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# Measures of quality, costs and equity in primary health care: instruments developed to analyse and compare primary health care in 35 countries

#### Willemijn LA Schäfer

Wienke GW Boerma NIVEL, Netherlands Institute for Health Services Research, Utrecht, The Netherlands

Dionne S Kringos NIVEL, Netherlands Institute for Health Services Research, Utrecht, The Netherlands and Department of Social Medicine, Academic Medical Centre (AMC), University of Amsterdam, The Netherlands

Evelyne De Ryck Department of General Practice and Primary Health Care, Ghent University, Belgium

Stefan Greß and Stephanie Heinemann Hochschule Fulda – University of Applied Sciences, Fulda, Germany

Anna Maria Murante Laboratorio MeS, Istituto di Management, Scuola Superiore Sant'Anna, Italy

Danica Rotar-Pavlic ULMF - University of Ljubljana, Slovenia

François G Schellevis NIVEL, Netherlands Institute for Health Services Research, Utrecht, The Netherlands and Department of General Practice and Elderly Care Medicine, EMGO Institute for Health and Care Research, VU University Medical Center, Amsterdam, The Netherlands

Chiara Seghieri Laboratorio MeS, Istituto di Management, Scuola Superiore Sant'Anna, Italy Michael J Van den Berg RIVM – National Institute for Public Health and the Environment, Bilthoven, The Netherlands and Tranzo, Tilburg University, The Netherlands Gert P

Westert Radboud University Nijmegen Medical Centre, The Netherlands

Sara Willems Department of General Practice and Primary Health Care, Ghent University, Belgium

Peter P Groenewegen NIVEL, Netherlands Institute for Health Services Research, Utrecht, The Netherlands and Department of Sociology and Department of Human Geography, Utrecht University, The Netherlands

#### ABSTRACT

Background The Quality and Costs of Primary Care in Europe (QUALICOPC) study aims to analyse and compare how primary health care systems in 35 countries perform in terms of quality, costs and equity. This article answers the question 'How can the organisation and delivery of primary health care and its outcomes be measured through surveys of general practitioners (GPs) and patients?' It will also deal with the process of pooling questions and the

subsequent development and application of exclusion criteria to arrive at a set of appropriate questions for a broad international comparative study.

Methods The development of the questionnaires consisted of four phases: a search for existing validated questionnaires, the classification and selection of relevant questions, shortening of the questionnaires in three consensus rounds and the pilot survey. Consensus was reached on the basis of exclusion criteria (e.g. the applicability for international comparison). Based on the pilot survey, comprehensibility increased and the number of questions was further restricted, as the questionnaires were too long.

Results Four questionnaires were developed: one for GPs, one for patients about their experiences with their GP, another for patients about what they consider important, and a practice questionnaire.

The GP questionnaire mainly focused on the structural aspects (e.g. economic conditions) and care processes (e.g. comprehensiveness of services of primary care). The patient experiences questionnaire focused on the care processes and outcomes (e.g. how do patients experience access to care?).

The questionnaire about what patients consider important was complementary to the experiences questionnaire, as it enabled weighing the answers from the latter. Finally, the practice questionnaire included questions on practice characteristics.

Discussion The QUALICOPC researchers have developed four questionnaires to characterise the organisation and delivery of primary health care and to compare and analyse the outcomes. Data collected with these instruments will allow us not only to show in detail the variation in process and outcomes of primary health care, but also to explain the differences from features of the (primary) health care system.

#### BACKGROUND

Many European countries share the goal of initiating or sustaining strong primary health care systems. As a result, there is a demand for benchmarking information and a growing tendency to learn from foreign experiences. Evidence on the outcomes of primary health care in European countries is, however, still incomplete.<sup>1</sup> Variation in the organisation of primary health care in Europe enables analyses of the relationship between primary care organisation and outcomes.

Decision makers may benefit from information about arrangements of primary health care which are more likely to produce better outcomes.<sup>2</sup> In 2010, the three-year Quality and Costs of Primary Care in Europe (QUALICOPC) study started. This study aims to compare and analyse how the primary health care systems of 35 countries perform in terms of quality, costs and equity. The results of this study will contribute to evidence on the benefits of strong primary health care and on the performance of health care systems in general. The European countries include 27EUcountries, Iceland, Norway, Turkey, Switzerland and Macedonia. Outside Europe, Australia, Canada and New Zealand have joined the study. For this study, data will be gathered by means of surveys among general practitioners (GPs) and

their patients.<sup>1</sup> National characteristics of the organisation of primary health care will be derived from other sources, such as the Primary Health Care Activity Monitor (PHAMEU) database.<sup>3</sup> GPs were chosen as survey subjects, because they can be seen as the main providers of primary health care. However, the project aims to provide insight into not only GP care, but also primary health care as a whole. Fieldworkers, who will visit GP practices to recruit patients and assist them, if necessary, with filling in the questionnaire, will also fill in a practice questionnaire. The data from GPs, patients and fieldworkers will be linked to each other. For more information on the QUALICOPC study, see Box 1.<sup>1</sup> Primary health care can be characterised as the first level of access to care and is provided near patients' homes. Primary health care includes curative and rehabilitative care, preventive care and health education.

<sup>4,5</sup> A recent literature review on primary health care<sup>6</sup> distinguishes three levels of care, namely the structure, process and outcome of care. Within these levels, 10 core dimensions to measure primary health care were identified (see Table 1). The QUALICOPC study aims to comprehensively evaluate the breadth of primary health care by gathering data on all these dimensions.

The analyses will focus on the following overarching themes: quality of the process of care (including the dimensions of access, continuity, coordination and comprehensiveness of primary health care services), experiences of patients (as an indicator of the dimension quality of primary health care), costs of primary health care (as a part of the dimension efficiency of care), equity (related to the dimension access and the quality of primary health care), avoidable hospitalisation (as an indicator of the dimension quality of primary health care). A sixth synthesising theme will be the identification of 'good practices' of primary health care provision (related to all dimensions to measure primary health care).<sup>1</sup>

#### [BOX 1] [TABLE 1]

To collect data related to these six themes, new questionnaires had to be developed. Many previous studies have used questionnaires for primary health care physicians and patients. In the past, comprehensive primary care studies have been performed, for example by Barbara Starfield<sup>7</sup> and the Commonwealth Fund,<sup>8</sup> but only a limited number of European countries were included. Furthermore, many studies that have used questionnaires from GPs and patients had a focus on specific subjects or themes rather than a multidimensional approach. This study aims to unravel the processes and contributions of primary health care to its outcomes in terms of quality, costs and equity. The questions in the questionnaire should not only cover all themes but also be suitable for use in international surveys, which means that differences in the health care context between countries need to be taken into account. This article describes the background to and development of the questionnaires for the QUALICOPC study. It addresses the question 'How can the quality, costs and equity of a primary health care system be measured?' Furthermore, criteria used for inclusion or exclusion of questions are presented, as well as an overview of the resulting questions that can be used for international comparative research on primary health care.

# METHODS

Four questionnaires were developed: one for GPs, one for patients about their experiences with their GP, another for patients about their values regarding primary care (i.e. what they consider important), and finally one about the practice. Because the project aims to provide insight into GP care as a whole, the GP questionnaire should also include questions beyond the scope of the tasks of the GP. The questionnaire about what patients find important is added to weigh against their experiences. Development of the questionnaires consisted of four phases: a search for existing questionnaires, the classification and selection of relevant questions (including formulation of inclusion and exclusion criteria), shortening of the questionnaires and the pilot survey. An overview of the development process is presented in Figure 1.

# Phase 1: bibliometric search

In the first phase, existing questionnaires, published between 1990 and 2010 and with an abstract written in English, were searched for in the bibliographic databases PubMed and Embase. The search aimed to identify validated questionnaires for primary health care physicians and patients, suitable for international comparisons. Search terms were derived from the 10 dimensions for measuring primary health care (Table 1).

In addition, attention was paid to identifying questionnaires on avoidable hospitalisation, which is not explicitly covered in the dimensions, and on equity, which has received relatively little attention in international comparative primary health care research.<sup>2,6</sup>

# Phase 2: classification, selection, rephrasing and new questions

In the second phase, questions from the included questionnaires were classified according to the 10 dimensions. Next, the researchers selected questions that contribute to answering the main research questions of the QUALICOPC study. Questions were rephrased to fit the study approach and aim. Furthermore, new questions were formulated for gaps that were identified. The identified questions were divided between the provisional list of questions for the GP questionnaire and the Patient Experiences and Patient Values questionnaires.

# Phase 3: consensus rounds

Next, in three consensus rounds, the researchers evaluated the questionnaires and selected the questions for inclusion. Each of the questions was discussed for its relevance to the purpose of this study and the exclusion criteria in order to further increase the suitability of the questions for the surveys. The researchers developed the following set of criteria for inclusion/exclusion: . the question is not suitable for international comparison (e.g. not applicable in several countries) . the question refers to a characteristic of the health care system (that can be found elsewhere, e.g. the PHAMEU database) rather than to a characteristic of an individual practice or experience of a patient . very little variation in the answers is expected, both within and between countries . the questions are expected to be unreliable (e.g. due to social desirability bias) . the question is likely to be too difficult for the respondent (e.g. it demands a high level of literacy).

# [FIGURE 1]

In three rounds, the researchers submitted the questions to these criteria, until consensus was found.

At this stage, questions were reformulated where necessary to increase comprehensibility.

# **PILOT SURVEY**

As a final step, a pilot survey was held with GPs and patients in Belgium, the Netherlands and Slovenia, aiming to test the practicality and applicability of the survey and the comprehensibility and appropriateness of the questions. In each country, a convenience sample of GPs (around 10) was invited to participate. GPs were asked to fill in the questionnaire, which contained an extra column to add comments and questions to the questionnaire. Furthermore, project researchers visited the general practices to recruit a random sample of patients. In each practice, four consecutive patients who agreed to fill in the questionnaire were included. This resulted in a total of 112 completed questionnaires from patients (40 in Belgium and Slovenia and 32 in the Netherlands). During the visits, researchers filled in a checklist, took notes of the proceedings and asked the patients to directly mention problems or questions which they did not understand.

Based on the findings of the pilot a final consensus round was held in which the questionnaires were further shortened and questions which were found too difficult were rephrased.

During the pilot and the subsequent final consensus round, special attention was paid to the intelligibility of questions, because the changed wording of several questions could have affected their validity. Explicit cognitive testing, however, has not been part of the pilot study. For two reasons it was decided not to assess the psychometric properties of the draft questionnaires.

First, questions dealing with factual circumstances or facilities are less suitable for such testing.

Besides, questions copied from validated questionnaires have been tested already. For instance, the questions on services that GPs offer to their patients that are derived from the European GP Task Profile study have been tested for internal consistency and scale reliability.<sup>9</sup>

# RESULTS

In this section, the results of each of the phases of the development are discussed. Next, the final outcomes, namely the questionnaires, are presented.

# Phase 1: bibliometric search

Through the bibliometric search, 2783 potentially relevant studies for the GP questionnaire were identified.

