Development of a Quality Instrument for Dutch Academic General Practices

J.M.C. Bleeker

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The research presented in this thesis was conducted within the EMGO+ Institute for Health and Care Research, Department of General Practice and Elderly Care Medicine of the VU University Medical Center, Amsterdam,
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General introduction

Academic general practices and networks

In 2003, the university department of general practice of VUmc started an intensive cooperation with more than 20 general practices in the Amsterdam area and formed an academic general practice network (ANH-VUmc). [1] Reason to start this network was that VUmc felt the need to cooperate in a structural way with a number of general practices in their region, in the field of care and in all academic tasks: research, teaching and education.
With this academic network VUmc aimed to bridge the distance between general practices and university, and target academic research, teaching and education to the needs of the GP-field. It would also assure that research results would be implemented in the GP-field to reach the final objectives: better patient care on the GP-side and better research, education and teaching on the university side.
General practices included in the academic network are active in patient care, research, teaching and education, and therefore VUmc's general practice department has classified them as Academic General Practices (AGPs).
The academic network and AGPs form the core of VUmc's regional university general practice network, which includes all incidentally and structurally cooperating general practices.
The number of AGPs of VUmc is not sufficient to cover the entire need for VUmc's education and research capacity, and therefore cooperation with non-academic practices in the region remains important for research, basic medical education and GP vocational training. With non-academic practices the cooperation is limited to just one of the academic tasks, like a specific research project or the offering of a traineeship.
The university department of general practice of VUmc connects to the classification "academic" also certain expectations regarding quality of care of the AGPs, for instance that AGPs work on continuous improvement of quality, good registration, can demonstrate good patient care and are well organized. Over time, the department aims at excellence for all areas in which AGPs are active. This requires an adequate quality policy.
The other Dutch university departments of general practice have also developed AGPs and similar university general practice networks in their regions. [2,3] The oldest AGP in the Netherlands is the one in Groningen, which exists since 1966. [3] Most AGPs and networks were established between 1980-1990, like the AGPs and university general practice network of Maastricht University. There are only a few AGPs in the Netherlands that are owned by a university medical centre (UMC), such as the previously mentioned AGP Groningen and VUmc's University General Practice. Most of the AGPs participating in the university general practice networks are independent practices. All Dutch university general practice networks and AGPs resulted from local or regional historical developments. Their development was not based on a national master plan.
Although the importance of the networks for the development of general practice was being recognized in 2003, as they covered the need for research and teaching capacity of the university departments of general practice [2,4], it was not very clear yet which contributions the AGPs delivered (the ''output'' of

AGPs), and which level of quality was required. In literature since around 1980, several visions on AGPs were presented [5-11], but at the start of our research, it was still being discussed what exactly formed an AGP. There was no clear and collective vision, and no uniform definition or clear profile of an AGP. In the past decennia, each university department of general practice developed its own interpretation of an AGP, without much exchange or alignment between the university departments. The same was true for quality requirements that the university departments of general practice had for their AGPs, if these were formulated at all.
In 2000, the Dutch Council for Healthcare Research (RGO) advocated for recognition of the university general practice networks and AGPs as academic workplaces for general practice, but expressed at the same time its concern about the quality and the scientific level of AGPs. [2] The council found that requirements should be formulated to assure the quality of AGPs. Until then, most university departments of general practice assumed implicitly that the quality level of care, practice management and performance of academic tasks in their AGPs was sufficiently high. But any empirical evidence was lacking. The AGPs so far were not systematically monitored and evaluated by the university departments, because there was no suitable quality instrument available yet. Maastricht university had proposed a provisionally instrument (HALMA), but this instrument was still in development, was limited to measuring output only, and included hardly any items to measure the quality of care in AGPs. It was not developed any further. [12, 13]

Need for an instrument to review AGPs' quality and contributions

In 2003, the department of general practice of VUmc department took the initiative to develop a new quality instrument for AGPs, because it felt the need to be able to systematically monitor and measure the quality and contributions of AGPs in its own academic network. From contacts with other universities, it soon appeared that there was a need for a joint reorientation on the tasks and positioning of AGPs, and on the best way of determining their quality and output as well. VUmc, six other participating university departments of general practice (AMC, UMC Utrecht, UMC Groningen, Maastricht UMC, Radboud UMC, Leiden UMC), and the Dutch College of General Practitioners then established the National Steering Committee of the University General Practice Networks (LSUNH). Its role and goal is to promote the development, evaluation, organization and quality policy of the AGPs and university general practice networks. [16] In 2005 the Interfaculty Council for general practice (IOH) and the Dutch College of General Practitioners acknowledged LSUNH as the national IOH-working group for the university general practice networks and AGPs.
At the start of this project in 2003, in the Netherlands only one validated quality instrument was available for the evaluation of general practices: the Visitation Instrument Practice Management (VIP) [14], which preceded the Visitation Instrument Accreditation (VIA®). [15] And there was HALMA [12,13], the provisional instrument for AGPs which was developed by the University Maastricht.

Other university departments of general practice agreed with VUmc that the VIP and HALMA were not sufficient to adequately evaluate the AGPs in all relevant performance areas, and supported the idea of a new quality instrument for the AGPs. We therefore decided to develop the new instrument in close cooperation with the LSUNH, that became active with the start of our research.

Aim and outline of this thesis

The main aim of our research, as described in this thesis, was the development of a quality instrument for AGPs in the Netherlands, to review and monitor the quality and output of the AGPs on their different performance areas in a systematic way.

In this thesis, the following research questions will be addressed:

1. Which existing evaluation methods are available for the evaluation of the quality and output of AGPs and academic networks? In **chapter 2** we describe the results of a systematic literature search that we performed and the feasibility and methodological quality of the identified instruments.
2. What is an AGP, and what makes it different from a non-academic GP? In chapter 3 we present the results of a focus group study with representatives of the Dutch university departments of general practice and the Dutch College of General Practitioners (NHG), and the definition we arrived at with participants.
3. Which quality topics and which 'good practice' criteria are relevant for quality assurance of AGPs in their relevant performance areas? In chapter 4 we describe the development of a generic quality framework for the Dutch AGPs in which we specified the relevant areas, dimensions, and quality topics for AGPs. In addition we formulated good practice criteria for AGPs on all topics. To construct the framework, and work out the criteria, we reviewed the Dutch literature on the quality of general practices, and consulted experts and stakeholders. After the composition of the framework, we asked representatives from national umbrella GP organizations and the Dutch university GP departments to participate in a stakeholders panel, and to judge the relevance of the criteria in the framework.
4. How can we measure quality and output of AGPs in their relevant performance areas, and which items are suitable to be used for the new instrument? In chapter 5 we describe the actual construction of the new quality instrument for AGPs, and the item selection and development process. The items in the new instrument were generated from the VIA® (which succeeded the VIP in 2005), from literature searches and consultations of experts and stakeholders. In this chapter we also describe the results of our assessment of the feasibility of the 2nd version of the VIA® (version 2008) for an evaluation of AGPs in line with the AGPs' quality framework.

5. How feasible is the new instrument in practice? How relevant, complete, difficult and labor-intensive is the answering of the items in the instrument according to a representative sample of AGPs? Finally, in chapter 6 we describe the results of a pilot study that we conducted to test and evaluate the feasibility of the new instrument. A representative sample of 10 AGPs tested the new instrument and provided feedback on the relevance, completeness, difficulty and time required to complete the different parts of the instrument.

After answering the research questions in this thesis, we will close this thesis with a general discussion.

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3

Establishing a shared definition for the academic general practices in the Netherlands

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Submitted

Abstract

Background
In the past decades the Dutch university departments of general practice contracted about 100 general practices as Academic General Practices (AGPs). However, there is no clear and collective vision, no uniform definition or clear profile of an AGP, and it is unclear what the importance and contributions of the AGPs are. The university departments felt an increasing need for a joint reorientation on the tasks and positioning of AGPs, and to the best way of determining their quality and output as well. In this study we aimed to clarify the concept of the AGPs, their relevance for the development of the discipline, and to achieve a shared definition together with stakeholders.

Methods
We conducted a focus group to collect qualitative data from the Dutch university departments of general practice, and the College of General Practitioners on their ideas on the concept of the AGPs.

Results
The study describes the ideas of the Dutch university departments of general practice on what an AGP is, and the aims and functions it is expected to strive for. We found that the key feature of an AGP is the ability to participate in research, innovation, and teaching, in combination with the provision of high-standard care. This combination of tasks should be synergistic, as they are expected to enhance each other. We formulated a definition for the Dutch AGPs, which was approved by the stakeholders.

Conclusion
The consensus on the definition and aims of AGPs offers the opportunity to elaborate a joint vision and to achieve a harmonized model for the management and evaluation of the quality of the Dutch AGPs. The definition seems suitable for university departments of general practice and AGPs in other countries as well.

Background

In many Western countries general practice is a medical specialty and an academic discipline, though the level of academic development, characterised by the position of general practice in medical education and research, varies between countries. [1]
The Netherlands is one of the countries where general practice has evolved into a well-established and independent academic discipline [1], with its own curriculum, research field, peer reviewed journal, and academic workplaces [2,3], of which the university general practice networks are the best known. [4, 5]
The establishment of these networks was instigated by the recognition, that in order to develop general practice as an academic discipline, it needed its own academic workplace for research and teaching, and more general practitioners to become involved in these activities. Nowadays, each of the eight Dutch university departments of general practice has successfully formed a university general practice network in its region. [2,6]
Out of the general practices which are participating in these networks, the university departments contracted about 100 as academic general practices

(AGPs), which are nowadays considered as the core practices of the university general practice networks. [7-16]

Although the importance of the university general practice networks for the development of the discipline is acknowledged, as they cover the need for research and teaching capacity of the university departments of general practice [2,4,6], the importance and contributions of the AGPs are unclear. In the Dutch literature since around 1980, several visions on AGPs were presented [17-23], but at the start of our research, there was still debate about what exactly formed an AGP. There was no clear and collective vision, and no uniform definition or clear profile of an AGP. In the past decennia, each university department of general practice had developed its own interpretation of an AGP, without much exchange or alignment between the universities. The same was true for quality requirements that the university departments of general practice had for their AGPs, if these were formulated at all.

Around 2003, the Dutch university departments of general practice felt an increasing need for a joint reorientation on the tasks and positioning of the AGPs, and on the best way of determining their quality and output as well. For this purpose, they set up a steering committee: the National Steering Committee of the University General Practice Networks (LSUNH). Its role and goal is to promote the development, evaluation, organization and quality policy of the Dutch university general practice networks and AGPs. Together with this committee we aimed to clarify the concept of the AGPs, their importance for the development of the discipline, and to arrive at a shared definition. The establishment of this definition, which was the aim of the present study, was the first step in the development of a collective vision on the management and evaluation of the quality of AGPs, resulting in the development of a new quality instrument. The university departments of general practice and steering committee want to use this instrument for systematic evaluation of the quality and achievements of AGPs, and to obtain accurate information on the quality of care and practice management in AGPs, and on important academic activities, in order to be able to make better informed decisions on their further development.

Methods

Data collection

We organized a focus group session with representatives from the eight Dutch university departments of general practice including: staff members, network coordinators, managing directors and general practitioners of AGPs. We also invited the Dutch College of General Practitioners (NHG) to participate and send one or more representatives. The object of the focus group session was to collect qualitative data on the various ideas of what an AGP is, in a setting where participants could discuss their own views in the context of the views of others, without the pressure to agree or reach consensus. In the focus group session we reflected with participants on two central questions:

1) What is an AGP and 2) What should its objectives be?

The focus group session was led by a moderator and observed by the researcher (JB). After a short

introduction and explanation of the researcher's specific interests and the purpose of the focus group session, two rounds of each 90 minutes followed, in which the two central questions were discussed with the group members (one round per question). Both rounds started with an inventory of each participant's initial ideas and thoughts, followed by a discussion round in which the group members were encouraged to respond to one another's ideas and comments. The focus group session was audio taped and completely transcribed by the researcher (JB).

Data analysis

Two researchers (JB, HvdH) individually read and analysed the transcript. For the data analysis we used an inductive and thematic approach. [24]

Through reading of the transcription (familiarisation) and open coding, we developed a set of provisional themes from the data. These themes were further refined during the subsequent stages of coding, thematic mapping, and interpretation. Credibility of the data was established using respondents' check by providing the transcription and provisional results of the data analysis to participants for their comments and approval. After the data analysis and respondents' check we organized a meeting with the steering committee, to discuss the outcomes and identified themes. Hereafter, we (JB, HvdH) composed the (concept) research report and a provisional definition, departing from the identified themes. In its next meeting the steering committee discussed the research report, including the provisionally formulated definition for approval.

Results

In the focus group (N=13) seven of the eight university departments of general practice and the Dutch College of General Practitioners participated, each with 1-3 participants (see acknowledgements, and Appendix 1, page 126).

In the following paragraphs we present the five key themes that emerged from the data of the focus group session. These themes reflect to a large extent participants' vision on the principles and essential characteristics of an AGP, the aims and functions it should strive for, and its value for both the clinical and academic environment. Hereafter, we will present the final definition we formulated for the Dutch AGPs, which was approved by the steering committee.

Identified themes from the focus group data

The developmental role of the AGPs

One theme that emerged from the data was that participants expected AGPs to fulfil a developmental role, and be involved in generating new knowledge through active development of care innovations, and initiating and conducting research. This developmental role goes further than participating in research.

The AGPs are expected to make a wider range of contributions to the renewal/development of the discipline, and to patient care. Below are a number of quotes that reflect participants' ideas on this theme:

> "A number of general practices, and it shouldn't be too many, need to play a developmental role, in which they need to excel. I think that's what we have to strive for."
> (GP, working in an AGP)

"You're therefore creating a field in which you're trying to innovate and experiment. This doesn't obviously mean it has to be better. You give yourself some time and space, as the teaching hospitals also have time and space, to develop a number of care issues with the intention of expanding this into research."
(GP, Head of a university department of general practice)

"Well, the only academic goal is, of course: Development! Researching the new. If you're talking about aims, then that is the reason for having AGPs."
(GP, working in an AGP)

The quality of care and the use of scientific information
Another important theme that emerged from the data, involved the quality of care, and the application of scientific knowledge in AGPs. Participants expected that AGPs strive for the best possible care, and provide good care. Though, this was not considered as a specific ''academic'' distinction, and may also be expected from non-academic general practices, it is a prerequisite though for participation in research and training of others. Furthermore, AGPs are supposed to be better informed about the ''state of the art'', and make faster and better use of scientific knowledge in patient care, than non-academic general practices. Below are some quotes of participants that reflect participants' ideas on this theme:

"Without good patient care you wouldn't be able to do any research and also wouldn't be able to contribute to training. I don't send students and trainees to general practices where things aren't going right."
(GP, Head of a university department of general practice)

"Optimal care is a goal all general practices share."
(GP working in an AGP)

"I think the academic aspect - rather than a cross-section of general practices - has a lot to do with renewal and being better informed about the opportunities associated with best-practice. Given that there is a system within an academic general practice that ensures the doctors and care provided there, is more up-to-date."
(researcher/epidemiologist connected to a university general practice network)

''Providing optimal care should be the principle, otherwise you can not innovate.''
(GP, coordinator research group)

The role of AGPs in the transfer of knowledge and teaching of others
The next theme to emerge from the data was that AGPs should also have a role in the transfer and dissemination of knowledge, the renewal of medical education programs, and the teaching and education of others. These others do not only involve the own professional group and GP trainees, but also other (para)medical groups and medical education/training programmes:

"It is not just about optimal care. The aim of an AGP is also about the transfer of knowledge and

expertise at a later stage to other colleagues, or to students who we're training and teaching."
(GP, network coordinator)

"So, an AGP is a model practice with a mission to transfer experiences and the knowledge acquired to others?"
(Moderator)

"Yes, that is right. It is not about doing for doing's sake and it also doesn't matter if these others are students, colleagues, or specialists."
(GP, network coordinator)

"Our AGP wants to be a laboratory not just for general practice care, but also for teaching and education.''
(GP, managing director of an AGP)

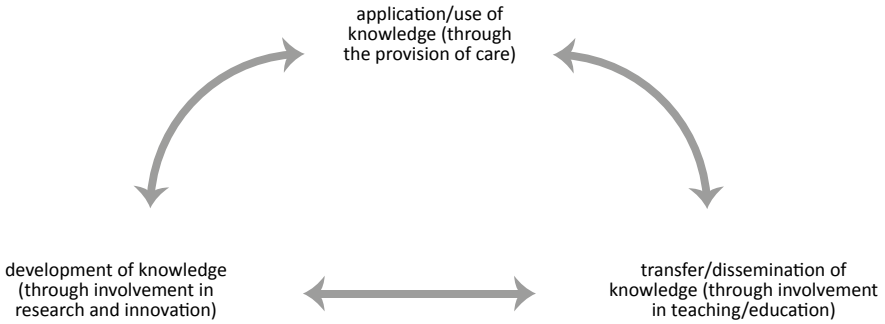
The combination of and synergy between research and innovation activities, patient care, and teaching and education

Another theme to emerge from the focus group session, involved the integration of and synergy between 1) research and innovation activities, 2) patient care, and 3) teaching and education in AGPs. With synergy we refer to the different activities working together, so that their combined effect is greater than the sum of their individual effects. There are different ways in which the synergy between the various activities could be regarded, and therefore identified. For instance, it could be approached as ''the research added value in the care process" (such as: being faster and better informed), and vice-versa (for instance: identified care issues stimulate new research directions). In figure 1 we have described the directions in which this synergy may work between the various activities in AGPs. It is the combination of being active in research and innovation (developing knowledge), patient care (applying knowledge), and teaching and education (transferring and disseminating knowledge), and their mutual enhancement that characterizes the AGPs:

"Universities are, of course, traditionally the seat of education and teaching, of scientific research and developing new ideas. It is the combination of these activities, along with the people who provide the education and teaching and who carefully think about innovation in care that represents ''academic'' general practice for me. This is my first thought: What I do in my practice and through this combination of research/innovation, patient care and education, teaching I can contribute to a further growth in my field."
(GP working in an AGP)

"I think the simplest formulation of the academic task is that we need to enhance and transfer knowledge. If you translate that to the AGPs, it means that you need to be the front-runner. Therefore you need to provide good quality of care from the start, and you attempt primarily to further enhance knowledge about that care. So, implementing and evaluating innovations, and then transfer these findings to others. This also means that AGPs must be involved in teaching and education."
(GP, Head of a university department of general practice)

Figure 1. The directions in which the synergy may work between the research, innovation, patient care and teaching activities in an Academic General Practice



''By participating in education and research you could speed up developments in care.''
(Network coordinator)

''So, an AGP is a practice in which through cross pollination, or let me use another word, the interaction between teaching, research, and patient care could work as a flywheel? Is that what you are saying?''
(Moderator)

"Yes.'' (Network coordinator)

The exemplary and expert role of AGPs

The final theme emerging from the data was that one could expect from AGPs that they must be able to serve as an exemplary role model for other general practitioners and to become (regional) experts in specific clinical areas. Yet, achieving these functions might be significantly dependent of the successful realisation of their primary functions and related aims. In addition to this, ''the field'' and the professional group also need to be prepared to assign these functions to the AGPs. Below are several quotes that reflect participants' ideas on this theme:

"You're an example to those around you, as you're trying to develop things, and transfer these to others both within medical education as well as to colleagues and specialists. You're saying: look,

this is what we're busy doing, and if we do this and you do that, then it'll work much better and more efficiently, including for patients."
(GP working in an AGP)

"The academic general practice has a very important regional role. Firstly, as a test practice and secondly as a practice where there is expertise which can be promoted in continuing education. You can attempt to influence all kinds of things at a regional level. Something which I believe should be our role."
(GP working in an AGP)

"Looking at my practice, we're experts in cardiovascular cases, which means you need to be regional leaders in the developments within that field. That's what we have to stand for, take the lead and make known to others: We're a practice involved in developments in that area of care."
(GP working in an AGP)

The steering committee agreed with all the identified themes, and did not put forward any additional/new themes. The feedback of participants and the committee led to some minor adaptations in the wording of the definition. In the next meeting the committee approved our definition of an AGP, as presented hereafter:

Definition
An Academic General Practice (AGP) is an academic development practice and workplace for the discipline of general practice. It therefore works structurally together with a university department of general practice. This collaboration takes place within a university network setting. An AGP focuses on the development, optimal use, and the transfer and dissemination of knowledge, and combines research, innovation, teaching and education, with patient care. More specifically it is expected to:

1. Work structurally and in a scientific sound way to generate new knowledge and improve patient care through active development of care innovations, and by initiating and conducting research (the developmental function of AGPs).
2. Provide the best possible care and apply up-to-date knowledge in daily practice.
3. Participate in the transfer and dissemination of knowledge and expertise within its own professional group, other (para)medical professional groups, and medical education/training programmes (the transfer and dissemination function of AGPs).
4. Create a synergy between its research and innovation activities, patient care, and teaching and education activities.
5. Serve as an exemplary role model for other general practitioners and become a (regional) expert in specific clinical areas (exemplary and expert function).

Discussion

Main findings
In this study we arrived at a shared definition for the Dutch AGPs together with stakeholders. The study describes the ideas of the Dutch university

departments of general practice about the essence of an AGP, its merit and value for the academic and clinical environment, the functions and activities an AGP is expected to combine and integrate in practice, and what aims it should be striving for.
We found that the key feature of an AGP is the combination of 1) research and innovation, 2) teaching and education, with 3) patient care. This combination of tasks is expected to be synergistic as they are supposed to enhance each other. In addition, AGPs are expected to provide a high standard of practice and care, to serve as a role model, and are assigned with a number of other aims and functions to strive for, such as their development function, and expertise function (in specific areas). Our study makes clear what these functions imply, and how the AGPs are distinguished form other practices involved in research and teaching. This clarity is important for current AGPs, for practices which are interested in becoming an AGP in future, as well as for the professional group and policymakers, who now know what to expect of AGPs, and how they aim to contribute and support the development of the discipline and general practice care.
However, up-to-now the Dutch university departments of general practice set very few requirements on the quality of AGPs, and paid little attention to the management and evaluation of quality of AGPs. So the question is whether current AGPs are ''fit for purpose'' and comply with the level of quality, that may be expected. In a follow-up study we will investigate and define the good practice criteria for AGPs, which are important in light of the aims and functions the university departments of general practice are striving for.

Interpretation of the study results in relation to existing literature

The combination of research, teaching and patient care is considered an important feature of academic medicine. [25] Our study shows that this combination of tasks is not the only characteristic of academic medicine. This combination should also result in synergy between these tasks, and consequently between the development, use and transfer of knowledge in practice. Traditionally the hospital-based medical disciplines can make us of the academic teaching hospitals, as an academic workplace where these three activities can effectively be brought together. However, the Dutch university departments of general practice need the AGPs to create suitable academic workplace for general practice.
Clear aims are most relevant for these academic workplaces, especially if they are not owned or managed by an academic medical faculty, as is the case in nearly all AGPs in the Netherlands. The concept of the Dutch AGPs, as defined in our study, may also be useful for university departments of general practice or AGPs in other countries.
The results from this focus group study are also relevant for the new quality instrument which we aim to develop for AGPs. The instrument should at least cover all relevant activities of AGPs, and include sufficient and valid items to evaluate the success of the AGPs in achieving their aims and functions.

Strengths and limitations of the study

Our study has several strengths. The mixed group of participants in the focus group assured a broad spectrum of perspectives on the subject, and by engaging the university departments of general

practice, we ensured that the definition we composed, represents their perspectives and values.
A limitation of our study is that we conducted only one focus group. Therefore, it may be disputed that we reached saturation. However, the Dutch College of General Practitioners and all but one university departments of general practice were represented, and, as a final step, the definition was approved by the Dutch steering committee of the university general practice networks and AGPs.

Conclusions

The consensus arrived at offers the opportunity to further shape a joint vision and a harmonized model for the management and evaluation of the quality of the Dutch AGPs.

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4

The development of a quality framework for the dutch academic general practices

A framework to guide good practice in GP care and services, practice management, and academic activities in research, innovation, teaching and education.

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Submitted

Abstract

Background
The university departments of general practice in the Netherlands needed a number of general practices, which they could fully involve in their academic tasks, and which could function as Academic General Practices (AGPs). For these purposes they contracted about 100 practices nationwide. The university departments expect from AGPs that they are able to combine a high standard of care and practice management, with research, innovation, teaching and education. The AGPs are considered to be the pioneering practices and academic workplaces for the discipline of general practice. The university departments of general practice want to assess the quality and output of the AGPs. This paper describes the development of a generic quality framework for the Dutch AGPs for quality assurance and evaluation purposes.

Methods
As foundation for the framework we used a generic, ISO 9001-based quality model, which we supplemented and filled in more specifically for general practice and AGPs. In the framework we detailed the relevant topics for quality assurance and evaluation. Next, we developed good practice criteria for all topics. To achieve an optimal content validity of the framework, we performed a review of the literature, and asked a stakeholders panel to judge the criteria of the framework.

Results
We developed a quality framework for the Dutch AGPs which provides the universities, AGPs, and other stakeholders with a description of the relevant dimensions, topics and good practice criteria for: 1) GP care and services; 2) practice management; and 3) academic activities in research, innovation, teaching and education. The framework contains 10 dimensions, covers 44 quality topics and includes 129 good practice criteria. The panel agreed with 90% of the criteria that we included in the framework. This means that the panel considered most of our new developed criteria relevant for ensuring and evaluating quality in AGPs.

Conclusions
Our framework makes explicit what universities and other stakeholders mean by the term "good practice" for GP care, practice management and academic activities in AGPs, and which expectations they have for quality. The framework can be used as a guidance and reference frame to improve and determine the quality of the AGPs, and (partly) for non-academic general practices as well. The quality framework covers ISO-based dimensions and topics, and includes GP specific criteria for all topics.

Background

As any academic medical discipline, general practice needs its own research and teaching domain and work field, to be able to produce useful and evidence-based knowledge and to properly train new general practitioners. [1] Therefore the participation of general practices in research and teaching is of major importance for the discipline itself, and for university departments of general practice to perform their academic tasks. To date, many general practices are

involved in research and teaching, and contribute to the development of general practice. For instance, by participating in one of the many research networks [2-4], or as a teaching practice for under-, postgraduate medical education, or GP vocational training. Only in the Netherlands there are eight university general practice networks, and in 2012 there were more than thousand GP training practices and seventeen hundred GPs involved in the training of new general practitioners. [5]

In addition to their general need for research and teaching capacity, the university departments of general practice in the Netherlands needed a number of pioneering practices, which they could fully involve in their academic tasks, and which could function as academic general practices (AGPs). For these purposes they contracted about 100 practices nationwide. A key feature of the AGPs is that they are expected to combine research, innovation, teaching and education, with the provision of high standard care. This combination of tasks is expected to be synergistic, as they are supposed to enhance each other. Traditionally the hospital-based medical disciplines can make us of the academic teaching hospitals, where these activities can effectively be brought together. [6] To create comparable academic settings for general practice, the Dutch university departments of general practice established the AGPs. Together with the Dutch university general practice networks, the AGPs are considered to be the academic workplaces for the discipline of general practice. [7-9]

At the start of our research there was no clear and collective vision on the AGPs. In the past decennia, each university department of general practice developed its own AGPs, without much exchange or alignment between the university departments. The same was true for quality requirements that university departments of general practice had for their AGPs, if these were formulated at all. Until then, most university departments of general practice assumed implicitly that the quality level of care, practice management and performance of academic tasks in their AGPs was sufficiently high. But any empirical evidence was lacking. The AGPs so far were not systematically monitored and evaluated by the university departments, because there was no suitable quality instrument available yet.

Around 2003, the Dutch university departments of general practice felt an increasing need for a joint reorientation on the tasks and positioning of AGPs, and to the best way of determining their quality and output as well. For this purpose, they set up the National Steering Committee of the University General Practice Networks (LSUNH). [1] Its role and goal is to promote the development, evaluation, organization and quality policy of the AGPs and university general practice networks. The LSUNH consists of representatives from the Dutch university departments of general practice and the Dutch College of General Practitioners. In 2005 the Interfaculty Council for general practice (IOH) and the Dutch College of General Practitioners acknowledged LSUNH as the national IOH-working group for the university general practice networks and AGPs.

In a previous study we formulated a definition, and the objectives and functions of an AGP together with the committee. The focus of the present study is on the quality of AGPs. Quality is a subjective concept. Different people can have different ideas on what quality is. Therefore we aimed to operationalize the

quality of AGPs into clear and measurable topics and criteria together with stakeholders. This paper describes the development of a generic quality framework for the Dutch AGPs in which these topics and criteria are described. The university departments and steering committee want to use the framework for quality assurance and evaluation purposes, and as a guide to improve the quality in three relevant performance areas of AGPs: 1) GP care and services, 2) practice management and 3) their academic activities in research, innovation, teaching and education.

Methods

Framework

We used the ISO 9001:2008 [10] as a gold standard for the management of quality, and as a guidance for the development of the framework and GP specific good practice criteria. The framework was founded on a generic quality model for Dutch health care organizations, the HKZ-model [11], which we extended and filled in more specifically for general practice and AGPs. For each dimension we detailed the relevant topics for quality assurance and evaluation. In addition, we developed good practice criteria on all topics. To achieve an optimal content validity we: 1) performed a review of the literature from 2000-2007, and 2) asked a stakeholders panel to judge the criteria we included in the framework. The agreement of the panel would contribute to the validity of the criteria, and especially for those criteria, for which we found no or little literature support. During the development process we regularly consulted and informed the steering committee.

Literature search

We conducted a comprehensive review of the Dutch literature on the quality of general practice in which we used a wide range of search terms to cover the performance areas, dimensions and topics of the framework. We performed searches in the Dutch database PiCarta and in the peer-reviewed Dutch scientific journal for general practitioners (Huisarts & Wetenschap). Additional resources for identifying non-indexed literature included: Google searches, checking government and stakeholders websites, specific requests to experts for information, and checking the references lists of the literature we found.

We began our review of the literature with looking for applicable laws and legislation. Then, we investigated the availability of professional standards and requirements for Dutch general practices. Next, we searched for professional guidelines. Hereafter, we searched for research on (aspects of) the quality of general practice care. In addition, we looked for vision and policy reports of national umbrella GP organizations, such as the Dutch College of General Practitioners (NHG), on (aspects of) the quality of general practice care. These umbrella organizations play an important role in the implementation of regulations and in quality improvement, for instance, by setting standards, initiating quality initiatives, and providing supportive documents and tools.

Finally, we searched for available evaluation instruments for measuring (aspects of) the quality of general practice care, practice management, and practices' activities in research, innovation, teaching and education.

After we identified and studied the aforementioned general documents of our study, we continued with

the composition of the framework. As we elaborated the dimensions, we conducted additional searches to collect more specific information on topics.

The stakeholders panel

We invited 36 representatives from the national umbrella GP organizations and the eight Dutch university departments of general practice to take part in the stakeholders panel after we completed the framework. The participants of the panel judged the relevance of all the 129 good practice criteria in the framework. We asked the panel to what extent they considered the criteria relevant for the evaluation of quality, and to rate each criterion on a five point scale (1. not relevant, 2. little relevant, 3. somewhat relevant, 4. relevant, 5. very relevant). We requested participants to assess the relevance of each criterion for both AGPs and for non-academic general practices to collect additional information about the differences in stakeholders expectations for both type of practices. We judged a criterion as relevant if the cumulative score on ''relevant'' and ''very relevant'' was 70 percent or more. We informed participants about this cut-off point before the procedure was started. In case of major comments or more than 30% missing scores for a criterion, a second round was anticipated.

Results

Literature search

Our review of the literature resulted in the following general and ''main'' documents for the composition of the framework:

Laws

We identified seven *laws* of relevance to all Dutch general practices. Two are general laws, the Personal Data Protection Act (Wet Bescherming Persoonsgegevens) [12], and the Working Conditions Act (Arbowet) [13], whereas five laws focus specifically on care, health care organizations and professionals: the Care Institutions Quality Act (Kwaliteitswet Zorginstellingen) [14], the Individual Healthcare Professions Act (Wet Beroepen in de Individuele Gezondheidszorg) [15], the Medical Treatment Agreements Act (Wet op de Geneeskundige Behandelingsovereenkomst) [16], the Health Care Clients Complaints Act (Wet Klachtrecht Cliënten Zorgsector) [17], and the Medicines Act (Geneesmiddelenwet) [18]. Research-active practices may have to comply with the Medical Research Involving Human Subjects Act (Wet Medisch-Wetenschappelijk Onderzoek met mensen) [19]. We found no specific laws for teaching practices. Box 1 provides a more detailed description of the identified laws.

