotheses, ideas or opinions, e.g.:  
"No, I don't think so", "I don't believe that", "She's never there when I need her"



## **Clusters Instrumental Behaviour**

### **1. Giving directions**

#### Transitions

Statements or sentence fragments that indicate movement to another topic or area of discussion, train of thought or action.

"Oh well...", "Now..."

Includes statements or fragments which are place-holders, if the utterance standing alone and is separated from other utterances by a pause of one second or more, e.g.:

"Ah ... wait a minute now...", "Let's see..."

#### Gives orientation, instructions

Orientation statements tell the other person what is about to happen, what is expected during the interview or exam, or serve to organize the visit. The purpose of these statements is to guide the patient (or the doctor) in terms of what to expect during the visit, e.g.:

"Now I'm going to take your blood pressure", "There are two important points we need to discuss"

Instruction statements include those directive statements or instructions relating to the exam or clinic visit, e.g.: "Would you get up on the examining table, please", "Look straight ahead"

### **2. Asking clarification**

#### Bid for Repetition

Mechanism for requesting repetition of the other's previous statement. Bids are used when words or statements have not been clearly heard, and therefore need repetition, and are often signs of perceptual difficulties e.g.: "What?", "Did you say the white pills?", "Say it again"

#### Asks for Understanding

Mechanism by which the doctor or patient quickly checks with the other to see if information that was just said has been followed or understood (i.e., in essence asking "Do you understand what I'm saying?" includes asking for permission or agreement, e.g.: "Do you follow?", "Do you understand?", "Alright?"

#### Asks for Opinion (physician category)

Questions that ask for the patient's opinion, point of view or perspective relating to diagnosis, treatment etiology, prevention or prognosis.

"What do you think it is?"

"What do you think could have caused this?"

### **3. Asking Questions medical/therapeutical**

#### Medical Condition

Includes questions about medical and family histories, previous treatments, symptoms, physical condition (e.g., the pain or disability), practices related to the medical condition, and allergies (except allergies to drugs), e.g.:

"Have you been having trouble sleeping at night since these chest pains started?"

"Have you ever been hospitalized for this problem?"

"Tell me what your problem is."

#### Therapeutic regimen

Includes questions relating to past and current drug regimens, and current treatment practices and lifestyle controls related specifically to the patient's medical condition, e.g.:

"How often do you take your blood pressure medicine?"

"How are you doing with the pain medication?"

#### Request for services

Patient-initiated questions for services, medication, treatment, test or referral, e.g.:

"Can you check my cholesterol as well?", "I need a referral"

### **4. Asking questions lifestyle/social context**

#### Lifestyle/social context

Includes questions relating to lifestyle (smoking, diet, sleep, alcohol and exercise habits), family and home situations, work or employment, prevention and self-care issues not related to a specific health problem, e.g.:

"Who's living at home with you now?"

"How do you spend your days?"

#### Psychosocial/Feelings

Questions pertaining to the psychological or emotional state or things directly related to this statement. Includes questions relating to emotions, worries, concerns or such feelings as pain, stress or personal likes or dislikes, e.g.:

"Are you anxious about this?"

"Why don't you like your job?"

### **5. Giving information medical/therapeutical**

Statements of fact or opinion relating to medical condition, symptoms, diagnosis, prognosis, past tests, test results, medical background (including history of immunizations). personal and family medical histories, practices and allergies, e.g.:

"I did have a chest x-ray about 3 months ago"

"Your blood pressure is 100 over 70"

Note: A "yes" or "no" answer that imparts new information in response to question is not to be confused with an agreement or disagreement

Statements of fact or opinion regarding current treatment plan, such as information relating to medications use drug regimen, drug allergies, specific treatments, tests to be performed, imminent hospitalizations, e.g.:

"This medication is a diuretic which will help your condition"

"I think that I'll give you a shot of penicillin today in order to knock out the infection"

## **6. Giving information lifestyle/social context**

Statements of fact or opinion relating to lifestyle (smoking, diet, sleep, alcohol and exercise habits), family and home situations, work or employment, health habits and self-care issues that do not pertain to a specific health problem. Includes information regarding daily routine as it relates to the general medical condition and health regimen, and information regarding medical coverage, e.g.:

"I've been working out in the yard most days."