After careful screening, 13 relevant primary health care physician questionnaires were identified, an overview of which is presented in Box 2. For the patient questionnaire, 2213 potentially relevant sources were found, which eventually resulted in 64 relevant questionnaires (see Box 3).

# Phase 2: classification, selection, rephrasing and new questions

All questions from the retrieved questionnaires were classified according to the dimensions to measure primary care. The result of this classification is presented in Table 2. As some questions were classified in more than one dimension, the total number in the figure is higher than the number of questions that emerged from the search.

For each of the dimensions, the researchers selected questions potentially relevant to this study. An example of a question which was not included in the first selection phase is about the health plans of the patients. This question is country specific and not suitable for comparison between countries. After this first phase, 138 questions for GPs and 117 for patients remained.

# Phase 3: consensus rounds

During the consensus phase, the questions on the provisional were further narrowed (based on the exclusion criteria) and rephrased, where necessary.

For instance, as more and more GPs work part-time, the question about the number of GP colleagues working in the same practice was further specified to include the number of full-time equivalents (FTEs) in addition to the absolute number. The number of remaining questions after each round is indicated in Figure 1.

# Pilot

The pilots showed that the questionnaires were reasonably well understood and easily administered, suggesting acceptable clarity and applicability. However, both the GP and Patient Experiences questionnaires were too long, as the average time needed for completion exceeded the set limits of 30 minutes for GPs and 20 minutes for patients. Furthermore, in the GP questionnaire mistakes were identified (e.g. names of equipment were incorrect). Some questions in the patients' questionnaire appeared too difficult.

The pilot resulted in a further reduction of the questionnaire, reformulation of several questions and the development of a short practice questionnaire about general characteristics of the practice (e.g. cleanliness of the waiting room).

# **GP** questionnaire

The final GP questionnaire (see Appendix A – available online) contains 60 questions (25 of which have two or more subquestions). The majority of the questions have prestructured multiple choice answers.

In 13 questions, GPs are also asked to fill in numerical answers (e.g. a percentage or a number of hours).

# [BOX 2] [BOX 3] [TABLE 2]

Appendix A (available online) also provides an overview of the thematic content of each of the questions and the sources used for the questions.

Three questions focus on the background of the GP and four on the characteristics of the practice (e.g. the composition of the practice population). 'Efficiency is measured by seven questions for instance on time allocation of the GP. Within the theme ''workforce development'' there are four questions, from additional professional activities of GP and disciplines working in the practice to job satisfaction. Five questions focus on 'economic conditions' (payment of the GP and co-payment for

patients). 'Equity in access' is reflected in questions about restrictions in access and availability of care for uninsured patients.

To gain insight into the relationship between GPs and the broader contacts of primary care, there are 12 questions about 'coordination and cooperation' between GPs and other disciplines. Eleven questions about the 'continuity of care' provided by the GPs concentrate on disease management and on referrals and information exchange. Special attention is paid to medical record keeping.

'Quality of care' is measured with three questions regarding the use of guidelines and feedback from colleagues or authorities. 'Comprehensiveness of care services' is reflected in 12 questions, dealing with the available equipment and the GPs' task profiles (e.g. the range of problems for which the GP is the first point of contact). Finally, nine questions covering 'accessibility of care' can be divided into those about physical access (distance to the practice and opening hours) and those about financial access to care services.

The European study on GP Task Profiles, carried out in 30 European countries in 1992–93, is a major source for the GP questionnaire.<sup>10</sup> Several questions were copied from this questionnaire. Other important sources are, for example, international surveys by the Commonwealth Fund<sup>8,11,12</sup> (questions about financial incentives, guideline use and medical record keeping) and Starfield's Primary Care Assessment Tool (question about care for uninsured persons).<sup>13</sup> For several topics, no examples of existing questions were found and new questions had to be formulated. These topics were involvement of GPs in disease management programmes, equity in access and patient involvement in the decision-making process.

# **Patient Experiences questionnaire**

The Patient Experiences questionnaire, dealing with the experiences of patients with their GP (see Appendix B – available online), contains 41 multiple choice questions (10 of which have two or more subquestions).

Many questions ask to what extent the patient agrees with a statement. The questionnaire is meant to be completed in the GP's waiting room by patients after consultation with their GP.

The 18 questions which concentrate on the patient's background concern the patient's socio-economic status, perceived health, reason for visiting the GP, and visits to medical specialists and hospitals. Six questions deal with measuring experiences with 'continuity of care', e.g. the use of medical records. 'Quality of care' as experienced by patients is measured in 13 questions (e.g. about the satisfaction of care needs in connection to the patient's relationship with the GP, aspects of communication, safety, complaint handling and preventive activities). As in the GP questionnaire, the 14 questions about the 'accessibility of care' can be divided into physical and financial access. These questions also include the time the GP has available for the patient, the availability of home visits and waiting times. Three questions pay attention to 'equity in access' and one question to 'equity in treatment'. 'Coordination' is measured with five questions on experiences of coordination in the case of referral and on treatment by a practice nurse. To mirror the questions in the GP questionnaire about autonomy, patients are asked about their involvement in decision making and referrals. 'Comprehensiveness of

services' is mirrored in a question about patients' views on the breadth of the clinical

task profile of services offered by the GP. Finally, two questions specifically related to avoidable hospitalisation were included.

Major sources for this questionnaire were the Consumer Quality Index for GPs,<sup>14</sup> the EUROPEP,<sup>15</sup> several international Commonwealth Fund questionnaires <sup>16–20</sup> and Starfield's Adult Primary Care Assessment Tool.<sup>21</sup> Compared with the GP questionnaires, more questions for patients were identified in the domain of equity in access and treatment. As few questions were found on patient autonomy, new questions had to be developed on this theme.

# **Patient Values questionnaire**

Next, a Patient Values questionnaire was developed.

Measuring what patients consider important enables the weighting of their experiences.<sup>22</sup> The Patient Values questionnaire contains 19 questions (seven of which have three or more subquestions). Again, most questions are statements with multiple choice answers. A few questions ask the patient to choose from a list what they consider most important and fill in a number.

The 12 questions asking about the patient's background are similar to those in the Patient Experiences questionnaire. Three questions contain statements asking patients about the importance of certain aspects of care (e.g. 'How important is it that the practice has extensive opening hours?').

Finally, four questions focus on communication between GPs and patients. The statements in these questions were developed by the GULiVer partnership based on their research on 'tips' from lay people on how medical consultations could become more successful from their perspective.<sup>23</sup>

# **Practice questionnaire**

A 12-question practice questionnaire was developed to record the response rate among patients during the implementation of the survey and to measure practice-related indicators with regard to the communication of opening hours, and equity in access (e.g. for handicapped persons). Most questions were based on the European Practice Assessment indicators.<sup>24</sup>

# DISCUSSION

The four questionnaires have been developed to characterise the organisation and delivery of primary health care and to compare and analyse its outcomes. The development of questionnaires for a multicountry study on broad themes such as quality, costs and equity in primary care requires a balance between methodological requirements and practical feasibility. Indeed, all dimensions deserved to be thoroughly investigated, although they may be difficult to measure reliably, but it must be accepted that only a limited set of questions can be asked. Nonetheless, the QUALICOPC consortium has been able to produce the four questionnaires—as far as possible—based on existing, validated questionnaires and tested through a pilot survey in three countries. A limitation of the pilot survey is that it was carried out in only three countries. However, much attention has been paid to having valid translations in each language. In each country, an official back-and-forth translation procedure is used for the questionnaires, in which translators are asked to take comprehensibility into account. Another limitation of the questionnaire

development is that questions, derived from various validated sources, often had to be 'processed' to make them suitable for the QUALICOPC study. This may have resulted in a loss of validity and needs to be taken into account in the analysis phase. The questionnaires for GPs and patients contain questions that go beyond general practice. Furthermore, data about primary health care (e.g. about its costs) will be gathered at the national level in available databases. Nevertheless, results regarding quality of primary health care as a whole need to be interpreted with care. The dimension 'Governance' has not been covered in any of the questionnaires, because aspects of governance are relatively distant from daily reality in primary health care. However, information on governance will be used and derived from the PHAMEU database. Relatively new topics that will be explored in the QUALICOPC study are equity in access and treatment, patient autonomy, disease management, avoidable hospitalisation and patient experiences with primary health care in general. There are also aspects of care which might be interesting, but are not included in these questionnaires. This included new developments around telemedicine, but also the experiences of patients around disease management programmes. Equity in health can also not be measured through this survey, as we only include

patients who visit GP practices and, moreover, we do not measure health outcomes. Several questions had to be omitted to keep the length of the questionnaire reasonable.

Because the sources were identified from Western countries, the questionnaires that we developed are more likely to be suitable for use in Western countries than in others. However, the 35 countries in which the questionnaires will be used in the context of the QUALICOPC study match this profile well. The results of the study will add to the available evidence on the relationship between the strength of primary care systems and their outcomes. The data from the 35 countries will be linked to the practices and their patients. Analyses of the data will provide insight into variations between countries at the level of the patient, GP practice and country. The patient questionnaires may also be suitable for use at the practice level by GPs to analyse developments in the GP practice by inviting a sample of patients every year to complete a questionnaire.

#### REFERENCES

- 1 Schäfer WLA, Boerma WGW, Kringos DS et al. QUALICOPC, a multi-country study evaluating quality, costs and equity in primary care. BMC Family Practice 2011;12:115.
- 2 Schäfer W, Groenewegen PP, Hansen J, Black N. Priorities for health services research in primary care. Quality in Primary Care 2011;19:77–83.
- 3 Kringos DS, Boerma WG, Bourgueil Y et al. The European primary care monitor: structure, process and outcome indicators. BMC Family Practice 2010;11:81.
- 4 Boerma WGW, Dubois CA. Mapping primary care accross Europe. In: Saltman RB, Rico A, Boerma WGW (eds). Primary Care in the Driver's Seat? Organizational reform in European primary care. Open University Press: Buckingham, 2006; 22–49.
- 5 Health Council of the Netherlands. European Primary Care Report. Health Council of the Netherlands: The Hague, 2004.
- 6 Kringos DS, Boerma WG, Hutchinson A, van der Zee J, Groenewegen PP. The breadth of primary care: a systematic literature review of its core dimensions. BMC Health Services Research 2010;10:65.
- 7 Starfield B, Shi L, Macinko J. Contribution of primary care to health systems and health. Milbank Quarterly 2005;83:457–502.