Box 1. Summary of relevant laws for Dutch general practices

1. Personal Data Protection Act (Wet Bescherming Persoonsgegevens, WBP). This law sets forth the most important rules for recording and using personal data. From the collection of these data up to and including the destruction of personal data. For instance, GP practices record all kinds of details about their patients. When doing so they must comply with the requirements stipulated in the Act using appropriate technical and organisational measures. Practices also have to provide sufficient information to patients about, amongst other things, the aim of recording the details, who will receive the details, as well as their rights, such as the right to determine the veracity of the data. [12]
2. Working Conditions Act (Arbeidsomstandighedenwet, Arbowet). This general Act provides a guide in terms of policy and working conditions to ensure safe and healthy working environments for workers. The Act applies anywhere where employed work is being conducted. The Act also views a trainee, outsourced staff or a volunteer as an employee. The most important obligations for employers in respect of working conditions are: ensuring a safe and healthy working environment, providing staff with adequate information about risks and ensuring regulations are observed, conducting a risk inventory and evaluation, drawing up plans to manage health risks, and recording and reporting accidents (at work), including workers' potential exposure to biological agents. [13]
3. Care Institutions Quality Act (Kwaliteitswet Zorginstellingen). This Act regulates the minimum requirements in terms of quality assurance policies for care institutions and their duty to provide responsible care. The Act describes how this should be interpreted, and which quality requirements and other obligations institutions have to satisfy, including the implementation of a quality assurance policy, the creation of a quality assurance system, publication of annual quality assurance reports and reporting major incidents. [14]
4. Individual Healthcare Professions Act (Wet op Beroepen in de Individuele Gezondheidszorg, Wet BIG). This Act regulates the competence and skills required by doctors and various other healthcare professionals, including their specific areas of expertise. This act also includes a list of reserved interventions – that is those involving some risk, which in principle are reserved for doctors/authorised staff. Where these interventions are delegated to others, the Act requires that a number of safeguards are satisfied. For instance, it may be reasonably presumed that the individual is competent to carry out the treatment following the doctor's instructions (either verbal or via protocols). The option for the doctor to intervene or supervise the treatment should also be sufficiently guaranteed. Finally, the individual to whom the intervention has been delegated, should also believe he/she is sufficiently competent to carry out the treatment. These safeguards apply to all health interventions involving risk. [15]
5. Medical Treatment Agreement Act (Wet op de Geneeskundige Behandel Overeenkomst, WGBO). This Act governs the rights and obligations of the patient and care provider. For instance patients are entitled to: information about the treatment, a copy of their details, review and request removal of the details, privacy, and free choice of doctors. On the other hand care providers are obliged to: provide proper care, maintain patient files, maintain confidentiality, and request patient consent before treatment. The latter does not always have to be an explicit request. In addition to these general rights and obligations a number of stipulations have also been concluded regarding the use of patient data and human tissue (for instance, blood or urine) for scientific research. These stipulations are only relevant when family practitioner services are participating in the research. [16]
6. Healthcare Clients Complaints Act (Wet Klachtrecht Cliënten Zorgsector, WKCZ). A central tenet of this Act is the patient's right to complain. The most important requirements stipulated by the Act are: the availability of an accessible complaints procedure known to the patient, the independence of the complaints committee and chair, the quality of the procedure and treatment of complaints, and the manner in which complaints are settled by the care provider. [17]
7. Medicines Act (Geneesmiddelenwet). This Act governs the production, trade, prescribing and provision of medicines. It contains, amongst others, requirements to encourage the safe use of medicines. For instance, doctors and pharmacists have to report serious side-effects, and strict regulations apply regarding the online prescribing of medicines. [18]
8. Medical Research Involving Human Participants Act (Wet Medisch-Wetenschappelijk Onderzoek met mensen, WMO) is also relevant for research active practices. This Act regulates the safeguarding of trial participants and scientific research undertaken with trial participants. The Act stipulates, amongst other things, that trial participants should receive written information about the study, have sufficient time to consider participating, have to provide written consent to participate, and that an independent physician is appointed to provide advice. Research involving trial participants may only be conducted once a recognised ethics committee has issued a positive opinion on the trial. [19] Reviews of medical files/patient status audits are not covered by this Act (WMO). However, these are subject to the Medical Treatment Act (WGBO) and the Data Protection Act (WPB) referred to earlier. [12, 15]

Professional standards or requirements

We identified five professional standards and requirements which apply to all Dutch general practices. They regulate: 1) the telephone accessibility; 2) the geographical accessibility; and 3) the maximum acceptable waiting times for acute and non-acute care issues. [20-23] Furthermore, we identified a number of specific requirements for teaching GP practices [24, 25] and for practices participating in the accreditation program of the Dutch College of General Practitioners [26]. Box 2 provides a more detailed description of the identified standards and requirements.

Box 2. Identified professional standards and requirements for Dutch general practices

The following standards apply to all Dutch general practices for access and availability:

- Telephone access. In the event of an emergency the maximum acceptable waiting time is 30 seconds, according to the inspectorate. [23] This standard has been adopted by the profession. For non-emergency cases the caller should be able to have a member of staff on the line within 2 minutes, according to the inspectorate. This standard has not yet been adopted by the profession.
- Telephone access. Another professional standard for telephone access involves the availability of a separate emergency line. [20, 21]
- Geographical access. For the geographical access the profession adopted the 15 minute standard. This standard entails that in case of emergency the general practitioner should be able to arrive at the location within 15 minutes (under normal circumstances). This standard should also be taken into consideration when registering new patients. [21, 22]
- Maximum acceptable waiting times for consultation. In case of emergency and acute cases consultation should be available either immediately or the same day, respectively. [22]
- Maximum acceptable waiting times for consultation. In case of non-acute cases consultation should be: 80% within 2 working days, maximum of three working days.[22]

The identified standards/minimum requirements for teaching general practices [24, 25] relate to:

- Safeguarding sufficient variation in the practice population and practice size.
- The availability of sufficient personnel, support, rooms, facilities and equipment, such as: a properly maintained and comprehensive medical record systems, sufficient numbers of qualified practice assistants, , appropriate and sufficient numbers of medical equipment, its own laboratory for simple assessment, access to the internet, an adequate library, video equipment, a consultation room with its own designated research purposes for the general practitioner in training, and a meticulous and thorough practice management policy. The latter should also have been tested with the aid of a recognised quality instrument.

The minimum requirements for general practices participating in the practice accreditation program of the Dutch College of General Practice concern [26]:

- Safety and hygiene. For instance practices should have available: a bin or waste disposal unit for the collection of used equipment, gloves for cleaning the equipment, an autoclave or properly implemented protocol for sterilisation, a comprehensive anaphylaxis set, a triage system and an emergency telephone line.
- Contents of doctors'/emergency bags. The contents have to be kept in order in terms of having: an inventory list, emergency ampoules, nitroglycerin, gloves, and should not contain any material beyond its expiry date.
- Medical record keeping and the EPD. Practices should keep an electronic patient record.

Guidelines

We found several *professional guidelines* on medical topics [27, 28], one guideline on the prevention of healthcare-associated infection in general practices [29], one on adequate electronic medical record keeping [30], three on the exchange of patient information and data between general practices and other health professionals [31-33], and several guidelines on the collaboration of GPs with other health care professionals [34, 35]. Box 3 provides a more detailed description of the identified guidelines.

Box 3. Identified professional guidelines for Dutch general practices

Guidelines for medical treatments

- The Dutch College of General Practitioners (NHG) Standards. This is a series of guidelines for the treatment and diagnosis of conditions which may occur in general practices. Each NHG Standard is aimed at a particular condition (such as sinusitis), symptom (such as abdominal symptoms), or risk factor (such as hypertension) and includes clear statements on what is good medical practice. [27]
- The NHG-pharmacotherapeutic guidelines. These guidelines discuss minor complaints and include relevant paragraphs descibing pharmacotherapeutics (such as herpes zoster, contact eczema) and topics covered by various NHG standards (such as **combatting pain).** [28]

Safety and hygiene guidelines

- The WIP-guideline ''Infection prevention in general practice.'' This guideline provides advice about personal hygiene for doctors and staff, hand hygiene, the use of personal safety aids, preventing accidental blood contact, and cleaning and disinfecting practice rooms and equipment. In addition to this the guideline also focuses on a few specific studies conducted by medical assistants or general practitioners. [29]

Guidelines for electronic medical record keeping, as well as information and data exchange with other health professionals

- The NHG-guideline ''Adequate medical record keeping in the electronic patient record.'' This guideline provides information about how and where medical details should be recorded in the electronic patient file (EPF) in order to be able to use the EPD effectively. [30]
- The NHG-guideline "Information exchange between General Practitioner and Specialist for referral.'' This guideline provides advice for the general practitioner and specialist in terms of the transfer of information when referring patients. For instance the guideline includes a description of when it is appropriate to inform each other, and which details to exchange. [31]
- The NHG-guideline 'Information-exchange between the General Practitioner and GP Cooperatives.'' This guideline describes the data the duty doctor at the GP Cooperative receives as a professional summary, and the data the patient's own GP may expect to receive in return from this service. [32]
- The NHG-guideline "Information-exchange general practitioner – ambulance service – acute health care departments.'' This guideline describes which medical data are to be exchanged between health professionals in emergency cases, or the data that needs to be available, as well as the information that the patient's own permanent GP may expect to receive in emergency cases. [33]

Collaborative guidelines

There are two types of collaborative guidelines that have been drawn up for various disorders to promote collaboration between general practitioners and other care providers:

- The National Primary Care Collaborative Agreements (Landelijke Eerstelijns Samenwerkings Afspraken): aimed at working agreements between general practitioners and first-line care providers. [34]
- National Transmural Agreements (Landelijke Transmurale Afspraken): aimed at collaborations between general practitioners and specialists. [35]

Research
We found two large research studies describing the role of general practitioners in the Netherlands, and the quality of general practice care from a professional and patient perspective respectively. [36, 37] Both studies concluded that Dutch general practitioners provide a high-quality of care. An important aspect of quality for professionals is to work in accordance with professional guidelines. For patients both the quality of care and various organizational aspects of care (such as privacy and waiting times) are important.

Vision and policy papers
We found one vision document of the Dutch College of General Practitioners (NHG) and the Dutch Association of General Practitioners (LHV): "General Practice Care and the General Practice Facility. Specifying a vision for the future 2012.'' [38] This vision document describes in general terms the key points of general practice care in 2012, and the requirements it imposes on practices. One of the key points in the document addresses the importance of involving practices in the professional and scientific development of general practice and in medical education (see Box 4).

Instruments
We found one quality instrument for general practices: the Visitation Instrument Practice Accreditation (VIA®). Since 2005 the instrument is used in the NHG Practice Accreditation Program of the Dutch College of General Practitioners. [26] The VIA® focuses on the evaluation of: practice management, patients' experiences, and clinical performances.
In the next section we continue with a description of the framework, in which we will provide more information on the type of additional documents we found with our specific searches on topics.

The framework
Dimensions
The framework includes ten quality dimensions, which cover: 1) the intake and registration of new patients, 2) the provision of care and services, 3) evaluation and ending of care; 4) policy and quality management, 5) staff management, 6) facility and equipment management, 7) purchase and outsourcing, 8) quality documents and records, 9) involvement in research and innovation, and 10) involvement in teaching and education. Dimensions one to nine were generated from the HKZ-model. [11] The tenth dimension was added to cover the involvement of AGPs in teaching, education, and other ways of knowledge transfer (such as conference presentations, writing articles). Dimensions 1-3 cover the performance area GP care and services, dimensions 4-8 cover practice management, and dimensions 9-10 cover the academic activities of AGPs.

Quality topics
The ten dimensions of the framework include in total 44 quality topics derived from the literature and the HKZ-model [11]. Examples of topics that we included in the dimensions are: acceptance and registration of new patients, case history and data collection (dimension 1); accessibility, triage, record keeping, continuity of care (dimension 2); patient consultation, practice policy for patients deregistering or moving (dimension 3); policy, quality aims, recording (near) accidents and errors, social accountability and annual reporting (dimension 4); supervision of professional

Box 4. Keypoints of GP care and services and the general practice setting, as described in the vision document of NHG and LHV ''General Practice Care and the General Practice Facility. Specifying a vision for the future 2012." [38]

Keypoints for the provision of care and services

- Focused on all issues, problems and questions about health and illness, and be available for everyone (2 features).
- First port of call for patients within healthcare and this care should cover the detailing of the problem, diagnoses, advice, treatment, guidance, prevention, as well as referral (2 features).
- Accessible, that is: available in the neighbourhood, low threshold access without referral by third parties and accessible within the required timeframe, 24 hours per day and seven days per week, and access outside of office hours for emergency health problems alone (3 features).
- Person-focused and continuous: care is focused on the patient and his circumstances and is continuously available throughout all life stages and illness episodes (2 features).
- Demand-focused: based on the needs of the patient and a result of joint decisions between the care provider and patient (1 feature).
- Act as a guide for the patient in the healthcare system (1 feature).
- High quality and targeted: safeguarded through systematic experiential knowledge and scientific support, and focused on safety, effectiveness, preventing medicalization, the equality principle and efficacy (4 features).

Keypoints for the general practice setting

- Delivers care that satisfies the essential characteristics of general practice medicine.
- Utilises the principle of collaboration and role differentiation in the organisation of care.
- Represents a relatively small-scale organisation in the vicinity of patients.
- The capacity links in with the number patients in its practice area, as well as with the nature of care required.
- Has an obligation to provide services to patients in its practice area.
- Provides qualified personnel based on well-defined roles, tasks, responsibilities and competences.
- Ensures that patients are reviewed by the right care provider and at the right point in time in a medical responsible, efficient and client friendly manner.
- Provides for emergency general practice services during evenings, nights and weekends, if required through a larger scale organisation.
- Tailors its care services* to the healthcare requirements within its practice area (* basic, additional, specialist and/or transmural healthcare services).
- Avoids the fragmentation of care by limiting the number of healthcare providers responsible for individual patients.
- Promotes conditions for collaboration and information exchange between healthcare providers
- Fulfils a central role in the care provided to patients and establishes collaborative agreements with external healthcare providers in order to coordinate care.
- Is properly equipped to determine the indications for referral to external healthcare providers.
- Encourages targeted use of facilities and general healthcare by patients.
- Ensures for an equal distribution of its healthcare services.
- Has an internal quality system in place and external accountability for the quality of the general practice services provided.
- Guarantees the continuous professional development of its staff.
- Contributes to the professional and scientific development of general practice medicine and education.

activities, competence and skills of staff (dimension 5); on site facilities and lay out, maintenance, medical equipment and instruments (dimension 6); purchase and outsourcing conditions (dimension 7); documentation of the internal quality assurance system (dimension 8); R&D policy, R&D contributions and output (dimension 9); teaching and education resources and conditions; and contributions and output in teaching and education (dimension 10). For a complete list of the 44 quality topics, which we included in the framework we refer to Table 1.

Good practice criteria
On all quality topics we developed good practice criteria for the management and evaluation of quality in AGPs. The total number of criteria is 129; 45 criteria for the performance area GP care and services, 49 criteria for practice management, and 35 criteria for the academic activities (see Table 1). In the next paragraphs we give two examples to describe how we developed the quality topics for the dimensions and the criteria, and we describe the additional literature sources we identified on topics.

Example 1: the triage
During office hours the practice assistants usually assess by incoming telephone calls the patients' needs for health care, the degree of urgency, and the level of care required. This is called the (telephone) triage, which is commonly the first step on the patient's pathway. We included this topic in dimension 2 on the provision of care and services (see Table 1). We first summarize the relevant laws, standards, guidelines, and the additional documents and information we identified on this topic, followed by our key findings on the literature, and the criterion we formulated.

Relevant laws, standards and guidelines for the triage
As the triage is generally seen as a risky activity [39], professionals should take into account the Individual Healthcare Professions Act and the law's principles of due care. [15] There are no standards or guidelines available (yet) for the triage (see Box 2, and Box 3).

Other relevant documents and information we identified for the triage
The vision report on the future of general practice [38] provides a short description of the responsibilities and competences of the practice assistants with regard to the triage. In addition, we identified a ''practice based'' guide for telephone triage [40] which addresses: the most common complaints, the questions to be asked, the triage criteria, and the advices the assistant can give in case of low urgency, or if the patient has to wait some time before he can consult the doctor. Furthermore, we identified five additional documents on the triage:

- One study [41] describing the literature on three validated triage methods in general practice (triage by general practitioners, nurses, and practice assistants) and their effects.
- A policy report [42] on the development of a uniform Dutch triage model for general practitioners and other health care professionals in acute health care, such as ambulance services.
- A position paper on acute healthcare problems in general practice [43] which describes the organizational conditions for a safe, effective, and

appropriate triage, and the responsibilities of the practice assistant and general practitioner.
- A working paper on the quality of GP cooperatives in which the safety of the triage is considered a ''critical quality characteristic'', which means that this topic is of great importance for GP cooperatives' quality management system. [44] The quality issues which are addressed in this document to ensure the safety of the triage, such as the availability of protocols, are relevant for the triage during office hours as well.
- An evaluation instrument on the triage, which aims to assess the medical and communication skills of assistants/call handlers in GP cooperatives. [45]

Key findings from the identified literature
- During office hours the practice assistant is responsible for the telephone triage. [38]
- The practice/doctor must ensure that the triage conditions are safe, effective and appropriate. [15, 39, 42-44]
- If the practice assistant or a practice nurse carries out the triage, the following prerequisites are necessary, to make sure the risks for patients do not increase: 1) Adequate training in communication, triage and medical knowledge to ensure that they are competent to perform the job. [38, 39, 42, 43, 45]; 2) Availability of protocols and formal agreements about responsibilities [15, 38, 39, 42, 43]; 3) Supervision during working hours by a GP, or, if not always present, the possibility of telephone consultation with a GP. All contacts and advices of the practice assistant must be approved by a GP [15, 39, 42-44]; 4) Appropriate electronic medical record keeping of all contacts, in order to make judgement by a GP afterwards possible [15, 39, 42-44]; 5) Regular evaluation of the triage to ensure that the process is safe and effective [42-44].

Based on these findings we developed the following good practice criterion for the triage:

> ''The practice ensures a responsible and structured triage of patients' health issues and requests either by telephone or otherwise'' (criterion 9, see Table 1).

Example 2: medical record keeping & the electronic patient record (EPD)

Medical record keeping is an important quality topic for all general practices [30], as it supports, amongst other, clinical decision making, and the continuity of care, but has an extra ''academic'' relevance for the AGPs, as the recorded information is also used for research and teaching. We included this topic in dimension 2, on the provision of care and services. We first summarize the relevant laws, standards, guidelines, and the additional documents and information we identified on medical record keeping and the electronic patient record (EPD), which is followed by our key findings on the literature, and the criteria we have formulated.

Relevant laws, standards, and guidelines for medical record keeping and the EPD

There are two laws which should be taken into account in medical record keeping & the electronic patient record (EPD) in general practices: the Personal Data Protection Act [12] and the Medical Treatment Agreements Act [16] (see Box 1). There are no professional standards available on medical record

keeping, though practices participating in the practice accreditation program of the Dutch College of General Practitioners should keep an electronic patient record (see Box 2). We identified one professional guideline on medical record keeping, which gives guidance to how to keep and maintain the EPD. [30]

Other relevant documents and information we identified for medical record keeping and the EPD
The future vision 2012 of the Dutch College of General Practitioners (NHG) and the Dutch Association of General Practitioners (LHV) [38] emphasizes the need of optimal medical record keeping for the quality of care and for the additional goals described in the guideline (see section ''key findings from the literature''). Furthermore, we found one additional document on medical record keeping and the EPD, describing an evaluation instrument, the EPD-scan-h, to check the completeness of the EPD and to assess whether the registered information in the EPD is actual. [47]

Key findings from the identified literature and information on medical record keeping and the EPD
- Physicians are legally obliged to keep medical records for each of their patients. [16]
- The general practitioner is ultimate responsible for adequate record keeping, and is manager of the EPD. [16, 38]
- The EPD is essential to provide optimal continuity and quality in medical care. It should ''tell the story'' of the patient, but should also allow other health care providers to read quickly, and understand the patient's past and current health concerns as well. In general, the EPD improves the exchange of information and reduces duplication of services. [30, 38, 47]
- In addition, the EPD is important for providing structured care, carrying out structured preventive tasks, and for evaluating the quality of the care delivered. [30, 38, 47] It may also provide information for research, population management, and the evaluation of the provided care. [30, 38, 47]
- The registrations in the EPD must be complete, up-to-date and kept in a uniform and systematic way, in accordance with relevant laws and the professional guideline. [12, 16, 30]
- Finally, the EPD should at least include information on: health problems and health conditions (ICPC-coded); prescriptions; requests for and results of additional tests; referrals to other health care professionals and results of referrals; possible contraindications, allergies and side-effects. [30, 38, 47]

Based on these findings we developed the following good practice criteria on medical record keeping and the EPD:

> ''The practice uses an electronic patient dossier'' (criterion 29).
>
> ''The practice follows the professional guideline ''Adequate Record Keeping in Electronic Patient Dossier (ADEPD-guideline) in recording and documenting data in the electronic patient record'' (criterion 30).
>
> ''The practice ensures that in the electronic patient record the following information is recorded and kept up-to-date: ANW-information (address, name, home town); health problems and health conditions (ICPC-coded); prescriptions; requests

for and results of additional tests; referrals to other health care professionals and results of referrals; Possible contraindications, allergies and side-effects'' (criterion 31).

Table 1 provides a summary of all dimensions, topics and good practice criteria of the framework, including the panel results, discussed in the next paragraph.

The stakeholders panel
28 (78%) of the 36 representatives we invited took part. For a list of participants we refer to Appendix 2, page 127. The main reason for not participating was a lack of time. As the first rating round did not lead to any major comments of participants, and the number of missing item scores was low (see Table 1), an additional rating round was not necessary.

Scores for academic general practices
Of the 129 criteria in the framework, the panel considered 116 (90%) to be relevant for the AGPs. For the performance area GP care and services (dimensions 1-3) the panel found 42 (93%) criteria relevant for AGPs, and three criteria not important, which addressed: the conditions for the delivery of special care in AGPs; the consultation of collaborative partners and other health professionals in the evaluation of care; and the practice policy for patients deregistering or moving outside the catchment area (see Table 1, criteria 17, 44, 45). For practice management (dimensions 4-8) the panel supported 40 (82%) criteria, and considered nine criteria not relevant, which referred to: the recruitment policy; detection and prevention of health and safety risks for staff; and purchase and outsourcing of services (see Table 1, criteria 58, 69, 71, 74-78, and 92). Finally, for the academic activities in research, innovation, teaching and education (dimensions 9-10) the panel considered 34 (97%) criteria relevant, and one criterion not important, which referred to the education of other (para) medical professionals (see Table 1, criterion 124).

Scores for non-academic general practices
Of the 129 criteria the panel found 47 criteria (36%) also important for non-academic general practices: 27 criteria involved topics on the provision of care and service (dimension 2), and 20 criteria involved topics on: the intake of new patients (4 criteria, dimension 1), adequate staffing and competent employees (5 criteria, dimension 5), facility and equipment management (11 criteria, dimension 6) (see Table 1).
For six dimensions of our framework the panel considered none of the criteria important for non-academic practices (see Table 1). These dimensions covered: the evaluation and ending of care (dimension 3, which included 3 criteria), policy and quality management (dimension 4, 8 criteria), purchase and outsourcing (dimension 7, 1 criterion), quality documents and records (dimension 8, 2 criteria), involvement in research and innovation (dimension 9, 16 criteria), and involvement in teaching and education (dimension 10, 19 criteria).
Table 1 provides an overview of the framework, including the panels' relevance ratings for each criterion, and for both type of practices.

Table 1. Summary of the quality framework for AGPs, and the results of the stakeholders panel

PERFORMANCE AREA: GP CARE AND SERVICES *Dimensions, quality topics and good practice criteria that we included in the framework for the evaluation of this performance area:*	Relevance[1] of the criteria according to the panel/non response (mis)			
	AGPs		non-ac. GP practices	
	Score	(Mis)	Score	(Mis)
PERFORMANCE AREA: GP CARE AND SERVICES				
DIMENSION 1. INTAKE AND REGISTRATION OF NEW PATIENTS				
Application				
1. Pursues a non-discriminatory acceptance policy in respect of everyone who wants to register as a new patient, and is living within the practice's catchment area.	71.4		75.0	
Acceptance and registration				
2. Creates an electronic personal patient file to record the relevant data from the new patient and provides a proof of registration to the patient.	92.8		92.8	
Case history and data collection				
3. Conducts a systematic inventory* of relevant contextual and medical details from a new patient and records this information in the electronic patient file, according to work agreements.(*this also includes obtaining the'' old'' medical file from the former GP)	100		100	
4. Offers new patients the possibility of an initial consultation.In case differences have been noted in the old medical file or where there is still no (full) case history available, the practice proactively invites new patients for an initial consultation.	89.3		64.3	
Information provision				
5. Provides new patients with sufficient information about the practice organisation, and the provided care and services.	100		100	
DIMENSION 2. PROVISION OF CARE & SERVICES				
Availability and accessibility				
6. Ensures the availability of usual GP care during GP core hours, and of emergency GP services during evening, nights and weekends.	96.3	(1)	96.3	(1)
7. Ensures the accessibility of the practice (by phone and otherwise) during GP core hours.	96.3	(1)	96.3	(1)
8. Provides clear and sufficient information to patients regarding availability and accessibility during GP core hours, and during evening, nights and weekends	100	(1)	100	(1)
Triage				
9. Ensures a responsible and structured triage of patient health issues and requests either by telephone or otherwise.	100	(1)	92.6	(1)
Provided care and services (type and nature of care provided)				
10. Provides appropriate consultation options, suitable to the nature and urgency of the care required and the current needs of the patient.	96.3	(1)	96.3	(1)
11. Ensures that conditions of due care are satisfied for medical assistance to be provided other than by physicians (according to laws, professional guidelines, work agreements)	100	(1)	96.2	(1)
12. Provides first admittance and treatment of all health and disease related problems and symptoms.	92.6	(1)	92.6	(1)

Table 1. Summary of the quality framework for AGPs, and the results of the stakeholders panel (continued)

		Relevance[1] of the criteria according to the panel/non response (mis)			
		AGPs		non-ac. GP practices	
		Score	(Mis)	Score	(Mis)
PERFORMANCE AREA: GP CARE AND SERVICES / DIMENSION 2. PROVISION OF CARE & SERVICES	13. Ensures that the quality of general practice care, and basic provisions are assessable at an individual and population level.	100		78.5	
	14. Provides emergency GP services during evening, nights and weekends, if required to a larger scale organisation.	92.9		96.4	
	15. Provides, if necessary, additional care options for specific patient populations or due to demographic features.	92.8		60.7	
	16. Ensures that the quality of additional care is assessable at an individual and population level.	100		67.9	
	17. Complies to the conditions which need to be satisfied in order to be able to provide special care (if provided).	69.2	(2)	23.0	(2)
	18. Ensures that the quality of the special care provided, is assessable at an individual and population level.	92.6	(1)	65.4	(2)
	19. Ensures that the qualifications and competences of practice staff are satisfied with regards to the provision of special care.	100	(1)	100	(2)
	20. Participates in the development of multidisciplinary care programs if necessary	92.6	(1)	62.9	(1)
	21. Ensures that the quality of the (multidisciplinary) care provided by the practice, is assessable at an individual and population level.	96.4		64.3	
	Continuity of care				
	Internal continuity				
	22. Ensures that mutual agreement and transfer of patient information between practice staff complies with agreed procedures, including referral, transfer and reporting arrangements, allocation of responsibilities and consultation arrangements.	100		92.9	
	23. Attempts to limit the number of carers around one patient in order to prevent the fragmentation of care.	71.4		75.0	
	External continuity				
	24. Ensures that during locum cover mutual agreements and transfer of information about patients complies with the professional guideline ''Information exchange between GP and GP cooperatives'', or is in accordance with agreed procedures, including transfer and reporting arrangements.	100		96.5	
	25. Initiates collaborative agreements and relationships with other care providers with a view to coordinating care and tailoring the care provision.	92.9		60.8	
	26. Conducts periodic patient-related consultation with other carer providers with a view to coordinating care and tailoring the care provision.	82.2		53.6	
	27. Has suitable ICT provisions, enabling electronic communication and (safe) data exchange with other carer providers in accordance with relevant laws, and professional guidelines.	100		89.3	

Table 1. Summary of the quality framework for AGPs, and the results of the stakeholders panel (continued)

		Relevance[1] of the criteria according to the panel/non response (mis)			
		AGPs		non-ac. GP practices	
		Score	(Mis)	Score	(Mis)
PERFORMANCE AREA: GP CARE AND SERVICES / DIMENSION 2. PROVISION OF CARE & SERVICES	28. Ensures that the conditions which the data exchange with 2nd line health professions/ hospital need to satisfy complies with relevant laws and the professional guideline 'Information exchange between General Practitioner and Specialist for referral."	92.8		71.4	
	Medical record keeping and electronic patient dossier (EPD)				
	29. Uses an electronic patient dossier (EPD).	100		100	
	30. Follows the professional guideline "Adequate Record Keeping in Electronic Patient Dossier" in recording and documenting data in the electronic patient record.	96.4		85.7	
	31. Ensures that in the EPD the following information is recorded and kept up-to-date: ANW-information (address, name, home town); Health problems and health conditions (ICPC-coded); Prescriptions; Requests for and results of additional tests; Referrals and results of referrals; Possible contraindications, allergies and side-effects.	100		96.4	
	Professionalism of care provision				
	32. Ensures that employees providing (medical) treatment act in accordance with legal requirements, professional standards, agreed methods for specific patient categories, or other agreed methods in practice.	100		89.3	
	General aspects of care and patient focus				
	Privacy				
	33. Has a privacy policy.	78.6		64.3	
	34. Asks patient's consent for the exchange of data with third parties, unless there are other statutory stipulations.	96.4		89.3	
	35. Ensures that only authorised people can access (a selection of) patient data.	100		96.5	
	36. Provides patients insight into his/her patient file, or a copy of the file if asked.	78.6		75.0	
	Explanation and information				
	37. Provides independent oral and written medical information and explanation to patients. The provided information is clear and relevant	89.3		85.7	
	38. Has professional medical information sources and facilities and patient information materials.	100		89.3	
	39. Ensures that patients are kept informed about relevant practice information (in general).	81.4	(1)	55.5	
	Treatment				
	40. Ensures respectful communication with and treatment of patients.	96.4		96.4	
	Informed consent				
	41. Involves the patient in medical decisions and where required, records the patient's explicit informed consent.	89.3		78.6	

Table 1. Summary of the quality framework for AGPs, and the results of the stakeholders panel (continued)

		Relevance[1] of the criteria according to the panel/non response (mis)			
		AGPs		non-ac. GP practices	
		Score	(Mis)	Score	(Mis)
PA: GP CARE AND SERVICES	*Complaints procedure*				
	42. Has a complaints procedure known to patients. The procedure includes at least a complaints registration, showing that the complaints are recorded, investigated, and the manner in which complaints are settled.	96.4		92.8	
	DIMENSION 3. EVALUATION & ENDING CARE				
	Patient consultation				
	43. Conducts periodical patient evaluations and uses the results to improve the quality of care provisions and practice organisation.	85.8		50	
	Collaborative partners consultation				
	44. Consults periodical the collaborative partners in the care chain and uses the feedback to improve the quality of care provisions and practice organisation.	62.9	(1)	29.6	(1)
	Practice policy when moving and deregistering				
	45. Has established a working method for patients who moved outside the catchment area and for patients who have deregistered (including dossier handling)	64.3		35.7	
PERFORMANCE AREA: PRACTICE MANAGEMENT					
Dimensions, quality topics and good practice criteria that we included in the framework for the evaluation of this performance area:					
PA: PRACTICE MANAGEMENT	DIMENSION 4. POLICY AND QUALITY MANAGEMENT				
	Practice policy				
	46. Has a (multiple year) policy plan which describes at least: the mission and vision, objectives, the provided care; the quality policy.	89.3		35.7	
	Quality aims				
	47. Sets annual quality assurance objectives which are described in the annual plan.	85.2	(1)	33.3	(1)
	Internal quality assurance system				
	48. Establishes and maintains an internal quality assurance system for monitoring, measurement and evaluation of the quality of care, practice management and the objectives pursued by its quality objectives.	96.6	(1)	51.8	(1)
	49. Maintains a documentation of its internal quality assurance system.	92.6	(1)	40.7	(1)
	50. Systematically collects data in terms of critical operational processes and quality features and objectives to be achieved for a periodic evaluation.	88.9	(1)	38.5	(2)
	51. Establishes improvement trajectory, and introduces additional or corrective measures if the results of periodic evaluation show that tasks are not being performed as agreed, or results are not being achieved.	96.2	(2)	48.1	(1)

Table 1. Summary of the quality framework for AGPs, and the results of the stakeholders panel (continued)