"I'm not smoking nearly as much as I used to."

## **7. Counseling or directing behaviour medical/therapeutical**

Statements which suggest or imply some resolution or action to be taken by the other person (usually the patient). These statements are characteristic by the intent to persuade, influence, direct or change the other's behaviour. Included are imperative statements that explicitly direct behaviour, e.g.:

"Take your medicines 3 times a day."

"Come back in two weeks."

## **8. Counseling or directing behaviour lifestyle/social context**

Includes statements relating to lifestyle family, activities of daily living, work and employment, general health promotion and prevention, and psychosocial issues, including emotional problems and concerns, e.g.: "You really need to get out and meet more people. Get involved in some volunteer activity that you'd enjoy."

Includes Counsels statements regarding smoking, diet, exercise, alcohol weight control or drugs when they are not specifically related to the medical condition, e.g.:

"Do this breast exam at least once a month."

"You've simply got to eat less if you're going to lose weight."

## **9. Other instrumental utterances**

Includes questions, information or counseling related to such things as clinic paperwork, exam procedures, etc. (i.e., questions that, although relate in some way to the clinic visit, do not fall into one of the above subcategories), e.g.:

"Today's date is the 14th."

"Should I sit here?"

"Did you give me your green card?"

"Should I take off my trousers?"



## **Appendix 2.3.2**

### **Non-verbal behaviour**



**THE EUROCOMMUNICATION STUDY: OBSERVATION SCHEME**

**Codenummer consultation:** .....

**Date observation:** .....

**Observer:** .....

<b>Length of:</b>	<b>min.</b>	<b>sec.</b>
consultation	.....	.....
eye contact	.....	.....
GP off the screen	.....	.....
physical examination	.....	.....
interruptions	.....	.....

**Remarks:**

.....

.....

.....

.....

.....

**Affect ratings:**

**GP:**

anger/irritation	1	2	3	4	5	6
anxiety/nervousness	1	2	3	4	5	6
interest/concern	1	2	3	4	5	6
warmth/friendliness	1	2	3	4	5	6

**Patient:**

anger/irritation	1	2	3	4	5	6
anxiety/nervousness	1	2	3	4	5	6
interest/concern	1	2	3	4	5	6
warmth/friendliness	1	2	3	4	5	6

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### **Appendix 2.3.3**

#### **Content of the consultation**



**RAISED ISSUES RELATED TO HEALTH**

**Code number consultation** .....

**Issue:** .....

**Initially raised by:**     GP  
                                   patient

**Which symptoms are discussed:**

.....  
.....  
.....

**Medication:**    no  
                           yes, new prescription  
                           yes, repeat prescription  
                           yes, type of prescription unknown

**Referral:**        no  
                           yes, new referral  
                           yes, repeat referral  
                           yes, type of referral unknown

**Instrumental treatment performed during the consultation (see Appendix):**

no  
 yes .....  
 unknown

**Diagnostic procedures specifically ordered by the GP or performed during the consultation (see Appendix):**

no  
 yes, in own practice .....  
 yes, elsewhere .....  
 unknown

**Health education related to this issue (see Appendix):**

no  
 yes .....

**Other related topics (e.g. payment for prescriptions):**

no  
 yes .....

**Remarks:** .....

.....  
.....