- 8 The Commonwealth Fund. International Health Policy Survey of Primary Care Physicians in Eleven Countries. The Commonwealth Fund: New York, 2009.
- 9 BoermaW.Task Profiles of General Practitioners in Europe. NIVEL: Utrecht, 2003.
- 10 Boerma W. Profiles of General Practice in Europe: An international study of variation in the tasks of general practitioners. NIVEL: Utrecht, 2003.
- 11 Schoen C, Osborn R, Huynh PT, Doty M, Peugh J, Zapert K. On the front lines of care: primary care doctors' office systems, experiences, and views in seven countries. Health Affairs (Millwood) 2006;25(6):w555–71.
- 12 Commonwealth Fund. National Survey of Physicians on Practice Experience. Commonwealth Fund: New York, 2003.
- 13 Starfield B. Primary Care Assessment Tool Expanded Version (Provider survey). 1998.
- 14 Meuwissen LE, de Bakker LH. 'Consumer Quality-index huisartsenzorg' meet patie ntenervaringen en vergelijkt huisartsenpraktijken [Consumer Quality Index GP care' measures patient experiences and compares GP practices]. Nederlands Tijdschrift voor Geneeskunde 2009; 153(A 180).
- 15 Wensing M, Baker R, Vedsted P et al. EUROPEP 2006. Centre of Quality of Care Research, 2006. www.topaseurope.eu/files/Europep%202006rapport\_0.pdf
- 16 Commonwealth Fund. International Health Policy Survey of Adults' Experiences with Primary Care. Commonwealth Fund: New York, 2004.
- 17 Commonwealth Fund. Health Care Quality Survey. Commonwealth Fund: New York, 2006.
- 18 Commonwealth Fund. International Health Policy Survey of Sicker Adults. Commonwealth Fund: New York, 2008.
- 19 Commonwealth Fund. Survey on Disparities in Quality of Health Care. Commonwealth Fund: New York, 2001.
- 20 Commonwealth Fund. International Health Policy Survey of Adults with Health Problems. Commonwealth Fund: New York, 2002.
- 21 Shi L, Starfield B, Xu J. Validating the Adult Primary Care Assessment Tool. Journal of Family Practice 2001; 50(2):161–75w.
- 22 Delnoij DM, Rademakers JJ, Groenewegen PP. The Dutch Consumer Quality Index: an example of stakeholder involvement in indicator development. BMC Health Services Research 2010;10:88.
- 23 Bensing JM, Deveugele M, Moretti F et al. How to make the medical consultation more successful from a patient's perspective? Tips for doctors and patients from lay people in the United Kingdom, Italy, Belgium and the Netherlands. Patient Education and Counseling 2011;84:287–93.
- 24 Engels Y, Campbell S, DautzenbergMet al. Developing a framework of, and quality indicators for, general practice management in Europe. Family Practice 2005; 22:215–22.
- 25 Boerma W, Kringos DS, Verschuuren M, Pellny M, Bulc M. Primary Care Quality Management in Slovenia, 2008. WHO, Copenhagen. http://www.nivel.nl/sites/default/ files/bestanden/Primary-care-quality-management-in- SLOV.pdf
- 26 Westert GP, Schellevis FG, Bakker DH, Groenewegen PP, Bensing JM, Van der Zee J. Monitoring health inequalities through general practice: the Second Dutch National Survey of General Practice. European Journal of Public Health 2005;15:59–65.
- 27 Kringos DS et al. A snapshot of the organization and provision of primary care in Turkey. BMC Health Services Research 2011;11:90.
- 28 Australian Capital Territory Department of Health. GP Snapshot Survey. Australian Capital Territory Department of Health: Canberra, 2009.
- 29 Centers for Disease Control and Prevention. National Ambulatory Medical Care Survey 2010. Centers for Disease Control and Prevention: Atlanta, 2009.
- 30 Eurostat. European Health Interview Survey. Eurostat: Luxembourg, 2008.
- 31 Tufts Medical Center if CRaHPS. Ambulatory Care Experiences Survey (ACES). Tufts Medical Center: Boston, 2003.
- 32 Leiblum SR, Schnall E, Seehuus M, DeMaria A. To BATHE or not to BATHE: patient satisfaction with visits to their family physician. Clinical Research and Methods 2008;40:407–11.

- 33 Agha Z, Schapira RM, Laud PW, McNutt G, Roter DL. Patient satisfaction with physicianpatient communication during telemedicine. Telemedicine and e-Health 2009;15:830–9.
   34 CAHPS, Adult Primary Care Questionnaire 1.0: Clinician & Group Survey (6-points scale).
- 34 CAHPS. Adult Primary Care Questionnaire 1.0: Clinician & Group Survey (6-points scale). AHRQ, Rockville, 2009.
- 35 National Primary Care Research and Development Centre. General Practice Assessment Questionnaire (GPAQ). National Primary Care Research and Development Centre: Manchester, 2010.
- 36 Zebiene E, Svab I, Sapoka V et al. Agreement in patientphysician communication in primary care: a study from Central and Eastern Europe. Patient Education and Counseling 2008;73:246–50.
- 37 Howie JG, Heaney DJ, Maxwell M, Walker JJ, Freeman GK, Rai H. Quality at general practice consultations: cross-sectional survey. BMJ 1999;319(7212):738–43.
- 38 McGuiness C, Sibthorpe B. Development and initial validation of a measure of coordination of health care. International Journal of Quality in Health Care 2003; 15:309– 18.
- 39 National Health Service. The National Surveys of NHS Patients: general practice 2002 questionnaire. National Centre for Social Research, Middlesex. 2002.
- 40 Bindman AB, Grumbach K, Osmond D et al. Preventable hospitalizations and access to health care. JAMA 1995;274:305–11.
- 41 Van de Lisdonk EH. Nijmeegse Verwachtingen Lijst [Expectancies List from Nijmegen]. http://www.nivel.nl/ sites/default/files/bestanden/ns2\_r2\_h07.pdf. 1985.
- 42 UNESCO. International Standard Classification of Education (ISCED). http://www.unesco.org/education/information/ nfsunesco/doc/isced\_1997.htm. 1997.
- 43 Hodgetts G, Broers T, Godwin M. Smoking behaviour, knowledge and attitudes among family medicine physicians and nurses in Bosnia and Herzegovina. BMC Family Practice 2004;5:12.
- 44 Himmel W, Kochen MM. How do academic heads of departments of general practice organize patient care? A European survey. British Journal of General Practice 1995;45(394):231–4.
- 45 Van den Brink-Muinen A, Van Dulmen AJ, Bensing JM. Eurocommunication II: a comparative study between countries in Central and Western Europe on doctor– patient communication in general practice: final report. NIVEL: Utrecht, 2003. www.nivel.nl/sites/default/files/ bestanden/EurocommunicationII.pdf
- 46 Sandvik H, Cho HJ. Attitudes to family practice registration programmes. Survey of Korean and Norwegian family doctors. Family Practice 2002;19:72–6.
- 47 Agosta LJ. Patient satisfaction with nurse practitioner delivered primary health care services. Louisiana State University and Agricultural and Mechanical College.
- Unpublished, 2005. etd.lsu.edu/docs/available/etd- 07012005-
- 130406/unrestricted/Agosta\_dis.pdf 48 Ahlen GC, Mattsson B, Gunnarsson RK. Physician patient questionnaire to assess
- physician patient agreement at the consultation. Family Practice 2007;24:498–503. 49 Allan J, Schattner P, Stocks N, Ramsay E. Does patient satisfaction with general practice
- change over a decade? BMC Family Practice 2009;10:13.
- 50 Baker D, Mead N, Campbell S. Inequalities in morbidity and consulting behaviour for socially vulnerable groups. British Journal of General Practice 2002;52(475):124–30.
- 51 Baker R, Boulton M, Windridge K, Tarrant C, Bankart J, Freeman GK. Interpersonal continuity of care: a crosssectional survey of primary care patients' preferences and their experiences. British Journal of General Practice 2007;57(537):283–9.
- 52 Barry DT, Moore BA, Pantalon MV et al. Patient satisfaction with primary care officebased buprenorphine/ naloxone treatment. Journal of General Internal Medicine 2007;22:242–5.
- 53 Berendsen AJ, Groenier KH, de Jong GM et al. Assessment of patients' experiences across the interface between primary and secondary care: Consumer Quality Index continuum of care. Patient Education and Counseling 2009;77:123–7.
- 54 Agency for Healthcare Research and Quality, Rockville. CAHPS. American Indian Survey. 2009 March 4.

- 55 Department of Community and Family Medicine. Duke Health Profile. Duke University Medical Center, Durham, N.C. USA, 2007.
- 56 Department of Human Services. Victorian Population Health Survey. Victorian Government Department of Human Services, Melbourne, Victoria, 2007.
- 57 Esch BM. Patient satisfaction with primary care: an observational study comparing anthroposophic and conventional care. Health and Quality of Life Outcomes 2008;6:74. http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2570361/
- 58 Euroqol. EQ 5D [This is a sample questionnaire-it needs to be applied for]. EuroQol Group, Rotterdam, 2010.
- 59 Fleming NS, Herrin J, Roberts W, Couch C, Ballard DJ. Patient-centeredness and timeliness in a primary care network: baseline analysis and power assessment for detection of the effects of an electronic health record. Proceedings (Baylor University Medical Center) 2006; 19:314–19.
- 60 Frostholm L, Fink P, Oernboel E et al. The uncertain consultation and patient satisfaction: the impact of patients' illness perceptions and a randomized controlled trial on the training of physicians' communication skills. Psychosomatic Medicine 2005;67:897–905.
- 61 Gagnon M, Hebert R, Dube M, Dubois MF. Development and validation of the Health Care Satisfaction Questionnaire (HCSQ) in elders. Journal of Nursing Measurement 2006;14:190–204.
- 62 Garratt AM, Danielsen K, Forland O, Hunskaar S. The Patient Experiences Questionnaire for Out- of-Hours Care (PEQ-OHC): data quality, reliability, and validity. Scandinavian Journal of Primary Health Care 2010; 28(2):95–101.
- 63 Glasgow RE, Emont S, Miller DC. Assessing delivery of the five 'As' for patient-centered counseling. Health Promotion International 2006;21:245–55.
- 64 Grunfeld E, Fitzpatrick R, Mant D et al. Comparison of breast cancer patient satisfaction with follow-up in primary care versus specialist care: results from a randomized controlled trial. British Journal of General Practice 1999;49(446):705–10.
- 65 Hadjistavropoulos H, Biem H, Sharpe D, Bourgault- Fagnou M, Janzen J. Patient perceptions of hospital discharge: reliability and validity of a Patient Continuity of Care Questionnaire. International Journal for Quality in Health Care 2008;20:314–23.
- 66 Hathorne G, Richardson J, Day N. Using the Assessment of Quality of Life (AQoL) Version 1. 2010. http:// www.buseco.monash.edu.au/centres/che/pubs/tr12.pdf
- 67 Jiang L, Gan C, Kao B et al. Consumer satisfaction with public health care in China. Journal of Social Sciences 2009;5:223–35.
- 68 Kersnik J, Ropret T. An evaluation of patient satisfaction amongst family practice patients with diverse ethnic backgrounds. Swiss Medical Weekly 2002;132(9–10): 121–4.
- 69 Kinnersley P, Stott N, Peters T, Harvey I, Hackett P. A comparison of methods for measuring patient satisfaction with consultations in primary care. Family Practice 1996;13:41–51.
- 70 Chu-Weininger MY, Balkrishnan R. Consumer satisfaction with primary care provider choice and associated trust. BMC Health Services Research 2006;6:139. www. biomedcentral.com/1472–6963/6/139
- 71 Mahfouz AA, AI Sharif AI, EI Gama MN, Kisha AH. Primary health care services utilization and satisfaction among the elderly in Asir region, Saudi Arabia. East Mediterranean Health Journal 2004;10:365–71.
- 72 Marcinowicz L, Rybaczuk M, Grebowski R, Chlabicz S. A short questionnaire for measuring the quality of patient visits to family practices. International Journal for Quality in Health Care 2010;22:294–301.
- 73 National Primary Care Research and Development Centre. Out-of-Hours Patient Questionnaire. NPCRDC, Manchester, 2007.
- 74 NHS Department of Health. The GP Patient Survey Questionnaire. Department of Health: London, 2010. 75 Pyper C, Amery J, Watson M, Crook C. Access to electronic health records in primary care – a survey of patients' views. Medical Science Monitor 2004;10(11): SR17–22.
- 76 Safran DG, Kosinski M, Tarlov AR et al. The Primary Care Assessment Survey: tests of data quality and measurement performance. Medical Care 1998;36:728–39.