		Relevance[1] of the criteria according to the panel/non response (mis)			
		AGPs		non-ac. GP practices	
		Score	(Mis)	Score	(Mis)
PERFORMANCE AREA: PRACTICE MANAGEMENT	**Accidents/incidents register**				
	52. Keeps a record of (near) accidents, unsafe situations identified by staff, and (alleged) errors. The record should also reflect how incidents and notifications have been handled, including any notification to designated authorities.	96.3	(1)	55.5	(1)
	Social accountability & annual reporting				
	53. Prepares and discloses an annual (quality) report.	81.5		46.4	
	DIMENSION 5. STAFF MANAGEMENT				
	Composition & Staffing levels				
	54. Provides adequate staffing during services. Has arrangements for replacement at scheduled and unscheduled absence of doctors and other staff where important for the continuity and quality of care	96.4		96.4	
	55. Is able to provide information regarding the staffing composition.	77.7	(1)	40.7	(1)
	Function-/role descriptions				
	56. Has function/role descriptions for all employed staff.	75.7		42.8	
	57. Ensures that the function/role descriptions describes: tasks and purpose of the function; responsibilities; job requirements; competencies; position in the organization.	75.0		50.0	
	New staff policy				
	58. Has a clear recruitment & selection procedure.	67.9		32.1	
	59. Tailors its recruitment policy to management and quality assurance objectives.	92.8		64.3	
	60. Ensures that new staff (including trainees, interns) are offered an induction programme, and are adequately informed about the procedures and rules of conduct to take into account in order to work safely.	92.5	(1)	66.6	(1)
	Periodic job evaluation/performance reviews				
	61. Conducts annual performance reviews for in-house staff, and draws up a report specifying the outcome and agreements. For students, and trainees the review frequency is guided by the training institute.	96.3	(1)	74	(1)
	Supervision of professional activities				
	62. Is able to demonstrate that staff are in possession of the required registrations, qualifications, experience, skills and competences.	96.4		89.3	
	63. Has established for which patient categories, treatments and tasks staff need to follow protocols.	89.3		62.9	(1)
	64. Has protocols and clear responsibility structures in respect of delegated (reserved) treatments and tasks.	96.3	(1)	62.9	(1)

Table 1. Summary of the quality framework for AGPs, and the results of the stakeholders panel (continued)

			Relevance[1] of the criteria according to the panel/non response (mis)			
			AGPs		non-ac. GP practices	
			Score	(Mis)	Score	(Mis)
PERFORMANCE AREA: PRACTICE MANAGEMENT	DIMENSION 5. STAFF MANAGEMENT	65. Systematically monitors and evaluates the professional handling of staff.	96.2	(2)	53.9	(2)
		Training and education of staff/promoting expertise				
		66. Has individual training plans for staff in alignment with the practice's policy and quality objectives and the training needs of staff based on the assessment of knowledge and skills.	92.6	(1)	53.6	
		67. Ensures independent (post-qualification) training of staff.	96.4		66.6	(1)
		68. Keeps records of (post-qualification) training activities that staff have undertaken.	70.3	(1)	37	(1)
		Identifying and preventing safety, health and well-being risks of staff				
		69. Conducts a periodic risk inventory & evaluation.	64.3		50	
		70. Has a health & safety and absence policy.	75		64.3	
		71. Has procedures for dealing with (potentially) hazardous materials.	53.6		42.9	
		72. Has hygiene guidelines to prevent infection with biological agents and ensuring these are observed.	78.5		78.5	
		73. Offers immunisation against hepatitis B for all staff.	92.9		92.9	
		74. Has an immunisation and vaccination policy, and maintains a register regarding staff hepatitis B, polio, rubella and pertussis vaccination status.	55.5	(1)	48.1	(1)
		75. Has taken measures and established codes of conduct regarding aggression and violence.	59.2	(1)	44.4	(1)
		76. Conducts periodic evaluation of staff job satisfaction.	67.9		50	
		77. Has set out how the (company) emergency response is organised.	60.7		35.7	
		78. Has sufficient trained staff in (company) emergency response. During opening hours, there is at least one employee present with sufficient knowledge and skills in the field of fire fighting and first aid.	57.2		39.3	
	DIMENSION 6. FACILITY & EQUIPMENT MANAGEMENT					
		Location, building and onsite facilities				
		79. The location of the practice is in the vicinity of its patients.	82.2		85.7	
		80. The layout and available onsite facilities of the practice at least suffice the provision of basic GP care.	100		100	
		81. The building and facilities are accessible by patients with disabilities.	96.4		96.4	
		82. The lay out and facilities ensures sufficient patient privacy.	100		100	
		83. The lay out and facilities ensures a safe and effective professional practice.	92.8		96.4	
		Maintenance of building and onsite facilities				
		84. The building is well maintained, and there are arrangement for cleaning the onsite facilities in accordance with the professional guideline "Infection prevention in general practices.''	96.4		96.4	

Table 1. Summary of the quality framework for AGPs, and the results of the stakeholders panel (continued)

		Relevance[1] of the criteria according to the panel/non response (mis)			
		AGPs		non-ac. GP practices	
		Score	(Mis)	Score	(Mis)
PERFORMANCE AREA: PRACTICE MANAGEMENT	**Medical equipment and materials**				
	85. Has a suitable range of diagnostic and therapeutic instruments, tailored to the care options and satisfying professional standard.	100	(1)	92.5	(1)
	Maintenance and management of medical equipment and materials				
	86. Monitors and stores materials and aids/equipment in such a way that preservation can be guaranteed and deterioration and change are prevented.	100	(1)	100	(1)
	87. Registers the use of medical materials and aids/equipment.	77.7	(1)	55.5	(1)
	88. Ensures proper storage, cleaning (incl. disinfection/sterilisation) of (parts of) instruments and equipment in accordance with the professional guideline ''Infection prevention in general practice.''	100	(1)	92.6	(1)
	89. Keeps a record of all the equipment and instruments to be calibrated and the frequency of calibration.	85.2	(1)	74	(1)
	90. Can provide proof of the tests and calibrations conducted on the instruments.	85.1	(1)	66.6	(1)
	Storage and removal of medical waste				
	91. Stores and removes medical waste is in accordance with the professional guideline ''Infection prevention in general practices.''	100		96.4	
	DIMENSION 7. PURCHASE & OUTSOURCING				
	Purchase and outsourcing conditions				
	92. Controls and monitors the quality of materials, aids, apparatus, and services provided by third parties which directly concern the provision of care or (could) affect the quality of care.	67.8		35.7	
	DIMENSION 8. QUALITY DOCUMENTS & RECORDS				
	Documentation of the internal quality assurance system				
	93. Has determined which documentation and records are relevant for the internal quality system and can provide insight in how these documents and records are managed and updated.	81.4	(1)	40.7	(1)
	Managing quality documents and records				
	94. Can provide insight in how the relevant quality documents and records are managed and kept up-to-date, and who is responsible for this.	85.1	(1)	48.1	(1)

Table 1. Summary of the quality framework for AGPs, and the results of the stakeholders panel (continued)

		Relevance[1] of the criteria according to the panel/non response (mis)			
		AGPs		non-ac. GP practices	
PERFORMANCE AREA: ACADEMIC ACTIVITIES		Score	(Mis)	Score	(Mis)
PERFORMANCE AREA: ACADEMIC ACTIVITIES	DIMENSION 9. INVOLVEMENT IN RESEARCH & INNOVATION (R&D)				
	R&D policy& ims				
	95. Has entered a collaborative partnership with a university GP department/university medical centre or is owned by a UMC.	96.4		14.3	
	96. Has described its practice policy, objectives and priorities in the field of scientific research and (care) innovation. The practice will tailor this policy to the funiversity gp department/UMC with which it is collaborating.	96.4		10.7	
	R&D resources nx preconditions				
	97. Satisfies national or institutional start-up criteria for research practices (if available).	96.4		7.2	
	98. One or more doctors have specific/additional competencies to be used in research and innovation activities.	89.3		3.6	
	99. Has a research/innovation budget.	82.3		0	
	R&D output and contributions				
	Innovation				
	100. Participates in general practice and/or multidisciplinary (care) innovation projects incidentally or on a project basis.	82.3		21.5	
	101.Participates on a structural basis in general practice and/or multidisciplinary (care) innovation projects.	85.7		7.1	
	102. Initiates general practice and/or multidisciplinary (care) innovation projects.	85.7		0	
	Research and research/university databases				
	103. Systematically records health problems and diseases and makes these data anonymously available for scientific research.	96.4		22.2	(1)
	104. Participates in scientific research incidentally or on a project basis.	89.3		17.9	
	105. Participates on a structural basis in scientific research.	96.4		7.1	
	R&D performance management				
	106. When implementing or developing new treatment methods or care options it should be possible to determine whether this could lead to the desired results.* * Which means that the practice should take the following steps into account. The practice should: explicate the aims and criteria/indicators for evaluation and appraisal; make a scheme for the introduction of the new method, including a test period and evaluation moments; examine whether information on the new treatment is available; determine which working agreements, resources and qualifications of staff are needed; inform patients before and during the test period about the background of the new methods and asks for consent; register methods, experiences and results during the pilot period; decide only after the test period whether the new method to include as regular care; evaluate the method hereafter on the basis of a pre-established evaluation plan, and keep records of assessments and measures.	96.4		17.8	

Table 1. Summary of the quality framework for AGPs, and the results of the stakeholders panel (continued)

		Relevance[1] of the criteria according to the panel/non response (mis)			
		AGPs		non-ac. GP practices	
		Score	(Mis)	Score	(Mis)
PERFORMANCE AREA: ACADEMIC ACTIVITIES	107. Pays systematic attention to the training/expertise of staff in scientific education. The practice should be able to demonstrate that staff take part in scientific education/training.	92.8		3.6	
	108. Professionalization of staff in the field of scientific education (partly) takes place in accordance with the institutional frameworks for training and professional development of the UGPD/UMC with which the practice cooperates.	92.8		3.7	
	109. Periodically evaluates its research and innovation activities on the basis of: its own objectives, feedback from the UGPD/UMC; outcomes of patient consultations, and takes measures where necessary.	85.7		3.6	
	R&D social accountability & annual reporting				
	110. Reports annually of research and innovation activities and results in the practice annual report.	85.7		14.3	
	DIMENSION 10. INVOLVEMENT IN TEACHING &EDUCATION (T&E)				
	T&E policy and aims				
	111. Has entered a collaborative partnership with a UGPD/UMC or is owned by a UMC	96.4		25.9	(1)
	112. Has a (longterm) policy which describes what contributions the practice intends to deliver to teaching, knowledge transfer within: medical education, GP vocational training, the own professional group and other (para)medical education and professional groups.	96.4		10.7	
	113. Prioritizes its annual objectives in respect of teaching, education and knowledge transfer in consultation with the training institute.	89.3		3.7	(1)
	T&E resources and preconditions				
	114. One or more doctors have additional expertise/competencies to be used in education and training.	96.4		22.2	(1)
	(Medical curriculum)				
	115. Satisfies national and/or institutional training conditions as a training practice for students in medical education.	96.3	(1)	25.9	(1)
	116. General practitioners satisfy the initial/selection criteria for student mentors.	92.6	(2)	59.2	(2)
	(GP specialty training)				
	117. Satisfies the national recognition requirements and educational requirements for GP training practice.	96.3	(1)	37	(2)
	118. One or more general practitioners are qualified GP trainers.	81.5		26.9	(1)

Table 1. Summary of the quality framework for AGPs, and the results of the stakeholders panel (continued)

		Relevance[1] of the criteria according to the panel/non response (mis)			
		AGPs		non-ac. GP practices	
		Score	(Mis)	Score	(Mis)
PERFORMANCE AREA: ACADEMIC ACTIVITIES / DIMENSION 10. INVOLVEMENT IN TEACHING &EDUCATION (T&E)	**T&E output and contributions**				
	Medical curriculum				
	119. Contributes to different educational/training programmes within the medical curriculum.	89.2		21.4	
	120. Contributes to the development of innovation in training programmes within the medical curriculum.	82.2		3.6	
	GP specialty training				
	121. Contributes to GP training and training of trainee physicians.	96.4		18.5	(1)
	122. Contributes to the development in innovation in GP training programmes.	85.2	(1)	3.7	(1)
	123. Contributes to (post-qualification)training and other forms of knowledge transfer * within the own (GP) professional group (*such as conference presentations, publications).	85.7		14.3	
	Other (para)medical education programs and professionals				
	124. Contributes to the training of other (para) medical education programs.	64.3		7.1	
	125. Contributes to the (post-qualification) training and other forms of knowledge transfer to other (allied) medical professionals.	81.4	(1)	7.7	(1)
	T&E performance management				
	126. Professionalization of general practitioners mentoring medical students is in accordance with the institutional frameworks for training and professional development of supervisors, and by using feedback from students/interns that have been assigned to them.	96.4		46.5	
	127. Professionalization of general practitioners mentoring GP trainees is in accordance with the institutional frameworks for training and professional development of supervisors, and by using feedback from GP trainees that have been assigned to them.	96.4		46.4	
	128. Periodically evaluates its activities and contributions in the field of teaching, education and knowledge transfer on the basis of: its own objectives: feedback from students, interns, GP trainees; feedback from the educational/training institute; and outcomes of patients consultations, and takes measures where needed.	96.4		39.3	
	T&E social accountability and annual reporting				
	129. Reports annually of practice activities in education & knowledge transfer in the practice annual report.	(1)	25.9	(1)	

Discussion

Main findings

In the present study we developed a generic quality framework for the Dutch academic general practices. The AGPs are expected to be able to function as academic workplaces and to serve as model practices. This demands a high level of quality of the AGPs. We developed the framework to address the need for a generic/nationwide, transparent and valid quality frame for the AGPs, that could be used for quality assurance and evaluation purposes.

Our quality framework provides the universities, AGPs and other stakeholders with a clear description of the relevant dimensions, topics and good practice criteria for the management and evaluation of quality of AGPs. The quality framework covers all relevant academic and non-academic performance areas of AGPs, and aims at achieving an excellent level of quality within each area.

A stakeholders panel consisting of representatives from the national umbrella GP organizations and university departments of general practice judged the relevance of the new developed criteria for both AGPs and non-academic practices.

For *academic general practices* the panel considered 90% of the criteria to be relevant for AGPs. This professional judgment supports the content-validity of the quality framework and criteria for our target group, and confirms that stakeholders expect AGPs to perform on a best practice level in every relevant performance area. Up to now these expectations were unclear and have not been investigated. As for the 13 criteria which the panel considered not relevant for AGPs we would like to point out that some of these criteria are based on regulatory (such as criterion 69) or cover HKZ-/ISO-based topics (such as criterion 92). For *non-academic* general practices, the panel considered only 36% of the criteria relevant. As we expected, the panel found none of the 35 criteria important for the performance area academic activities (see table 1, dimension 9-10). In addition, the panel found 47 criteria on the performance areas care and services, and practice management not relevant as well for non-academic practices. Some of these criteria involved regulatory requirements, such as: the availability of protocols and supervision of staff (criteria 64, 65); producing an annual quality report (criterion 53); conducting a periodic risk inventory & evaluation (criterion 69), and the requirements for the delivery of special health care (criterion 17);. As the framework was developed for AGPs and aims at excellence, the panel may have found various criteria on practice management in dimension 4-8 too demanding or of lesser importance for non-academic practices, as they do not refer to the core business of general practice, whereas it may have considered some of the criteria on care and services, especially those on additional, specialty, and multidisciplinary care options (criteria 15-21), not applicable, or too innovative for non-academic practices.

However, two ambitions which have been mentioned in the new vision document ''Future vision general practice care 2022'' [46], of the Dutch College of General Practitioners (NHG) and Dutch Association of General Practitioners (LHV), which was published in 2012, indicate that in the coming years more criteria in our quality framework might become relevant for all general practices in the Netherlands. Assuring a high level of GP care is one of the ambitions mentioned

in the vision document, entailing that all general practices work continuously and visibly on monitoring and improvement of the quality of care and practice management. Another ambition is to engage all general practitioners in research, innovation or teaching, with the purpose to assure the continuity and further development of general practice, which LHV and NHG consider a joint responsibility of university departments of general practice and the whole GP profession. This means that in future incorporation of these activities will be considered as a regular and accepted element in all general practices.

Strengths and limitations of the study

A strength of our study is that the framework covers ISO-/HKZ-based quality dimensions and topics, which makes the framework recognisable for external and international parties. In addition, the framework includes sector specific good practice criteria for all topics. Finally, the panel's agreement on the relevance of the criteria for AGPs, supports the content validity of our framework.

A limitation of our study is that we only used Dutch literature and evidence to support the development of the framework and criteria, and did not review the international literature on quality in general practice.

Implications for practice

The framework can be used by the university departments of general practice and other stakeholders, as a guidance and reference frame to improve and evaluate the quality of AGPs and (partly) for non-academic practices as well.

The Dutch steering committee of the AGPs and university general practice networks (LSUNH) can use the framework to set up an accreditation or certification program for the Dutch AGPs, together with the College of General Practitioners (NHG), and to introduce an ''academic quality label.'' The committee and college must decide themselves, whether the 13 criteria which the panel considered not important for AGPs, are useful for accreditation/ certification, or should be removed from the framework eventually. Furthermore, the Dutch College of General Practitioners can use the new results of this study to improve and extent the demands and criteria of the NHG Practice Accreditation Program for non-academic general practices and to bring them in line with relevant regulatory and the future ambitions of NHG and LHV on quality and on the involvement of practices in academic activities.

Finally, we will use the framework as a reference frame for the development of a quality instrument, with which data can be systematically collected from AGPs on all relevant performances areas, dimensions and topics relevant to their quality and output, and which the university departments of general practice can use, along with the framework, to verify whether AGPs meet their expectations for quality.

Conclusions

Our framework makes explicit what universities and other stakeholders comprehend under the term "good practice" for GP care, practice management and academic activities in AGPs, and which expectations they have for quality. The framework can be used as a guidance and reference frame to improve and determine the quality of the AGPs, and (partly) for non-academic general practices as well. The quality

framework covers the dimensions and topics of the ISO 9001:2008, and includes GP specific criteria for all topics.

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5

The development of the Academic General Practice Quality Instrument (AGPQI)

A new instrument for measuring quality and output in GP care and services, practice management, and academic activities in research, innovation, teaching and education.

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Submitted

Abstract

Background
The Dutch university departments of general practice contracted about 100 general practices as Academic General Practices (AGPs) as they needed a number of pioneering practices, which could function as academic workplaces for general practice. The university departments expect from AGPs that they are able to combine a high standard of care and practice management, with research, innovation, teaching and education. To obtain accurate information on the quality and output of the AGPs, an instrument is needed. Previously, we reached agreement with stakeholders on a general quality framework for the AGPs, which we used as a reference frame for the development of the instrument.

Methods
We explored whether we could use and build on an existing quality instrument for general practices, the Visitation Instrument Accreditation (VIA®). As the VIA® needed a substantial revision and evaluation to meet the requirements for AGPs, we decided to develop a new instrument. We used information from literature, consultation of experts and stakeholders, and the VIA®. We included VIA®-items and other identified items, we customized items, and developed new items where needed.

Results
The Academic General Practice Quality Instrument (AGPQI) covers three performance areas: 1) GP care and services, 2) practice management, and 3) academic activities in research, innovation, teaching and education. With 639 items, the instrument measures and evaluates all dimensions and topics of the quality framework for AGPs. About 250 items were generated from the VIA®2008, most other items in the instrument were newly developed.

Conclusions
We created a new quality instrument for the Dutch AGPs to systematically collect detailed information about the quality of GP care and services and practice management in AGPs, and their academic activities in research, innovation, teaching and education. The AGPQI can provide information on the whole range of quality and output, which stakeholders consider relevant for the evaluation of AGPs. The AGPQI can be used for the evaluation of non-academic general practices as well, but not all dimensions and topics of the instrument are important in that case.

Background

In the past decades the Dutch university departments of general practice contracted about 100 general practices across the Netherlands as academic general practices (AGPs). The university departments expect from AGPs that they are able to combine a high standard of care and practice management, with research, innovation, teaching and education. The AGPs are considered to be the pioneering practices and academic workplaces for the discipline of general practice.
The ambitions of the university departments of general practice require adequate management and evaluation of the quality and output of the

Dutch AGPs, especially since (most of) the AGPs are not owned or managed by a medical faculty. However, at the start of our research there was no clear and collective vision on the AGPs, and no uniform definition or clear profile of an AGP. In the past decennia, each university department of general practice developed its own AGPs, without much exchange or alignment between the university departments. The same was true for quality requirements that university departments of general practice had for their AGPs, if these were formulated at all. Around 2003, the Dutch university departments of general practice felt an increasing need for a joint reorientation on the tasks and positioning of AGPs, and to the best way of determining their quality and output as well. For this purpose, they set up the National Steering Committee of the University General Practice Networks (LSUNH). [1] Its role and goal is to promote the development, evaluation, organization and quality policy of the AGPs and university general practice networks. The LSUNH consists of representatives from the Dutch university departments of general practice and the Dutch College of General Practitioners. In 2005 the Interfaculty Council for general practice (IOH) and the Dutch College of General Practitioners acknowledged LSUNH as the national IOH-working group for the university general practice networks and AGPs.
In the past years we conducted two projects together with this committee, which contributed to the creation of a joint vision on the AGPs, and on the management and evaluation of their quality. In a previous focus group study we formulated a shared definition and the aims and functions of AGPs, together with the committee.

Based on a review of the literature, we continued with the development of a generic quality framework, which the universities could use as a guidance and reference frame to improve and evaluate the quality of the AGPs.
The framework made explicit what universities and other stakeholders meant by the term "good practice" for GP care, practice management and academic activities in AGPs, and which expectations they had for quality in all three areas. For each area the framework describes the relevant dimensions, quality topics, and good practice criteria. The framework contains 10 dimensions, covers 44 topics and includes 129 good practice criteria. A stakeholders panel judged the criteria in the framework, and found by far most of the criteria (90%) relevant. Our framework made explicit what universities and other stakeholders comprehended under the term “good practice” for GP care, practice management and academic activities in AGPs, and which expectations they had for quality.
The objective of the present study is to develop a quality instrument for the Dutch AGPs, which the university departments of general practice can use for systematic evaluation of the quality and achievements (output) of AGPs, and to obtain accurate information on the quality of care and practice management in AGPs, and on important academic activities. To build this instrument we needed to identify and compose a meaningful and comprehensive set of questions (items), with which informative data can be systematically collected from AGPs, on the three aforementioned performance areas, and on all dimensions and topics of the framework.
In this paper we describe the development and content of the new instrument. Prior, to our decision to

build a new instrument, we investigated the feasibility of an available quality instrument for general practices: the Visitation Instrument Accreditation (VIA®). The Dutch College of General Practitioners uses the VIA® in its practice accreditation program, to assess the quality of GP care and practice management. [2, 3] The VIA® was introduced in 2005. In 2008, the VIA® was updated to bring the items on practice management in line with the European Practice Assessment (EPA). [4] This is a European set of items for evaluating practice management in primary care.

Methods

Using the recently developed quality framework as a reference frame, we evaluated the feasibility of the VIA®2008 [1)] for the evaluation of the AGPs. We investigated to what extent the VIA®-items covered the three performance areas, ten dimensions and 44 topics of the framework (see Table 1), established which parts of the framework were underrepresented in the VIA®, and specified the identified VIA®-items f or each part. After we had completed our assessment, we discussed our findings with the steering committee. Together we decided to build a new quality instrument, in line with the framework. The input for the items in the new instrument came from literature searches, consultation of experts and stakeholders, and the VIA®2008. In the new instrument we included items of the VIA® and other relevant items we identified in the literature; we customized items, and developed new items where needed. During the item selection and development process we regularly consulted and informed the steering committee.

[1)] pilot version 2008 of the VIA® module ''Practice Management'', and the version of January 2007 of the module ''Clinical Performances'

Results

Evaluation of the VIA®2008

The VIA® evaluates various dimensions and topics on practice management, clinical performance, and patients' experiences (see Appendix 3, page 128), which were to some extent similar to the dimensions and topics of the quality framework for AGPs. For three of the ten dimensions of the framework (see Table 1, dimensions 2, 5, 6), the VIA®2008 provided a comprehensive set of items, though not enough to collect all the relevant information about the quality and output of AGPs. For seven dimensions the VIA®2008 contained none or only a limited number of items for measurement (See Table 1, dimensions 1, 3, 4, 7, 8, 9, 10). Most relevant VIA®-items focus on the measurement of the quality of GP care and services (220 items); other VIA®-items mostly related to facility and equipment management (66 items), and staff management (46 items).

We concluded that the VIA®–items were partly useful, but not sufficient to adequately measure the quality of care and practice management in AGPs, and their academic activities. To meet the requirements for AGPs, a substantial revision and evaluation of the VIA®2008 would have been needed. Therefore, we decided to build a new quality instrument, in which the relevant VIA®-items would be integrated wherever possible. The steering committee supported our findings and decision.

Table 1. Feasibility of the VIA®2008 using the AGP quality framework as reference frame

performance areas, dimensions and quality topics addressed in the framework	**number of VIA-items[1)]**
GP CARE AND SERVICES	
DIMENSION 1. intake of new patients	
application	×
acceptance and registration	5
case history and data collection	2
information provision	1
DIMENSION 2. provision of care & services	
accessibility and availability	44
triage	5
provided care and services	78[2)]
continuity of care (intern)	31
medical record keeping, and the electronic patient dossier (EPD)	13
professionalism of care provision	5
general aspects of care and patient focus	44
DIMENSION 3. evaluation & ending of care	
patients' involvement, and opinion	8
stakeholders' involvement and opinion	×
deregistration of patients	×
PRACTICE MANAGEMENT	
DIMENSION 4. policy & quality management	
practice policy	7
quality aims	×
internal quality assurance system	×
accidents/incidents register	3
social accountability, and annual reporting	2
DIMENSION 5. staff management	
composition and staffing levels	8
function-/role description	1
new staff policy	3
periodic job evaluation/performance reviews	1
supervision of professional activities	12
training and education of staff/promoting expertise	7
identifying and preventing safety, health and well-being risks	14
DIMENSION 6. facility & equipment management	
location, building and on-site facilities	37
maintenance of building and on-site facilities	5
medical equipment and materials	12
maintenance and management of medical equipment and materials	12
storage and removal of medical waste	×
DIMENSION 7. purchase & outsourcing	
purchase and outsourcing conditions	×
DIMENSION 8. quality documents & records	
documentation of the internal quality assurance system	×
managing quality documents and records	×
ACADEMIC ACTIVITIES (in research, innovation, teaching and education)	
DIMENSION 9. involvement in research & innovation (R&D)	
R & D policy & aims	×
R & D resources & conditions	×
R & D outputs & contributions	×
R & D performance management	×
R &D social accountability, and annual reporting	×
DIMENSION 10. involvement in Teaching & Education (T&E)	
T & E policy & aims	×
T & E resources & conditions	×
T & E outputs & contributions	1
T & E performance management	×
T & E social accountability, and annual reporting	×

[1)] the identified VIA®-items included both items for the practice staff, and for patients. In the AGPQI we only used VIA®-items for staff.

[2)] including 70 clinical performance items, which have to be generated from the GP information system

The new instrument: the Academic General Practice Quality Instrument (AGPQI)

The new instrument covers all three performance areas, all 10 dimensions, and all 44 quality topics of the framework, and includes in total 637 items (questions) for their measurement and evaluation: 334 items to evaluate GP care and services (covering dimensions 1-3 of the framework), 217 items for practice management (covering dimensions 4-8), and 86 items to evaluate the academic activities of AGPs in research, innovation, teaching and education (covering dimensions 9 and 10) (see Table 2).

The 10 dimensions in the new instrument address: 1) the intake and registration of new patients, 2) the provision of care and services, 3) the evaluation and ending of care; 4) policy and quality management, 5) staff management, 6) facility and equipment management, 7) purchase and outsourcing, 8) quality documents and records, 9) practices' involvement in research and innovation, and their 10) involvement in teaching and education.

For a summary of all quality topics which we included in the instrument we refer to Table 2.

Item selection and development

Below we illustrate by three examples how we identified, selected and developed the items (questions) for the various dimensions and topics of the new instrument, and how we used the literature, and involved experts and stakeholders in this process. The first two examples address two quality topics, which are relevant for all general practices, whereas the third example applies specifically to practices active in research and innovation, such as the AGPs.

Example 1: Infection prevention and control

Infection prevention and control is important in providing safe care and a safe working environment in both academic and non-academic general practices. For the development and selection of items, we used the professional guideline on infection prevention and control as a best practice guide. [5] The guideline addresses: personal and environmental hygiene; safe working practice and procedures; infections and immunization of staff; personal protection equipment; needle stick injuries; cleaning, disinfection and sterilization of used instruments; disposal of medical waste; and laboratory activities.

We established that the items in the VIA® 2008 on infection prevention and control, covered only the minimum requirements for practices, and did not provide sufficient information to assess compliance with the guideline. Therefore, we searched for additional items. In the literature we identified one study on infection prevention and control in general practice, reporting the use of a questionnaire, to evaluate the implementation of the guideline in general practices. [6, 7] Together with the researcher, a hygienist, we determined which guideline topics and recommendations were important to address in the new instrument, and which VIA®-items and additional items were useful for their evaluation. Box 1 provides a summary of all relevant items in the new instrument on infection prevention and control.

Box 1. Summary of the included items in the AGPQI on infection prevention and control

GP CARE & SERVICES
DIMENSION 2. provision of care & services
infection prevention in patient examinations
224 Is there a hygiene protocol in place for patient examinations and treatment? (yes/no)
225 Is it the norm to work as much as possible with disposable instruments for patient examinations? (yes/no)
226 Is it the norm to subsequently disinfect the examination table(s) if soiled during a procedure? (yes/no)
227 When syringing ears is it standard practice to: a) wear non-sterile gloves, b) protective glasses, c) a surgical mask? (yes/no)
228 When removing surgically closed wound drains is it standard practice to wear non-sterile gloves? (yes/no)
229 When removing warts using nitrogen is it standard practice to only dip the cotton buds in the nitrogen once? (yes/no)
230 Is it standard practice to sterilise the speculum after use (HPV virus)? (yes/no)
231 Is it standard practice to sterilise the uterine catheter after use (HPV virus)? (yes/no)

PRACTICE MANAGEMENT
DIMENSION 4. policy & quality management
recording and reporting accidents and errors
354 Does the practice maintain a record of: a) (near) accidents and (potential) errors that have occurred, b) (potential) reporting of this to the designated external organizations, c) unsafe work situations reported by staff, d) the way in which (near) accidents and (potential) errors have been investigated and dealt with? (yes/no)
355 Is there a protocol in place for how staff should deal with (near) accidents at work (such as needle stick injuries, cuts, blood splatter, contact with pointy or sharp objects, contact with electricity)? (yes/no)
DIMENSION 5. staff management
policy for new staff
378 When employing new staff does the practice check whether they have been vaccinated against a) hepatitis, b) polio, c) rubella, d) whooping cough? (yes/no)
risks to staff safety, health and well-being: identification and prevention
focus on specific risk groups
424 Is there a protocol in place for “pregnant staff”? (yes/no)
425 If so, does this protocol contain information on a) working hours and breaks, b) mental burden, c) physical burden, d) exposure to biological agents and e) exposure to hazardous materials? (yes/no)
426 Are there working agreements in place about informing new staff regarding specific risks in the practice and the measures, code of conduct and working arrangements they need to heed in order to work safely in the practice (such as, for instance, the use of protective materials when dealing with biological agents)? (yes/no)
427 If so, have these working agreements been recorded or included in a standard checklist or induction procedure? (yes/no)
immunisation policy
431 Does the practice offer all practice staff a hepatitis B vaccination? (yes/no)
432 Does this include the cleaning staff
433 Does the practice maintain a record of the vaccination status for the GPs and staff? (yes/no)
434 Have all staff been inoculated against a) hepatitis, b) rubella, c) whooping cough, d) polio? (yes/no)
safety and hygiene
436 Is there a protocol/guideline in place for "personal hygiene" or is this focus point included in a hygiene protocol? (yes/no)
437 Is there a protocol/guideline in place for "hand hygiene" or is this focus point included in a hygiene protocol? (yes/no)
438 Is there a protocol/guideline in place for "protective materials" or is this focus point included in a hygiene protocol? (yes/no)
439 Is there a guideline/protocol in place regarding “infections and staff” or is this focus point included in a hygiene protocol? (yes/no)
440 Is there a protocol for “needle stick/cuts/splatter accidents”? (yes/no)
441 Does the practice maintain a record of needle stick/cuts/splatter accidents including the (potential) reporting of this to the designated organizations? (yes/no)

Box 1. Summary of the included items in the AGPQI on infection prevention and control (continued)

DIMENSION 6. facility & equipment management
rooms, facilities and equipment
473 Are the following hygiene/protective materials available in the treatment/examination room (such as disposable gloves, plastic apron(s), protective glasses, needle container, leak-free container, paper towels, exam table paper)? (list)
maintenance, inspection and management
• *cleaning of practice rooms*
484 Are the foyer, reception and waiting room cleaned at least once per week? yes/no
485 Are the following rooms cleaned daily (consultation rooms, examination rooms/area, treatment rooms, laboratory, toilets)? (yes/no)
• *storage and cleaning of used medical instruments*
501 Is there a protocol for dealing with used instruments?
502 Is the practice's equipment limited to simple instruments with no light units or sealed rooms (such as scissors, pincers, suture sets, etc.)? (yes/no)
503 Does the practice clean the not-disposable used instruments? (yes/no)
504 If not, are there agreements in place with those responsible for the cleaning in terms of the manner in which used instruments are to be stored up to the point they are cleaned (disinfecting or sterilising)? (yes/no)
505 If so, have these working agreements been recorded? (yes/no)
• *In case of cleaning by the practice:*
506 Is there a protocol for cleaning used instruments? (yes/no)
507 How are used instruments cleaned, rinsed and dried in the practice? (list)
508 Is it standard practice for gloves to be worn when cleaning instruments? (yes/no)
509 Is it standard practice for staff to also wear a) a plastic apron, b) protective glasses when manually cleaning critical instruments (non-intact skin or mucosa or sterile body cavities)? (yes/no)
510 If the practice sterilises non-disposable instruments itself what type of autoclave does it use for this purpose (steam autoclave with or without CE kite mark or an S-class steam autoclave)? (list)
511 Is it standard practice to determine whether the steriliser has been switched on using an indicator tape? (yes/no)
• *medical materials and equipment*
535 Is there any food, etc. stored in the refrigerator which is used to store medical materials? (yes/no)
• *storage and removal of medical waste*
540 Is there a protocol for handling used needles and contaminated patient material? (yes/no)
541 Is patient waste material secured in a sturdy and sealed plastic bag? (yes/no)
542 Are waste baskets, waste buckets, etc. emptied daily? (yes/no)
543 Are needle containers removed as chemical waste? (yes/no)

ACADEMIC ACTIVITIES
DIMENSION 10. involvement in teaching & education (T&E)
T&E preconditions and resources
• *working conditions/preventing safety, health and well-being risks to students and trainee doctors*
608 Does the practice check whether those individuals in training and/or on placement in the practice have been vaccinated against hepatitis b, polio, rubella and whooping cough? (yes/no)
609 If so, are these checks recorded? (yes/no)
611 Do those individuals in training or on placement also receive information during the induction period about the specific risks of working in the GP practice and the measures, codes of conduct, working agreements, etc. they should take into consideration in order to be able to work safely? (yes/no)

Example 2. Record keeping & the electronic patient file (EPD)

Good quality record keeping supports, amongst others, clinical decision making, the communication between health care professionals, and the continuity of care. [8] The recorded information in the electronic patient file has an extra ''academic'' relevance for the AGPs, as it is also used for research and teaching. For the development and selection of items, we used the professional guideline on medical record keeping [8] as a best practice guide. The guideline addresses the methods for record keeping (problem-orientated versus episode-based); which information should be recorded (such as: health complaints and diseases, referrals, prescriptions and medication); and where this information should be stored in the EPD.