## **APPENDIX 'RAISED ISSUES RELATED TO HEALTH'**

### **Instrumental treatment: examples**

injection  
syringing ear  
wound care  
minor surgery  
bandaging/taping/resetting  
catheterization  
IUD  
vaccination

### **Diagnostic procedures: examples**

urine  
blood  
smear  
X-ray  
scan  
ultrasound (incl. pregnancy)  
EEG  
ECG  
endoscopy  
urine (culture)  
faeces (culture)  
eye test  
ear test  
blood pressure  
weight  
pregnancy test

### **Health education: examples**

food/diet  
alcohol  
smoking  
safety issues  
sports and exercise

## **Appendix 2.3.4**

### **Patient-centredness**



## PATIENT-CENTREDNESS

**Codenummer of the consultation .....**

- 1= poor
- 2= fair
- 3= good
- 4= very good
- 5= excellent

### **Patient's involvement in the problem-defining process:**

the degree to which the doctor allows or encourages the patient to express (in his own words) the reason for the encounter (where applicable) and/or any other problems or concerns

1      2      3      4      5      n.a.

### **Patient's involvement in the decision-making process:**

the degree to which the doctor allows or encourages the patient to decide about management options, discuss preferences and concerns, etc.

1      2      3      4      5      n.a.

### **Doctor's picking up the patient's cues**

the degree to which the doctor picks up remarks, hints, signals pertaining to hidden aspects of the problem or to related problems

1      2      3      4      5      n.a.

### **Consideration of the patient's ambivalence or self-efficacy**

the degree to which the doctor allows or encourages the discussion of issues of self-management, confidence in the treatment/management plan, compliance - ability, willingness

1      2      3      4      5      n.a.

### **Doctor's overall responsiveness to the patient**

the degree to which the doctor listens and makes contextually appropriate responses to the patient

1      2      3      4      5      n.a.





## **Appendix 2.4**

### **GP questionnaire**



## 1. PRACTICE AND PERSONAL INFORMATION

1.1 In what year were you born? year of birth: 19 . .

1.2 Are you a man or a woman? man  
woman

1.3 Are you self-employed or in salaried employment? If you have more than one paid position the one with the higher number of hours is the main position, while the other one is the additional position (other additional positions may be disregarded).

my main position is:  salaried employment  
 self-employed with contract(s) with health service or insurance  
 self-employed without contract

my additional position is:  not applicable (only one paid position)  
 salaried employment  
 self-employed with contract(s) to health service or insurance  
 self-employed without contract

1.4 How many hours do you normally spend working in this (these) position(s) per week?  
(estimate averages for regular services and emergency and on-call duty)

working hours in main position:  
 in regular services \_\_\_\_\_ hours per week  
 emergency/on call \_\_\_\_\_ hours per week

working hours in additional position:  
 in regular services \_\_\_\_\_ hours per week  
 emergency/on call \_\_\_\_\_ hours per week

1.5 Please estimate the average number of hours per month spent on "keeping-up-to-date" (reading professional journals, doing post-graduate courses, scientific work, etc.):

for keeping up-to-date \_\_\_\_\_ hours per month (average)

1.6 What is the total number of inhabitants of the city, town or village in which your (main) practice location is situated?

the number of inhabitants is \_\_\_\_\_ (approximately)

1.7 Your (main) practice location can be characterised as:

- urban (innercity)
- urban (smaller town)
- suburban/outskirts
- mixed urban-rural
- rural

**1.8 Have you done vocational training in a recognised programme to become a specialist in family medicine or general practitioner in addition to your basic medical training?**

- no such training in this country
- no, I have not had this training
- yes, this training was finished in 19 \_\_\_\_\_ and it took \_\_\_\_\_ years (fill in)
- yes, I am still in training

**1.9 When did you start working as a doctor and when as a GP (not: trainee)?**

I started working as a doctor in the year 19 \_\_\_\_\_  
 I started working as a GP in the year 19 \_\_\_\_\_

**1.10 What is the distance by road from your (main) practice building to the nearest general practitioner (not in your partnership, health centre etc.), the nearest consultant outpatient clinic and the nearest general or university hospital (not psychiatric, convalescent etc.)**