- 77 Salisbury C, Burgess A, Lattimer V et al. Developing a standard short questionnaire for the assessment of patient satisfaction with out-of-hours primary care. Family Practice 2005;22:560–9.
- 78 Statistics Canada. Canadian Community Health Survey 2009 Questionnaire. Statistics Canada: Ottawa, 2009.
- 79 Steine S, Finset A, Laerum E. A new, brief questionnaire (PEQ) developed in primary health care for measuring patients' experience of interaction, emotion and consultation outcome. Family Practice 2001;18:410–18.
- 80 Takemura Y, Liu J, Atsumi R, Tsuda T. Development of a questionnaire to evaluate patient satisfaction with medical encounters. Tohoku Journal of Experimental Medicine 2006;210:373–81.
- 81 Commonwealth Fund. International Health Policy Survey. Commonwealth Fund, New York, 2001.
- 82 Thom DH, Tirado MD, Woon TL, McBride MR. Development and evaluation of a cultural competency training curriculum. BMC Medical Education 2006;6:38.
- 83 Uiters E. Primary Health Care Use among Ethnic Minorities in the Netherlands: a comparative study. NIVEL, Utrecht, 2007. www.nivel.nl/sites/default/files/bestanden/Primary-health-care-use-among-ethnic-minorities-In the- Netherlands-a-comparative-study-2007.pdf
- 84 Van der Feltz-Cornelis CM. Patient–Doctor Relationship Questionnaire (PDRQ-9) in primary care: development and psychometric evaluation. General Hospital Psychiatry 2004;26:115–20.
- 85 van Uden CJ, Ament AJ, Hobma SO, Zwietering PJ, Crebolder HF. Patient satisfaction with out-of-hours primary care in the Netherlands. BMC Health Services Research 2005;5(1):6.
- 86 Van der Zee KI, Sanderman R. Het meten van de algemene gezondheidstoestand met de RAND-36 [Dutch version: Measuring general health status by SF-36]. Noordelijk Centrum voor Gezondheidsvraagstukken: Groningen, 2010.
- 87 Wensing M, van Lieshout J, Jung HP, Hermsen J, Rosemann T. The Patients Assessment Chronic Illness Care (PACIC) questionnaire in the Netherlands: a validation study in rural general practice. BMC Health Services Research 2008;8:182.
- 88 Williams GC, Ryan RM, Deci EL. Health Care, Self- Determination Theory Questionnaire. 2010. www.self determinationtheory.org/questionnaires/10-questionnaires/ 51 89 Yancy WS Jr, Macpherson DS, Hanusa BH et al. Patient satisfaction in resident and attending ambulatory care clinics. Journal of General Internal Medicine 2001;16: 755–62.
- 90 Carter M, Roland M, Bower P, Gask L, Greco M, Jenner D. Improving your Practice with Patient Surveys. NPCRDC: Manchester, 2005.
- 91 Kerssens JJ, Groenewegen PP, Sixma HJ et al. Comparison of patient evaluations of health care quality in relation to WHO measures of achievement in 12 European countries. Bulletin of the World Health Organization 2004;82(2):106–14.
- 92 Zebiene E, Svab I, Sapoka V et al. Agreement in patientphysician communication in primary care: a study from Central and Eastern Europe. Patient Education and Counseling 2008;73:246–50.

#### TABLES, BOXES, FIGURES AND APPENDIX

Table 1 Tap dimensions to measure primary health care<sup>6</sup>

#### Box 1 The QUALICOPC study

The QUALICOPC study is co-funded by the European Commission under the so-called 'Seventh Framework Programme', and is carried out by a consortium of six research institutes from Belgium, Germany, Italy, the Netherlands and Slovenia. The study is coordinated by NIVEL, the Netherlands Institute for Health Services Research. Data are being collected in 32 European countries (27 EU countries, Iceland, Norway, Turkey, Switzerland and Macedonia). Furthermore, research units from Australia, Canada and New Zealand have joined the study. Data collection focuses on three levels: the health care system, the GP practice and patients. Data on the health care system are derived from existing sources (e.g. the Primary Health Care Activity Monitor database). New information is being collected through surveys among GPs (seen as the main providers of primary care) their patients and fieldworkers visiting GP practices. Answers to the questionnaires provide insight into the professional behaviour of GPs and the experiences of patients. Furthermore, for comparison, data from a 1993 European study on the task profiles of GPs are available. In each country, the response target is 220 GPs and 2200 patients. The questionnaires will be translated in the national languages of the included countries via an official forward- and back-translation procedure and in some languages of large ethnic minority groups.<sup>1</sup> More details of the study design and the background of the QUALICOPC project have been published by Schäfer *et al.*<sup>1</sup>

Structure	Process	Outcome
1. Governance of the PC system	4. Access to PC services	8. Quality of PC
. Economic conditions of the PC system	5. Continuity of PC	9. Efficiency of PC
PC workforce development	6. Coordination of PC	10. Equity in health
	7. Comprehensiveness of PC services	

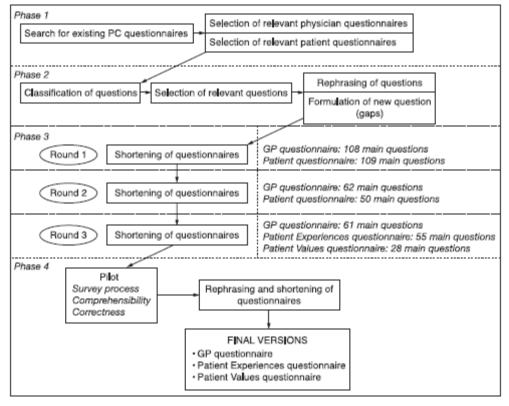


Figure 1 Phases in the development of the questionnaires.

#### Box 2 Retrieved GP questionnaires from phase 1

- The WHO Global Health Professional Survey<sup>43</sup>
- Primary Care Evaluation Tool<sup>25,27</sup>
- Primary Care Assessment Tool (provider and facility versions, expanded and short version)<sup>13</sup>
- National survey of GPs' views on continuity of care<sup>26</sup>
- Task profiles of GPs in Europe<sup>10</sup>
- Survey about patient care in departments of general practice<sup>44</sup>
- Eurocommunication GP questionnaire<sup>45</sup>
- International Health Policy survey of primary care physicians<sup>8</sup>
- Attitudes to family practice registration programmes questionnaire<sup>46</sup>
- GP snapshot survey<sup>28</sup>
- National survey of physicians on practice experience<sup>12</sup>
- National Ambulatory Medical Care Survey<sup>2</sup>
- The European Practice Assessment (EPA) instrument<sup>24</sup>

#### Box 3 Retrieved patient questionnaires from phase 1

- Patient Assessment of Communication during Telemedicine (PACT) questionnaire<sup>33</sup>
- European Health Interview Survey<sup>30</sup>
- Patient Expectations Questionnaire (PEQ)<sup>36</sup>
- Propensity to Seek Health Care Questionnaire<sup>40</sup>
- Expectancies list from Nijmegen<sup>41</sup>
- Consumer Quality Index GP care<sup>14</sup>
- CAHPS Adult Primary Care Question naire 1.0: Clinician and Group Survey<sup>34</sup>
- Nurse Practitioner Satisfaction Survey (NPSS)<sup>4</sup>
- Physician–Patient Questionnaire (PPQ)<sup>4</sup>
- Patient Participation Program Survey<sup>49</sup>
- A modified version of the General Practitioner Assessment Survey (GPAS)<sup>50</sup>
- Survey of primary care patients' preferences and their experiences with interpersonal continuity of care<sup>51</sup>
- Patient Satisfaction Survey with Primary Care Office-Based Buprenorphine/Naloxone Treatment Survey<sup>52</sup>
- Consumer Quality Index Continuum of Care<sup>53</sup>
- CAHPS American Indian Survey<sup>54</sup>
- Duke Health Profile (the DUKE)<sup>55</sup>
- Victorian Population Health Survey<sup>56</sup>
- Patient Satisfaction with Primary Care Survey<sup>57</sup>
- EuroQol EQ-5D Health Questionnaire<sup>58</sup>
- HTPN Patient Satisfaction Survey<sup>59</sup>
- Patient Satisfaction Consultation Questionnaire (PSCQ-7)<sup>60</sup>
- Health Care Satisfaction Questionnaire (HCSQ)<sup>61</sup>
- Patient Experiences Questionnaire for Out-of-Hours Care (PEQ-OHC)<sup>62</sup>
- The '5As' model (assess, advise, agree, assist, arrange)<sup>63</sup>
- Breast cancer patient satisfaction with follow-up in primary care versus specialist care survey<sup>64</sup>
- Patient Continuity of Care Questionnaire (PCCQ)<sup>65</sup>
- Assessment of Quality of Life (AQoL) instrument<sup>66</sup>
- The patient enablement instrument<sup>37</sup>
- Consumer Satisfaction with Public Health Care Survey<sup>67</sup>
- Patient satisfaction survey amongst family practice patients with diverse ethnic backgrounds<sup>68</sup>
- Medical Interview Satisfaction Scale (MISS)<sup>69</sup>
- Consultation Satisfaction Questionnaire (CSQ)<sup>69</sup>
- Primary Care Evaluation Tool (PCET)<sup>2</sup>
- Patient satisfaction with visits to family physician<sup>32</sup>
- Consumer satisfaction with primary care provider choice and associated trust<sup>70</sup>
- Patient satisfaction survey of primary health care (PHC) services among elderly people (≥60 years)<sup>71</sup>
- Quality of Visit to Family Physician Questionnaire<sup>72</sup>
- Client Perceptions of Coordination Questionnaire (CPCQ)<sup>38</sup>
- Out-of-Hours Patient Questionnaire<sup>73</sup>
- General Practice Assessment Questionnaire (GPAQ)<sup>35</sup>
- National Survey of NHS Patients: General Practice<sup>39</sup>
- GP Patient Survey<sup>74</sup>
- Survey of patients' views of access to electronic health records in primary care<sup>75</sup>
- Primary Care Assessment Survey<sup>76</sup>
- Short Questionnaire for Out-of-Hours Care<sup>77</sup>
- Adult Primary Care Assessment Tool (short and expanded versions)<sup>21</sup>
- Canadian Community Health Survey (CCHS)<sup>78</sup>
- Patient Experience Questionnaire (PEQ);79
- Patient Satisfaction with Medical Encounters Questionnaire<sup>80</sup>
- International Health Policy Survey (Commonwealth Fund, different versions)<sup>16,18,20,81</sup>
- Health Care Quality Survey (Commonwealth Fund, different versions)<sup>17,15</sup>