We found that the VIA®-items for record keeping provided no possibility to assess whether AGPs/practices adhered to the guideline. In the literature we identified one instrument, the EPD-scan-h [9], which provided an alternative set of items to evaluate the quality of electronic record keeping. We included all EPD-scan items, and part of the (modified) VIA®-items for record keeping. In addition, we composed a number of new items to collect information, amongst others, about the presence of some conditional requirements, that are needed in order to be able to comply to some of the recommendations of the guideline. For instance, whether the GP information system facilitates episode-based registration (item 254). Box 2 provides a summary of all included items on record keeping and the EPD.

Example 3. Research and innovation

To collect information on the quality and output of AGPs in research and innovation - which relevant quality topics are addressed in dimension 9 - we composed a nearly complete new set of items, as we hardly found any useful items in the literature. An earlier, extensive review of both the national and international literature [10], had resulted in only one instrument for research active practices: the Primary Care Research Team Assessment Scheme (PCRTA). [11] The PCRTA evaluates different topics of the research infrastructure in practices, such as practice organization, and strategic planning. For this purpose, it uses standards, criteria and indicators.

In addition to the PCRTA-indicators, we also identified a number of research items in the Huisartsgeneeskundige Academiserings Lineaal Maastricht (HALMA). [12, 13] HALMA was developed in the late 1990s as a first attempt to construct a set of items for the Dutch AGPs, and aimed to measure their ''academic output.'' A local group of physicians of the AGPs from the University Maastricht had validated the items, but further development or implementation of the instrument did not take place.

As for the PCRTA, we found that most indicators require substantial written evidence and discussion to be assessed properly. Therefore, they are more suitable to use in audits, than as questionnaire items. An example of an PCTRA-indicator that illustrates this is: ''The practice should encourage all members of the primary health care team involved in research to develop data handling skills and approaches to searching for evidence.'' Furthermore, we found that various organizational topics that are addressed in the PCRTA, are already properly measured in other dimensions of the new instrument. Examples of such topics are: record keeping, data handling and protection, complaints procedure, links with

Box 2. Summary of the included items in the AGPQI on registration and coding and the Electronic Patient File (EPF)

GP CARE & SERVICES

DIMENSION 1. intake and registration of new patients

registration and data collection (including medical history and file management)

24 Are there working agreements in place concerning the uniform registration of a) name and address details, b) age, c) gender, d) medical conditions, e) medication, f) drug intolerances/allergies, g) lifestyle/risk factors, h) diagnostic figures in the electronic patient file? (yes/no)

25 If so, have these registration agreements been confirmed in writing? (yes/no)

26 Are there after registration any checks made to determine whether the new patient's details in the electronic file are complete? (yes/no)

DIMENSION 2. provision of care & services

registration and coding/Electronic Patient File

• *file management*

251 Does the practice use an electronic GP Information System? (yes/no)

252 If so, which GP Information System does the practice use? (yes/no)

253 Have the patients' medical files been fully digitalised (all details stored in a digital file, including lab results, referral letters, results of tests from other healthcare providers, even if these have been provided to the practice on paper)? (yes/no)

254 Is it possible to record episodes in the GP Information System? (yes/no)

• *registration agreements and behaviour*

255 Do the GPs create episodes or problem lists in the EPF? (yes/no)

256 Are the episodes or problem lists provided with an ICPC code? (yes/no)

257 What percentage of the episodes/problem lists recorded in the EPF, do you expect to be linked to a (correct) ICPC code? (yes/no)

258 Is it standard practice to provide the following health problems with a problem status or alert in the EPF: a) chronic problems (longer than 6 months, b) permanent problems (where full recovery is not expected), c) problems which remain a concern to the patient, d) recurrent problems (> 4 care episodes/six months)? (yes/no)

259 Are the partial contacts that are recorded linked to an episode or problem list (such as recorded during consults, telephone contacts or visits)? (yes/no)

260 What percentage of the partial contacts recorded in the EPF do you expect to be linked to an episode or problem list? (numeric)

261 Are partial contacts recorded according to the Subject-Objective-Evaluation-Plan (SOEP) method? (yes/no)

262 Are prescriptions for medicines recorded in the EPF linked to an ICPC coded episode or problem list? (yes/no)

263 How systematically do you monitor and amend the professional summaries? (yes/no)

264 Are there working arrangements for this in the practice? (yes/no) A number of relevant items for this topic can be generated from other parts of the instrument, see dimension 1, items 24, 25, 26

• *quality and completeness of the Electronic Patient Files (EPF)*

265 Does the medical file contain: a) a professional summary, b) an overview of current medication (prescribed < six months), c) an overview of the medication that has been stopped in the previous 4 months, d) information about any potential medicine intolerance, e) information about any potential contra-indications? (yes/no)

266 Average number of episodes per patient as defined by the GP(s)? (numeric)[1)]

267 Percentage A97 or A99-codes, no ICPC or no permissible code (range 3-69)? (numeric)[1)]

268 Percentage of problem lists episodes with problem status or alert? (numeric)[1)]

269 Number of prescriptions linked to an episode with a valid ICPC code? (numeric)[1)]

270 Medication prescribed longer than six months ago with no end date or with an end following a potential wash out period? (numeric)[1)]

271 Percentage of patients with a medicine intolerance? (numeric)[1)]

272 Percentage of patients with a contra-indication? (numeric)[1)]

ACADEMIC ACTIVITIES

DIMENSION 10. involvement in teaching & education (T&E)

T&E preconditions and resources

• *completeness of records and file management*

604 Do those individuals in training and/or on placement in the practice record the consultations/shared contacts under their own code in the Electronic Patient File (so that this information may be used for evaluation/feedback)? (yes/no)

[1)] These items are generated from the GP info system. All other items are questionnaire items, see Table 2

other organizations, and involvement of patients. Nevertheless, the PCRTA proved to be very helpful to identify and develop some research-specific items for some of these topics. For instance: whether the practice has set aside an R&D-budget in the preceding financial year (item 559); and whether patients are informed about research and innovation activities (item 585). We found the research items that were suggested in HALMA too university-specific in several cases. However, the HALMA definitely supported us in composing a set of output items for research and innovation, and we did include a few (customized) HALMA-items as well (items 565 and 571).
Box 3 provides a summary of all items on research and innovation which we included for the different quality topics in dimension 9. For some topics the relevant data can (partly) be generated from other parts of the instrument. Where relevant we have specified these items in Box 3, and Appendix 4, page 129.

Box 3. Summary of the included items in the AGPQI on research and innovation

ACADEMIC ACTIVITIES
DIMENSION 9. involvement in research and innovation (R&D)
background features
552 Is the practice an a) academic general practice, b) research practice, c) registration practice? Other relevant items for this topic are items 31 and 595-597 (see Appendix 4)
R&D ambitions and policy
553 Is there a policy document recording the practices' key points for research and/or innovation for the coming years? (yes/no)
554 If so, was this policy document tailored in the drafting process to the scientific institute/UMC with which the practice is (potentially) collaborating? (yes/no)
555 Is there an annual plan recording the practice's aims and/or intended research and innovation activities for the current practice year? (yes/no)
556 If so, have these aims and/or activities been tailored to the university gp department/UMC with which the practice is (potentially) collaborating? (yes/no)
R&D preconditions and resources
• *R&D budget*
557 Does the practice receive reimbursement periodically for its contribution to research and/or healthcare innovation projects from the scientific institute/UMC with which it is collaborating? (yes/no)
558 In the previous and/or current practice year has the practice a) requested, b) been awarded external financing for a research and/or healthcare innovation project? (yes/no)
559 In the budget for the last financial year were any sums set aside for research and/or innovation? yes/no
• *R&D capacity*
560 Are there practice staff who - within their roles - have time that has been designated for research and/or innovation related tasks? (yes/no)
561 If so, please describe which practice staff and how much time has been set aside? (open/numeric)
562 Does the practice employ a lower patient/GP ratio due to its scientific activities and contributions? (yes/no)
• *research expertise/competences: doctors and staff*
563 How many of the GPs and/or other practice staff: a) have a PhD, b) have a job as a clinical researcher alongside their work in the practice, c) are epidemiologists (registered/unregistered), d) have completed specialist scientific training, e) have other research experience/competences? (numeric) additional specialisms/skills of doctors and staff which could be utilised in research and innovation projects Information on this topic can be generated from other parts of the instrument, see items 150, 395-403, Appendix 4

Box 3. Summary of the included items in the AGPQI on research and innovation (continued)

quality and completeness of electronic patient file
Information on this topic can be generated from other parts of the instrument, see items 24-26, 251-272, Appendix 4
quality of care and the practice organization
Information on this topic can be generated from other parts of the instruments, see items 342-353, Appendix 4
• *facilities & equipment*
564 Does the practice have access to an online UMC/university library? (yes/no)
Another relevant item for this topic is item 455 (see Appendix 4). Dimension 6 covers the ''overall'' management of facilities and equipment.
R&D activities and contributions
• *research*
565 Does the practice periodically provide anonymised data from the GP information system to a national or university GP database? (yes/no)
566 If so, how often? (list)
567 How often does your practice participate in research projects? (list)
568 Has the practice participated in scientific research projects in the previous and/or current practice year? (yes/no)
569 If so, how many research projects has your practice participated in? (list)
570 Please provide a brief description of these research projects. (open)
571 What did the practice contribution consist of: a) including patients, b) providing anonymised data from the GP information system, c) additional data collection, d) pilot practice for new healthcare model/treatment method, e) generating research questions, f) other? (yes/no, open)
• *innovation*
572 Has the practice participated in one or more healthcare innovation projects in the previous and/or current practice year? (yes/no)
573 If so, please provide a brief description of these innovation projects. (open)
574 Does the practice maintain an annual record of its participation in research and/or innovation projects? (yes/no)
575 Prior to participation in any research does the practice assess whether: a) a study protocol has been drafted, b) an authorised committee has approved the study protocol? (yes/no)
576 Are the research and innovation activities and contributions periodically evaluated with the scientific institute/UMC with which the practice collaborates? (yes/no)
577 If so, how often? (list)
578 If so, are evaluation documents available? (yes/no)
Another relevant item for this topic is item 589 (see Appendix 4)
scientific training & promoting expertise
579 Are there GPs who are currently undergoing specialist programmes in "scientific training"? (yes/no)
580 Are evidence-based patient discussions periodically held in the practice or in the GP group? (yes/no)
581 If so, how often? (list)
582 Are any GPs periodically participating in meetings of the academic GP network in which scientific/research expertise is promoted? (yes/no)
583 How often did these network meetings take place in the previous year? (list)
584 How many hours of accredited (post-qualification) training of the GP(s) was related to scientific training in the previous practice year (such as critical reading, PubMed searches, PICO patient discussion)? (numeric)

focus points for patients with regards to research and innovation
• *information provision to patients*
585 Is information about the following included in the practice folder: a) practice activities in terms of research and/or innovation, b) patient rights when participating in scientific research or innovative care models, c) how patients are able to record that they do not want any data made available for research? (yes/no)
• *informed consent*
586 Is a note made in the electronic patient file for those patients who have indicated that they do not want to make any data available? (for instance using a special code or ''tab'')? (yes/no)
587 Are those patients who are participating in an experimental care model/treatment method explicitly asked for consent? (yes/no)
588 Is this consent noted in the electronic patient file? (yes/no)

Box 3. Summary of the included items in the AGPQI on research and innovation (continued)

consultation and evaluation
589 Does the practice periodically survey patient experiences or satisfaction with regard to the research and innovation activities taking place in the practice? (yes/no)
Other relevant items for this topic are items 323-333 (see Appendix 4)
social accountability and annual reporting
590 Does the practice include a record in its latest annual report of the practice activities and contributions to research and/or healthcare innovation? (yes/no)
591 Does the practice record in its annual report any potential amendments/changes in the practice organisation and/or healthcare provision that have been introduced following the outcome of research/health care innovation activities? (yes/no)
Other relevant items for this topic are items 358 and 359
relevant documents & records for internal quality control system
592 Summary of the relevant documents and records of dimension 9 for the internal quality control system. (list)

In similar ways as described in the previous examples, we selected and composed the items for all other dimensions and topics of the Academic General Practice Quality Instrument (AGPQI). Most items in the instrument are closed-ended items (484 questions, with answer options limited to either ''yes/no'', or a list of answer choices) and numeric items (140 items); 13 items are open items. The new instrument includes items of the VIA®2008 [3], items stemming from other instruments [6, 7, 9, 11-14] and newly developed items. We included approximately 250 items of the VIA®2008, of which we customized about one third. Most other items in the AGPQI are newly developed. Appendix 4 (page 129) provides a list of all items in the instrument.

Measurement methods and data collection

With regard to the measurement methods, most items in the new instrument can be collected through questionnaires, which can be completed by the general practitioner(s) or practice manager in AGPs; 82 items have to be extracted from the GP information system. These items involve: record keeping; contact and consultation details; and clinical performance items. This leaves 555 items to be answered by the general practitioner(s) or practice manager in the AGPs through (newly developed) questionnaires. The items which have to be generated from the GP information system, are nearly all items which were taken from the VIA®2008, and a few items of the EPD-scan-h. [3,9] These items cover topics on: a) record keeping (seven items); b) contact and consultation details (six items); and c) clinical performance with regard to: COPD, asthma, cardiovascular diseases, diabetes, cervix screening, yearly influenza vaccination, and prescriptions (69 items). (See Appendix 4 (page 129), items: 152-157, 159-224, 246-248, and 266-272).

As we composed the instrument we found that several of the included items are relevant for multiple performance areas or topics in the instrument, such as the items for record keeping (see Box 2). To reduce time investment for respondents, we decided to include these items only once. Where relevant we specified these items for the specific topics (see Appendix 4, page 129).

Table 2. Summary of the Academic General Practice Quality Instrument

	dimensions and topics addressed in the AGPQI (for a complete itemlist see Appendix 4)	number of questionnaires	number of items[1)]	type of response categories: *yes/no*	*predefined list*	*numeric*	*open*	relevant data will be collected from
GP CARE AND SERVICES								
GP CARE AND SERVICES	DIMENSION 1. intake of new patients	1						
	acceptance policy		12	9	2	1	0	questionnaire(s)
	free choice of doctor		2	2	0	0	0	questionnaire(s)
	registration and data collection		17	11	4	2	0	questionnaire(s)
	information provision to new patients		10	8	2	0	0	questionnaire(s)
	relevant documents/ records for internal quality system		1	0	1	0	0	questionnaire(s)
	DIMENSION 2. provision of care and services	**10**						
	accessibility & availability:							
	telephone facilities		9	5	0	3	1	questionnaire(s)
	telephone access during opening times		6	3	3	0	0	questionnaire(s)
	telephone access outside of opening times		3	3	0	0	0	questionnaire(s)
	telephone access in an emergency		5	5	0	0	0	questionnaire(s)
	electronic/online access		3	1	1	0	1	questionnaire(s)
	accessibility during office hours		7	2	1	4	0	questionnaire(s)
	accessibility during monitoring		5	3	1	0	1	questionnaire(s)
	availability of GPs and other health care providers		9	1	1	7	0	questionnaire(s)
	consultation availability		15	3	8	3	1	questionnaire(s)
	accessibility for emergencies		4	3	1	0	0	questionnaire(s)
	information provision about accessibility and availability		7	5	2	0	0	questionnaire(s)
	triage:							
	protocols		2	2	0	0	0	questionnaire(s)
	procedures and records		6	5	1	0	0	questionnaire(s)
	availability and monitoring by GP		5	4	1	0	0	questionnaire(s)
	training and promoting expertise		5	3	0	2	0	questionnaire(s)
	task delegation:							
	delegated tasks		4	2	2	0	0	questionnaire(s)
	protocols for delegated tasks		3	1	2	0	0	questionnaire(s)

[1)] Various items that we included in the AGPQI are relevant for multiple topics. To reduce time investment we decided to only include these items once. Where relevant we have specified these items in the itemlist (see Appendix 4, page 129).

Table 2. Summary of the Academic General Practice Quality Instrument (continued)

	dimensions and topics addressed in the AGPQI (for a complete itemlist see Appendix 4)	number of questionnaires	number of items[1]	type of response categories: *yes/no*	*predefined list*	*numeric*	*open*	relevant data will be collected from
GP CARE AND SERVICES	*availability of supervising doctors*		[2]	×	×	×	×	
	periodic evaluation and assessment of delegated tasks		4	4	0	0	0	questionnaire(s)
	registered contacts and consultations with practice assistants and practice nurses		[2]	×	×	×	×	
	available services (additional to basic GP care):							
	laboratory services		1	1	0	0	0	questionnaire(s)
	pharmacy services		1	1	0	0	0	questionnaire(s)
	additional GP services (for specific patient categories)		3	2	0	0	1	questionnaire(s)
	special services (not GP specific) and GP specia-lisms		2	1	1	0	0	questionnaire(s)
	features of the healthcare provided:							
	consultation and contact features		7	1	0	6	0	GP system
	copd diseasemanagement		12	0	0	12	0	GP system
	asthma diseasemanagement		15	0	0	15	0	GP system
	cardiovascular diseasemanagement		18	0	0	18	0	GP system
	diabetes diseasemanagement		18	0	0	18	0	GP system
	prevention: cervix screening		1	0	0	1	0	GP system
	prevention: annual influenza vaccination		2	0	0	2	0	GP system
	infection prevention in patient examinations		8	8	0	0	0	questionnaire(s)
	medication and prescriptions:							
	• preparing and sending prescriptions		3	1	2	0	0	questionnaire(s)
	• repeat prescription procedure		10	9	1	0	0	questionnaire(s)
	• GP prescribing behavior		3	0	0	3	0	GP system
	• participation in pharmacotherapeutic consultations		2	1	1	0	0	questionnaire(s)
	registration and coding/Electronic Patient File (EPF):							
	file management		4	3	1	0	0	questionnaire(s)
	registration agreements and behaviour		10	7	1	2	0	questionnaire(s)
	quality and completeness of the EPF		8	1	0	7	0	questionnaire(s)

DIMENSION 2. provision of care and services

[1] Various items that we included in the AGPQI are relevant for multiple topics. To reduce time investment we decided to only include these items once. Where relevant we have specified these items in the itemlist (see Appendix 4, page 129).
[2] For this topic all relevant items can be generated from other parts of the instrument. Where relevant we have specified these items in the itemlist (see Appendix 4, page 129).

Table 2. Summary of the Academic General Practice Quality Instrument (continued)

	dimensions and topics addressed in the AGPQI (for a complete itemlist see Appendix 4)	number of questionnaires	number of items[1]	type of response categories: *yes/no*	*predefined list*	*numeric*	*open*	relevant data will be collected from
GP CARE AND SERVICES	continuity of care (internal and external):							
	work consultation		2	2	0	0	0	questionnaire(s)
	organisation of transfer and exchange of information on locum cover		3	2	1	0	0	questionnaire(s)
	organisation of transfer and exchange of information with (regional) hospital		4	2	2	0	0	questionnaire(s)
	collaborative agreements and consultation with 1st line		3	0	3	0	0	questionnaire(s)
	collaborative agreements and consultation with hospital/2nd line		3	2	1	0	0	questionnaire(s)
	collaborative agreements and consultation with other healthcare providers/organisations		4	3	1	0	0	questionnaire(s)
	general focus points for care and for patients:							
	privacy (including secure computer network)		8	7	1	0	0	questionnaire(s)
	informed consent		[2]	×	×	×	×	
	patient interaction		[2]	×	×	×	×	
	complaint procedure		4	4	0	0	0	questionnaire(s)
	information provision to patients:							
	• medical information[1]		6	5	1	0	0	questionnaire(s)
	• general information about the practice		4	4	0	0	0	questionnaire(s)
	relevant documents/ records for internal quality system		1	0	1	0	0	questionnaire(s)
	DIMENSION 3. evaluation & ending of care	1						
	practice policy when moving and deregistering		7	6	1	0	0	questionnaire(s)
	consultation of patients		11	8	1	1	1	questionnaire(s)
	consultation of collaborative partners		[2]	×	×	×	×	
	relevant documents/ records for internal quality system		0	1	0	0	1	questionnaire(s)
	total for the evaluation of GP care and services	**12**	**334**	**167**	**54**	**107**	**6**	
PRACTICE MANAGEMENT								
	DIMENSION 4. policy & quality management	1						
	general and quality assurance policy		5	5	0	0	0	questionnaire(s)
	financial policy		2	1	0	1	0	questionnaire(s)

[1] Various items that we included in the AGPQI are relevant for multiple topics. To reduce time investment we decided to only include these items once. Where relevant we have specified these items in the itemlist (see Appendix 4, page 129).
[2] For this topic all relevant items can be generated from other parts of the instrument. Where relevant we have specified these items in the itemlist (see Appendix 4, page 129).

Table 2. Summary of the Academic General Practice Quality Instrument (continued)

	dimensions and topics addressed in the AGPQI (for a complete itemlist see Appendix 4)	number of questionnaires	number of items[1)]	type of response categories: *yes/no*	*predefined list*	*numeric*	*open*	relevant data will be collected from
PRACTICE MANAGEMENT	creating and maintaining an internal quality assurance system		12	7	5	0	0	questionnaire(s)
	documenting the internal quality assurance system		0	0	0	0	0	questionnaire(s)
	recording and reporting (near) accidents and errors		4	4	0	0	0	questionnaire(s)
	social responsibility and reporting		6	5	1	0	0	questionnaire(s)
	relevant documents/ records for internal quality system		1	0	1	0	0	questionnaire(s)
	DIMENSION 5. staff management	1						
	composition and staffing		1	0	1	0	0	questionnaire(s)
	identifying potential understaffing		9	8	0	1	0	questionnaire(s)
	taks/role descriptions		1	1	0	0	0	questionnaire(s)
	policy for new staff		4	4	0	0	0	questionnaire(s)
	periodic job evaluation		3	3	0	0	0	questionnaire(s)
	experience, competence and (specific) skills		21	8	3	8	2	questionnaire(s)
	supervision and performance management		2	1	1	0	0	questionnaire(s)
	training (policy)		9	8	0	1	0	questionnaire(s)
	risks to staff safety, health, and well-being: identification and prevention:							
	periodic risk inventories and evaluation (RI&E)		5	4	1	0	0	questionnaire(s)
	working conditions		4	4	0	0	0	questionnaire(s)
	focus on specific risk groups		4	4	0	0	0	questionnaire(s)
	absence from work policy		3	3	0	0	0	questionnaire(s)
	immunisation policy		4	4	0	0	0	questionnaire(s)
	safety and hygiene		8	8	0	0	0	questionnaire(s)
	(company) emergency response team		3	2	1	0	0	questionnaire(s)
	relevant documents/ records for internal quality system		1	0	1	0	0	questionnaire(s)
	DIMENSION 6. facility & equipment management	1						
	location, building and physical access		7	7	0	0	0	questionnaire(s)
	rooms, facilities and equipment		21	11	6	4	0	questionnaire(s)

[1)] Various items that we included in the AGPQI are relevant for multiple topics. To reduce time investment we decided to only include these items once. Where relevant we have specified these items in the itemlist (see Appendix 4, page 129).

Table 2. Summary of the Academic General Practice Quality Instrument (continued)

	dimensions and topics addressed in the AGPQI (for a complete itemlist see Appendix 4)	number of questionnaires	number of items[1]	type of response categories: *yes/no*	*predefined list*	*numeric*	*open*	relevant data will be collected from
PRACTICE MANAGEMENT	maintenance, inspection and management:							
	safety equipment		8	6	0	2	0	questionnaire(s)
	work sites		1	1	0	0	0	questionnaire(s)
	cleaning of practice rooms		2	2	0	0	0	questionnaire(s)
	automation network, computers, and other peripheral equipment		3	3	0	0	0	questionnaire(s)
	medical instruments and equipment		6	4	2	0	0	questionnaire(s)
	calibration		6	4	1	1	0	questionnaire(s)
	storage and cleaning of used medical instruments		11	9	2	0	0	questionnaire(s)
	doctors'/emergency bags and emergency medicines		21	8	6	7	0	questionnaire(s)
	medical materials and equipment		7	7	0	0	0	questionnaire(s)
	storage and removal of medical waste		4	4	0	0	0	questionnaire(s)
	relevant documents/ records for internal quality system		1	0	1	0	0	questionnaire(s)
	DIMENSION 7. purchase & outsourcing	1						
	services and treatments that are outsourced within the healthcare provision		4	3	0	0	1	questionnaire(s)
	other services by third parties (where relevant for care)		2	1	1	0	0	questionnaire(s)
	relevant documents/ records for internal quality system		1	1	0	0	0	questionnaire(s)
	DIMENSION 8. quality documents & records [3]	×						
	internal quality assurance system documentation[1]		[2]	×	×	×	×	
	managing relevant quality documents and records[1]		[2]	×	×	×	×	
	Total for the evaluation of practice management	**4**	**217**	**155**	**34**	**25**	**3**	
ACADEMIC ACTIVITIES								
	DIMENSION 9. involvement in research & innovation (see Appendix 4, items 552-592)	1						
	background features		1	1	0	0	0	questionnaire(s)
	Research & Development (R&D) ambitions & policy		4	4	0	0	0	questionnaire(s)

[1] Various items that we included in the AGPQI are relevant for multiple topics. To reduce time investment we decided to only include these items once. Where relevant we have specified these items in the itemlist (see Appendix 4, page 129).
[2] For this topic all relevant items can be generated from other parts of the instrument. Where relevant we have specified these items in the itemlist (see Appendix 4, page 129).
[3] For dimension 8 all relevant document items can be generated from other questionnaires, see Appendix 4, page 129)

Table 2. Summary of the Academic General Practice Quality Instrument (continued)

	dimensions and topics addressed in the AGPQI (for a complete itemlist see Appendix 4)	number of questionnaires	number of items[1]	type of response categories: *yes/no*	*predefined list*	*numeric*	*open*	relevant data will be collected from
ACADEMIC ACTIVITIES	R& D preconditions and resources:							questionnaire(s)
	R&D budget		3	3	0	0	0	questionnaire(s)
	R&D capacity		3	2	0	0	1	questionnaire(s)
	research expertise/competences: doctors and staff		1	0	0	1	0	questionnaire(s)
	additional skills for doctors and staff which could be utilised in research and innovation		[2]	×	×	×	×	
	quality and completeness of the EPF		[2]	×	×	×	×	
	quality of care and the practice organisation		[2]	×	×	×	×	
	facilities and equipment		1	1	0	0	0	questionnaire(s)
	R&D activities and contributions:							
	research		7	3	3	0	1	questionnaire(s)
	innovation		3	2	0	0	1	questionnaire(s)
	assessment and evaluation		4	3	1	0	0	questionnaire(s)
	scientific training and promoting expertise		6	3	2	1	0	questionnaire(s)
	focus points for patients with regard to research and innovation activities in the practice:							
	information provision to patients		1	1	0	0	0	questionnaire(s)
	informed consent		3	3	0	0	0	questionnaire(s)
	consultation of patients		1	1	0	0	0	questionnaire(s)
	social responsibility and reporting		2	2	0	0	0	questionnaire(s)
	relevant documents/ records for internal quality system		1	0	1	0	0	questionnaire(s)
	DIMENSION 10. Involvement in teaching & education	1						
	backgroundfeatures		5	2	1	2	0	questionnaire(s)
	Teaching & Education (T&E) ambitions & policy		3	3	0	0	0	questionnaire(s)
	T&E preconditions and resources:							
	availability of experienced GPs and GP trainers		3	1	1	1	0	questionnaire(s)

[1] Various items that we included in the AGPQI are relevant for multiple topics. To reduce time investment we decided to only include these items once. Where relevant we have specified these items in the itemlist (see Appendix 4, page 129).
[2] For this topic all relevant items can be generated from other parts of the instrument. Where relevant we have specified these items in the itemlist (see Appendix 4, page 129).

Table 2. Summary of the Academic General Practice Quality Instrument (continued)

	dimensions and topics addressed in the AGPQI (for a complete itemlist see Appendix 4)	number of questionnaires	number of items[1]	type of response categories: *yes/no*	*predefined list*	*numeric*	*open*	relevant data will be collected from
ACADEMIC ACTIVITIES / DIMENSION 10. Involvement in teaching & education	*additional skills for doctors and staff which could be utilised in teaching*		[2]	×	×	×	×	
	sufficient and qualified practice assistants		[2]	×	×	×	×	
	quality and completeness of the EPF		1	1	0	0	0	questionnaire(s)
	quality of care and the practice organisation		[2]	×	×	×	×	
	facilities and equipment		1	1	0	0	0	questionnaire(s)
	working conditions/preventing safety, health and well-being risks to students and trainee doctors		4	4	0	0	0	questionnaire(s)
	scientific culture and attitude		[2]	×	×	×	×	
	T&E activities and contributions:							
	basic medical training/student education		3	2	0	1	0	questionnaire(s)
	GP training		3	2	0	1	0	questionnaire(s)
	other (para)medical professional training		2	1	1	0	0	questionnaire(s)
	own professional field and of other professionals allied to health		9	8	0	0	1	questionnaire(s)
	assessment and evaluation		4	3	1	0	0	questionnaire(s)
	teacher training and promoting expertise		1	0	0	1	0	questionnaire(s)
	focus points for patients with regard to teaching and education activities in the practice:							
	information provision to patients		2	2	0	0	0	questionnaire(s)
	consultation of patients		1	1	0	0	0	questionnaire(s)
	social accountability and annual reporting		2	2	0	0	0	questionnaire(s)
	relevant documents/ records for internal quality system		1	0	1	0	0	questionnaire(s)
	total for the evaluation of academic activities	**2**	**86**	**62**	**12**	**8**	**4**	
TOTAL (for the evaluation of all three performance areas and all ten dimensions)		**18**	**637**	**384**	**100**	**140**	**13**	
						questionnaires:		**555 items**
						GP system:		**82 items**

[1] Various items that we included in the AGPQI are relevant for multiple topics. To reduce time investment we decided to only include these items once. Where relevant we have specified these items in the itemlist (see Appendix 4, page 129).
[2] For this topic all relevant items can be generated from other parts of the instrument. Where relevant we have specified these items in the itemlist (see Appendix 4, page 129).

Discussion

Main findings

In the present study we examined the feasibility of the Visitation Instrument Accreditation (VIA®2008) for the evaluation of the Dutch AGPs, against an agreed quality framework. Although we considered a substantial part of the VIA®-items useful, we found that the VIA®-items were not sufficient for a thorough evaluation of the quality of GP care and services and practice management in AGPs, and to evaluate all relevant academic activities (research, innovation, teaching and education).