Distance to:	in same building or complex	less than 5 kms	5-10 kms	more than 10 kms
- nearest <u>general practitioner</u> (not in partnership etc.)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> _____ kms (fill in)
- nearest <u>consultant outpatient</u> clinic (part of hospital or independent)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> _____ kms (fill in)
- nearest <u>general / university</u> <u>hospital</u>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> _____ kms (fill in)

**1.11 Do you work alone or in a shared accommodation with one or more other general practitioners and/or medical specialists:**

- alone
- with other GPs in shared accommodation, namely \_\_\_\_\_ GPs (fill in number)
- with medical specialist(s) in shared accommodation, namely \_\_\_\_\_ specialists (fill in number)
- with both GPs and medical specialists in shared accommodation; their total number is: \_\_\_\_\_ (fill in number)

**1.12 What is approximately the size of your practice population?**

This may be the number on your formal patient list. If you do not have a formal list please estimate the number of people that normally rely on you for primary medical care. If your practice population is a mix of both, please fill in both lines. (in partnership or group: estimate the number that should be allocated to you)

- number of patients on the list \_\_\_\_\_
- number of patients not on a list \_\_\_\_\_

**1.13 Please estimate the average number of face-to-face contacts with patients, in the office or surgery, and during home and hospital visits:**

- in your office/surgery per day \_\_\_\_\_ (number)
- during home visits per week \_\_\_\_\_ (number)
- during hospital visits per week \_\_\_\_\_ (number)

**1.14 What is the average number of telephone calls per day involving consultations by or advice to patients?**

- telephone consultations/advice per day \_\_\_\_\_ (number)

**1.15 To what extent do you work with an appointment scheme?** ('Appointment' meaning a consultation that has been arranged in advance, e.g. by telephone)

- no appointments (walk-in system)
- less than half of non-acute cases by appointment
- more than half of non-acute cases by appointment
- (almost) all non-acute cases by appointment

**1.16 What is the time usually allocated per patient in your appointment system?** (The actual time spent with patients may be longer or shorter):

- not applicable (no appointments)
- usually \_\_\_\_\_ minutes per patient
- varies (dependent on patient's complaint, insurance mode etc.)

**1.17 How long does a non-acute patient normally have to wait for the consultation after having made the appointment?**

- not applicable (no appointments)
- consultation is usually the same day
- usually the next day
- usually 2 to 6 days of waiting
- usually 1 to 2 weeks of waiting
- usually more than 2 weeks of waiting

**1.18 Please tick to what extent your practice population deviates from the average national level with respect to the following categories:**

	<u>below</u> average	average	<u>above</u> average	do not know
- children under 6	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
- elderly people (over 70 years)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
- socially deprived people	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
- immigrants	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**1.19 Are you (alone or together with some colleagues) assisted by staff working as listed below?**

- receptionist/med. secretary/general assistant       yes  no
- practice nurse       yes  no
- any assistant for laboratory work       yes  no

**1.20 How often do you have face-to-face meetings/discussions with the following professions:**

	seldom/ never	less than 3 times a year	every 1-3 months	more than once a month	not applicable
- other GPs/primary care doctor(s)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
- ambulatory med. specialist(s)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
- hospital med. specialist(s)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
- pharmacist(s)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
- primary care/home care nurse(s)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
- practice nurse(s)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
- social worker(s)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**1.21 Who is responsible for emergency service during your off-duty hours?**

- no specific emergency service
- you are (almost) always on duty for emergency service
- a group of GPs on a rota basis (you are one of them)
- a group of GPs on a rota basis (you are not one of them)
- one or more doctors (not GPs); you retain overall responsibility (you are not one of them; e.g. locum service)
- emergency services are not your responsibility (separately organised)
- another arrangement