#### Box 3 Continued

- Patient-Reported Physician Cultural Competence (PRPCC) score<sup>82</sup>
- Ambulatory Care Experiences Survey (ACES)<sup>31</sup>
- QUOTE for migrants<sup>83</sup>
- Patient–Doctor Relationship Questionnaire (PDRQ-9)<sup>84</sup>
- Patient Satisfaction with Out-of-Hours Primary Care Survey<sup>85</sup>
- SF-36 (and SF-12)<sup>86</sup>
- Patients Assessment Chronic Illness Care (PACIC) Questionnaire<sup>87</sup>
- Health-Care, Self-Determination Theory Packet<sup>88</sup>
- Patients Satisfaction in Resident and Attending Ambulatory Care Clinics Questionnaire<sup>89</sup>
- EUROPEP<sup>15</sup>
- Improving Practice Questionnaire (IPQ)<sup>90</sup>
- Eurocommunication Patient Questionnaire<sup>91</sup>
- QUOTE<sup>92</sup>

Dimension	Number of questions in GP questionnaires	Number of questions in patient questionnaires
Governance	60	_
Economic conditions	92	_
Workforce development	67	—
Accessibility	85	548
Continuity	227	121
Coordination	178	137
Comprehensiveness and quality	273	856
Equity	59	45
Efficiency	115	_
Patient autonomy	_	56
Background	172	570
Other	48	234

Table 2 Classification of questions according to the dimensions to measure primary care

#### Question Response categories Source(s) Theme(s) 1. Are you male or female? □ Male New BACK Female 2. What is your year of birth? Please fill in: Year of birth: 19 New BACK 3. Were you born in this country? □ Yes New BACK No 4. How would you characterise the place □ Big (inner)city Ref. 10, Q1.7 PRACC where you are currently practising? Suburbs to make (Small) town comparison Mixed urban-rural possible Rural 5. What is the (estimated) size of your practice population? (In a joint practice: estimate your share of the population). Question and PRACC If you do not have a formal list, please Number of patients: estimate the number of people that response normally rely on you for primary medical based on Ref. 10, Q1.12 care. 6. To what extent do you think your Below Average Above Don't Question and PRACC practice population compares to the average average average know response national level with respect to the following based on Ref. categories: 10, Q1.18 but 1. Elderly people (over 70 years) updated 2. Socially disadvantaged people (other groups 3, Ethnic minority people of people) 7. To what extent do you think that the Below Average Above Don't PRACC New patient turnover in your practice compares average average know to other practices in this country? 8. How many hours per week do you work \_\_\_\_ hours per week Response EFF as a GP (excluding additional jobs and oncategories call or out-of-hours services)? based on Ref. 10, Q1.4 9. How many of these hours do you spend Based on Ref. hours per week EFF on direct patient care (consultations, home 25: combinvisits, telephone consultations)? ation of a set of O11-13 10. How many patient contacts do you have Ref. 10, EFF per day on a normal working <u>day</u>? combination per day 1. Face-to-face in your office (number) per day of a set 2. By telephone Q1.13-1.14+ 3. By email update (email) 11. How long does a regular patient minutes Based on Ref. EFF consultation in your office usually take? 10, O1.16 but changed (not only apt syst)

#### Appendix A: QUALICOPC questionnaire for general practitioners

Measu	ures of qu	ality, co	osts and equity in h	ealth care instru	iments 15
<ol> <li>In a normal working <u>week</u>, how many patients do you see:</li> <li>At home visits</li> <li>In hospital</li> <li>In homes for the elderly</li> <li>In other institutions or settings</li> </ol>	per	week week week week		New	EFF
<ol> <li>In the past 3 working months (excluding holidays etc.), how often and for how long did you have on-call duties during evenings, nights and weekends:</li> <li>During evening(s)</li> <li>During night(s)</li> <li>During weekend days</li> </ol>	tim tim	es; in to	talhours	Ref. 26	EFF
<ol> <li>Beside your work as a GP in this practice, do you have any other <u>paid</u> professional activities? (multiple answers possible)</li> </ol>	paying p ☐ Yes, i nursing ☐ Yes, a	atients in a resi home, j as a con in teach in	sician for privately dential setting (e.g. prison) ipany doctor ing/medical	New	WORK
15. As a GP, are you self-employed or in salaried employment?	centre or ☐ Salari GP ☐ Self-e with hea authorit	r author ied emp mploye lth serv	loyment with othe d with contract(s) ice, insurance or		ECON
16. For each of the following components please estimate whether they contribute to your income as a GP, and if so, up to what percentage?	<ul> <li>Self-employed without contract</li> <li>Salary%</li> <li>Capitation payments (a fixed sum per patient for a certain period of time)%</li> <li>Fee for services from third party payer%</li> <li>Out-of-pocket payments from patients%</li> <li>Performance payments (for instance related to targets)%</li> <li>Other sources%</li> </ul>			Ref. 25, Q36 (percentages are new)	ECON
<ol> <li>Can you receive an extra financial incentive or bonus for:</li> <li>Management of patients with diabetes</li> <li>Management of patients with hypertension</li> <li>Achievement of targets for screening or provide targets</li> </ol>	Yes	No	Don't know	Ref. 8, Q26; Ref. 11, exhibit 6; rephrased and diff topics	ECON; EQ
prevention 4. Referral rates below a certain level 5. Having disadvantaged patients in your practice					
5. Working in a remote area					

18. Do you work alone or in shared accommodation with one or more GPs and/or medical specialists? Please also fill in their number of Full Time Equivalents (FTEs). (For instance: one doctor working 5 days a week and 1 other doctor working 2.5 days a week makes 1.5 FTEs).	GPs in a accomm With medical specialis shared	n other shared nodation n	-	ng for E ng for	FTE ad	lays a lot work	wo	RK
<ol> <li>19. Which of the following disciplin working in your practice/centre?</li> <li>1. Receptionist/medical secretary</li> <li>2. Practice nurse</li> <li>3. Community/home care nurse</li> <li>4. Psychiatric nurse</li> <li>5. Nurse practitioner (function betw physician and nurse)</li> <li>6. Assistant for laboratory work</li> <li>7. Manager of the centre or practice physician)</li> <li>8. Midwife</li> <li>9. Physiotherapist</li> <li>10. Dentist</li> <li>11. Pharmacist</li> <li>12. Social worker</li> </ol>	veen	Yes				Ref. 10, Q 1.19 & Re Q18 (+ sc extra discipline based on expert opinion)	f. 25, ome	WORK; COOR
<ol> <li>20. Do you use clinical guidelines for treatment of the following?</li> <li>1.Chronic heart failure</li> <li>2. Asthma</li> <li>3. COPD</li> <li>4. Diabetes</li> </ol>	or the	Guidelin Yes □ □ □	No D D D	not availal	ble	Ref. 8, Q7 with sligh adjustmer	t	CONT; QUAL
<ol> <li>In the past 12 months, have you involved in a disease management programme for patient with the foll chronic conditions? (Such programm multidisciplinary approaches across practices, often based on protocols).</li> <li>Chronic heart failure</li> <li>Asthma</li> <li>COPD</li> <li>Diabetes</li> </ol>	owing mes are	Yes		No 		New		CONT & COOR; QUAL
<ul><li>22. In the past 12 months, has the for occurred in your practice/centre?</li><li>1. Feedback on your prescriptions or referrals by health authority or insur</li><li>2. Feedback from colleague GPs (per review or practice visitation)?</li><li>3. Investigation into the satisfaction patients?</li></ul>	r rer? er	Yes		No □ □		Ref. 25, Q	1	CONT; QUAL
23. In case of referral, who usually d about where the patient is referred to		□ I do □ The pa □ It is a:				New		CONT; COOR

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Meas	ures of qu	iality, costs	and eq	quity in h	ealth care instru	ments 17
<ul> <li>24. In case of referral, to what extent do you take into account the following considerations:</li> <li>1. The patient's preference where to go</li> <li>2. The travel distance for the patient</li> <li>3. Your previous experiences with the medical specialist</li> <li>4. Comparative performance information on medical specialists</li> <li>5. Waiting time for the patient</li> <li>6. Costs for the patient</li> </ul>	Always	Sometin		Never	New	CONT; COOR
25. Please tick the equipment used in your practice by yourself or your staff: Laboratory Hemoglobinometer Any blood glucose test set Any cholesterol meter Blood cell counter Imaging Ophthalmoscope Proctoscope Otoscope Gastroscope Sigmoidoscope X-ray Ultrasound for abdomen/fetus Microscope	Eye t     Peak     Spire     Elect     Bloo     Infus     Doct     and hon     Other     Vrin     Coag     Set fe     Sutu:     Defit     Disp     Disp     Refri	ometer cle ergomet onometer flow/ PEF ometer rocardiogra d pressure : ion set or's bag for ne visits e catheter ulometer or minor su re set	meter aph meter r emerg argery oges es medicis	Ref. 10, Q1.22 (some small adjustments)	COMPR	
26. How do you have access to laborator <del>y</del> facilities?	□ Easy centre	in my prac access outs ficient acce	ide my	Ref. 10, Q1.23, changed answering categories	COMPR	
27. How do you have access to X-ray facilities?	Within my practice/centre Easy access outside my practice/ centre				Ref. 10, Q1.23, changed answering categories	COMPR
<ul> <li>28. What is the distance by road from your (main) practice building to:</li> <li>1. The nearest GP practice (not in your group or centre)</li> <li>2. The nearest consultant/outpatient clinic (independent or part of hospital)</li> <li>3. The nearest general or university hospital</li> </ul>	In the same building	Less than 10 km	11–20 km	than	Ref. 10, Q1.0, changed answering categories	ACCS
29. How many hours on an average working day is your practice/centre open for patient care (lunch breaks excluded)?	hours per working day New ACCS					