For this reason, we decided to create a new instrument: the Academic General Practice Quality Instrument (AGPQI). By supplementing the VIA®-items, with other instruments' items, and newly developed items, we managed to cover all performance areas, dimensions and topics of the framework. This means that the new instrument can provide information on the whole range of quality and output, which stakeholders consider relevant for the evaluation of AGPs. We build the new instrument in line with the framework, so that the content of the instrument and its correspondence with and coverage of the content of the framework can easily be compared and assessed.

The difference between the new instrument and the VIA®, is that our instrument covers all relevant academic areas for AGPs, so that it can actually measure the quality and output of AGPs in research, innovation, teaching and education. And as the university departments of general practice expect an excellent level in care and practice management in AGPs, we developed and included a comprehensive set of new items so that the instrument can measure whether AGPs are successful in achieving this higher level of quality and output in care and practice management. The scope and items of the VIA® are too limited for this purpose. This is not surprising, as the VIA® was originally developed for the evaluation of quality in care and practice management in non-academic general practices, and did not aim to cover all relevant preconditions and quality features for AGPs in both areas.

The new instrument is extensive, in terms of the range of areas, dimensions and topics, and the total number of items. Therefore, the implications for practices in terms of workload could be tough, and larger than they were for the VIA®2008. However, most items are close-ended items, which can be answered quickly by the general practitioner(s) or practice manager, either through a simple „yes" or „no", or by choosing from a predefined list of answer choices. Further, we developed the new instrument in such a way, that each performance area and dimension can be performed separately, which enables practices and stakeholders to carry out an assessment step-by-step, or in modules. We expect the highest workload to be caused by the data collection of the 69 clinical items, which can be extracted from the GP information system. These items were all taken from the VIA® and their data collection have already been widely tested and validated in the practice accreditation program of the Dutch College of General Practitioners. [2]

The instrument, along with the framework, can be used for internal and external evaluation and accreditation purposes. AGPs themselves can use both framework and instrument for internal evaluation and gap analysis (to identify gaps in the internal

quality system). Our quality framework can serve as the directive, whereas the new instrument provides practices with a list of relevant quality and evaluation items for the included topics in the framework. By reviewing the criteria in the framework and filling out the questionnaires of the new instrument, practices can check for themselves how far they are from or how close they are to the outlined ideal state in the framework.
If the instrument is used for external evaluation or accreditation of AGPs, the information that is provided by practices should be verified by standardized checks on items by external auditors.

Strengths and limitations of the study
A strength of our study is, that we used an agreed framework as a reference frame to assess the feasibility of the VIA®2008 for the evaluation of AGPs, and to construct the new instrument. Another strength of our study is, that the additions we made to the VIA®2008, are partial useful for improving the evaluation of the quality of GP care and practice management in non-academic general practices as well, of which we described two examples in the result section. Finally, we worked closely together with experts and stakeholders to select and compose the items, which supported the content validity of the instrument.
A weakness of our study is that our search mainly covered the Dutch literature. Therefore, we may have missed existing instruments in other countries on the evaluation of GP care, practice management, and academic activities in practices. However, we knew from the EPA-project [4] and an earlier international search [10] that instruments for evaluating practice management and academic activities in primary care/ GP practices are still underdeveloped.
As for the evaluation of the performance area GP care and services, and specifically for the clinical items, we are aware of the available items formulated by foreign organizations, such as the set of clinical items of the Quality and Outcomes Framework (QOF). [15] However, for reasons of acceptability and feasibility we decided to only include agreed Dutch clinical items for GP practices in the instrument. [16] We did not include any additional clinical items for the AGPs, as the instrument is already extensive. Once, the new instrument has been implemented the set of clinical items can be extended step-by-step by stakeholders. Finally, we built an instrument for academic general practices. Therefore, for non-academic general practices the items might be too detailed or thorough on some topics. Nevertheless, many topics and items on the performance areas care and services, and practice management are relevant for non-academic general practices as well.

Implications for further research
The new instrument has to be tested, and needs to be acceptable for the target group (the AGPs). [17] Therefore, we will conduct a pilot in a representative group of AGPs, in which we will test and evaluate the feasibility of the instrument, in terms of relevance, completeness, and difficulty of the items, and time required to complete the different parts of the instrument.

Conclusions

We created a new quality instrument for the Dutch AGPs to systematically collect detailed information about the quality of GP care and services and practice management in AGPs, and their academic activities in research, innovation, teaching and education. The AGPQI can provide information on the whole range of quality and output, which stakeholders consider relevant for the evaluation of AGPs. The AGPQI can be used for the evaluation of non-academic general practices as well, but not all dimensions and topics of the instrument are important in that case.

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6

Feasibility of the Academic General Practice Quality Instrument (AGPQI)

Results of a pilot study

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Submitted

Abstract

Background
To evaluate the quality and output of the Dutch Academic General Practices (AGPs), the university departments of general practice need an appropriate instrument. For this purpose, we developed the Academic General Practice Quality Instrument (AGPQI) which contains 637 items (questions): 334 items on the provision of care and services, 217 items on practice management, and 86 items on academic activities in research, innovation, teaching and education, divided over 18 questionnaires.

Purpose
To test the feasibility of the AGPQI and the newly developed questionnaires in a representative group of AGPs.

Method
Ten AGPs tested the feasibility of the instrument and provided feedback on the relevance, completeness and difficulty of the items, and the time required to complete the questionnaires.

Results
For most of the 18 questionnaires, the respondents considered the items relevant, complete and not difficult to answer. For one questionnaire on ''infection prevention'', half of the respondents found the items less relevant, and half of the respondents found the items in the questionnaire on ''facility and equipment management'' (which covers topics as maintenance of the building, and equipment) not easy to complete. On average respondents needed about four and a half hours to complete all 18 questionnaires.

Conclusions
As respondents, in their feedback, succeeded in completion of all questionnaires without much difficulty, and did not report any major comments with regard to the relevance, completeness, and difficulty of the items in the different questionnaires, and the required time for completion, we consider the new instrument suitable for further implementation.

Background

In this paper we describe the results of a pilot study in which we tested the feasibility of the Academic General Practice Quality Instrument (AGPQI). The AGPQI is a new quality instrument for the evaluation of general practice (GP) care and services, practice management, and the involvement of general practices in research, innovation, teaching and education. We developed the instrument for the Dutch university departments of general practice, which needed an appropriate instrument for systematic evaluation of the quality and achievements (output) of their Academic General Practices (AGPs) and to obtain accurate information on the quality of care and practice management in AGPs, and on important academic activities. The university departments expect from AGPs that they are able to combine a high standard of care and practice management, with research, innovation, teaching

and education. The AGPs are considered to be the pioneering practices and academic workplaces for the discipline of general practice.

In a previous study we examined the feasibility of the Visitation Instrument Accreditation (VIA®) [1] for the evaluation of AGPs. The VIA® is an accepted and validated quality instrument for general practices, which the Dutch College of General Practitioners uses in its practice accreditation program, to assess the quality of GP care and practice management. [2]

Although we considered a substantial part of the VIA®-items useful, the scope of the VIA® was not sufficient for an adequate evaluation of the AGPs. For this reason, we decided to develop a new instrument, which resulted in the Academic General Practice Quality Instrument (AGPQI).

Our new instrument is constructed in a modular way, based on a quality framework for AGPs, which we developed with stakeholders. The instrument includes 637 items (questions) for evaluation of three relevant performance areas for AGPs: GP care and services, practice management and academic activities. We split the three performance areas in 10 evaluation dimensions. The 10 dimensions in the new instrument address: 1) the intake and registration of new patients, 2) the provision of care and services, 3) the evaluation and ending of care, 4) policy and quality management, 5) staff management, 6) facility and equipment management, 7) purchase and outsourcing, 8) quality documents and records, 9) practices' involvement in research and innovation, and their 10) involvement in teaching and education. For each dimension we detailed the relevant quality topics for AGPs, and composed a comprehensive set of items (questions) to collect the relevant data from AGPs. In the AGPQI we included new items, (customized) items of the VIA® and items stemming from other instruments. [3-9]

The AGPQI can be used for self-evaluation, for external evaluation and accreditation of the AGPs. We developed the new quality instrument so that each performance area and each dimension can be evaluated separately.

Of the 637 items there are 82 items, which can be extracted from the GP information system (see Table 1, and Appendix 4, page 129). These are nearly all items which were taken from the VIA® and a few items of another instrument: the Electronic Patient Dossier Scan for General Practices (EPD-scan-h). [1, 8]

The 555 other items will be collected through newly developed questionnaires. For each dimension in the AGPQI we developed one questionnaire for the data collection, except for two dimensions: dimension 2 (on the provision of care and services), which we split into 10 questionnaires, because of the large number of items (273 items), and dimension 8 (on quality documents and records), for which no questionnaire was needed, because all relevant items could be generated from the other questionnaires. For a detailed description of the new instrument we refer to Table 1. We wanted to test the feasibility of the AGPQI and the newly developed questionnaires, by evaluating the relevance, completeness, and difficulty of the questionnaires' items, and the time needed to complete all questionnaires. For this purpose, we conducted a pilot study.

Table 1. Summary of the Academic General Practice Quality Instrument

	dimensions and topics addressed in the AGPQI (for a complete itemlist see Appendix 4)	number of questionnaires	number of items[1)]	type of response categories: *yes/no*	*predefined list*	*numeric*	*open*	relevant data will be collected from
GP CARE AND SERVICES								
GP CARE AND SERVICES	DIMENSION 1. intake of new patients	1						
	acceptance policy		12	9	2	1	0	questionnaire(s)
	free choice of doctor		2	2	0	0	0	questionnaire(s)
	registration and data collection		17	11	4	2	0	questionnaire(s)
	information provision to new patients		10	8	2	0	0	questionnaire(s)
	relevant documents/ records for internal quality system		1	0	1	0	0	questionnaire(s)
	DIMENSION 2. provision of care and services	**10**						
	accessibility & availability:							
	telephone facilities		9	5	0	3	1	questionnaire(s)
	telephone access during opening times		6	3	3	0	0	questionnaire(s)
	telephone access outside of opening times		3	3	0	0	0	questionnaire(s)
	telephone access in an emergency		5	5	0	0	0	questionnaire(s)
	electronic/online access		3	1	1	0	1	questionnaire(s)
	accessibility during office hours		7	2	1	4	0	questionnaire(s)
	accessibility during monitoring		5	3	1	0	1	questionnaire(s)
	availability of GPs and other health care providers		9	1	1	7	0	questionnaire(s)
	consultation availability		15	3	8	3	1	questionnaire(s)
	accessibility for emergencies		4	3	1	0	0	questionnaire(s)
	information provision about accessibility and availability		7	5	2	0	0	questionnaire(s)
	triage:							
	protocols		2	2	0	0	0	questionnaire(s)
	procedures and records		6	5	1	0	0	questionnaire(s)
	availability and monitoring by GP		5	4	1	0	0	questionnaire(s)
	training and promoting expertise		5	3	0	2	0	questionnaire(s)
	task delegation:							
	delegated tasks		4	2	2	0	0	questionnaire(s)
	protocols for delegated tasks		3	1	2	0	0	questionnaire(s)

[1)] Various items that we included in the AGPQI are relevant for multiple topics. To reduce time investment we decided to only include these items once. Where relevant we have specified these items in the itemlist (see Appendix 4, page 129).

Table 1. Summary of the Academic General Practice Quality Instrument (continued)

	dimensions and topics addressed in the AGPQI (for a complete itemlist see Appendix 4)	number of questionnaires	number of items[1]	type of response categories: *yes/no*	*predefined list*	*numeric*	*open*	relevant data will be collected from
GP CARE AND SERVICES	*availability of supervising doctors*		[2]	×	×	×	×	
	periodic evaluation and assessment of delegated tasks		4	4	0	0	0	questionnaire(s)
	registered contacts and consultations with practice assistants and practice nurses		[2]	×	×	×	×	
	available services (additional to basic GP care):							
	laboratory services		1	1	0	0	0	questionnaire(s)
	pharmacy services		1	1	0	0	0	questionnaire(s)
	additional GP services (for specific patient categories)		3	2	0	0	1	questionnaire(s)
	special services (not GP specific) and GP specia-lisms		2	1	1	0	0	questionnaire(s)
	features of the healthcare provided:							
	consultation and contact features		7	1	0	6	0	GP system
	copd diseasemanagement		12	0	0	12	0	GP system
	asthma diseasemanagement		15	0	0	15	0	GP system
	cardiovascular diseasemanagement		18	0	0	18	0	GP system
	diabetes diseasemanagement		18	0	0	18	0	GP system
	prevention: cervix screening		1	0	0	1	0	GP system
	prevention: annual influenza vaccination		2	0	0	2	0	GP system
	infection prevention in patient examinations		8	8	0	0	0	questionnaire(s)
	medication and prescriptions:							
	• preparing and sending prescriptions		3	1	2	0	0	questionnaire(s)
	• repeat prescription procedure		10	9	1	0	0	questionnaire(s)
	• GP prescribing behavior		3	0	0	3	0	GP system
	• participation in pharmacotherapeutic consultations		2	1	1	0	0	questionnaire(s)
	registration and coding/Electronic Patient File (EPF):							
	file management		4	3	1	0	0	questionnaire(s)
	registration agreements and behaviour		10	7	1	2	0	questionnaire(s)
	quality and completeness of the EPF		8	1	0	7	0	questionnaire(s)

DIMENSION 2. provision of care and services

[1] Various items that we included in the AGPQI are relevant for multiple topics. To reduce time investment we decided to only include these items once. Where relevant we have specified these items in the itemlist (see Appendix 4, page 129).
[2] For this topic all relevant items can be generated from other parts of the instrument. Where relevant we have specified these items in the itemlist (see Appendix 4, page 129).

Table 1. Summary of the Academic General Practice Quality Instrument (continued)

	dimensions and topics addressed in the AGPQI (for a complete itemlist see Appendix 4)	number of questionnaires	number of items [1]	type of response categories: *yes/no*	*predefined list*	*numeric*	*open*	relevant data will be collected from
GP CARE AND SERVICES	continuity of care (internal and external):							
	work consultation		2	2	0	0	0	questionnaire(s)
	organisation of transfer and exchange of information on locum cover		3	2	1	0	0	questionnaire(s)
	organisation of transfer and exchange of information with (regional) hospital		4	2	2	0	0	questionnaire(s)
	collaborative agreements and consultation with 1st line		3	0	3	0	0	questionnaire(s)
	collaborative agreements and consultation with hospital/2nd line		3	2	1	0	0	questionnaire(s)
	collaborative agreements and consultation with other healthcare providers/organisations		4	3	1	0	0	questionnaire(s)
	general focus points for care and for patients:							
	privacy (including secure computer network)		8	7	1	0	0	questionnaire(s)
	informed consent		[2]	×	×	×	×	
	patient interaction		[2]	×	×	×	×	
	complaint procedure		4	4	0	0	0	questionnaire(s)
	information provision to patients:							
	• medical information [1]		6	5	1	0	0	questionnaire(s)
	• general information about the practice		4	4	0	0	0	questionnaire(s)
	relevant documents/ records for internal quality system		1	0	1	0	0	questionnaire(s)
	DIMENSION 3. evaluation & ending of care	1						
	practice policy when moving and deregistering		7	6	1	0	0	questionnaire(s)
	consultation of patients		11	8	1	1	1	questionnaire(s)
	consultation of collaborative partners		[2]	×	×	×	×	
	relevant documents/ records for internal quality system		0	1	0	0	1	questionnaire(s)
	total for the evaluation of GP care and services	**12**	**334**	**167**	**54**	**107**	**6**	
PRACTICE MANAGEMENT								
	DIMENSION 4. policy & quality management	1						
	general and quality assurance policy		5	5	0	0	0	questionnaire(s)
	financial policy		2	1	0	1	0	questionnaire(s)

[1] Various items that we included in the AGPQI are relevant for multiple topics. To reduce time investment we decided to only include these items once. Where relevant we have specified these items in the itemlist (see Appendix 4, page 129).
[2] For this topic all relevant items can be generated from other parts of the instrument. Where relevant we have specified these items in the itemlist (see Appendix 4, page 129).

Table 1. Summary of the Academic General Practice Quality Instrument (continued)

	dimensions and topics addressed in the AGPQI (for a complete itemlist see Appendix 4)	number of questionnaires	number of items[1)]	type of response categories: *yes/no*	*predefined list*	*numeric*	*open*	relevant data will be collected from
PRACTICE MANAGEMENT	creating and maintaining an internal quality assurance system		12	7	5	0	0	questionnaire(s)
	documenting the internal quality assurance system		0	0	0	0	0	questionnaire(s)
	recording and reporting (near) accidents and errors		4	4	0	0	0	questionnaire(s)
	social responsibility and reporting		6	5	1	0	0	questionnaire(s)
	relevant documents/ records for internal quality system		1	0	1	0	0	questionnaire(s)
	DIMENSION 5. staff management	1						
	composition and staffing		1	0	1	0	0	questionnaire(s)
	identifying potential understaffing		9	8	0	1	0	questionnaire(s)
	taks/role descriptions		1	1	0	0	0	questionnaire(s)
	policy for new staff		4	4	0	0	0	questionnaire(s)
	periodic job evaluation		3	3	0	0	0	questionnaire(s)
	experience, competence and (specific) skills		21	8	3	8	2	questionnaire(s)
	supervision and performance management		2	1	1	0	0	questionnaire(s)
	training (policy)		9	8	0	1	0	questionnaire(s)
	risks to staff safety, health, and well-being: identification and prevention:							
	periodic risk inventories and evaluation (RI&E)		5	4	1	0	0	questionnaire(s)
	working conditions		4	4	0	0	0	questionnaire(s)
	focus on specific risk groups		4	4	0	0	0	questionnaire(s)
	absence from work policy		3	3	0	0	0	questionnaire(s)
	immunisation policy		4	4	0	0	0	questionnaire(s)
	safety and hygiene		8	8	0	0	0	questionnaire(s)
	(company) emergency response team		3	2	1	0	0	questionnaire(s)
	relevant documents/ records for internal quality system		1	0	1	0	0	questionnaire(s)
	DIMENSION 6. facility & equipment management	1						
	location, building and physical access		7	7	0	0	0	questionnaire(s)
	rooms, facilities and equipment		21	11	6	4	0	questionnaire(s)

[1)] Various items that we included in the AGPQI are relevant for multiple topics. To reduce time investment we decided to only include these items once. Where relevant we have specified these items in the itemlist (see Appendix 4, page 129).

Table 1. Summary of the Academic General Practice Quality Instrument (continued)

	dimensions and topics addressed in the AGPQI (for a complete itemlist see Appendix 4)	number of questionnaires	number of items [1]	type of response categories: *yes/no*	*predefined list*	*numeric*	*open*	relevant data will be collected from
PRACTICE MANAGEMENT	maintenance, inspection and management:							
	safety equipment		8	6	0	2	0	questionnaire(s)
	work sites		1	1	0	0	0	questionnaire(s)
	cleaning of practice rooms		2	2	0	0	0	questionnaire(s)
	automation network, computers, and other peripheral equipment		3	3	0	0	0	questionnaire(s)
	medical instruments and equipment		6	4	2	0	0	questionnaire(s)
	calibration		6	4	1	1	0	questionnaire(s)
	storage and cleaning of used medical instruments		11	9	2	0	0	questionnaire(s)
	doctors'/emergency bags and emergency medicines		21	8	6	7	0	questionnaire(s)
	medical materials and equipment		7	7	0	0	0	questionnaire(s)
	storage and removal of medical waste		4	4	0	0	0	questionnaire(s)
	relevant documents/ records for internal quality system		1	0	1	0	0	questionnaire(s)
	DIMENSION 7. purchase & outsourcing	1						
	services and treatments that are outsourced within the healthcare provision		4	3	0	0	1	questionnaire(s)
	other services by third parties (where relevant for care)		2	1	1	0	0	questionnaire(s)
	relevant documents/ records for internal quality system		1	1	0	0	0	questionnaire(s)
	DIMENSION 8. quality documents & records [3]	×						
	internal quality assurance system documentation [1]		[2]	×	×	×	×	
	managing relevant quality documents and records [1]		[2]	×	×	×	×	
	Total for the evaluation of practice management	**4**	**217**	**155**	**34**	**25**	**3**	
ACADEMIC ACTIVITIES								
	DIMENSION 9. involvement in research & innovation (see Appendix 4, items 552-592)	1						
	background features		1	1	0	0	0	questionnaire(s)
	Research & Development (R&D) ambitions & policy		4	4	0	0	0	questionnaire(s)

[1] Various items that we included in the AGPQI are relevant for multiple topics. To reduce time investment we decided to only include these items once. Where relevant we have specified these items in the itemlist (see Appendix 4, page 129).
[2] For this topic all relevant items can be generated from other parts of the instrument. Where relevant we have specified these items in the itemlist (see Appendix 4, page 129).
[3] For dimension 8 all relevant document items can be generated from other questionnaires, see Appendix 4, page 129)

Table 1. Summary of the Academic General Practice Quality Instrument (continued)

	dimensions and topics addressed in the AGPQI (for a complete itemlist see Appendix 4)	number of questionnaires	number of items[1]	type of response categories: *yes/no*	*predefined list*	*numeric*	*open*	relevant data will be collected from
ACADEMIC ACTIVITIES	R& D preconditions and resources:							questionnaire(s)
	R&D budget		3	3	0	0	0	questionnaire(s)
	R&D capacity		3	2	0	0	1	questionnaire(s)
	research expertise/competences: doctors and staff		1	0	0	1	0	questionnaire(s)
	additional skills for doctors and staff which could be utilised in research and innovation		[2]	×	×	×	×	
	quality and completeness of the EPF		[2]	×	×	×	×	
	quality of care and the practice organisation		[2]	×	×	×	×	
	facilities and equipment		1	1	0	0	0	questionnaire(s)
	R&D activities and contributions:							
	research		7	3	3	0	1	questionnaire(s)
	innovation		3	2	0	0	1	questionnaire(s)
	assessment and evaluation		4	3	1	0	0	questionnaire(s)
	scientific training and promoting expertise		6	3	2	1	0	questionnaire(s)
	focus points for patients with regard to research and innovation activities in the practice:							
	information provision to patients		1	1	0	0	0	questionnaire(s)
	informed consent		3	3	0	0	0	questionnaire(s)
	consultation of patients		1	1	0	0	0	questionnaire(s)
	social responsibility and reporting		2	2	0	0	0	questionnaire(s)
	relevant documents/ records for internal quality system		1	0	1	0	0	questionnaire(s)
	DIMENSION 10. involvement in teaching & education	1						
	backgroundfeatures		5	2	1	2	0	questionnaire(s)
	Teaching & Education (T&E) ambitions & policy		3	3	0	0	0	questionnaire(s)
	T&E preconditions and resources:							
	availability of experienced GPs and GP trainers		3	1	1	1	0	questionnaire(s)

[1] Various items that we included in the AGPQI are relevant for multiple topics. To reduce time investment we decided to only include these items once. Where relevant we have specified these items in the itemlist (see Appendix 4, page 129).
[2] For this topic all relevant items can be generated from other parts of the instrument. Where relevant we have specified these items in the itemlist (see Appendix 4, page 129).

Table 1. Summary of the Academic General Practice Quality Instrument (continued)

	dimensions and topics addressed in the AGPQI (for a complete itemlist see Appendix 4)	number of questionnaires	number of items [1]	type of response categories: *yes/no*	*predefined list*	*numeric*	*open*	relevant data will be collected from
ACADEMIC ACTIVITIES / DIMENSION 10. Involvement in teaching & education	*additional skills for doctors and staff which could be utilised in teaching*		[2]	×	×	×	×	
	sufficient and qualified practice assistants		[2]	×	×	×	×	
	quality and completeness of the EPF		1	1	0	0	0	questionnaire(s)
	quality of care and the practice organisation		[2]	×	×	×	×	
	facilities and equipment		1	1	0	0	0	questionnaire(s)
	working conditions/preventing safety, health and well-being risks to students and trainee doctors		4	4	0	0	0	questionnaire(s)
	scientific culture and attitude		[2]	×	×	×	×	
	T&E activities and contributions:							
	basic medical training/student education		3	2	0	1	0	questionnaire(s)
	GP training		3	2	0	1	0	questionnaire(s)
	other (para)medical professional training		2	1	1	0	0	questionnaire(s)
	own professional field and of other professionals allied to health		9	8	0	0	1	questionnaire(s)
	assessment and evaluation		4	3	1	0	0	questionnaire(s)
	teacher training and promoting expertise		1	0	0	1	0	questionnaire(s)
	focus points for patients with regard to teaching and education activities in the practice:							
	information provision to patients		2	2	0	0	0	questionnaire(s)
	consultation of patients		1	1	0	0	0	questionnaire(s)
	social accountability and annual reporting		2	2	0	0	0	questionnaire(s)
	relevant documents/ records for internal quality system		1	0	1	0	0	questionnaire(s)
	total for the evaluation of academic activities	**2**	**86**	**62**	**12**	**8**	**4**	
TOTAL (for the evaluation of all three performance areas and all ten dimensions)		**18**	**637**	**384**	**100**	**140**	**13**	
						questionnaires:		**555 items**
						GP system:		**82 items**

[1] Various items that we included in the AGPQI are relevant for multiple topics. To reduce time investment we decided to only include these items once. Where relevant we have specified these items in the itemlist (see Appendix 4, page 129).
[2] For this topic all relevant items can be generated from other parts of the instrument. Where relevant we have specified these items in the itemlist (see Appendix 4, page 129).

Methods

We conducted a pilot study in a representative sample of 10 Academic General Practices, which were recruited by the Dutch university departments of general practice. We asked each AGP to complete the provided (paper) questionnaires, and we asked that the person in their practice who was best informed about the subject, a general practitioner or a practice manager, would complete a specific questionnaire. To collect information about the feasibility of each questionnaire, we asked respondents to judge the items in the 18 questionnaires on the following aspects: relevance, completeness and difficulty, and to record the time needed to fill out each questionnaire. This information was collected by adding an evaluation form to each questionnaire, which respondents had to fill out immediately after completion of the questionnaire. For each questionnaire we counted the frequencies of the scores of the respondents for relevance, completeness, difficulty and time needed, and based on these frequencies we judged the feasibility of the new instrument and the 18 questionnaires. In Box 1 we describe the questions and response options in the evaluation form.

Box 1. Description of the questions and response categories of the questionnaire's evaluation form

Relevance
1 To what extent do you think the items are relevant for the topics addressed in the questionnaire?
response options: to a large extent, almost all items;
to a substantial extent, about ¾ of the items;
somewhat, about ½ of the items;
few, about ¼ of the items;
not at all, almost none of the items

Completeness
2 Did you miss any relevant items on the topics addressed in the questionnaire?
response options: yes/no.
3 If so, please give examples
response options: open

Difficulty
4 How difficult was it to fill out the questionnaire?
response options: not at all;
a little difficult;
somewhat difficult;
fairly difficult;
very difficult.

Time required
5 How much time (in minutes) did you need to fill out the questionnaire?
response options: numeric

Results

Features of the 10 pilot practices

Three AGPs which participated in the pilot study were solo practices, two were GP partnership/ group practices, and five were located in a primary care health center. Nine pilot practices had been contracted by the university departments of general practice as AGPs, one AGP was university-owned. The practices were linked to five different universities in the Netherlands. In nine practices all provided questionnaires and evaluation forms were filled out by the general practitioner(s). In one practice three questionnaires on ''practice management'' were filled out and evaluated by the practice manager. The practices completed 18 questionnaires: 12 questionnaires on the performance area GP care and services, four questionnaires on practice management, and two questionnaires on the academic activities in research, innovation, teaching and education. Table 2 provides a summary of the 18 new developed questionnaires, the number of items they include, and which dimensions of the AGPQI they cover. A detailed list of all the items in the new instrument (including the 82 items which can be generated from the GP info system) can be found in Appendix 4, page 129.

Feasibility of the new questionnaires

Relevance

For nearly all questionnaires most respondents (7 or more out of 10) found the included items to a substantial to large extent relevant for the topics in the questionnaires. For one questionnaire on infection prevention when examining patients (questionnaire 2.6, see Table 3), the relevance ratings were low. Five respondents considered only half or less of the items in this questionnaire relevant. Table 3 provides an overview of the relevance ratings per questionnaire.

Completeness

In addition to the presented scores on relevance, we asked respondents whether they missed any items. Only for the questionnaire on infection prevention when examining/treating patients (questionnaire 2.6, see Table 4) and the questionnaire on registration and coding (questionnaire 2.7, see Table 4), we received feedback that several relevant items should be added. Most of the items that respondents mentioned as missing, were already included in other questionnaires. Table 4 provides an overview of the completeness ratings per questionnaire, and the items which respondents reported as missing.

Difficulty

The scores on difficulty indicate that especially the questionnaire about ''facility and equipment management'' (see questionnaire 6, Table 5), was not easy to complete. For a specification of the items in this questionnaire we refer to Appendix 4, page 129. For most other questionnaires the majority of the respondents found the items not at all, just a little, or somewhat difficult to answer. Table 5 provides an overview of the difficulty ratings per questionnaire.

Time needed for completion

Finally, we asked respondents how much time (in minutes) they needed for completion. For 15 questionnaires most of the respondents needed between five to 25 minutes to answer all items (see

Table 2. Summary of the 18 AGPQI-questionnaires

Questionnaire nr.	Subject questionnaire	Number of questionnaires	Number of items	For more item details
GP CARE AND SERVICES				
	DIMENSION 1. intake of new patients	1		
1	intake of new patients		42	See Appendix 4, items 1-42
	DIMENSION 2. provision of care & services	10		
2.1	accessibility		26	See Appendix 4, items 43-68
2.2	availability		47	See Appendix 4, items 66-115
2.3	triage		18	See Appendix 4, items 116-133
2.4	task delegation		11	See Appendix 4, items 134-144
2.5	available services		7	See Appendix 4, items 134-144
	features of the healthcare provided[1)]*:*			
2.6	infection prevention in patient examinations		8	See Appendix 4, items 225-232
2.7	medication and prescriptions		15	See Appendix 4, items 233-245, 249-250
2.8	registration and coding/Electronic Patient File (EPF)		15	See Appendix 4, items 251-265
2.9	continuity of care (in- and external)		20	See Appendix 4, items 273-292
2.10	general focus points for care and for patients		23	See Appendix 4, items 293-315
	DIMENSION 3. evaluation & ending of care	1		
3	evaluation and ending of care		19	See Appendix 4, items 316-334
PRACTICE MANAGEMENT				
	DIMENSION 4. policy & quality management	1		
4	policy & quality management		30	See Appendix 4, items 335-364
	DIMENSION 5. staff management	1		
5	staff management		82	See Appendix 4, items 365-446
	DIMENSION 6. facility & equipment management	1		
6	facility & equipment management		98	See Appendix 4, items 447-544
	DIMENSION 7. purchase & outsourcing	1		
7	purchase & outsourcing		7	See Appendix 4, items 545-551
ACADEMIC ACTIVITIES				
	DIMENSION 8. quality documents & records	×	[2)]	
	DIMENSION 9. involvement in research & innovation	1		
9	involvement in research and innovation		41	See Appendix 4, items 552-592
	DIMENSION 10. involvement in teaching & education	1		
10	involvemement in teaching & education		45	See Appendix 4, items 593-637

[1)] all other relevant items for this section (on ''consultation and contact features'', ''chronic disease management'', and ''prevention'') will be generated from the GP info system

[2)] For dimension 8 no separate questionnaire was needed, as all relevant document items could be generated from other questionnaires (see Appendix 4, page 129)

Table 3. Relevance scores

Questionnaire nr.	Subject questionnaire	Number of items	To what extent do you think the items (questions) are relevant for the topic(s) in in this questionnaire (N=10)					
			large extent (nearly all)	substantial extent (about ¾)	somewhat (about ½)	few (about ¼)	almost none	non response
GP CARE AND SERVICES								
	DIMENSION 1. intake of new patients							
1	intake of new patients	42	5	5	×	×	×	×
	DIMENSION 2. provision of care & services							
2.1	accessibility	26	5	5	×	×	×	×
2.2	availability	47	4	6	×	×	×	×
2.3	triage	18	8	1	×	×	×	1
2.4	task delegation	11	6	4	×	×	×	×
2.5	available services	7	8	1	1	×	×	×
2.6	infection prevention in patient examinations	8	2	2	4	1	×	1
2.7	medication and prescriptions	15	2	5	2	×	×	1
2.8	registration and coding/Electronic Patient File (EPF)	15	8	2	×	×	×	×
2.9	continuity of care (in- and external):	20	7	3	×	×	×	×
2.10	general focus points for care and for patients	23	5	5	×	×	×	×
	DIMENSION 3. evaluation & ending of care							
3	evaluation and ending of care	19	5	4	1	×	×	×
PRACTICE MANAGEMENT								
	DIMENSION 4. policy & quality management							
4	policy & quality management	30	7	3	×	×	×	×
	DIMENSION 5. staff management							
5	staff management	82	3	5	1	1	×	×
	DIMENSION 6. facility & equipment management							
6	facility & equipment management	98	5	3	×	×	×	2
	DIMENSION 7. purchase & outsourcing							
7	purchase & outsourcing	7	3	2	1	1	1	2
	DIMENSION 8. quality documents & records	[1]						
ACADEMIC ACTIVITIES								
	DIMENSION 9. involvement in research & innovation							
9	involvement in research and innovation	41	7	1	1	×	×	1
	DIMENSION 10. involvement in teaching & education							
10	involvemement in teaching & education	45	6	1	×	×	×	3

[1] For dimension 8 no separate questionnaire was needed, as all relevant document items could be generated from the document items which we included in other questionnaires (see Appendix 4, page 129)

Table 4. Completeness scores

Questionnaire nr.	Subject questionnaire	Did you miss any relevant items? *yes*	*no*	*non response*	If so, please give examples
GP CARE AND SERVICES					
	DIMENSION 1. intake of new patients				
1	intake of new patients	9	1	×	Topics that are discussed during the introductory meeting, such as what the patients expects of the general practitioner (GP) (to assess whether a good doctor-patient relation can be created)
	DIMENSION 2. provision of care & services				
2.1	accessibility	9	1	×	How many physician assistants are available to answer the phone during open hoursHow many hours per day/week is the practice open (including breaks) [1)]
2.2	availability	9	1	×	How is the availability (of the GP) arranged for the triage [1)]
2.3	triage	9	1	×	Triage to refer patients to specific (nurse) consultations
2.4	task delegation	10	×	×	I find this questionnaire's response lists very detailed
2.5	available services	7	2	1	Available services is more than just the Modernisation and Innovation list of services that have been inventoried The laboratory services that my practice provides, are carried out by the GP laboratory in our health centre
2.6	infection prevention in patient examinations	5	3	2	It was not clear that this questionnaire was only about infection prevention when examing/treating patientsDisposable paper towels/exam table paper [1)] Cleaning of equipment after syringing ears Autoclave and cleaning/disinfection protocol [1)]Removing stitches and other treatments by staffWhether or not staff wear gloves when examining urineHAI-prevention procedures (disinfecting, wearing gloves) for minor surgery How many times does the cleaner come? [1)]
2.7	medication and prescriptions	8	1	1	It seems as if only the assistant observes the medication alerts. However, when authorising the prescriptions the GP sees these alerts too, and acts accordingly
2.8	registration and coding/Electronic Patient File (EPF)	8	2	×	Obtaining and processing details of new patients [1)] Back-ups of the GP information system [1)] Security GP information system, log in 'guests'' (such as GP trainees) [1)]Access to electronic patient file by external health professionals (such as during locum cover) [1)]Hard copy patient files/archive
2.9	continuity of care (in- and external)	9	1	×	Questions referring to patient-related consultation/ feedback about results of investigations. There is too much emphasis on periodically and structured consultation processes. Ad hoc and pro-active are mostly much more important

[1)] These items can be generated from other questionnaires. See Appendix 4 (page 129), items: 15-27, 69–75, 124, 277, 282, 293-298, 484-485, 472, 501-511.