**1.22 Please tick the equipment being used on site in your practice by yourself or your staff:**

- laboratory  hemoglobinometer  any blood glucose test set  
 any cholesterol meter  blood cell counter
- imaging  ophthalmoscope  proctoscope  
 gastroscope  sigmoidoscope  
 ultrasound for abdomen/fetus  microscope  
 otoscope  X-ray
- functions  audiometer  bicycle ergometer  
 peak flow meter  spiograph  
 blood pressure meter  electrocardiograph  
 eye tonometer
- other  urine catheter  coagulometer  
 suture set  defibrillator  
 set for minor surgery  disposable syringes

**1.23 Do you have direct access to laboratory and X-ray facilities (not in your practice) with quick report of results (within 48 hours)?**

	direct access	<u>no</u> direct access	not applicable
- laboratory facilities	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
- X-ray	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**1.24 Are you routinely keeping medical records of patients?**

- no
- yes, only for regularly attending patients
- yes, for (almost) all patients

**1.25 If a computer is at your disposal, for which purposes is it being used in your practice (more than one answer possible):**

- not applicable (no computer)
- administration/billing etc.
- making appointments
- recording drug prescriptions
- keeping patients records
- research/audit
- other purposes

**1.26 Are you a member of the Royal College of General Practitioners?**

- yes
- no

**1.27 Are you a fellow of the Royal College of General Practitioners?**

- yes
- no

**1.28 Are you a dispensing general practitioner?**

- yes
- no

**1.29 Do you teach general practice medicine to students or junior doctors?**

- yes
- no

**1.30 Is your general practice involved in long-term research programmes, such as those of the RCGP or the NHS?**

- yes
- no

**1.31 Have you participated in a research project?**

- yes
- no

**1.32 Have you participated in research or training programmes in which video-recordings were used?**

- yes
- no

**1.33 Have you done postgraduate training in a recognised programme on specific fields, in addition to your training to become a specialist in family medicine or general practitioner?**

no, I have not had an additional training

yes, I have had additional training on:

1. ....

I finished this training in 19 \_\_\_\_ and it took \_\_\_\_ days/months/years (Please delete which is not applicable)

2. ....

I finished this training in 19 \_\_\_\_ and it took \_\_\_\_ days/months/years (Please delete which is not applicable)

3. ....

I finished this training in 19 \_\_\_\_ and it took \_\_\_\_ days/months/years (Please delete which is not applicable)

4. ....

I finished this training in 19 \_\_\_\_ and it took \_\_\_\_ days/months/years (Please delete which is not applicable)

5. ....

I finished this training in 19 \_\_\_\_ and it took \_\_\_\_ days/months/years (Please delete which is not applicable)

---



## 2. APPLICATION OF MEDICAL TECHNIQUES

**To what extent are the following activities carried out in your practice population by you (or your staff) or by a medical specialist?** (Practice population means: people normally applying to you for primary medical care). For example, if wedge resections are (almost) always done by you, tick the appropriate box. If medical specialists (also) carry out this service for your practice population tick another appropriate box and list one or two relevant specialties.

Activities Procedure carried out by me (or my staff):					Which specialties (also) do the procedure?(list 1 or 2 of them, if applicable)
	(almost) always	usually	occasionally	seldom/never	
2.1 Wedge resection of ingrowing toenail	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____ / _____
2.2 Removal of sebaceous cyst from the hairy scalp	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____ / _____
2.3 Wound suturing	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____ / _____
2.4 Excision of warts	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____ / _____
2.5 Insertion of IUD	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____ / _____
2.6 Removal of rusty spot from cornea	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____ / _____
2.7 Fundoscopy	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____ / _____
2.8 Joint injection	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____ / _____
2.9 Maxillary (sinus) puncture	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____ / _____
2.10 Myringotomy of eardrum (paracentesis)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____ / _____
2.11 Applying a plaster cast	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____ / _____
2.12 Strapping an ankle	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____ / _____
2.13 Cryotherapy (warts)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____ / _____
2.14 Setting up an intravenous infusion	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____ / _____

### 3. FIRST CONTACT WITH HEALTH PROBLEMS

**To what extent will patients in your practice population** (people who normally apply to you for primary medical care) **have you as the doctor of first contact for the following health problems?** (exclude purely administrative contacts).