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<ol> <li>Is it possible for your patients to visit your practice/centre:</li> <li>After 18.00h (at least once per week)</li> <li>On a weekend day (at least once per month)</li> </ol>	□ Yes □ No □ Yes □ No	Ref. 27, Q20, slightly different wording	ACCS
<ol> <li>During evenings and nights at <u>weekdays</u>, how do your patients have access to (non- emergency) medical services?</li> </ol>	☐ Not applicable (I am always available for my patients) ☐ I am available on rota basis with a group of GPs ☐ I am not available, but other GPs are available (on a rota basis) ☐ Other physicians (not GPs) provide out-of hours care ☐ Other arrangements	New, but answering categories derived from Ref. 10, Q1.21	ACCS
32. On Saturdays and Sundays, how do your patients have access to (non- emergency) medical services?	<ul> <li>□ Not applicable (I am always available for my patients)</li> <li>□ I am available on rota basis with a group of GPs</li> <li>□ I am not available, but other GPs are available (on a rota basis)</li> <li>□ Other physicians (not GPs) provide out-of hours care</li> <li>□ Other arrangements</li> </ul>	New, but answering categories derived from Ref. 10, Q1.21	ACCS
33. What percentage of your patient consultations is by appointment?	About%	Ref. 27, Q21	ACCS
34. Do you offer a walk-in hour?	🗆 Yes 🗔 No	New	ACCS
<ol> <li>35. In the past 12 months, have you ever done the following to reduce financial obstacles to disadvantaged patients:</li> <li>1. Provide free samples of medication</li> <li>2. Prescribe the cheapest equivalent medicine</li> <li>3. Not charge the patient (e.g. for co-payments)</li> </ol>	□ Yes □ No □ Yes □ No □ Yes □ No	New	EQ; ACCS; ECON
36. In the past 12 months, how often have you noticed that patients delayed their visits for financial reasons?	□ Frequently □ Occasionally □ Never	New	EQ; ACCS; ECON
37. If new patients enter your practice, do you receive their medical records from their previous doctor?	Yes, always or usually Only occasionally Rarely or never	New	COOR; CONT
38. Which restrictions do you apply to accepting new patients? (More than one answer possible)	<ul> <li>□ No restrictions (everyone is accepted)</li> <li>□ No new patients are taken above a maximum number</li> <li>□ No new patients are taken above a certain age</li> <li>□ No new patients are taken outside my geographical working area</li> <li>□ I use a wait period for new patients</li> <li>□ Acceptance depends on patients' medical history</li> <li>□ Acceptance depends on patients' insurance status</li> </ul>	Question based on Ref. 28, Q1 Different wording and answering categories	EQ (AC)

Meas	ures of quality, costs and equity in h	ealth care instru	men <b>ts</b> 19	
39. Do you provide health care to people, when you are not remunerated for this (for instance uninsured, illegal immigrants)?	<ul> <li>Yes, (almost) always</li> <li>Yes, but only in urgent cases</li> <li>Yes, sometimes</li> <li>No</li> <li>No such people show up in my practice</li> <li>Not applicable (in this country such care is remunerated)</li> </ul>	New but topic based on Ref. 13, Q other1	EQ (AC)	
40. Do your medical files normally include the following information: (Tick all that apply)	Living situation     Ethnicity     Patients' family history (e.g.     depression, cancer)     Patients' weight and height     Smoking     Blood pressure     Reason for encounter     Diagnosis     Prescribed medications     Test results	New	CONT	
41. How do you keep patient medical records? (Tick all that apply)	I keep records except for minor or trivial complaints I only keep records of regularly attending patients I keep records, unless it is too busy I keep records routinely of all patient contacts Don't know	Ref. 27, Q28, wording slightly adjusted	CONT	
42. In the past 2 years, have you used your medical record system to list a selection of patients on the basis of age, diagnosis or risk? (Tick all that apply)	□ No □ Yes, by age (e.g. those above age 50) □ Yes, by diagnosis or health risk (e.g. diabetes or hypertension) □ Yes, by medications they take (e.g., patients on multiple medications) □ Yes, to send reminders for prevention or follow-up	Based on Ref. 12, Q18, but with different answering categories and different wording	CONT	
43. For which of the following purposes do you use a computer in your practice? (Tick all that apply)	<ul> <li>Not applicable (I don't use a computer)</li> <li>Making appointments</li> <li>Issuing invoices</li> <li>Issuing drug prescriptions</li> <li>Keeping records of consultations</li> <li>Sending referral letters to medical specialists</li> <li>Storing diagnostic test results</li> <li>Searching medical information on the internet</li> <li>Sending prescriptions to the pharmacy</li> </ul>	Ref. 27, Q29, wording slightly adjusted	CONT; COOR	

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<ul> <li>44. How often do you meet face-to-face with the following professionals (either professionally or socially):</li> <li>1. Other GP</li> <li>2. Practice nurse</li> <li>3. Ambulatory medical specialist</li> <li>4. Hospital medical specialist</li> <li>5. Pharmacist</li> <li>6. Home care nurse</li> <li>7. Midwife</li> <li>8. Physiotherapist</li> <li>9. Social worker</li> <li>10. Dietician</li> </ul>	Seldom or never	Every 1–3 months 0 0 0 0 0 0 0 0 0 0 0 0 0	More than once a month	Combination of Ref. 10, Q1.20 and Ref. 27, Q41, extra disciplines added	COOR
<ul> <li>45. How often do you ask advice (e.g. by telephone) from the following medical specialists?</li> <li>1. Paediatrician</li> <li>2. Internist</li> <li>3. Gynaecologist</li> <li>4. Surgeon</li> <li>5. Neurologist</li> <li>6. Dermatologist</li> <li>7. Geriatrician</li> <li>8. Psychiatrist/ mental health professional</li> <li>9. Radiologist</li> </ul>	Seldom or never	Every 1–3 month: 0 0 0 0 0 0 0 0 0 0 0 0 0	More than once a month s 	Ref. 27, Q42, extra disciplines added	COOR
<ul> <li>46. Does your practice nurse or assistant independently provide:</li> <li>1. Immunisation</li> <li>2. Health promotion (e.g. giving lifestyle or smoking cessation advice)</li> <li>3. Routine checks of chronically ill patients (e.g. diabetes)</li> <li>4. Minor procedures (e.g. ear syringing, wound treatment)</li> </ul>	Not ap practice)  Yes  Yes  Yes  Yes  Yes  Yes	No No No	(No nu <b>rse</b> in my	New	COOR
47. To what extent do you use referral letters (including details on provisional diagnosis and possible test results) when you refer patients to a medical specialist? I use letters:	🗆 for mo	st patien ninority	that I refer nts that I refer of patients that I er	Ref. 27, Q31, slightly different wording	COOR
48. To what extent do medical specialists inform you after they have finished the treatment or diagnostics of your patients?	□ (Almo □ Usuall □ Occasi □ Seldon	y onally		Ref. 27, Q32, wording changed	COOR
49. After a patient has been discharged, how long does it usually take to receive a (summary) discharge report from the hospital most frequented by your patients?	□ 5−14 d □ 15−30 □ More t	ays days han 30 ( or neve	days er receive a	Ref. 27, Q33, wording slightly changed	CONT; COOR

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50. In case of the following health problems, to what extent will patients in your practice					Ref. 10, Q3 First contact.	COMPR	
population (people who normally apply to you for primary medical care) contact you					several items removed		
as the first health care provider?							
(This is only about the first contact, not	(Almos	t) Usua	llyOcca-	Seldom/			
about further diagnosis or treatment).	always		sionally	Never			
1. Child with severe cough							
<ol><li>Child aged 8 with hearing problem</li></ol>							
<ol><li>Woman aged 18 asking for oral</li></ol>							
contraception	_	_	_	_			
<ol> <li>Man aged 24 with stomach pain</li> </ol>							
5. Man aged 45 with chest pain							
<ol><li>Woman aged 50 with a lump in her</li></ol>							
breast	_	_	_	-			
7. Woman aged 60 with deteriorating vision							
<ol> <li>Woman aged 60 with polyuria</li> <li>Woman aged 60 with contact of the second secon</li></ol>							
<ol> <li>Woman aged 60 with acute symptoms of application acute</li> </ol>							
paralysis/paresis							
0. Man aged 70 with joint pain							
<ol> <li>Woman aged 75 with moderate memory problems</li> </ol>							
<ol> <li>Man aged 35 with sprained ankle</li> <li>Man aged 28 with a first convulsion</li> </ol>	H	1000		_			
<ol> <li>Man aged 28 with a first convulsion</li> <li>Anxious man aged 45</li> </ol>	H						
<ol> <li>Anxious man aged 45</li> <li>Physically abused child aged 13</li> </ol>			H				
6. Couple with relationship problems	H		H				
7. Woman aged 50 with psychosocial		Н					
problems							
<ol> <li>Man aged 32 with sexual problems</li> <li>Man aged 52 with alcohol addiction</li> </ol>	H						
roblems							
<ol><li>To what extent are you involved in the</li></ol>					Ref. 10, Q5	COMPR	
reatment and follow-up of patients in your					Disease		
ractice population with the following					management,		
liagnoses ('practice population' means:					several items		
eople who normally apply to you for	(Almost	) Usual		Seldom/	removed		
rimary medical care)?	always	_	sionally	Never			
. Chronic bronchitis/ COPD			8				
, Hordeolum (Stye)							
Peptic ulcer							
Herniated disc lesion							
Congestive heart failure							
Preumonia Peritangilar abases							
Peritonsilar abscess							
Parkinson's disease							
. Uncomplicated diabetes (type II)							
0. Rheumatoid arthritis							
1. Depression							
<ol><li>Myocardial infarction</li></ol>							

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52. To what extent are the following activities carried out in your practice population by you (or your staff) and not by a medical specialist? (Practice population means: people normally applying to you for primary medical care). For example, if					Ref. 10, Q2 application of medical techniques, several items removed	COMPR
fundoscopy is (almost) always done by you, tick that b <b>ox</b> . 1. Wedge resection of ingrown toenail 2. Removal of sebaceous cyst from the hairy scalp 3. Wound suturing	always	) Usual	lyOcca- sionally □ □	Seldom/ Never		
<ol> <li>Would straining</li> <li>Excision of warts</li> <li>Insertion of IUD</li> <li>Fundoscopy</li> <li>Joint injection</li> <li>Strapping an ankle</li> <li>Cryotherapy (warts)</li> <li>Setting up an intravenous infusion</li> </ol>						
53. When do you, or your staff, measure <u>blood pressure</u> ? (more than one answer possible)	□ In connection with relevant clinical <u>conditions</u> □ On <u>request</u> □ Routinely in office contacts with adults ( <u>regardless</u> of the reason for visit) □ In adults <u>invited</u> for this purpose				Ref. 10, Q4.1, slightly changed	COMPR
54. When do you, or your staff, measure <u>blood cholesterol</u> level? (more than one answer possible)				Ref. 10, Q4.2, slightly changed	COMPR	
55. To what extent are you involved in health education as regards the following topics: (More than one answer possible)	Not invol	wit pat	connection h normal tient ntacts	In group sessions or special pro- grammes	Ref. 10, Q4.5, item 4 added and wording slightly changed	COMPR
1. Smoking 2. Diet 3. Problematic use of alcohol 4. Physical exercise						
<ol> <li>Are you or your practice staff involved in the following activities?</li> <li>Routine antenatal care</li> <li>Immunisation of children (as part of a programme)</li> </ol>	Involved		Not inv	olved	Ref. 10, Q4.6, activities removed and 2 added	COMPR
3. Paediatric surveillance of children under 4 years						
<ol> <li>Influenza vaccination (as part of a programme)</li> </ol>						
5. Palliative care	$\Box$	$\Box$				

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<ul> <li>57. During the past 12 months, ha offered (a) special session(s) or cli the following groups?</li> <li>1. Diabetic patients</li> <li>2. Hypertensive patients</li> <li>3. Pregnant women</li> <li>4. Elderly</li> </ul>		Yes	No			Ref. 27, Q23, wording and answer categories changed	COMPR
58. If you were confronted through your patient contacts with the following occurrences, would you report this (for instance to an authority)? 1. Repeated accidents in an industrial setting	Yes	Probably Yes □	Probabl not	y No □	Don't know □	New, community responsibility	COMPR
<ol> <li>Frequent respiratory problems in patients living near a certain industry</li> <li>Repeated cases of food poisoning among people living in a certain district</li> </ol>							
<ol> <li>59. In the past 12 months, about h weeks altogether have you been aw the practice due to:</li> <li>1. Attending conferences or other educational activities</li> <li>2.Research activities</li> <li>3. Vacations</li> <li>4. Illness</li> </ol>	n we				Ref. 29, Q13b, different wording, categories	EFF	
60. To what extent do you agree w following statements? 1. I feel that some parts of my work		Agree	y Agree □	Disagree	Strongly disagree □	satisfaction,	WORK
really make sense 2. My work still interests me as mu ever did		_				slightly changed	
<ol> <li>My work is overloaded with unradministrative detail</li> <li>I have too much stress in my cut</li> <li>Being a GP is a well respected joi</li> <li>In my work there is a good balar between effort and reward</li> </ol>	rrent joi b						

BACK, background; PRACC, practice characteristics; ECON, economic conditions; WORK, workforce; ACCS, accessibility; CONT, continuity; COOR, coordination; COMP, comprehensiveness; EFF, efficiency; EQ (AC) & (TR). equity in access and treatment.