Table 4. Completeness scores (continued)

Questionnaire nr.	Subject questionnaire	Did you miss any relevant items? *yes*	*no*	*non response*	If so, please give examples
2.10	general focus points for care and for patients	9	1	×	Whether the practice is affiliated with an independent complaint commission, to which patients can be referred to when they have complaints
	DIMENSION 3. evaluation & ending of care				
3	evaluation and ending of care	9	1	×	How the medical file is handed over to the new GP (electronic or by priority mail)
PRACTICE MANAGEMENT					
	DIMENSION 4. policy & quality management				
4	policy & quality management	9	1	×	Quality management: again much emphasis on structured/written procedures, however there are no questions about how is dealt with points for improvements which occur in daily practice
	DIMENSION 5. staff management				
5	staff management	7	2	1	Items about the collaboration between assistants and GPsIt is important that a clear distinction is made between the staff of the GP practice and the staff of the primary care health centre
	DIMENSION 6. facility & equipment management				
6	facility & equipment management	8	1	1	I don't think this questionnaire is representative for my practice, which is located in a primary care health centre. Many items (on the management of the facilities and equipment) I could not answer, as they are outsourced to the management of the centre
	DIMENSION 7. purchase & outsourcing				
7	purchase & outsourcing	7	1	2	How does the GP control the quality of the outsourced services
	DIMENSION 8. quality documents & records [2)]				
ACADEMIC ACTIVITIES					
	DIMENSION 9. involvement in research & innovation				
9	involvement in research and innovation	8	1	1	Contributions of assistants and nurses to researchthere are a number of double items in this questionnaire
	DIMENSION 10. involvement in teaching & education				
10	involvemement in teaching & education	7	1	2	''Semi-doctor'' internshipsthere are a number of double items in this questionnaire

[1)] These items can be generated from other questionnaires. See Appendix 4 (page 129), items: 15-27, 69–75, 124, 277, 282, 293-298, 484-485, 472, 501-511.

[2)] For dimension 8 no separate questionnaire was needed, as all relevant document items could be generated from the document items which we included in other questionnaires (see Appendix 4)

Table 5. Difficulty scores

Questionnaire nr.	Subject questionnaire	Number of items	How difficult was it to fill out the questionnaire: not at all	a little	somewhat	fairly	very	non response
GP CARE AND SERVICES								
	DIMENSION 1. intake of new patients							
1	intake of new patients	42	5	4	1	×	×	×
	DIMENSION 2. provision of care & services							
2.1	accessibility	26	2	4	4	×	×	×
2.2	availability	47	-	5	4	1	×	×
2.3	triage	18	7	1	1	×	×	×
2.4	task delegation	11	1	6	1	1	1	×
2.5	available services	7	7	3	×	×	×	×
2.6	infection prevention in patient examinations	8	×	6	2	1	×	1
2.7	medication and prescriptions	15	2	4	2	×	1	1
2.8	registration and coding/Electronic Patient File (EPF)	15	5	3	1	1	×	×
2.9	continuity of care (in- and external):	20	6	3	1	×	×	×
2.10	general focus points for care and for patients	23	3	7	×	×	×	×
	DIMENSION 3. evaluation & ending of care							
3	evaluation and ending of care	19	4	4	2	×	×	×
PRACTICE MANAGEMENT								
	DIMENSION 4. policy & quality management							
4	policy & quality management	30	1	4	5	×	×	×
	DIMENSION 5. staff management							
5	staff management	82	1	4	4	×	1	×
	DIMENSION 6. facility & equipment management							
6	facility & equipment management	98	×	4	2	3	×	1
	DIMENSION 7. purchase & outsourcing							
7	purchase & outsourcing	7	6	1	×	1	×	2
	DIMENSION 8. quality documents & records	[1]						
ACADEMIC ACTIVITIES								
	DIMENSION 9. involvement in research & innovation							
9	involvement in research and innovation	41	1	7	1	1	×	×
	DIMENSION 10. involvement in teaching & education							
10	involvemement in teaching & education	45	3	3	2	×	×	2

[1] For dimension 8 no separate questionnaire was needed, as all relevant document items could be generated from the document items which we included in other questionnaires (see Appendix 4, page 129)

Table 6), depending on the number and difficulty of the items. For the questionnaires about the availability (questionnaire 2.2), task delegation (questionnaire 2.4) and facility and equipment management (questionnaire 6) half of the respondents reported that they had needed more than 25 minutes (see Table 6). The time needed to complete all 12 questionnaires for GP care and services (dimensions 1 -3) was on average 2 ¾ hour; for the four questionnaires on practice management (dimensions 4-7) about an hour, and for the two questionnaires about the academic activities (dimensions 9-10) about 45 minutes.
Most respondents needed between four to four and a half hours to complete all 18 questionnaires; the average time was about 270 minutes (4 ½ hours). The time needed to complete all questionnaires ranged from 146 to 373 minutes (about 2 ½ hours to over 6 hours). Table 6 provides an overview of the reported time.

Discussion

Ten Dutch Academic General Practices tested and evaluated the feasibility of the Academic General Practice Quality Instrument and the 18 newly developed questionnaires. For most questionnaires the respondents considered the items relevant and the items complete, and we received almost no comments on the difficulty of the answering of the items. The time needed to complete all 18 questionnaires was four and a half hour on average. Especially the completion of the questionnaires for the performance area ''GP care and services'' (part 1 of the instrument) required much time: on average about 2 ¾ hours, because this part contained most questionnaires (12 questionnaires). We did not ask the pilot practices whether they considered the required time for the completion of all modules too long, because we had no plans to reduce the number of items. On the other hand they did not mention that the completion of the questionnaires took too much time.
Though the required time to complete all questionnaires is considerable, we think this is acceptable given the scope of the evaluation. Please note that the reported time does not include the data collections of the 82 items which can be generated from the GP information system.

Strengths and limitations of the study
A strength of our study is that we tested the feasibility of the new instrument and questionnaires among a variety of AGPs (including group and solo practices and health centers), which is a representative sample of the whole population of AGPs in the Netherlands. On all areas, including time needed for completion of the questionnaires, we found no differences between solo and group GP practices (data not shown).
By carrying out a pilot study we received confirmation of the relevance and completeness of most of the instrument's items, which we developed in close collaboration with experts and stakeholders.
A limitation of our study is that in the formulation of the evaluation question about difficulty we only asked respondents if they found the questionnaire difficult to complete, and did not ask them whether they understood the questions. However, we received no comments with regard to the wording of the items.

Table 6. Reported time (in minutes)

Questionnaire nr.	Subject questionnaire	Number of items	< 5	5-10	10-15	15-20	20-25	25-30	30-35	35-40	40-45	45-50	50-55	55-60	60 >	non response
GP CARE AND SERVICES																
	DIMENSION 1. intake of new patients															
1	intake of new patients	42	×	1	2	4	2	×	1	×	×	×	×	×	×	×
	DIMENSION 2. provision of care & services															
2.1	accessibility	26	×	1	1	1	4	1	1	×	×	×	×	1	×	×
2.2	availability	47	×	×	×	1	4	1	3	×	×	×	×	×	1	×
2.3	triage	18	2	4	2	1	×	×	×	×	×	×	×	×	×	1
2.4	task delegation	11	×	1	2	1	1	3	1	×	×	1	×	×	×	×
2.5	available services	7	×	6	3	1	×	×	×	×	×	×	×	×	×	×
2.6	infection prevention in patient examinations	8	1	1	5	1	×	×	×	×	×	×	×	×	×	1
2.7	medication and prescriptions	15	1	5	2	×	×	1	×	×	×	×	×	×	1	×
2.8	registration and coding/Electronic Patient File (EPF)	15	1	4	3	2	×	×	×	×	×	×	×	×	×	×
2.9	continuity of care (in- and external):	20	×	2	4	3	1	×	×	×	×	×	×	×	×	×
2.10	general focus points for care and for patients	23	×	4	6	×	×	×	×	×	×	×	×	×	×	×
	DIMENSION 3. evaluation & ending of care															
3	evaluation and ending of care	19	×	4	5	1	×	×	×	×	×	×	×	×	×	×
PRACTICE MANAGEMENT																
	DIMENSION 4. policy & quality management															
4	policy & quality management	30	×	2	4	2	1	×	1	×	×	×	×	×	×	×
	DIMENSION 5. staff management															
5	staff management	82	×	×	3	3	2	×	1	×	1	×	×	×	×	×
	DIMENSION 6. facility & equipment management															
6	facility & equipment management	98	×	×	×	2	2	1	1	×	1	1	×	×	1	1
	DIMENSION 7. purchase & outsourcing															
7	purchase & outsourcing	7	3	4	1	×	×	×	×	×	×	×	×	×	×	2
	DIMENSION 8. quality documents & records	[1]														
ACADEMIC ACTIVITIES																
	DIMENSION 9. involvement in research & innovation															
9	involvement in research and innovation	41	×	×	3	2	3	×	1	×	×	×	×	×	×	1
	DIMENSION 10. involvement in teaching & education															
10	involvemement in teaching & education	45	×	×	3	3	1	×	1	×	×	×	×	×	×	2

[1] For dimension 8 no separate questionnaire was needed, as all relevant document items could be generated from the document items which we included in other questionnaires (see Appendix 4, page 129)

Implications for practice
The Dutch university departments of general practice can use the instrument to evaluate the quality of care and practice management in AGPs, and on all important academic activities (research, innovation, teaching and education).
As stakeholders and experts have been closely involved in the development process, and the pilot practices considered the questionnaire items for nearly all parts of the instrument relevant and complete, we are quite confident that the content and questionnaire items of the new quality instrument are adequate for the evaluation of AGPs on all important performance areas, and thus that the content-validity of the instrument is appropriate.
As the pilot practices did not report major issues with the instrument, and stakeholders considered the results of the pilot study satisfactory, we think the instrument can be applied for all AGPs. Further fine-tuning of the instrument can be done, when experiences in the practical use indicate. The feedback of respondents can be used for this purpose, as well. Because of the modular set-up of the instrument, such a modification or a periodic update can be conducted easily.

Conclusions

As respondents, in their feedback, succeeded in completion of all questionnaires without much difficulty, and did not report any major comments with regard to the relevance and completeness of the items in the different questionnaires, and the required time for completion, we consider the new instrument feasible to be used to monitor the quality of academic general practices. As the content validity of our instrument is assured by the careful development of the instrument, we consider the AGPQI suitable for further implementation.

Acknowledgements

We would like to thank the Dutch Steering Committee of University General Practice
Networks and Academic General Practices (the LSUNH), and the university departments of general practice and Academic General Practices of the Academic Medical Centre (AMC), Leiden University Medical Centre (LUmc), University Medical Centre Utrecht (UMC Utrecht), Maastricht, University Medical Centre (Maastricht UMC+), and the VU University Medical Centre (VUmc) which participated in this pilotstudy for their contributions and feedback.

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7

General discussion

Main aim and results

In this thesis we described the development of an instrument for systematic evaluation of the Dutch academic general practices (AGPs): the Academic General Practice Quality Instrument (AGPQI (in Dutch: kwaliteitsinstrument academische huisartsenpraktijken). In order to develop this instrument we took the following steps:

1. We started with a review of the literature on existing instruments for AGPs and academic networks (chapter 2).
2. We conducted a focus group study and reached consensus with representatives of the university departments of general practice and Dutch College of General Practitioners on the definition of an AGP, and on the key features, aims and functions of AGPs (chapter 3).
3. We developed a general quality framework for the Dutch AGPs, which could be used as a reference frame for the management and evaluation of the quality in three relevant performances areas for AGPs: 1) GP care and services, 2) practice management and 3) academic activities in research, innovation, teaching and education (chapter 4).
4. We undertook the actual construction of the new quality instrument, which included the selection and composition of a relevant and comprehensive set of questions (items), which covered all relevant areas, dimensions and topics for AGPs, as described in the framework. This step also included the selection of the measurement and data collection methods (chapter 5).
5. Finally, we conducted a pilot to test and evaluate the feasibility of the newly developed instrument in a representative group of AGPs (chapter 6).

Our research resulted in a shared definition and a generic quality framework for the Dutch AGPs which lists all relevant performance areas, dimensions, topics, and good practice criteria for the management and evaluation of their quality and output. The quality framework can be used as a guidance and accreditation/certification scheme to improve and determine the quality and output of the AGPs. The difference between our quality framework and the NHG Practice Accreditation scheme is [1, 2] that the quality framework covers all relevant performance areas of AGPs (GP care and services, practice management, and academic activities), and aims at achieving an excellent level of quality within each area, rather than ensuring a minimum level of quality. On that basis, we constructed and validated a new instrument to collect the relevant data from AGPs. Unlike the existing quality instrument for general practices, the VIA® [3], the new instrument covers all relevant academic activities of AGPs, so that it can actually measure the quality and output of AGPs in research, innovation, teaching and education. And as the university departments of general practice also expect an excellent level in care and practice management in AGPs, we supplemented the VIA® and composed a comprehensive set of new items (questions) for both areas, so that the instrument can measure whether AGPs are successful in achieving this higher level of quality. The scope and items of the VIA® were too limited for this purpose. This is not surprising, as the VIA® was originally developed

for the evaluation of quality in care and practice management in non-academic general practices, and did not aim to cover all relevant preconditions and quality topics for AGPs in both areas.
During this research project, which was initiated by the department of general practice of VUmc, a steering committee was formed (LSUNH), consisting of representatives of the Dutch university departments of general practice and the Dutch College of General Practitioners. We took each next step after exhaustive consultation with the steering committee, to obtain agreement on the framework and instrument. We structured the collection of input from other relevant GP professional stakeholders in the development process, to assure that no relevant topics and items would be missed. In the feasibility study, which was a pilot in 10 representative AGPs, we found confirmation that the items in the new instrument are relevant and complete for the evaluation of GP care and services, practice management, and academic activities in AGPs.

Background on measuring quality in Dutch general practices

When we started our research only one validated quality instrument for general practices existed in the Netherlands: the Visitation Instrument Practice Management (VIP), developed in 1998 .[4] Between 2002 and 2005 the VIP was developed further by the Dutch College of General Practitioners in collaboration with the Radboud University Nijmegen [3].
In 2005 the Dutch College of General Practitioners introduced the Visitation Instrument Accreditation (VIA®), which succeeded the VIP. One of the important improvements of the VIA® was that the VIP -items on practice management, were extended with clinical performance items for: COPD, asthma, cardiovascular diseases, diabetes, cervix screening, yearly influenza vaccination, and prescriptions.
In 2005 the Dutch College of General Practitioners began with practice accreditation, using the VIA® to collect the relevant evaluation data from practices. The NHG Practice Accreditation program was introduced shortly after we agreed with representatives of the Dutch university departments about the definition, key elements, aims and functions of AGPs (see chapter 3). Taking into account the aims and functions of AGP the university representatives found the VIA® (version 2005) incomplete to assess whether AGPs meet their ambitions on quality, and on important academic areas as research and innovation. The same was true for the VIA® 2008. In 2008, the VIA® was updated to bring the items on practice management in line with the European Practice Assessment (EPA).[5] This is a European set of items for evaluating practice management in primary care.
The VIA® 2008 was introduced after we developed the quality framework for AGPs (chapter 4) in 2007. The framework made explicit what universities and other stakeholders meant by the term “good practice” for GP care, practice management and academic activities in AGPs, and which expectations they had for quality in all three areas. Using the framework as a reference frame, we systematically evaluated the feasibility of the VIA®2008 and demonstrated the shortcomings and gaps on the item level for the evaluation of the quality of care and practice management in AGPs, and on the important academic activities (see chapter 5).

Departing from the VIA® 2008, we extended the new instrument (again using the framework as a reference frame) to meet the requirements for the evaluation of AGPs.

Methodological considerations

Measurement instruments must be well designed and appropriate for its purpose. Both qualities depend on whether a) the developers have conducted all basic steps in the process of instrument development and evaluation, and b) the content and properties of the instrument meet the basic requirements that are considered important in measurement. [6]
In order to be able to assess whether instruments are well designed and may be expected to perform well, it is important that developers adequately report the subsequent steps and studies they performed during the development and evaluation process, and provide full details about the content of the instrument and measurement methods. Only then, those who are interested in using an instrument can determine whether the instrument is adequate and may be expected to perform well. [6] Though this seems obvious, the results of our literature review (chapter 2) showed that developers did not always provide sufficient information to make an adequate assessment of the methodological quality of instruments.
This thesis covers three basic steps in the process of instrument development and evaluation [6]: 1) exploring and defining the concept which the instrument aims to measure, which in our project involved the concept ''academic general practices'' (see chapter 3) and ''quality in AGPs'' (see chapter 4), in order to determine which performance areas, dimensions and topics should be included in the new instrument. Once, we clarified both concepts, we could continue with the next step in the development process: 2) selection and formulating items (including response options, and the choice of measurement methods) (see chapter 5). To evaluate the instrument we performed 3) a pilot study in which we tested the feasibility of the instrument (see chapter 6). As the pilot practices did not report significant issues with the instrument, and stakeholders considered the results of the pilot satisfactory, the instrument can be applied in a larger group of the target population (field testing) for further fine tuning and evaluation of the measurement properties of the instrument.

Measurement properties
Content validity, defined as ''the degree to which the content of the instrument is an adequate reflection of the concept to be measured", is the most important aspect of validity. [6] However, in the field of developing measurement instruments the importance of content validity has been underrated. [6,7] As content validity is based on judgments and not on statistical methods it is crucial that developers provide a clear and detailed description of the concept they aimed to measure. Without such description it is impossible to evaluate whether the content adequately reflects the concept under study. Therefore, we have paid much attention to the definition of the concept 'academic general practices' (see chapter 3) and to the composition of a quality framework in which we further detailed the concept of ''quality in AGPs'' (see chapter 4). The

results from the focus group study enabled us to use the activities, aims, and functions that stakeholders considered relevant for the design and content of the new instrument. The instrument should at least cover all relevant activities of AGPs, and include sufficient and valid items to evaluate the success of the AGPs in achieving their aims and functions. The quality framework provided a description of the performance areas, dimensions and topics which should be covered by the items in the instrument to adequately measure the quality of AGPs, and the level of quality they aimed at (as described by the criteria in the framework, see chapter 4).

We built the new instrument in line with the framework, so that the content of the instrument (see chapter 5) and its correspondence with the content of the framework (see chapter 4) can be easily compared and judged by those who are interested in using the instrument. As we closely involved stakeholders and experts in the development process, and the pilot practices considered the items for nearly all parts of the instrument relevant and complete, we are quite confident that the instrument has a good content validity, i.e. adequately covers the concepts under study.

It is impossible yet to evaluate two other types of validity that are relevant for measurement instruments: criterion validity and construct validity. Criterion validity is defined as the degree to which the scores of an instrument are an adequate reflection of a gold standard. [6] This means that criterion validity can only be assessed when a gold standard is available, which is often not the case for complex instruments. Construct validity is defined as ''the degree to which the scores of an instrument are consistent with hypothesis.'' [6] A hypothesis could be formulated and tested for instance with regard to expected differences in scores between AGPs and non-academic general practices. We suggest the construct validity to be further investigated once the new instrument has been applied in a larger group of AGPs. The collected evaluation data can be used for further investigation of the construct validity of the instrument.

Finally, another essential requirement for measurement instruments is ''reliability'', which is defined as ''the extent to which the measurement is free of measurement errors.'' [6]

The usual way to assess reliability is by repeated measurements. One reason for not asking pilot practices to complete the measurement twice was that we considered this request inappropriate as the time investment for one single measurement was already substantial. Another reason was that most of the items in the instrument focus on the measurement of factual information, which leaves little room for interpretation or differences between responders. If the instrument is used for external or accreditation purposes the information that is provided by practices should, of course, never be the only source of information. In that case additional checks by peer reviewers or external auditors should be performed to verify the information. [6] External audits by independent auditors are an accepted method in the field of accreditation and certification to gain reasonable assurance that the response and statements of practices are valid. An example of this working method is applied in the NHG Practice Accreditation program. First, the practice provides all information on the VIA®-items. Then, an independent auditor performs a practice audit on location and verifies a sample of the provided answers.

Scope and use by others

We developed our framework and instrument for the university departments of general practice who want to check whether AGPs meet their expectations for quality. In addition, the Dutch College of General Practitioners (the scientific society of the Dutch GPs) has adopted our framework and instrument to set higher standards for the whole professional group of GPs, so there will be a spinoff for non-academic general practices as well.
The (academic) general practices themselves can use both framework and instrument for internal evaluation and gap analysis (to identify gaps in the internal quality system). Our quality framework can serve as a guidance and reference frame, whereas the new instrument provides practices with a list of relevant quality and evaluation items for the included topics in the framework. By reviewing the criteria in the framework and filling out the questionnaires practices can check for themselves how far they are from or how close they are to the outlined ideal state in the framework.

Monitoring and quality improvement by the Dutch College of General Practitioners

In 2013 the Dutch College of General Practitioners (NHG) already accredited more than 40% of all general practices in the Netherlands. [8] With this level of participation the NHG Practice Accreditation program has become an important tool to achieve the ambitions which the Dutch College of General Practitioners and the Association of General Practitioners (LHV) have set for the future on the assurance and improvement of quality, as described in their new ''Future vision 2022'', which was published in 2012. [9]
Our framework turned out to be not only suitable for developing the new instrument for AGPs and as a guidance for quality in AGPs, but provided also new criteria for the NHG Practice Accreditation Program for non-academic general practices. Consequently after 2008, the NHG Practice Accreditation Program increased its demands and criteria for accreditation, using criteria of the framework from our research, which is clearly reflected in the 2011 accreditation scheme. [10]

Future

Our quality framework and the new instrument connect seamless with 3 of the 17 ambitions which were mentioned in the new future vision 2022 of the Dutch College of General Practitioners and the Association of General Practitioners. [9]
Assuring a high level of GP care is one of the ambitions mentioned in the vision document, entailing that all general practices work continuously and visibly on monitoring and improvement of the quality of care and practice management (ambition 15). Another ambition is to engage all general practitioners in research, innovation or teaching, with the purpose to assure the continuity and further development of general practice, which the Dutch College of General Practitioners and the Association of General

Practitioners consider a joint responsibility of university departments of general practice and the whole GP profession (ambition 16). To address the growing and changing care needs in future, the Dutch College of General Practitioners and the Association of General Practitioners want the GP professional field to work together with the university departments. (ambition 13). We consider it important that the Dutch College of General Practitioners and the Association of General Practitioners added to the ambitions in their future vision that the continuity and development of the discipline is a joint responsibility of the university departments of general practice and the whole profession, and that they aim to involve all general practices in at least one of the academic areas (research, innovation, or teaching). This means that in the future incorporation of these activities is considered as a regular and accepted element in each general practice.

Monitoring academic activities

Many non-academic general practices are already involved in one or more academic areas. For instance, in 2013 more than 1700 general practitioners were active as GP-trainer. [11] This means that about 20% of the professionals already collaborate with the university departments of general practice in the vocational training of general practitioners. In addition, general practitioners provide many other contributions to education within their own professional group and to other (para) medical professionals and training organizations. For instance with continuous education activities for general practitioners, on the job trainings for advanced students, trainings to practice assistants, etc.
Our new instrument offers the Dutch College of General Practitioners, the Association of General Practitioners and university departments of general practice the possibility for monitoring of research, innovation, teaching and education activities in general practices, and to collect information about specific competences and interest areas of general practitioners and their staff. The university departments of general practice can use this information to obtain a better matching between their research and innovation projects, with the areas of interest and knowledge of the GPs.
The LSUNH together with the Dutch College of General Practitioners could collect these data and publish, for instance bi-annually, a “Monitor Academisation of General Practice”.

Maintenance

Both framework and instrument require periodic review and updating. We suggest to do this by an independent committee which should include representatives from the university departments of general practice and national GP organizations, such as the Dutch College of General Practitioners and the Association of General Practitioners, and LSUNH. In addition, input from representatives of patients and health insurance could be useful.
In the meantime, it is important that the owner of the framework and instrument assures that comments

and suggestions for improvement from general practitioners and other stakeholders will be collected and made available to the committee when it prepares the updates.
The more complex the instrument is, the more important it is that the design and instructions are clear and that it can easily be maintained.
Our instrument is complex, because it contains 10 dimensions and many topics, but we made it so that each dimension can be revised separately (modular revision). The same applies to our quality framework.

Closure

It was exciting to have the opportunity to bring the initial idea of measuring and improving the quality and output from the VUmc GP department's network of AGPs to a national quality framework and instrument for all AGPs in the Netherlands. In 2011 VUmc has transferred the framework and instrument to the NHG Practice Accreditation Institute (NPA bv), the independent accreditation organization of the Dutch College of General Practitioners, for further implementation, refinement, and to set up an ''academic'' accreditation program for the Dutch AGPs, together with the LSUNH.

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Appendices

Appendix 1 (chapter3)

List of focus group participants

1. Bastiaans, JF. GP, chef de clinique of the (university-owned) university general practice of VUmc (UHP VUmc). Vumc.
2. Bosch, W van den. GP, professor of general practice. UMC St. Radboud.
3. Diest, WMH van. GP, coordinator HAG-net-AMC. AMC.
4. Doorn, B. Network coordinator, policy advisor. Maastricht UMC+.
5. Etten, A van. Managing director of the (university-owned) academic general practice of UMC Groningen. UMC Groningen.
6. Goudswaard, AN. GP, head of the NHG-department of guideline development and research. Dutch College of General Practitioners (NHG).
7. Ong, RSG. Researcher, epidemiologist RNUH-LEO. LUmc.
8. Sachs, APE. GP, associate professor, researcher university sciences and primary care. UMC Utrecht.
9. Soomers, FLM. GP, managing director of the primary health centre West Kerkrade (academic general practice). Maastricht UMC+.
10. Talsma, J. GP in the (university-owned) Academic General Practice UMCG. UMC Groningen
11. Verhey, TJM. GP, professor of general practice. UMC Utrecht.
12. Waal, MWM de. Coordinator LEON and RNUH-LEO, epidemiologist. LUmc.
13. Wit, NJ de. GP, coordinator of the mental health research group of the Julius centre for Health sciences and Primary care. UMC Utrecht.

Moderator

1. Stalman, WAB. GP, professor of general practice. VUmc.

Appendix 2 (chapter 4)

List of participants of the stakeholders panel[1)]

Bastiaans, JF. GP, chef de clinique of the (university-owned) university general practice of VUmc UHP VUmc).
Bouma, M. GP, senior scientific staff member. Dutch College of General Practitioners (NHG).
Broek, S van den. GP, NHG-auditor. NHG Practice Accreditation (NPA).
Bijkerk, CJ. GP, researcher. UMC Utrecht.
Damme, RAE van. Director Julius academic primary care health centres. UMC Utrecht.
Diest, WMH. GP, coordinator HAG-net-AMC. AMC.
Doorn, B. Network coordinator, policy advisor. Maastricht, Maastricht UMC+.
Duin, BJ van. GP, coordinator general practice vocational training. VUMC.
Eekhof, JAH. GP, manager academic general practice, researcher. LUmc.
Haan, J de. GP, professor in practice management. UMC Groningen.
Hombergh, P van den. GP, policy advisor. Dutch Association of General Practitioners (LHV).
Kempen, WR van. GP working in an AGP. VUmc.
Kanter, J de. GP working in an AGP. LUmc.
Kertzman, MGM. GP working in an AGP, quality official. Maastricht UMC+.
Metsemakers, JFM. GP, professor of general practice. Maastricht UMC+.
Mom, EMA. GP working in an AGP. Maastricht UMC+.
Numans, ME. GP, research coordinator. UMC Utrecht.
Pluijgers, MJGF. GP, NHG-auditor, scientific employee. Dutch College of General Practitioners (NHG).
Poot, AJ. GP, coordinator general practice vocational training. LUmc
Post, C van der. GP, assistant-head general practice vocational training. AMC.
Ram, P. GP, head vocational general practice training. Maastricht UMC+.
Schade, E. GP, GP, professor of general practice. AMC.
Stolk, J. Secretary general practice and nursing home medicine registration committee. General Practice & Nursing Home Medicine Registration Committee (HVRC).
Veld, CJ in 't. GP, head NHG-department of implementation. Dutch College of General Practitioners (NHG).
Witmer, JM. GP, CEO NHG Practice Accreditation. NHG Practice Accreditation (NPA).