This is only about the first contact, not about a possible referral for further diagnosis or treatment. If medical specialists are (also) doctors of first contact for patients in your practice population tick the appropriate box and list one or two of these specialties.

Health problems contact:	For these problems I am the doctor of first				Which specialties (also) do the procedure?(list 1 or 2 of them, if applicable)
	(almost) always	usually	occasio- nally	seldom/ never	
3.1 Child with a rash	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____ / _____
3.2 Child with severe cough	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____ / _____
3.3 Child aged 7 with enuresis	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____ / _____
3.4 Child aged 8 with hearing problem	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____ / _____
3.5 Woman aged 18 asking for oral contraception	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____ / _____
3.6 Woman aged 20 for confirmation of pregnancy	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____ / _____
3.7 Woman aged 35 with irregular menstruation	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____ / _____
3.8 Man aged 24 with stomach pain	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____ / _____
3.9 Man aged 45 with chest pain	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____ / _____
3.10 Man aged 50 who burnt his hand	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____ / _____
3.11 Man aged 50 with acute toothache	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____ / _____
3.12 Woman aged 50 with a lump in her breast	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____ / _____
3.13 Woman aged 60 with deteriorating vision	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____ / _____
3.14 Woman aged 60 with polyuria	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____ / _____
3.15 Woman aged 60 with acute symptoms of paralysis/paresis	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____ / _____
3.16 Man aged 70 with joint pain	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____ / _____

Health problems	For these problems I am the doctor of first contact:				Which specialties (also) do the procedure?(list 1 or 2 of them, if applicable)
	(almost) always	usually	occasionally	seldom/never	
3.17 Woman aged 75 with moderate memory problems	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____ / _____
3.18 Man aged 35 with sprained ankle	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____ / _____
3.19 Man aged 29 with lower back pain	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____ / _____
3.20 Man aged 28 with a first convulsion	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____ / _____
3.21 Anxious man aged 45	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____ / _____
3.22 Physically abused child aged 13	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____ / _____
3.23 Couple with relationship problems	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____ / _____
3.24 Man with suicidal inclinations	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____ / _____
3.25 Woman aged 50 with psychosocial problems related to her work	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____ / _____
3.26 Man aged 32 with sexual problems	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____ / _____
3.27 Man aged 52 with alcohol addiction problems	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____ / _____

#### 4. PREVENTIVE MEDICINE AND OTHER PROCEDURES

4.1 When do you, or your staff, measure **blood pressure**? (more than one answer possible)

- in connection with relevant clinical conditions or on request
- routinely in surgery contacts with adults (regardless the reason for visit)
- in adults when invited for this purpose

4.2 When do you, or your staff, measure **blood cholesterol level**? (more than one answer possible)

- in connection with relevant clinical conditions or on request
- routinely in surgery contacts with adults (regardless the reason for visit)
- in adults when invited for this purpose
- no such measures

4.3 When do you, or your staff, carry out **cervical smears for cancer screening**? (more than one answer possible)

- in connection with relevant clinical conditions or on request
- routinely in surgery contacts in at risk females
- in women when invited for this purpose
- no such screening

4.4 When is manual examination for **breast cancer screening performed by you or your staff**? (more than one answer possible)

- in connection with relevant clinical conditions or on request
- routinely in surgery contacts in at risk females
- in women when invited for this purpose
- no such screening

4.5 To what extent are you involved in health education as regards smoking, eating and drinking habits?

	not involved	<u>only</u> in connection with normal patient contacts	<u>also</u> in special group sessions or programmes
- smoking	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
- eating	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
- drinking	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

4.6 Are you involved in the following activities?

	involved	not involved
- intrapartum care	<input type="checkbox"/>	<input type="checkbox"/>
- routine antenatal care	<input type="checkbox"/>	<input type="checkbox"/>
- immunisation programme for children	<input type="checkbox"/>	<input type="checkbox"/>
- paediatric surveillance of children under 4	<input type="checkbox"/>	<input type="checkbox"/>
- family planning/contraception	<input type="checkbox"/>	<input type="checkbox"/>
- homoeopathic medicine	<input type="checkbox"/>	<input type="checkbox"/>

## 5. DISEASE MANAGEMENT

**To what extent are you involved in the treatment and follow-up of patients in your practice population with the following diagnosis** ("practice population" means: people who normally apply to you for primary medical care)?