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# Appendix B : QUALICOPC questionnaires for patients (Experiences)

Question	Respons	e categories	Source(s)	Theme(s)
<ol> <li>How would you describe your own health in general?</li> </ol>	□ Good □ Fair	□ Very good □ Good □ Fair □ Poor		BACK
2. Do you have a longstanding disease or condition such as high blood pressure, diabetes, depression, asthma or another longstanding condition?	🗆 Yes [	] No	New	BACK
3. Do you have your own doctor (for instance a GP) whom you normally consult first with a health problem?	☐ Yes, b practice ☐ Yes, b somewh	he doctor I just visited out another doctor in this or centre out another doctor from ere else do not have my own	New, but topic derived from Ref. 16, Q507	BACK
4. In the last 6 months, how often have you visited or consulted a GP (this GP or another one)?	past 6 m Once 2 to 4 5 tim	<ul> <li>□ This was the first time in the past 6 months</li> <li>□ Once before this visit</li> <li>□ 2 to 4 times before this</li> <li>□ 5 times or more before this</li> <li>□ Don't know</li> </ul>		BACK
5. What was the main reason for your visit to this GP today? (More than one answer possible)	feel well For a To ge To ge To ge	Because you were ill or didn't feel well     For a medical check up     To get a repeat prescription     To get a referral     To get a medical certificate     For a second opinion		BACK
<ol> <li>Think about the consultation that you just finished. Do you agree with the following:</li> </ol>	Yes	No	Ref. 27, Q22	CONT
6.1. The doctor had my medical records at hand				
6.2. The doctor was polite 6.3. The doctor listened carefully to me			New Ref. 31, Q10; Ref. 15, Q5(topic)	QUAL QUAL
6.4. The doctor hardly looked at me when we talked			Ref. 33, Q3 (topic)	QUAL
6.5. The doctor asked questions about my health problem			New	QUAL
6.6. I couldn't really understand what the doctor was trying to explain			Ref. 34, Q14; Ref. 17, Q14; Ref. 31, Q9 (topic); Ref. 14, Q30; Ref. 27, Q22; Ref. 21, QD3 (topic)	QUAL

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6.7. The doctor took sufficient time				Ref. 14, Q42; Ref. 15, Q1;	ACCS
6.8. The doctor involved me in making decisions about treatment				Ref. 14, Q32 Ref. 15, Q4; Ref. 35, Q10d ;	AUTN
6.9. I would recommend this doctor to a friend or relative				Ref. 14,Q66 Ref. 21, QK2	QUAL
6.10. The doctor asked about possible other problems besides the one I just came for				New	QUAL
<ol> <li>If you were to need an interpreter to help you speak with a doctor in this practice, is such a service available?</li> </ol>	□ Yes, i □ Yes, i	t is alwa t is usua t is insu	an interpreter nys available illy available fficiently or not	Ref. 17, Q57	EQ (AC)
<ol> <li>Think about the doctor you visited today. Do you agree with the following:</li> <li>I. He/she knows important information about my medical background</li> </ol>	Yes	No	Don't know □	Ref. 31, Q12; Ref. 34, Q18	CONT
8.2. He/ she knows about my living situation				Ref. 27, Q22	CONT
8.3. This doctor doesn't just deal with medical problems but can also help with personal problems and worries				Ref. 15, Q2 ; Ref. 36, ; Ref. 14, Q25	QUAL
8.4. After this visit, I feel I can cope better with my health problem/ illness than before				Ref. 37, (topic)	QUAL
D. In the past 12 months, has a GP from this practice talked to you about how to stay healthy? (For instance about diet, alcohol or smoking)	No	know		Ref. 14;21, QH1 Ref. 14, Q40	COMPR
10. In past 2 years, has a GP from this practice ever asked you about all the medications you take (also those prescribed by other doctors)?	□ Yes □ No □ Don't	know		Ref. 18, Q625	CONT
<ol> <li>Think about the practice that you risited today. Do you agree with the</li> </ol>					
ollowing:	Yes	No	Don't know		
1.1. The opening hours are too restricted				Ref. 27, Q20	ACCS
1.2. If I need a home visit I can get one				Ref. 27, Q22	ACCS
1.3. The practice is too far away from here I am living or working				Ref. 33, Q33	ACCS
1.4. When I called this practice, I had to vait too long to speak to someone				Ref. 14, Q5	ACCS
1.5. I know how to get evening, night and veekend services				Ref. 27, Q20	ACCS
11.6. People were polite and helpful at the eception desk				Ref. 34, Q24	QUAL
12. How long does it usually take you to ravel from your home to this practice?	□ Less th □ 20-40 □ 40-60 □ More □ Dop't	minute minute than 1 ł	5	Ref. 27, Q19	ACCS

Don't know

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Other reason

	Me	asu	res of r	juality, c	osts ar	nd e	equity in h	ealth care instru	men <b>ts</b> 2
23. How many times in the past 12 months, have you consulted a medical specialist for yourself?			None Once or twice 3 to 5 times 6 to 10 times More than 10 times					New	BACK
24. Do you agree with the followin statements:	ng		Yes	No	Don't know		Not		
24.1. If I visit another GP besides : GP, he/she has the necessary infor about me							applicable	Ref. 27, Q25 rephrased	COOR/ CONT
24.2. When I am referred, my GP the medical specialist about my ill		\$						Ref. 27, Q25 rephrased	COOR
24.3. When I am referred, my GP whom I should go		to						New	AUTN
24.4. After treatment by a medical my GP knows the results	speciali	ist,						Ref. 27, Q25 rephrased	COOR/ CONT
24.5. It is difficult to get a referral medical specialist from my GP	to a							New	COOR/ ACCS
25. In the last 12 months, how ofte you visit a hospital emergency dep for yourself?		t	□ 1 ti □ 2 or	ver $\rightarrow$ Go me 3 times more ti		esti	on 27	Ref. 18, Q750 Topic	BACK
			<ul> <li>☐ I had something GPs do not treat</li> <li>☐ There was no GP available</li> <li>☐ For financial reasons</li> <li>☐ At the emergency department, I expected a shorter waiting time</li> <li>☐ The emergency department provides better care</li> <li>☐ The emergency department is more convenient to reach</li> <li>☐ Other reason(s)</li> </ul>					ACCS	
27. In the past 12 months, have yo examined or treated by a nurse at y practice?		°'s	□ Yes □ No □ Dor	't know				Ref. 39, QD1 rephrased	COOR
<ol> <li>Would most people visit a GP for the following?</li> <li>Cut finger that needs to be wind of</li> </ol>	Yes	Pro Yes □	bably	Probabl not	ly No		Don't know □	Ref. 21, Reprashed, Different items	COMPR
stitched 2. Removal of a wart 3. Routine health checks 4. Deteriorated vision 5. Help to quit smoking 6. A child with a severe cough 7. Stomach pain 8. Blood in the stool 9. Sprained ankle 10. Anxiety 11. Domestic violence 12. Sexual problems 13. Relationship problems 14. Advice for choosing the best hospital or specialist for a certain treatment									

29. How important would it be for you to see a doctor if you had: 1.Weight loss of more than 2 kilograms in a month when not	Extremely Importan			mewhat portant		Ref. 40,	AHOSP
dieting 2. Shortness of breath with light exercise or light work							
<ol> <li>Chest pain when exercising</li> <li>Loss of consciousness, fainting</li> </ol>							
or passing out 5. Headache for more than one day							
<ol> <li>Abdominal pain for more than one day</li> </ol>							
<ol> <li>Severe worries for more than a month</li> </ol>							
30. Do you expect to benefit from visit for:	a GP	Yes	No	Don't	know	Ref. 41	AHOSP
<ol> <li>Visit for:</li> <li>Stomach problems</li> <li>Shoulder and neck pain</li> <li>Feeling nervous</li> <li>Diarrhoea</li> <li>Sore throat</li> <li>Headache</li> <li>Feeling tired</li> <li>Flu</li> <li>Feeling nauseous</li> </ol>							
<ol> <li>Do you agree with the followin statements:</li> <li>In general, doctors can be trustee</li> <li>In general, people can be trusted</li> </ol>	d		Agree	Disagro	ee Strongly disagree	New	BACK
Finally we would like to ask you son questions about your personal backg							
32. Are you male or female?		🗆 Male 🗆	] Fem	ale		New	BACK
33. What is your year of birth? Plea	se fill in:	Year of bis	rth: 19			New	BACK
34. Where were you born?		☐ In this ☐ In anot ☐ In a Eu the EU ☐ North . New Zeala ☐ In anot	her E ropea Ameri nd	Ú counti n counti ca, Aust	ry outside	New	BACK
35. Where was your mother born?		□ In this □ In anot □ In a Eu the EU □ North A New Zeala □ In anot	her El ropea Ameri nd	U counti n counti ca, Austi	y outside	New	BACK
36. Are there other adults in your household (including children olde 18)?		□ Yes □ No				New	BACK

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37. Are there any children (under 18) in your household?	□ Yes □ No	New	BACK
<ol> <li>How would you describe your current occupation or employment status? (More than one answer possible)</li> </ol>	Employed (including civil service)     Self employed or family business     Student     Looking for a job (unemployed)     Unable to work due to illness or disability     Retired     Mainly homemaker (including looking after children etc)	New	BACK
39. What is the highest level of education that you achieved?	<ul> <li>□ No qualifications / Pre-primary education (incl) or primary education (incl) or lower secondary education (incl)</li> <li>□ Upper secondary education (incl)</li> <li>□ Post-secondary, non-tertiary education (incl) or higher</li> </ul>	Ref. 42	BACK
40. How well do you speak an official language of this country [fill in language(s)]?	Fluently/native speaker level     Sufficiently     Moderately     Poorly     Not at all	New	BACK
41. Compared to the average in this country, would you say your household's income is:	☐ Below average ☐ Around average ☐ Above average	Ref. 20, Q140 rephrased and less categories	BACK

BACK, background; ACCS,a ccessibility; CONT, continuity; COOR, coordination; COMP, comprehensiveness; QUAL, quality; EQ (AC) & (TR), equity imaccess & treatment; AUTN, patient autonomy; AHOSP, avoidable hospitalisation.