[1)]Three anonymous participants

Appendix 3 (chapter 5)

Summary of the areas, dimensions and topics of the VIA® 2008

PRACTICE PROFILE
background features of the practice
population features
staff features
teaching in practice

PRACTICE MANAGEMENT
infrastructure
- *building and onsite facilities*
- *accessibility and availability*
- *medical equipment and medication*
- *additional/special care options*

staff
- *staff*
- *staff policy*
- *workload and work satisfaction*
- *task delegation*

information
- *medical record*
- *medical and general information for patients*
- *information for staff and GPs*
- *communication with colleagues and other health professionals*

finance
- *finance*

quality and safety
- *quality improvement and policy*
- *detecting quality and safety issues*
- *safety of staff and patients*
- *data management*

CLINICAL PERFORMANCES
chronic disease management
- *asthma*
- *COPD*
- *diabetes*
- *cardio vascular diseases*

prevention
- *annual influenza vaccination*
- *cervical cancer/cervix screening*

prescription policy
- *antibiotics*
- *chronic use of acid reflux inhibitors*

PATIENT EXPERIENCES
primary process
- *privacy*
- *treatment*
- *competence*
- *continuity*
- *information provision*

practice organization
- *building*
- *accessibility and waiting times*

Appendix 4 (chapter 5&6)

Complete List of the dimensions, topics and items included in the Academic General Practice Quality Instrument (AGPQI)

GP care and services
DIMENSION 1. acceptance and intake of new patients
acceptance policy[1)]

1 How can someone register as a new patient with the practice? List
2 Have agreements been made between colleagues in the general practitioners' group (HAGRO) about whether or not to take on each other's patients?[2)] Yes/no
3 Have agreements been made between colleagues in the HAGRO that no patients will be taken on without consulting each other? Yes/no
4 Does the practice have a clearly delineated care area? Yes/no
5 Have agreements been made with HAGRO colleagues about delineating the care areas? Yes/no
6 Has the practice's acceptance policy been agreed?[2)] Yes/no
7 Who is currently still able to register as a new patient at the practice? List
8 Is the practice aware which colleagues in the general practitioners' group are open or not for new registrations? Yes/no
9 Does the practice have a waiting list for new patients?[2)] Yes/no
10 If so, how many people are currently on this waiting list? Numeric
11 Are there working agreements in place regarding the management of this waiting list? Yes/no
12 If so, have these working agreements also been agreed in writing? Yes/no

Another relevant item for this topic is item 562.

free choice of doctor

13 Are people who are looking for another general practitioner able to request an introductory meeting first before deciding whether to register?[2)] Yes/no
14 Are new patients able to be assigned to a permanent general practitioner when registering? Yes/no

registration and data collection (including medical history and file management)

15 Is there a procedure in place determining the approach taken by the practice when registering a new patient, such as a registration procedure? Yes/no
16 Which documents and patient details does the practice assess at registration? List
17 Who is responsible for obtaining the medical file from the previous general practitioner? List
18 Does the practice request written or oral permission from the new patient when obtaining the medical file? Yes/no
19 Are new patients presented with a standardised questionnaire/medical history? Yes/no
20 If so, which details are registered from the new patients with this questionnaire/medical history? List
21 How are the new patients normally presented with this questionnaire/medical history? List
22 Is there a policy in place in respect of early detection of cardiovascular disease, diabetes or asthma/COPD in new patients with (potential) risk factors for one of these conditions? Yes/no
23 If so, has this policy and/or working agreements been confirmed in writing? Yes/no
24 Are there working agreements in place concerning the uniform registration of a) name and address details, b) age, c) gender, d) medical conditions, e) medication, f) drug intolerances/allergies, g) lifestyle/risk factors, h) diagnostic figures in the electronic patient file? Yes/no
25 If so, have these registration agreements been confirmed in writing? Yes/no
26 Are there after registration any checks made to determine whether the new patient's details in the electronic file are complete? Yes/no
27 If so, does the practice contact the patient concerned when it has been determined that there are still potential details missing from the file? Yes/no
28 Are new patients provided with proof of registration? Yes/no
29 Is it known how many patients were newly registered in the previous practice year?[2)] Yes/no
30 If so, how many?[2)] Numeric
31 How many patients are currently registered with the practice? Numeric

information provision to new patients

32 Is there a practice folder available?[2)] Yes/no
33 If so, does the practice folder contain information about: a) acceptance policy, b) registration procedure, c) option of an introductory consultation? Yes/no
34 Is the practice folder also available in another language? Yes/no
35 Does the practice have a separate information letter or folder for new patients? Yes/no
36 If so, is this information letter also available in another language? Yes/no

[1)] one or more relevant items for this topic can be generated from other parts of the instrument
[2)] (customized) VIA®-item[3)] to be generated from the GP information system

37 If so, which languages? List
38 Does the practice have its own website?[2] Yes/no
39 If so, is information available on the website about: a) acceptance policy, b) registration procedure, c) option of an introductory consultation, d) electronic registration form, e) electronic patient folder? Yes/no
40 Is the information for new patients also offered in another language on the website? Yes/no
41 If so, which language/languages? List

documents and records for internal quality control system

42 Summary of the relevant documents and records for dimension 1 for the internal quality control system. List

DIMENSION 2. provision of care and services

accessibility and availability

telephone facilities

43 General practice number(s) Numeric. Numeric
44 Number of available telephone lines on the practice number for patients?[2] Numeric
45 Does the practice have a separate emergency line?[2] Yes/no
46 Does the practice have a separate prescription line?[2] Yes/no
47 Does the practice have a separate fax line?[2] Yes/no
48 Does the practice have ADSL?[2] Yes/no
49 Does the practice have other telephone connections or relevant telephone numbers? Yes/no
50 If so, which one? Numeric
51 What type of telephone system does the practice have? Open

telephone access during opening times

52 Do patients who call the practice number during opening hours firstly receive an automated message with a choice menu? Yes/no
53 Are patients automatically "put on hold" when the assistant is dealing with a telephone call? Yes/no
54 How many hours in the morning is the practice directly accessible to patients by telephone?[2] Numeric
55 How many hours in the afternoon is the practice directly accessible to patients by telephone?[2] Numeric
56 Do patients receive a message about telephone access when calling during those times when the practice is not directly accessible by telephone? Yes/no
57 Could you call the practice number three times over the next few days at different times and measure how long it takes (in seconds) before you are able to speak to the practice assistant or another member of the practice staff? Numeric

telephone access outside of opening times

58 Is a patient who calls the practice number immediately transferred to the duty general practitioner, their own general practitioner or the out-of-hours service?[2] Yes/no
59 Does the patient receive a message or an answering machine/automated system with information about how to contact the duty general practitioner or out-of-hours service?[2] Yes/no
60 If the patient has to call a different telephone number is this number clearly referred to?[2] Yes/no
telephone access in an emergency[1]
61 Do the general practitioners carry a telephone when on duty if they are temporarily absent or not sitting in their office? Yes/no
62 During the times when the practice is not directly accessible during opening times, is there an answering machine in place with a message for emergency cases and/or a potential emergency number? Yes/no
63 Can a patient be directly transferred through to the emergency line or a member of the practice staff speed dial/transfer function? Yes/no
64 Is "emergency" the first menu option on the recorded message on the practice number? Yes/no
65 If the patient has to call another telephone number, is this number clearly recorded (read out calmly and clearly, and the number is repeated)? Yes/no

Another relevant item for this topic is item 45

electronic/online access[1]

66 Does the practice have an email address? Yes/no
67 What electronic/online services are available?[2] List
68 Website and email address of the practice? Open

Another relevant item for this topic is item 38

accessibility during office hours

69 What are the normal opening and closing times for the practice?[2] Numeric
70 Is the practice closed during the afternoon?[2] Yes/no
71 If so, for how long is the practice closed during the afternoon (in minutes)?[2] Numeric
72 Are there fixed times during the day when the practice is closed and monitored on work days?[2] Yes/no
73 If so, at what times?[2] List
74 How many hours per week is the practice still open after 5 on work days for patients (for instance for evening consultations)?[2] Numeric
75 How many work days was the practice closed during the previous practice year?[2] Numeric

accessibility during monitoring[1]

76 How does monitoring take place during the evening, night and weekend services?[2] List
77 What is the postcode for the potential out-of-hours service monitoring the evening, night and weekend services? Open
78 How does monitoring take place when the general practitioner(s) is (are) on holiday?[2] List
79 How does monitoring take place when the general practitioner(s) is (are) ill?[2] List
80 What is the practice's postcode (in order to calculate the distance to the out-of-hours service)?[2] Numeric

Other relevant items for this topic are items 276-278

[1] one or more relevant items for this topic can be generated from other parts of the instrument
[2] (customized) VIA®-item[3] to be generated from the GP information system

availability of GPs, practice assistants and other practice staff (within the healthcare provision)

81 How many GPs work in the practice?[2)] Numeric
82 How many of these are locums (HIDHA)? Numeric
83 How many of these are trainee GPs? Numeric
84 What is the total FTEs of GPs in the practice (excluding trainees)?[2)] Numeric
85 How many practice assistants are employed by the practice (total)?[2)] Numeric
86 What is the total FTEs of practice assistants?[2)] Numeric
87 Are there other practice staff employed within the healthcare provision, such as nurse practitioners, physician assistants, etc.?[2)] Yes/no
88 If so, what are their roles? List
89 How many staff does this involve in total and in FTEs?[2)] Numeric

consultation availability

90 What type of consultations do the GPs provide?[2)] List
91 How many hours are available on average for the various GP consultations?[2)] Numeric
92 Within how many working days are patients usually able to get an appointment for a non-emergency consultation with (one of) the GP(s)?[2)] List
93 How much time is usually reserved for a consultation appointment with the GP(s)?[2)] List
94 Are there clear agreements with the practice assistants about who can and cannot be transferred through during the doctor's consultation time?[2)] List
95 How frequently does the practice assistant have to interrupt (by telephone or physically) the GP during a consultation for discussion or advice? List
96 Do the practice assistants provide their own consultation service? Yes/no
97 If so, what type of consultations are available with the assistants? List
98 How many hours per week are available on average for nurse consultations? Numeric
99 Are there other practice staff who provide their own consultation services? Yes/no
100 If so, what type of consultations are provided and by whom? List
101 How many hours per week do (some of) these staff provide consultations? Numeric
102 Are consultation services provided periodically by external healthcare workers? Yes/no
103 If so, who provides these consultations and what type of consultation services are provided? Open
104 What categorical consultations does the practice offer (such as for diabetes, or asthma patients)?[2)] List

accessibility for emergencies[1)]

105 How many of the staff who aren't doctors are trained in a) emergency first aid, b) resuscitation c) both? Numeric
106 When the doctor is absent is there always one staff member present who has been trained in emergency first aid and resuscitation?[2)] Yes/no
107 Is there a protocol in place for handling emergency cases? Yes/no
108 Has the practice received any complaints in the previous year relating to how emergency cases were handled? Yes/no

Other relevant items for this topic are items 24, 61–65, 474, 512-532

Information provision about accessibility and availability[1)]

109 Is there a sign on the outside of the practice with information about a) the opening times for the practice, b) how availability is managed outside of office hours?[2)] Yes/no
110 Are patients kept informed when consultations overrun? Yes/no
111 Are there any agreements in place about how patients are informed about any changes in accessibility or availability (for instance during holidays)? Yes/no
112 If so, have these arrangements also been agreed in writing? Yes/no
113 Is there information available for the patients in the foyer, waiting room or at the reception about the organization of GP services for evenings, nights and weekends?[2)] Yes/no
114 What information about accessibility and availability has been included in the practice folder? List
115 What information is available about accessibility and availability on the website? List

Other relevant items for this topic are items 32 and 38

triage

protocols

116 Is the Dutch College of General Practitioners' telephone reference manual available electronically or as a hard copy for the practice assistant?[2)] Yes/no
117 Is there a protocol in place for the provision of medical (self-help) advice over the telephone by staff who are not doctors?[2)] Yes/no

procedures and records

118 When a patient calls to be seen by the GP do the practice assistants make enquiries about his/her health problems?[2)] Yes/no
119 If so, do the nurses record the health problems/assistance requested by the patient in the electronic patient dossier? Yes/no
120 Do the practice assistants also ask about the medical nature (triage) of the patient's health problems/request for help? Yes/no
121 If so, do the practice assistants also record the additional information acquired in the electronic patient dossier? Yes/no
122 Do the practice assistants record any assistance they have independently provided in terms of: a) (health) concerns/ patient requests for assistance presented over the

[1)] one or more relevant items for this topic can be generated from other parts of the instrument
[2)] (customized) VIA®-item[3)] to be generated from the GP information system

telephone, b) additional information following telephone triage, c) the (health) advice provided, d) follow-up policy agreed with the patient if the symptoms deteriorate or they remain unsettled? Yes/no
123 How often do you as a GP have to deal with a patient during your consultation time with an issue that could also have been handled by the practice assistant or practice nurse? List

availability and monitoring by GP[1)]
124 Is a doctor always available for the practice assistant(s) and other staff for consultation and/or daily questions if in doubt? Yes/no
125 Are the patient contacts independently handled over the telephone by the practice assistant(s) discussed daily with one of the GPs? Yes/no
126 If not, are these contacts evaluated and/or approved in another way by the GP(s)? Yes/no
127 At the end of each day do you ever take a printout of the contact overview from the practice assistant(s)? Yes/no
128 If so, how often? List

Another relevant item for this topic is item 61

training and promoting expertise
129 Have all practice assistants been trained in triage and/or working with the Dutch College of General Practitioners (DCGP/NHG) telephone reference manual? Yes/no
130 Are recordings made of telephone conversations between the practice assistant(s) and patients for evaluation? Yes/no
131 If so, how often? Numeric
132 Are topics from the DCGP/NHG telephone reference manual periodically discussed with the practice assistants? Yes/no
133 If so, how often? Numeric

task delegation

delegated tasks
134 Are (any of) the following medical/technical and diagnostic tasks delegated to staff who are not doctors? Yes/no
135 If so, which tasks are delegated and to which staff?[2)] List
136 Are (any of) the following tasks concerning chronic conditions and prevention delegated to staff who are not doctors? Yes/no
137 If so, which tasks are delegated and to which practice staff?[2)] List

protocols for delegated tasks
138 For which delegated medical/technical and diagnostics tasks are protocols in place? List
139 For which delegated tasks concerning chronic conditions and prevention are protocols in place? List
140 Do you check annually whether the protocols in place for delegated tasks are still up-to-date? Yes/no

availability of supervising doctors[1)]

Information on this topic can be provided by items 61 and 124

periodic evaluation and assessment of delegated tasks
141 Are the delegated medical/technical and diagnostic tasks carried out under the supervision of a doctor at least once per year? Yes/no
142 If so, is a record made of this, such as for instance a checkList? Yes/no
143 Are the delegated tasks for chronic conditions and prevention which should be carried out according to protocol performed at least once per year under the supervision of a doctor? Yes/no
144 If so, is a record made of this? Yes/no

registered contacts and consults with the practice assistants and practice nurses[1)]

Information on this topic can be provided by items 156 and 157

available services additional to basic GP services

laboratory services
145 Please indicate which laboratory diagnostics the practice carries out?[2)] List

pharmacy services
146 Does the practice provide pharmacy services?[2)] Yes/no

additional GP services for specific patient categories
147 Is the practice responsible for caring for patients in one of the following institutions: a) prison, b) asylum seekers centre, c) psychiatric institution?[2)] Yes/no
148 Does the practice offer additional GP services for specifically defined groups of patients or for specific health problems and conditions? Yes/no
149 If so, please provide a description of this services. Open

special services (not GP specific) and GP specialisms
150 Which particular procedures does the practice offer (for instance ECG diagnostics)?[2)] List
151 Can you provide an overview of the number of procedures carried out in the previous practice year for those procedures you have indicated are undertaken by the practice? Yes/no

features and professionalism of the provided healthcare

consultation and contact features

Is the practice able to provide details about the following for the previous practice year:
152 The total number of recorded patient contacts[2)] Numeric[3)]
153 The average number of registered patients[2)] Numeric[3)]
154 The number of non-registered patients[2)] Numeric[3)]
155 The number of: a) recorded contacts with GPs, b) GP consults, c) GP home visits, d) GP telephone consults, e) GP email consults, f) repeat prescriptions by GP, g) vaccinations by GP[2)] Numeric[3)]
156 The total number of registered contacts with: a) the practice assistants, b) any practice nurses[2)] Numeric[3)]
157 The total number of: a) nurse consults, b) nurse visits, c) telephone consults by the nurse, d) repeat prescriptions issued by a nurse, e) vaccinations by a nurse[2)] Numeric[3)]

[1)] one or more relevant items for this topic can be generated from other parts of the instrument
[2)] (customized) VIA®-item[3)] to be generated from the GP information system

158 Are the details concerning the consultation and contact features included in the annual report (items 152-157)? Yes/no

copd diseasemanagement

Are the following details available for the previous practice year:

159 Percentage of patients known to have COPD (first and second line) in the practice population[2] Numeric[3]
160 Percentage of patients known to have COPD receiving first-line treatment[2] Numeric[3]
161 Percentage of patients known to have COPD receiving first-line treatment who have been registered with the practice population for at least 12 months[2] Numeric[3]
162 Percentage of COPD patients known to be smokers[2] Numeric[3]
163 Percentage of COPD patient who are smokers from the group of patients known to be smokers[2] Numeric[3]
164 Percentage of COPD patients who have been advised to stop smoking in the previous 12 months from the group of patient who smoke[2] Numeric[3]
165 Percentage of COPD patients whose Body Mass Index has been calculated in the previous 12 months[2] Numeric[1]
166 Percentage of COPD patients whose inhalation technique has been assessed in the previous 12 months[2] Numeric[3]
167 Percentage of COPD patients who have undertaken spirometry tests (FEV1/FVC ratio post BD) in the previous 12 months[2] Numeric[3]
168 Percentage of COPD patients who have received an influenza vaccination in the previous 12 months[2] Numeric[3]
169 Percentage of COPD patients whose functioning has been determined using a structured method in the previous 12 months[2] Numeric[3]
170 Percentage of COPD patients whose degree of movement has been assessed in the previous 12 months[2] Numeric[3]

asthma disease management

Are the following details available for the previous practice year:

171 Percentage of patients known to have asthma who are older than 16 in the practice population older than 16 years of age[2] Numeric[3]
172 Percentage of patients with known asthma who are older than 16 where the GP is the principal physician in the practice population older than 16 years of age[2] Numeric[3]
173 Percentage of patients known to have asthma who are older than 16 who have been registered for at least 12 months, where the GP is the principal physician, in the practice population older than 16 years of age[2] Numeric[3]
174 Percentage of asthma patients (older than 16) who are known to smoke[2] Numeric[3]
175 Percentage of asthma patients (older than 16) who are known to smoke in the group of patients who are known smokers[2] Numeric[3]
176 Percentage of asthma patients (older than 16) who are smokers and who have been advised to stop smoking in the previous 12 months[2] Numeric[3]
177 Percentage of asthma patients (older than 16) who have ever undergone diagnostic spirometry[2] Numeric[3]
178 Percentage of asthma patients (older than 16) who have undergone allergy tests at some stage[2] Numeric[3]
179 Percentage of asthma patients (older than 16) with persistent asthma or who are smokers[2] Numeric[3]
180 Percentage of asthma patients (older than 16) with persistent asthma or who are smokers and who have undergone a spirometry test in the previous 12 months[2] Numeric[3]
181 Percentage of asthma patients (older than 16) with more than two prescriptions for bronchial inhalers in the previous 12 months[2] Numeric[3]
182 Percentage of asthma patients (older than 16) with more than two prescriptions for bronchial inhalers and at least one prescription for corticosteroid inhalers in the group of patients with more than two prescriptions for inhalers in the previous 12 months[2] Numeric[3]
183 Percentage of asthma patients (older than 16) who have received an influenza vaccination in the previous 12 months[2] Numeric[3]
184 Percentage of asthma patients (older than 16) using inhalers[2] Numeric[3]
185 Percentage of asthma patients (older than 16) whose inhalation technique has been assessed in the previous 12 months in the group of patients using inhalers[2] Numeric[3]

cardiovascular disease management

Are the following details available for the previous practice year:

186 Percentage of patients known to have CVD in the practice population[2] Numeric[3]
187 Percentage of patients known to have CVD whose blood pressure has been measured in the previous 12 months[2] Numeric[3]
188 Percentage of patients known to have CVD with a systolic blood pressure lower than 14 mmHg[2] Numeric[3]
189 Percentage of patients known to have CVD whose LDL cholesterol has been measured[2] Numeric[3]
190 Percentage of patients known to have CVD with an LDL cholesterol level lower 2.5 mmol/l[2] Numeric[3]
191 Percentage of patients known to have CVD and an LDL cholesterol level greater than 2.5 mmol/l who have been prescribed a lipid-reduction medication[2] Numeric[3]
192 Percentage of patients known to have CVD who are known to smoke[2] Numeric[3]

[1] one or more relevant items for this topic can be generated from other parts of the instrument
[2] (customized) VIA®-item[3] to be generated from the GP information system

193 Percentage of patients known to have CVD who are known to smoke in the group of patients who are known smokers[2] Numeric[3]
194 Percentage of patients known to have CVD who have received advice to stop smoking in the previous 12 months in the group of patients who are smokers[2] Numeric[3]
195 Percentage of patients known to have CVD whose body mass index (BMI) has been measured in the previous 12 months[2] Numeric[3]
196 Percentage of patients known to have CVD whose BMI is lower than 25 kg/m2[2] Numeric[3]
197 Percentage of patients known to have CVD who have ever had a waist measurement[2] Numeric[3]
198 Percentage of patients known to have CVD who have been prescribed anticoagulants or platelet inhibitors[2] Numeric[2]
199 Percentage of patients known to have CVD who have undergone a fasting glucose test in the previous 5 years[2] Numeric[3]
200 Percentage of patients known to have CVD who have been vaccinated against influenza in the previous 12 months[2] Numeric[3]
201 Percentage of patients known to have CVD whose level of movement has been assessed in the previous 12 months[2] Numeric[3]
202 Percentage of patients known to have CVD who have ever received advice about exercise[2] Numeric[3]
203 Percentage of patients known to have CVD whose dietary pattern has been discussed in the previous 12 months[2] Numeric[3]

diabetes – disease management

Are the following details available for the previous practice year:

204 Percentage of patients known to have diabetes (type 1 and[2] in the practice population[2] Numeric[3]
205 Percentage of patients known to have diabetes (type 1 and[2] receiving 1st line treatment where the GP is the principal physician[2] Numeric[3]
206 Percentage of patients known to have diabetes (type 1 and[2] who have been registered for at least 12 months, where the GP is the principal physician[2] Numeric[3]
207 Percentage of diabetes patients whose HbA1c level has been determined in the previous year[2] Numeric[3]
208 Percentage of diabetes patients with an HbA1c level below 7.0[2] Numeric[3]
209 Percentage of diabetes patients with an HbA1c level above 8.5[2] Numeric[3]
210 Percentage of diabetes patients whose blood pressure has been determined in the previous year[2] Numeric[3]
211 Percentage of diabetes patients with a systolic blood pressure below 14 mmHg[2] Numeric[3]
212 Percentage of diabetes patients whose lipid profile (total cholesterol and triglycerides and HDL and LDL) has been determined in the previous year[2] Numeric[3]
213 Percentage of diabetes patients with an LDL cholesterol level under 2.5 mmol/l[2] Numeric[3]
214 Percentage of diabetes patients using a lipid-reduction medication (for instance statins)[2] Numeric[3]
215 Percentage of diabetes patients whose creatinine clearance has been calculated or determined in the previous year[2] Numeric[3]
216 Percentage of diabetes patients who have undergone a urine test (sample) for albumin or albumin/creatinine ratio in the previous year[2] Numeric[3]
217 Percentage of diabetes patients who are known to smoke[2] Numeric[3]
218 Percentage of diabetes patients who are smokers who have been advised to stop smoking in the previous year[2] Numeric[3]
219 Percentage of diabetes patients whose BMI has been determined in the previous year[2] Numeric[3]
220 Percentage of diabetes patients who have received an eye test in the previous 2 years[2] Numeric[3]
221 Percentage of diabetes patients who have received a foot examination in the previous year[2] Numeric[3]

prevention: cervical cancer/ cervix screening

222 Percentage of women from the target cohort/population study who have received a smear test in the previous year[2] Numeric[3]

prevention: annual influenza vaccination

223 Percentage of high risk patients in the practice who have been vaccinated against influenza[2] Numeric[3]
224 Percentage of patients aged 60 and older who have been vaccinated against influenza[2] Numeric[3]

infection prevention in patient examinations[1]

225 Is there a hygiene protocol in place for patient examinations and treatment? Yes/no
226 Is it the norm to work as much as possible with disposable instruments for patient examinations? Yes/no
227 Is it the norm to subsequently disinfect the examination table(s) if soiled during a procedure?[2] Yes/no
228 When syringing ears is it standard practice to: a) wear non-sterile gloves, b) protective glasses, c) a surgical mask? Yes/no
229 When removing surgically closed wound drains is it standard practice to wear non-sterile gloves? Yes/no
230 When removing warts using nitrogen is it standard practice to only dip the cotton buds in the nitrogen once? Yes/no
231 Is it standard practice to sterilise the speculum after use? (HPV virus)? Yes/no
232 Is it standard practice to sterilise the uterine catheter after use? (HPV virus) ? Yes/no

Other relevant items for this topic are 436 – 438, 473, 486, 502 - 512

[1] one or more relevant items for this topic can be generated from other parts of the instrument
[2] (customized) VIA®-item[3] to be generated from the GP information system

medication and prescriptions
(preparing and sending prescriptions)
233 How are most prescriptions written out in the practice? List
234 Does the practice have a secure online connection with the pharmacist to use to send prescriptions? Yes/no
235 How are the majority of prescriptions sent through to the pharmacist?[2)] List
(repeat prescription procedure)
236 Who processes and prepares the repeat prescriptions requested by telephone and/or electronically? List
237 Is a "repeated prescription" protocol in place?[2)] Yes/no
238 Does the assistant (or another member of staff to whom the task has been delegated) check when processing the request for the repeat prescription: a) whether the medicine is recorded in the patient's medical history in order to determine that this pertains to chronic medication, b) the quantity of the medication to be repeated and the number of repeats, c) any medication alerts in the GP Information System? Yes/no
239 Is it standard practice that the assistant consults the GP when preparing a repeat prescription when this involves a medication alert? Yes/no
240 Does the assistant record the assessment of the medical history in the Electronic Patient File? Yes/no
241 Does the assistant record how any potential medication alerts were handled in the Electronic Patient File? Yes/no
242 How are the repeat prescriptions prepared by the assistant usually authorised by the GP(s)? Yes/no
243 Is there a procedure for monitoring repeat prescriptions or is this w included in the repeat prescription protocol?[2)] Yes/no
244 When a GP has not approved a repeat prescription is it then standard practice for the assistant to inform the patient about this and discuss the potential next steps with him/her (such as booking an appointment)? Yes/no
245 Are the repeat prescriptions prepared by the assistant linked to an ICPC coded episode/problem List? Yes/no
(GP prescribing behaviour)[1)]
Are the following details available regarding GP's prescribing behaviour for the previous practice year (for instance in the annual report):
246 The number of antibiotics prescriptions per 1000 patients[2)] Numeric[3)]
247 Number of patients with chronic use of acid reflux inhibitors per 1000 patients[2)] Numeric[3)]
248 Percentage of a) 1st prescriptions of antacids or H2 receptor antagonists in respect of percentage 1st prescriptions of all acid reflux inhibitors and b) percentage proton pump inhibitors in respect of all prescribed acid reflux inhibitors for 1st time users[2)]Numeric[3)]
Other relevant items for this topic are items 262 and 265
(participation in pharmacotherapeutic consultations)
249 Do all GPs have a structural involvement in the pharmacotherapeutic consultation? Yes/no
250 At which level does this pharmacotherapeutic consultation group function? List

registration and coding/Electronic Patient File (EPF)
file management
251 Does the practice use an electronic GP Information System? Yes/no
252 If so, which GP Information System does the practice use?[2)] List
253 Have the patients' medical files been fully digitalised (all details stored in a digital file, including lab results, referral letters, results of tests from other healthcare providers, even if these have been provided to the practice on paper)? Yes/no
254 Is it possible to record episodes in the GP Information System? Yes/no
registration agreements and behaviour[1)]
255 Do the GPs create episodes or problem lists in the EPF? Yes/no
256 Are the episodes or problem lists provided with an ICPC code? Yes/no
257 What percentage of the episodes/problem lists recorded in the EPF do you expect to be linked to a (correct) ICPC code? Numeric
258 Is it standard practice to provide the following health problems with a problem status or alert in the EPF: a) chronic problems (longer than 6 months), b) permanent problems (where full recovery is not expected), c) problems which remain a concern to the patient, d) recurrent problems (> 4 care episodes/six months)? Yes/no
259 Are the partial contacts that are recorded linked to an episode or problem list (such as recorded during consults, telephone contacts or visits)? Yes/no
260 What percentage of the partial contacts recorded in the EPF do you expect to be linked to an episode or problem list? Numeric
261 Are partial contacts recorded according to the Subject-Objective-Evaluation-Plan (SOEP) method?[2)] Yes/no
262 Are prescriptions for medicines recorded in the EPF linked to an ICPC coded episode or problem list? Yes/no
263 How systematically do you monitor and amend the professional summaries? List
264 Are there working arrangements for this in the practice? Yes/no
Other relevant items for this topic are items 24-26
quality and completeness of the Electronic Patient Files (EPF)
265 Does the medical file contain: a) a professional summary, b) an overview of current medication (prescribed < six months), c) an overview of the medication that has been

[1)] one or more relevant items for this topic can be generated from other parts of the instrument
[2)] (customized) VIA®-item[3)] to be generated from the GP information system

stopped in the previous 4 months, d) information about any potential medicine intolerance, e) information about any potential contra-indications? Yes/no
266 Average number of episodes per patient as defined by the GP(s)? Numeric[3)]
267 Percentage A97 or A99-codes, no ICPC or no permissible code (range 3-69)? Numeric[3)]
268 Percentage of problem lists episodes with problem status or alert? Numeric[3)]
269 Number of prescriptions linked to an episode with a valid ICPC code? Numeric[3)]
270 Medication prescribed longer than six months ago with no end date or with an end following a potential wash out period? Numeric[3)]
271 Percentage of patients with a medicine intolerance? Numeric[3)]
272 Percentage of patients with a contra-indication? Numeric[3)]

continuity of care (internal and external)

approach when planning appointments with (own) GP[1)]
273 Are patients who are calling with an active episode for a consult offered an appointment with the GP who - as far as possible - saw the patient on their previous visit (NA for sole practitioners)? Yes/no

Another relevant item for this topic is item 14

work consultation
274 What periodic consultation structures are in place in the practice and who participates in these?[2)] List
275 Frequency of the various consultation processes? List

organization of transfer and information exchange on locum cover
276 If the practice requires a locum, is he/she aware of the various processes within the practice?[2)] Yes/no

organization of transfer and information exchange with (regional) hospital
277 Does the locum doctor have access to the following during out-of-hours calls: a) problem list/episode list, b) journal from the last 4 months or of at least 5 contacts, c) current medication and medication that has been stopped in the previous 4 months, d) contra-indications, e) specific transfer details that are of importance for the continuity of care?[2)] Yes/no
278 How are the patient reports sent by the external locum to the practice? List
279 How are the referral letters created in the practice?[2)] List
280 Is it possible to refer the patient electronically to the hospital? Yes/no
281 How does the hospital send specialists' letters, admission and discharge summaries to the practice? List
282 Is the specialist able to view (part of) the patient's electronic medical file after referral/during treatment? Yes/no

collaborative agreements and consultation with 1st line
283 With which 1st line healthcare providers does the practice periodically engage in in structured consultation (not ad hoc)?[2)] List
284 Where applicable please indicate the frequency with which this takes place. List
285 With which 1st healthcare providers have collaborative agreements been made?[2)] List

collaborative agreements and consultation with hospital/2nd line
286 With which specialisms do structured consultations periodically take place?[2)] List
287 Where applicable please indicate the frequency with which this takes. List
288 Have agreements been made with the hospital in terms of the policy for re-referrals of first line patients?[2)] Yes/no

collaborative agreements and consultation with other healthcare providers/organizations
289 Do structured consultations take place with (one of) the following organizations: a) Mental Health b) Drug & Alcohol Services, c) Public Health Service, d) Ambulance Service, e) Nursing Homes?[2)] Yes/no
290 If so, please indicate the frequency with which this takes where applicable. List
291 Are there any collaborative agreements in place with the nursing home?[2)] Yes/no
292 Are there any agreements in place with the mental health organization for handling the acute admission of psychiatric patients?[2)] Yes/no

general focus points for care and for patients

privacy (including secure computer network)[1)]
293 Are all computers provided with a) password protection and b) login codes?[2)] Yes/no
294 Are all computers with internet access protected with a) a firewall and b) antivirus software?[2)] Yes/no
295 Is the firewall and virus scanner software automatically updated? Yes/no
296 Is the practice connected to the Dutch National Healthcare Switchboard (LSP)? Yes/no
297 Are backups made periodically?[2)] Yes/no
298 If so, a) how and b) how frequently? List
299 Are new employees asked to sign a confidentiality agreement when they start working for the practice? Yes/no
300 Does the practice have any privacy regulations? Yes/no

Other relevant items for this topic are items 467, 468, 470 and 471

informed consent[1)]
Information on this topic can be generated from items 586-588

patient interaction[1)]
Information on this topic can be generated from item 442

complaints procedure
301 Does the practice have a complaints procedure?[2)] Yes/no

[1)] one or more relevant items for this topic can be generated from other parts of the instrument
[2)] (customized) VIA®-item[3)] to be generated from the GP information system

302 Does the complaints procedure include an appeal option? Yes/no
303 Is there a designated member of the practice staff who has been charged with recording and handling complaints? Yes/no
304 Does the most recent annual report provide a record of a) the number of complaints received, b) the nature of the complaints and c) the outcome of the complaint? Yes/no

information provision to patients[1)]

(medical information)[1)]
305 Which DCGP/NHG patient information folders are available?[2)] List
306 Are there books, videos, and/or dvds for patients with information about various medical conditions?[2)] Yes/no
307 Is there a designated member of the practice staff who is responsible for monitoring the quality of the medical patient information and advisory material?[2)] Yes/no
308 Is there an established approach to keep the DCGP/NHG patient information folders up-to-date and monitor their quality?[2)] Yes/no
309 Is it standard practice for GPs to use the DCGP/NHG patient information folders to support the consultation?[2)] Yes/no
310 Is there an up-to-date guide to social services available in the practice and/or does the practice have internet access to the regional guide to social services?[2)] Yes/no