For example, if you (almost) always manage chronic bronchitis in your practice population tick the appropriate box. If medical specialists are also involved tick another box and list one or two relevant specialties.

Diseases	Treatment/follow-up done by me:				Which specialties are (also) treating? (list 1 or 2 of them, if applicable)
	(almost) always	usually	occasionally	seldom/never	
5.1 Hyperthyroidism	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____ / _____
5.2 Chronic bronchitis	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____ / _____
5.3 Hordeolum (Stye)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____ / _____
5.4 Peptic ulcer	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____ / _____
5.5 Herniated disc lesion	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____ / _____
5.6 Acute cerebrovascular accident	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____ / _____
5.7 Congestive heart failure	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____ / _____
5.8 Pneumonia	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____ / _____
5.9 Peritonsillar abscess	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____ / _____
5.10 Ulcerative colitis	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____ / _____
5.11 Salpingitis	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____ / _____
5.12 Concussion of brain	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____ / _____
5.13 Parkinson's disease	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____ / _____
5.14 Uncomplicated diabetes type II	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____ / _____
5.15 Rheumatoid arthritis	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____ / _____
5.16 Depression	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____ / _____
5.17 Myocardial infarction	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____ / _____

## 6. JOB SATISFACTION

To what extent do you agree with the following expressions regarding your job satisfaction?

		<u>agree</u> strongly	agree more or less	neutral	disagree more or less	<u>disagree</u> strongly
6.1	I feel that some parts of my work do not really make sense	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6.2	My work still interests me as much as it ever did	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6.3	My work is overloaded with unnecessary administrative detail	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6.4	Assuming that pay and conditions were similar I would just as soon do non-medical work	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6.5	I find real enjoyment in my work	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6.6	In my work there is a good correspondence between effort and reward	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6.7	My work involves a great deal of wasted effort on my part	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

## 7. BELIEFS AND ATTITUDES

		<u>agree</u> strongly	agree more or less	neutral	disagree more or less	<u>disagree</u> strongly
7.1	When in doubt it is preferable to refer to a specialist than to wait and see	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7.2	A GP must prefer the certain to the uncertain	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7.3	A GP must not take any risks with physical illness	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7.4	For physical complaints a GP should do everything possible to establish the cause of a complaint	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7.5	As a GP you must always be aware that each complaint can be the beginning of a serious disease	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7.6	There is no harm in patients looking up to their doctors	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7.7	A GP cannot always be willing to deal with non-medical problems	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7.8	There are a number of patients to whom it would be useless to explain things as they would not understand	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7.9	GPs should always be willing for patients to see their referral letters	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7.10	When a GP prescribes medicine he must always explain in detail what its effects are	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7.11	When a cancer patient asks what is wrong with him, the GP must given an honest answer	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7.12	Patients have the right to demand information from the GP about their health	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

## 8. DISEASES

Below is a list of diseases. Please give your opinion about the degree to which psychological factors might influence the onset or acute exacerbation of these conditions

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Psychosocial factors might affect this disorder:	to a great extent	to a certain degree	a little	not much	not at all
8.1 myocardial infarction	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8.2 constipation	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8.3 dysmenorrhea	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8.4 hypertension	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8.5 eczema	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8.6 hyperthyroidism	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8.7 obesity	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8.8 rheumatoid arthritis	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8.9 ulcerative colitis	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8.10 unspec. shoulder/arm pain	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8.11 tracheitis	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8.12 nausea of pregnancy	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

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