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#### Appendix C : Patient Values Questionnaire

Question		Response ca	ategories		Source(s)	Theme(s)
<ol> <li>How would you describe your of health in general?</li> </ol>	□ Very goo □ Good □ Fair □ Poor	od	Ref. 30, wording changed	BACK		
2. Do you have a longstanding dis condition such as high blood pres diabetes, depression, asthma or an longstanding condition?	sure,	□ Yes □ No			New	BACK
<ol> <li>How important are the following to you:</li> <li>That this doctor has my medical records at hand</li> </ol>	Not important	Somewhat important	Important	Very important	Weiging Patient Experiences 6.1	CONT
<ol> <li>That this doctor is polite</li> <li>That this doctor asks questions about my health problem</li> </ol>					6.2 6.5	QUAL QUAL
4. That I understand clearly what this doctor explains					6.6	QUAL
<ol> <li>That this doctor involves me in making decisions about treatment</li> </ol>					6.8	AUTN
6. That this doctor asks about possible other problems besides the one I come for					6.10	QUAL
7. That people at the reception desk are polite and helpful					11.6	QUAL
<ol> <li>How important are the following to you:</li> <li>That this doctor knows important information about my medical background</li> </ol>	Not important	Somewhat important	Important	Very important	Weiging Patient Experiences 8.1	CONT
2. That this doctor knows about my living situation					8.2	CONT
3. That I feel able to cope better with my health problem/illness after this visit					8.4	QUAL
<ol> <li>How important are the following to you:</li> <li>That this practice has extensive</li> </ol>	Not important	Somewhat important	Important	Very important	Weiging Patient Experiences 11-1	ACCS
opening hours 2. That I can get an appointment					13	ACCS
easily at this practice 3. That I know how to get evening, night and weekend services					11.5	ACCS
<ol> <li>That this practice is close to where I live or work</li> </ol>					12	ACCS
5. That I have a short waiting time on the phone when I call this practice					11.4	ACCS

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<ol><li>How important are the following to you:</li></ol>		Somewhat important	Important		Ref. 23	QUAL
Before the consultation with your GP	important	important		important		
1. That I don't need to tell a						
receptionist or nurse about details of				_		
my health problem before seeing my						
doctor	-		_	_		
2. That the doctor has prepared for						
the consultation by reading my medical notes						
<ol> <li>That I have prepared for the</li> </ol>						
consultation by keeping a symptom						
diary or preparing questions						
4. That I can bring a family member/						
friend to the consultation if I think						
this is useful	_	_				
5. That I know which doctor I will see						
5. That I keep to my appointment				(CII :)		
<ol><li>From the abovementioned 6 items, which one do you find the most</li></ol>	Most impo	ortant is iter	n number: _	(nii in)		
important one?						
	37.4	C		¥	D . C . 22	01111
<ol><li>How important are the following to your</li></ol>	Not		Important		Ref. 23	QUAL
you: During the consultation with your GP	important	important		important		
1. That the doctor makes me feel						
welcome by making eye contact						
2. That the doctor listens attentively						
3. That the doctor does not give me						
he feeling to be under time pressure						
<ol> <li>That the doctor is aware of my</li> </ol>						
personal, social and cultural						
xackground 5. That the doctor is not prejudiced	-			_		
ecause of my age, gender, religion or						
cultural background						
5. That the doctor treats me as a						
person and not just as a medical		_	_			
oroblem						
. That the doctor is respectful during						
hysical examination and by not						
nterrupting me	_	_	_	-		
<ol> <li>That the doctor takes me seriously</li> <li>That the doctor understands me</li> </ol>						
0. That the doctor understands me						
ny questions	-	ш				
1. That the doctor asks if I have						
inderstood everything				_		
2. That the doctor knows when to						
efer me to a medical specialist						
<ol><li>That the doctor asks how I prefer</li></ol>						
be treated	Most impo	rtant is iterr	n number:	(fill in)		
4. From the abovementioned 13						
tems, which one do you find the most						

important one?

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	8. How important are the following to you:		Somewhat important	Important	Very important	Ref. 23	QUAL
	During the consultation with your GP I. That the doctor avoids disturbances of the consultation by telephone calls						
i	etc. 2. That the doctor gives me additional information about my health						
1	problem, e.g. leaflets 5. That the doctor informs me about reliable sources of information, e.g. websites						
4	. That I tell the doctor what I want to						
4	liscuss in this consultation 5. That I am prepared to ask questions and take notes						
6	5. That I am honest and not feel mbarrassed to talk about my health problem						
7	". That I am open about my use of ther treatments, such as self- nedication or alternative medicine						
8 e	3. That psychosocial issues (for xample personal worries) can be liscussed if needed						
9 V	b. From the abovementioned 8 items, which one do you find the most mportant one?	Most impo	rtant is iten	n number: _	(fill in)		
9 11 9 7	<ol> <li>From the abovementioned 8 items, which one do you find the most mportant one?</li> <li>How important are the following to ou:</li> </ol>	Most impo Not important	Somewhat			Ref. 23	QUAL
9 10 9 7 4 1 1	<ol> <li>From the abovementioned 8 items, which one do you find the most mportant one?</li> <li>How important are the following to</li> </ol>	Not	Somewhat		Very	Ref. 23	QUAL
99 10 99 97 11 10 10 10 10 10 10 10 10 10 10 10 10	<ul> <li>Prom the abovementioned 8 items, which one do you find the most mportant one?</li> <li>How important are the following to ou:</li> <li>After the consultation with your GP.</li> <li>That the doctor gives me all test esults, even if they show no bnormalities</li> <li>That the doctor offers me to have elephone or email contact if I have</li> </ul>	Not important	Somewhat important	Important	Very important	Ref. 23	QUAL
9 v 9 9 <u>7</u> 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	<ol> <li>From the abovementioned 8 items, which one do you find the most mportant one?</li> <li>How important are the following to ou:</li> <li>How important are the following to ou:</li> <li>That the consultation with your GP.</li> <li>That the doctor gives me all test esults, even if they show no bnormalities</li> <li>That the doctor offers me to have elephone or email contact if I have urther questions</li> <li>That the doctor gives me clear istructions on what to do when</li> </ol>	Not important	Somewhat important	Important	Very important	Ref. 23	QUAL
99 10 10 10 10 10 10 10 10 10 10 10 10 10	<ol> <li>From the abovementioned 8 items, which one do you find the most mportant one?</li> <li>How important are the following to ou:</li> <li>How important are the following to ou:</li> <li>That the consultation with your GP</li> <li>That the doctor gives me all test esults, even if they show no bnormalities</li> <li>That the doctor offers me to have elephone or email contact if I have arther questions</li> <li>That the doctor gives me clear istructions on what to do when hings go wrong</li> <li>That I adhere to the agreed</li> </ol>	Not important	Somewhat important	Important	Very important	Ref. 23	QUAL
9 y <u>A</u> 1 r a 2 to fi 3 i th 4 i 5	<ul> <li>From the abovementioned 8 items, which one do you find the most mportant one?</li> <li>How important are the following to ou:</li> <li>And the doctor gives me all test esults, even if they show no bnormalities</li> <li>That the doctor offers me to have elephone or email contact if I have urther questions</li> <li>That the doctor gives me clear istructions on what to do when hings go wrong</li> </ul>	Not important	Somewhat important	Important	Very important	Ref. 23	QUAL

mportant one?

Measures of quality, costs and equity in health care instruments 33 Finally we would like to ask you some questions about your personal background 10. Are you male or female? BACK 🗆 Male 🗆 Female New 11. What is your year of birth? Please fill in: Year of birth: 19 ..... New BACK 12. Where were you born? In this country New BACK □ In another EU country In a European country outside the EU 🗌 North America, Australia or New Zealand □ In another country 13. Where was your mother born? In this country New BACK In another EU country In a European country outside the EU North America, Australia or New Zealand □ In another country 14. Are there other adults in your household 🗆 Yes New BACK (including children older than 18)? 🗆 No 15. Are there any children (under 18) in Yes New BACK your household? □ No 16. How would you describe your current Employed (including civil) service) occupation or employment status? (More Self-employed or family than one answer possible) business □ Student Looking for a job (unemployed) Unable to work due to illness or disability Retired Mainly homemaker (including looking after children etc) BACK New 17. What is the highest level of education No qualifications obtained/ Pre- Ref. 42 BACK that you achieved? primary education (incl. ...) or primary education (incl. ...) or lower secondary education (incl. ....) Upper secondary level of education (incl. ...) Post-secondary, non-tertiary education(incl. ...) or higher 18. How well do you speak an official Fluently/native speaker level New BACK language of this country [fill in □ Sufficiently Moderately language(s)]? Poorly □ Not at all 19. Compared to the average income in this Below average Ref. 20, Q140 BACK country, would you say your household's Around average rephrased and less categories income is: Above average

BACK, background; ACCS, accessibility; CONT, continuity; COOR, coordination; COMP, comprehensiveness; QUAL, quality; EQ (AC) & (TR), equity in access and treatment; AUTN, patient autonomy;

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#### Appendix D: Practice questionnaire

Question	Response categories	Source(s)	Theme(s)
<ol> <li>Total number of patients <u>asked</u> to participate</li> </ol>	Patients	New	Response rate
2. Number of patients that has participated	Patients	New	Response rate
<ol><li>Opening hours are clearly indicated outside</li></ol>	🗆 Yes 🗆 No	Ref. 24	ACCS
<ol> <li>Outside it is clearly indicated how to get out-of-hours care</li> </ol>	🗌 Yes 🗌 No	Ref. 24	ACCS
<ol><li>The practice has parking space for handicapped people</li></ol>	🗆 Yes 🗆 No	Ref. 24	EQ (AC)
6. Is the practice at the ground floor?	$\square$ Yes $\rightarrow$ continue to Q 8 $\square$ No	Ref. 24	BACK
7. Is an elevator available for patients?	🗆 Yes 🗌 No	Ref. 24	EQ (AC)
<ol> <li>How accessible is the practice for patients using a wheelchair or stroller?</li> </ol>	<ul> <li>□ Very easy</li> <li>□ Easy</li> <li>□ Difficult</li> <li>□ Impossible to access</li> </ul>	Ref. 21	EQ (AC)
9. Is a toilet available for patients with a handicap?	🗆 Yes 🗋 No	Ref. 24	EQ (AC)
10. How clean does the waiting room look?	□ Very clean □ Rather clean □ Not clean	Ref. 24	QUAL
11. Can people in the waiting room hear what is being said at the reception desk?	☐ Yes ☐ No ☐ Not Applicable (no reception desk)	New	QUAL
12. Can people in the waiting room hear or see what happens in the doctor's office?	🗌 Yes 🗌 No	New	QUAL

BACK, background; ACCS, accessibility; QUAL, quality; EQ (AC) & (TR), equity in access and treatment.