Another relevant item for this topic is item 469

(general information about the practice)[1)]
311 Are the complaints procedure and privacy regulations available at the practice for inspection by patients? Yes/no
312 Does the practice folder contain information about the Medical Treatment Contracts Act (Wgbo), as well as the complaints and privacy regulations? Yes/no
313 Does the practice website have information about Medical Treatment Contracts Act (Wgbo), as well as the complaints and privacy regulations? Yes/no
314 Is there a link available on the practice website for patients to access the regional guide to social services online? Yes/no

Other relevant items for this topic are items 32 - 41, 59, 60, 62, 65, 109-115, 463,

relevant documents and records for internal quality control system

315 Summary of the relevant documents and records for dimension 2 for the internal quality control system. List

DIMENSION 3. evaluation and ending of care

practice policy when patients moving and deregistering

316 How does the practice maintain and up-to-date records of the basic details in its patient files (such as insurance status, address details) List
317 Are there working agreements in place regarding the policy for patients who are moving or have moved out of the patient's care area? Yes/no
318 Has a procedure been agreed for when patients de-register? Yes/no
319 If so, is this procedure in writing? Yes/no
320 When the medical file is send to the new GP, is the problem status checked before the transfer takes place and is this amended if necessary? Yes/no
321 Is the practice policy for moving and deregistering included in the practice information folder? Yes/no
322 Is this information also potentially available from the website? Yes/no

consultation of patients

323 Does the practice have an ideas box?[2)] Yes/no
324 If so, is this box in a clearly visible place (clearly = in sight at the entrance to the foyer, waiting room or reception)?[2)] Yes/no
325 Is it possible for the patients to submit ideas or suggestions for improvements on the (potential) practice website? Yes/no
326 Is the practice linked to an organisation with a client/patient council or does the practice have its own patient council/ forum?[2)] Yes/no
327 Does the practice periodically measure patient experiences or satisfaction?[2)] Yes/no
328 If so, how often? List
329 When was the last time that patient experiences or satisfaction was measured?[2)] Numeric
330 Was this an assessment in the context of external accreditation or certification? Yes/no
331 Have patients or patient representatives been consulted by the practice in other ways over the previous year and/or the current practice year about the patients' perspectives on the required developments? Yes/no
332 Could you describe one point of improvement that has been adopted following a patient satisfaction survey and/ or a patient consultation in the previous or current practice year? Open
333 Does the practice folder include information about how patients may record their ideas and suggestions for improvements? Yes/no

consultation of collaborative partners[1)]

Information on this topic can be generated from items 337, 339 and 350

relevant documents and records for internal quality control system

334. Summary of the relevant documents and records of dimension 3 for the internal quality control system. List

[1)] one or more relevant items for this topic can be generated from other parts of the instrument
[2)] (customized) VIA®-item[3)] to be generated from the GP information system

PRACTICE MANAGEMENT

DIMENSION 4. policy & quality management

general and quality assurance policy

335 Has the practice recorded its vision and/or mission in writing? Yes/no
336 Has the practice created an annual plan for the current practice year, including, for instance, quality assurance aims, intended plans for improvements, etc.?[2] Yes/no
337 If so, has this plan been discussed with the university gp department/UMC with which the practice (potentially) collaborates? Yes/no
338 Does the practice have a long-term management policy? Yes/no
339 If so, has the practice tailored this policy (discussed or otherwise researched/detailed) to: a) the team b) patient representatives) c) colleagues from the GP group, d) collaborative partners e) academic partners? Yes/no

financial policy

340 Does the practice draw up an annual financial year plan (prospectively) for anticipated income and expenditure?[2] Yes/no
341 What is the year of the practice's last approved annual financial accounts? Numeric

creating and maintaining an internal quality assurance system

342 Has a practice review/baseline-assessment been carried out in the practice in the previous 3 years? Yes/no
343 If so, in which year? List
344 Who carried out this practice review/baseline-assessment? List
345 Is there a feedback report available for this? Yes/no
346 Has the practice been accredited or certified? Yes/no
347 Is so, which kite marks? List
348 When does kite mark expire (year)? List
349 If no, does your practice have any plans for external accreditation or certification? Yes/no
350 What information does the practice use to assess and improve the way the practice is run (such as internal audits, benchmarks, results of external quality audits, feedback from patients and/or collaborative partners)? List
351 Is quality assurance a periodic focus in work/team discussions? Yes/no
352 If so, are the minutes of these available? Yes/no
353 Is the practice able to provide an overview of the results of its quality assurance policy for the previous practice year (for instance in an annual report)? Yes/no

documenting internal quality assurance system[1]

Information on this topic can be generated from items 42, 315, 334, 364, 446, 545, 552, 594, 639

recording and reporting accidents and errors[1]

354 Does the practice maintain a record of: a) (near) accidents and (potential) errors that have occurred, b) (potential) reporting of this to the designated external organisations, c) unsafe work situations reported by staff, d) the way in which (near) accidents and (potential) errors have been investigated and dealt with?[2] Yes/no
355 Is there a protocol in place for how staff should deal with (near) accidents at work (such as needle stick injuries, cuts, blood splatter, contact with pointy or sharp objects, contact with electricity)? Yes/no
356 Do you at any time ask practice workers to maintain a record for a short period (for instance a week) of any errors (in the broadest sense of the word) that they observe during their activities (for instance, medical materials that have not been restocked, wrong orders that have been delivered)? Yes/no
357 Are all (near) accidents and (potential) errors that have occurred discussed with staff in the work and/or team discussions? Yes/no

Other relevant items for this topic are items 440, 441

social responsibility and reporting

358 Does the practice create an annual (quality assurance) report?[2] Yes/no
359 What is the most recent practice year for which the annual report is available? List
360 Does the practice publish the annual reports on the practice website to enable patients to access this is if so desired? Yes/no
361 Is the annual report also available at the practice for patients to consult? Yes/no
362 Do you also provide this annual report on a yearly basis to the scientific institute/UMC with which your practice (potentially) collaborates? Yes/no
363 Do you also provide this report to the other academic GP practices that are within the university/academic network which your practice is (potentially) part of? Yes/no

relevant documents and records for internal quality control system

364 Summary of relevant documents and records of dimension 4 for the internal quality control system. List

DIMENSION 5. staff management

composition and staffing[1]

365 Please describe the roles, composition and the number of GPs and other staff in the practice (if you already completed items 81 – 89, then you only need to provide the number and FTEs for the management/board, and administrative personnel) List/numeric

Other relevant items for this topic are items 81-89

Identifying potential understaffing

367 Is there a work roster or a different overview of the service structure in place? Yes/no
367 Are there rules in place for replacement (due to holidays, illness, etc.) of GPs, practice assistant(s), other healthcare providers? Yes/no

[1] one or more relevant items for this topic can be generated from other parts of the instrument
[2] (customized) VIA®-item[3] to be generated from the GP information system

368 Have any staff currently been absent from work for a long period of time (longer than 5 weeks), due to, for instance, illness or maternity leave? Yes/no
369 Is so, how many staff does this involve? Numeric
370 Have (temporary) replacements been arranged for these staff? Yes/no
371 Are there currently any vacancies that are difficult to fill?[2] Yes/no
372 If so, for what roles? Yes/no
373 In the previous 3 years has the practice made an inventory of the work burden for GPs and other practice staff?[2] Yes/no
374 In the previous 3 years has the practice made an inventory of work satisfaction for GPs and other practice staff?[2] Yes/no

task/role descriptions

375 Have all currently employed staff received a task/role description on their appointment?[2] Yes/no

policy for new staff[1]

376 Do you involve the university GP department/UMC which you are (potentially) collaborating with or part of in the recruitment and selection procedure for (some) new staff? Yes/no
377 When employing new staff do you check a) proof of identity, b) social security number, c) references, d) degrees/certificates, e) registrations/competence statements?[2] Yes/no
378 When employing new staff does the practice check whether they have been vaccinated against a) hepatitis, b) polio, c) rubella, d) whooping cough? Yes/no
379 Do new staff receive an introduction/induction programme to familiarise them with the organisation and colleagues?[2] Yes/no

Other relevant items for this topic are items 427, 608, 609

periodic job evaluation

380 Have all staff who have been employed in the previous 12 months received a job evaluation or performance review?[2] Yes/no
381 If so, was a report drawn up for these discussions?[2] Yes/no
382 If so, did staff receive a copy of this report? Yes/no

experience, competence and (specific) skills[1]

383 How many GPs have more than 5 years' work experience as a GP?[2] Numeric
384 How many GPs have worked longer than 2 years in the practice?[2] Numeric
385 Number of years' experience for the practice assistants? Numeric
386 Number of years they have worked in this practice? Numeric
387 What is the highest level of education of the practice assistant(s)? List
388 Number of practice assistants with degrees?[2] Numeric
389 Number of years work experience of the other healthcare providers? Numeric
390 Number of years other healthcare providers have worked in this practice? Numeric
391 Does the practice staff include a) who have completed middle/higher vocational education, b) psychiatric nurse, c) nurse practitioners, d) physician assistant?[2] Yes/no
392 Are all GPs registered in the relevant professional registers (e.g. BIG and HVRC)? Yes/no
393 Is the practice able to provide proof of these registrations if required? Yes/no
394 Is the practice able to provide copies of diplomas, registrations, statements of competence, etc. for the other staff employed? Yes/no
395 Are there GPs employed in the practice who have undergone or are undergoing specialist training?[2] Yes/no
396 If so, which programmes are they pursuing? List
397 Are any of the GPs registered in the register of the General Practitioners Council for Specialist Family Doctors (CHBB)? Yes/no
398 If so, in which CHBB register? List
399 Are any of the GPs: a) university lecturers, b) GP trainers, c) PhD, d) epidemiologist or e) DCGP/NHG Practice accreditor? Yes/no
400 Do any of the GPs have other skills not referred above? Yes/no
401 If so, which skills? Open
402 Do the practice assistants and other practice staff have other specific qualifications or competences you would like to include? Numeric
403 If so, which skills? Open

Other relevant items for this topic are items 563, 601-603

supervision and performance management[1]

404 Does the practice periodically focus on improving the expertise/provide internal training for the: a) practice assistants, b) other practice nurses? Yes/no
405 If so, how often? List

Other relevant items for this topic are items 129-133 and 141-144

training (policy)[1]

406 Do any of the GPs have a personal training plan?[2] Yes/no
407 If so, how many GPs have these training plans? Yes/no
408 Do the practice assistants, practice nurses, other nurses have a personal training plan? Yes/no
409 Does the practice maintain a record of the annual training completed by staff including the associated statements and diplomas? Yes/no
410 Are there any internal or external agreements in place concerning whether or not GPs are able to participate in continuing education programmes offered by commercial organisations and/or organisations with commercial interests? Yes/no

[1] one or more relevant items for this topic can be generated from other parts of the instrument
[2] (customized) VIA®-item[3] to be generated from the GP information system

411 Is the practice able to provide an overview for the previous year of the post-qualification programmes GPs and other practice staff have undertaken? Yes/no
412 How many hours of post-qualification training have the GPs followed in the previous practice year? Numeric
413 Do any of the GPs maintain a personal digital dossier of the post-qualification programmes they have followed in the online post-qualification/(re)registration system? Yes/no
414 Do the a) GPs, b) practice assistants and/or other practice nurses periodically participate in educational/training programs of the academic GP network? Yes/no

Other relevant items for this topic are items 579-584 and 631

risks to staff safety, health and well-being: Identification and prevention

periodic risk inventories and evaluation (RI & E)

415 Are there staff who work more than 40 hours/1.0 FTE (GPs and/or other staff)? Yes/no
416 Does the practice periodically undertake an RI & E to monitor whether it is complying with Health & Safety legislation (ARBO)?[2)] Yes/no
417 If so, when was the last RI & E undertaken? Numeric
418 Was this last RI & E, including the action plan, approved by the Occupational Health & Safety Inspectorate? Yes/no
419 Is there a copy of the last RI & E, including the action plan, available? Yes/no

working conditions

420 Does the practice have a policy in place regarding working conditions? Yes/no
421 Are there written agreements in place for the specific tasks and responsibilities of staff in terms of working conditions? Yes/no
422 Is there a periodic focus in the work/team discussions on the topic of "working conditions"? Yes/no
423 Has the practice assessed whether the staff work stations comply with ergonomic standards and recommendations? Yes/no

focus on specific risk groups[1)]

424 Is there a protocol in place for "pregnant staff"? Yes/no
425 If so, does this protocol contain information on a) working hours and breaks, b) mental burden, c) physical burden, d) exposure to biological agents and e) exposure to hazardous materials? Yes/no
426 Are there working agreements in place about informing new staff regarding specific risks in the practice and the measures, code of conduct and working arrangements they need to heed in order to work safely in the practice (such as, for instance, the use of protective materials when dealing with biological agents)? Yes/no
427 If so, have these working agreements been recorded or included in a standard checklist or induction procedure? Yes/no

Another relevant item for this topic is item 609

absence from work policy

428 Are there procedures in place for what staff need to do when reporting sick for work or returning to work (absence from work policy)? Yes/no
429 Does the practice maintain a record of absence from work due to illness? Yes/no
430 Does the practice have arrangements in place in respect of managing staff who are ill? Yes/no

immunisation policy[1)]

431 Does the practice offer all practice staff a hepatitis B vaccination?[2)] Yes/no
432 Does this include the cleaning staff? Yes/no
433 Does the practice maintain a record of the vaccination status for the GPs and staff?[2)]Yes/no
434 Have all staff been inoculated against a) hepatitis, b) rubella, c) whooping cough, d) polio? Yes/no

Other relevant items for this topic are items 606, 607

safety and hygiene

435 Are there working agreements in place about how staff should handle (highly) hazardous materials? Yes/no
436 Is there a protocol/guideline in place for "personal hygiene" or is this focus point included in a hygiene protocol? Yes/no
437 Is there a protocol/guideline in place for "hand hygiene" or is this focus point included in a hygiene protocol? Yes/no
438 Is there a protocol/guideline in place for "protective materials" or is this focus point included in a hygiene protocol? Yes/no
439 Is there a guideline/protocol in place regarding "infections and staff" or is this focus point included in a hygiene protocol? Yes/no
440 Is there a protocol for "needle stick/cuts/splatter accidents"? Yes/no
441 Does the practice maintain a record of needle stick/cuts/splatter accidents including the (potential) reporting of this to the designated organisations? Yes/no
442 Is there a code of conduct in place for dealing with aggression and violence? Yes/no

(company) emergency response team

443 Is there an evacuation plan in place? Yes/no
444 Have any staff been trained as emergency first responders? Yes/no
445 If so, how many staff? Yes/no

relevant documents and records for internal quality control system

446 Summary of the relevant documents and records of dimension 5 for the internal quality control system. List

[1)] one or more relevant items for this topic can be generated from other parts of the instrument
[2)] (customized) VIA®-item[3)] to be generated from the GP information system

DIMENSION 6. facility & equipment management

location, building and physical access

447 Is there a public transport stop within 300 metres of the practice?[2] Yes/no
448 Does the practice have disabled parking spaces?[2] Yes/no
449 If so, is the distance from this parking space to the practice less than 100 metres? Yes/no
450 Does the practice have a doorstep free entrance?[2] Yes/no
451 Are all the relevant doors in the practice wide enough to allow wheelchair access?[2] Yes/no
452 Are all the treatment/consultation rooms on the ground floor?[1] Yes/no
453 If no, is there a lift?[2] Yes/no

Rooms, facilities and equipment

454 How many consultation rooms are there for the doctors? Numeric
455 How many rooms may be modified for teaching, for instance, trainee GPs, student doctors? Numeric
456 Is there also a separate (consultation/treatment) room available for the practice assistants and/or practice nurses?[1] Yes/no
457 Does the practice have a laboratory room?[2] Yes/no
458 Does the practice have a meeting room?[2] Yes/no
459 What is the total (estimated) surface area of the practice (in m2)?[2] Numeric
460 What is the total (estimated) surface area of the consultation and examination rooms? (standard = 80 m/21000 patients)[2] Numeric
461 Is there a clearly designated area in the waiting room where children may play?[2] Yes/no
462 Are there (clearly visible) toys in the waiting room for children?[2] Yes/no
463 Does the hall or waiting room have a display with (free) DCGP/NHG patient leaflets and folders?[2] Yes/no
464 Do the practice assistants have a complete headset available to make hands-free calls?[2] Yes/no
465 Does the practice have a designated toilet for: a) patients with hand wash facilities, b) disabled toilet with hand wash facilities?[2] Yes/no
466 Does the practice have a room with a sluice to clean nappies?[2] Yes/no
467 Do any of the consultation rooms border directly onto the waiting room or reception desk? Yes/no
468 Are the consultation room doors extra thick and of noise-isolating quality? Yes/no
469 What general facilities are present in the consultation rooms (such as internet connections, demonstration aids)?[2] List
470 Features of the treatment/examination rooms (for instance, separate rooms or connected to the consultation room). List
471 What basic facilities are available in the treatment/examination room (such as a privacy screen, examination lamp, examination table)?[2] List
472 Are the following hygiene/protective materials available in the treatment/examination rooms (such as disposable gloves, plastic apron(s), protective glasses, needle container, leak-free container, paper towels, exam table paper, soap dispenser)?[2] List
473 Are the following medical/diagnostic instruments presenting the treatment/examination rooms (such as a PCR test for chlamydia and gonorrhoea, finger ring saw, extra large cuff for measuring blood pressure)?[2] List
474 Is the following emergency first aid equipment available in one of the treatment and/or examination rooms (such as a full anaphylaxis set, adrenaline, a corticosteroid and antihistamine, suture set, various urinary catheters, infusion needles, wound cleaning material)?[2] List

maintenance, inspection and management

safety equipment

475 Are there a sufficient number of working and well-maintained fire extinguishers present?[2] Yes/no
476 Number of fire extinguishers? Numeric
477 Is there an emergency power supply?[2] Yes/no
478 Is there an inventory of the safety equipment in the practice (such as fire extinguishers, smoke alarms, fire alarm installation, etc.)?[2] Yes/no
479 Is the safety equipment in the practice inspected annually?[2] Yes/no
480 When was the safety equipment last inspected (fire extinguishers, smoke alarms, etc.)? Numeric
481 Are the emergency exits a) marked out and b) obstacle free? Yes/no
482 Is there an evacuation plan or emergency plan? Yes/no

work sites

483 Have the staff work sites been inspected to determine whether they comply with occupational health & safety regulations and ergonomic standards?[2] Yes/no

cleaning of practice rooms

484 Are the foyer, reception and waiting room cleaned at least once per week? Yes/no
485 Are the following rooms cleaned daily (consultation rooms, examination rooms/area, treatment rooms, laboratory, toilets)? Yes/no

automation network, computers and other peripheral equipment[1]

486 Is there an inventory of the computers and other peripheral equipment (such as printers, scanner, fax machine, telephone system, etc.)?[2] Yes/no
487 Are the computers and automation network periodically inspected and maintained (e.g. inspected for defects, software updates, security controls, re-indexing of data files)?[2] Yes/no

[1] one or more relevant items for this topic can be generated from other parts of the instrument
[2] (customized) VIA®-item[3] to be generated from the GP information system

488 Does the practice have a (maintenance/service) contract with third parties for this?[2] Yes/no

Other relevant items for this topic are, items 295, 297, 298

medical instruments and equipment

489 Is there an inventory of medical instruments (such as ophthalmoscope, slit lamp, scales)?[2] Yes/no
490 Is there an inventory of the electrical medical equipment (such as ECG, defibrillator, autoclave)?[2] Yes/no
491 Are the medical instruments periodically inspected?[2] Yes/no
492 If so, how often? List
493 Is the electrical medical equipment periodically inspected?[2] Yes/no
494 If so, how often? List

calibration

495 Which medical instruments are periodically recalibrated? List
496 Does the practice have a (maintenance) contract with third parties for the periodic maintenance and calibration of medical instruments and equipment (for instance with a hospital (department) or other specialist companies)? Yes/no
497 Does the practice maintain a record[1] of the periodic maintenance of medical instruments and equipment (such as the dates on which the instruments were inspected, calibrated and who carried this out)? Yes/no
498 Does the practice maintain a record of the calibration of measurement equipment? Yes/no
499 When were the blood pressure meters last calibrated (month, year)?[2] Numeric
500 Is the last calibration date recorded on the blood pressure meters?[2] Yes/no

storage and cleaning of used medical instruments

501 Is there a protocol for dealing with used instruments? Yes/no
502 Is the practice's equipment limited to simple instruments with no light units or sealed rooms (such as scissors, pincers, suture sets, specula, etc.)? Yes/no
503 Does the practice clean the not-disposable used instruments? Yes/no
504 If not, are there agreements in place with those responsible for the cleaning in terms of the manner in which used instruments are to be stored up to the point they are cleaned (disinfecting or sterilising)? Yes/no
505 If so, have these working agreements been recorded? Yes/no (cleaning by the practice)
506 Is there a protocol for cleaning used instruments?[2] Yes/no
507 How are used instruments cleaned, rinsed and dried in the practice? List
508 Is it standard practice for gloves to be worn when cleaning instruments?[2] Yes/no
509 Is it standard practice for staff to also wear a) a plastic apron, b) protective glasses when manually cleaning critical instruments (non-intact skin or mucosa or sterile body cavities)? Yes/no
510 If the practice sterilises non-disposable instru ments itself what type of autoclave does it use for this purpose (steam autoclave with or without CE kite mark or an S-class steam autoclave)?[2] List
511 Is it standard practice to determine whether the steriliser has been switched on using an indicator tape?[2] Yes/no

doctors'/emergency bags and emergency medicines

512 Is there a(n) (inventory) list of the recommended medication for emergency cases?[2] Yes/no
513 Who is responsible for stocking and monitoring the practice's stock of emergency medicines?[2] List
514 Who is responsible for stocking and monitoring the contents of any emergency bags? List
515 Are there clear working agreements in place about monitoring and stocking emergency medication in any emergency bags and in the practice's stock? Yes/no
516 Are there clear working agreements in place for monitoring the latest expiry date for a) emergency medicines in any emergency bags and b) in the practice's stock?[2] Yes/no
517 Is there a protocol for stocking and monitoring the practice's supply of emergency medicines?[2] Yes/no
518 Who is responsible for stocking and monitoring the contents of the doctors' bags?[2] List
519 Are there clear working agreements (who, when, how) about how the material and medicines in the doctors' bags are to be re-stocked? Yes/no
520 Is there a protocol for re-stocking and monitoring doctors' bag(s) and/or any emergency bag?[2] Yes/no
521 For how many doctors' bags have you checked the contents using the checklist included?[2] Numeric
522 Which essential ampules were present in the doctors' bag(s) inspected?[2] List
523 Were there any essential ampules in the doctors' bags which were beyond the expiry date?[2] Yes/no
524 The number of doctors'/emergency bags inspected in which all essential ampules were present?[2] Numeric
525 Number of doctors'/emergency bags inspected in which none of the essential ampules were beyond the latest expiry date?[1] Numeric
526 Which essential medicines were present in the doctors' bag(s) inspected?[2] List
527 Were there any essential medicines in the doctors' bags which were beyond the expiry date?[2] Yes/no
528 The number of doctors'/emergency bags inspected in which all essential medicines were present?[2] Numeric
529 Number of doctors'/emergency bags inspected in which none of the essential medicines were beyond the latest expiry date?[2] Numeric
530 Which other medical materials and equipment were present in the doctors' bag(s) inspected?[1] List

[1] one or more relevant items for this topic can be generated from other parts of the instrument
[2] (customized) VIA®-item[3] to be generated from the GP information system

531 Number of doctors'/emergency bags inspected in which all the other medical materials and equipment were present?[2] Numeric
532 Number of doctors'/emergency bags inspected in which there was an inventory?[2] Numeric

medical materials and equipment

533 Does the practice have a functioning refrigerator for the storage of medical materials, such as medicines which need to be kept cold, etc.?[2] Yes/no
534 If so, is this refrigerator equipped with a minimum/maximum thermometer?[2] Yes/no
535 Is there any food, etc. stored in this refrigerator? Yes/no
536 Are medicines which fall under the Narcotics Act stored in a locked cabinet?[2] Yes/no
537 Is so, is this cabinet secured in such a way that it cannot be removed? Yes/no
538 Is there a protocol for the management of the practice's supplies? Yes/no
539 Is there an inventory of the medical materials and equipment? Yes/no

storage and removal of medical waste

540 Is there a protocol for handling used needles and contaminated patient material? Yes/no
541 Is patient waste material secured in a sturdy and sealed plastic bag? Yes/no
542 Are waste baskets, waste buckets, etc. emptied daily? Yes/no
543 Are needle containers removed as chemical waste? Yes/no

relevant documents and records for internal quality control system

544 Summary of the relevant documents and records of dimension 6 for the internal quality control system. List

DIMENSION 7. purchase & outsourcing

services and treatments that are outsourced within the healthcare provision

545 Is the annual check-up of diabetes patients for whom the GP is the principal physician carried out by third parties? Yes/no
546 Are the periodic check-ups of diabetes patients for whom the GP is the principal physician carried out by third parties? Yes/no
547 Are there other services, treatments, (periodic) check-ups with the healthcare provision that have been outsourced to third parties? Yes/no
548 If so, please describe them. Open

other services by third parties (where relevant to the healthcare & service provision)[1]

549 Is the cleaning of the practice provided by third parties? Yes/no
550 If so, how often per week? List

Other relevant items for this topic are items 489, 497, 504, 505 and 506

relevant documents and records for internal quality control system

551 Are the contracts and/or written working agreements available for the listed services, that have been outsourced to third parties? Yes/no

DIMENSION 8. quality documents & records

internal quality assurance system documentation[1]

Information on this topic can be generated from other parts of the instrument. See items 42, 315, 334, 364, 446, 545, 552, 594, 639

managing the relevant quality documents and records[1]

Information on this topic can be generated from other parts of the instrument. See items 140, 307, 308

ACADEMIC ACTIVITIES

DIMENSION 9. involvement in research & innovation

background features[1]

552 Is the practice an a) academic general practice, b) research practice, c) registration practice? Yes/no

Other relevant items for this topic are items 31 and 595-597

research & development (R&D) ambitions and policy

553 Is there a policy document recording the practice's key points for research and/or innovation for the coming years? Yes/no
554 If so, was this policy document tailored in the drafting process to the scientific institute/UMC with which the practice is (potentially) collaborating? Yes/no
555 Is there an annual plan recording the practice's aims and/or intended research and innovation activities for the current practice year? Yes/no
556 If so, have these aims and/or activities been tailored to the university gp department/UMC with which the practice is (potentially) collaborating? Yes/no

preconditions and resources

R&D budget

557 Does the practice receive reimbursement periodically for its contribution to research and/or healthcare innovation projects from the scientific institute/UMC with which it is collaborating? Yes/no
558 In the previous and/or current practice year has the practice a) requested, b) been awarded external financing for a research and/or healthcare innovation project? Yes/no
559 In the budget for the last financial year were any sums set aside for research and/or innovation? Yes/no

R&D capacity

560 Are there practice staff who - within their roles - have time that has been designated for research and/or innovation related tasks? Yes/no
561 If so, please describe which practice staff and how much time has been set aside? Open/numeric

[1] one or more relevant items for this topic can be generated from other parts of the instrument
[2] (customized) VIA®-item[3] to be generated from the GP information system

562 Does the practice employ a lower patient/GP ratio due to its scientific activities and contributions? Yes/no

research expertise/competences: doctors and staff

563 How many of the GPs and/or other practice staff: a) have a PhD, b) have a job as a clinical researcher alongside their workin the practice, c) are epidemiologists (registered/ unregistered), d) have completed specialist scientific training, e) have other research experience/competences? Numeric

additional skills for doctors and staff which could be utilised in research & innovation[1)]

Information on this topic can be generated from other parts of the instrument, see items 150, 395-403

quality and completeness of records and file management[1)]

Information on this topic can be generated from other parts of the instrument, see items 24-26, 251-272

quality of care and the practice organisation[1)]

Information on this topic can be generated from other parts of the instruments, see items 342-353

facilities and equipment[1)]

564 Does the practice have access to an online UMC/university library? Yes/no

Another relevant item for this topic is item 455. The overall management of facilities and equipment is assessed in dimension 6

activities and contributions

research

565 Does the practice periodically provide anonymised data from the GP information system to a national or university GP database? Yes/no

566 If so, how often? List

567 How often does your practice participate in research projects? List

568 Has the practice participated in scientific research projects in the previous and/or current practice year? Yes/no

569 If so, how many research projects has your practice participated in? List

570 Please provide a brief description of these research projects. Open

571 What did the practice contribution consist of: a) including patients, b) providing anonymised data from the GP information system, c) additional data collection, d) pilot practice for new healthcare model/treatment method, e) generating research questions, f) other? Yes/no

innovation

572 Has the practice participated in one or more healthcare innovation projects in the previous and/or current practice year? Yes/no

573 If so, please provide a brief description of these innovation projects. Open

574 Does the practice maintain an annual record of its participation in research and/or innovation projects? Yes/no

assessment and evaluation[1)]

575 Prior to participation in any research does the practice assess whether: a) a study protocol has been drafted, b) an authorised committee has approved the study protocol? Yes/no

576 Are the research and innovation activities and contributions periodically evaluated with the scientific institute/UMC with which the practice collaborates? Yes/no

577 If so, how often? List

578 If so, are evaluation documents available? Yes/no

Another relevant item for this topic is item 589

scientific training & promoting expertise

579 Are there GPs who are currently undergoing specialist programmes in "scientific training"? Yes/no

580 Are evidence-based patient discussions periodically held in the practice or in the GP group? Yes/no

581 If so, how often? List

582 Are any GPs periodically participating in meetings of the academic GP network in which scientific/research expertise is promoted? Yes/no

583 How often did these network meetings take place in the previous year? List

584 How many hours of accredited (post-qualification) training of the GP(s) was related to scientific training in the previous practice year (such as critical reading, PubMed searches, PICO patient discussion)? Numeric

focus points for patients with regards to research and innovation[1)]

information provision to patients

585 Is information about the following included in the practice folder: a) practice activities in terms of research and/or innovation, b) patient rights when participating in scientific research or innovative care models, c) how patients are able to record that they do not want any data made available for research? Yes/no

informed consent

586 Is a note made in the electronic patient file for those patients who have indicated that they do not want to make any data available? (for instance using a special code or ''tab'')? Yes/no

587 Are those patients who are participating in an experimental care model/treatment method explicitly asked for consent? Yes/no

588 Is this consent noted in the electronic patient file? Yes/no

consultation[1)]

589 Does the practice periodically survey patient experiences or satisfaction with regard to the research and innovation activities taking place in the practice? Yes/no

Other relevant items for this topic are items 323-333

[1)] one or more relevant items for this topic can be generated from other parts of the instrument

[2)] (customized) VIA®-item[3)] to be generated from the GP information system

social responsibility and reporting[1)]
590 Does the practice include a record in its latest annual report of the practice activities and contributions to research and/or healthcare innovation? Yes/no
591 Does the practice record in its annual report any potential amendments/changes in the practice organisation and/or healthcare provision that have been introduced following the outcome of research/health care innovation activities? Yes/no
Other relevant items for this topic are items 358 and 359
relevant documents and records for internal quality control system
592 Summary of the relevant documents and records of dimension 9 for the internal quality control system. List

DIMENSION 10. Involvement in teaching & education (and other forms of knowledge transfer)
background features[1)]
593 Is the practice a GP training practice recognised by the Royal Dutch Medical Association (HVRC)? Yes/no
594 If so, what was the last year in which the practice was visited by the HVRC? List
595 What is the (estimated) number of non-Dutch nationals registered in the practice?[2)] Numeric
596 For what percentage of patients at your practice are you entitled to an additional allowance (achterstandsfonds)?[2)] Numeric
597 Can you provide the core figures of the practice population by age and gender for the previous practice year?[2)] Yes/no
Another relevant item for this topic is item 31
Teaching and Education (T&E) ambitions and policy
598 Has the practice provided a description in the policy documents available of the educational and training contributions it is striving towards? Yes/no
599 Is there an annual plan in place including the aims and/or planned educational and training activities for the current practice year? Yes/no
600 If so, have these aims and/or activities been tailored to the university gp department/UMC with which the practice is collaborating? Yes/no
preconditions and resources
availability of experienced GPs and GP trainers[1)]
601 Are there GPs active in the practice who are recognised GP trainers? Yes/no
602 If so, how many GPs? Numeric
603 How are these GP trainers registered in the register of GP trainers (SBOH)? List
Other relevant items for this topic are items 83, 383 and 384
additional skills for doctors and staff which could be utitilised for teaching and education[1)]
The relevant items for this topic can be generated from other parts of the instrument, see items 150, 395-403 and 563
sufficient and qualified practice assistants[1)]
The relevant items for this topic can be generated from other parts of the instruments, see items 85, 86, 387 and 388
quality and completeness of records and file management[1)]
604 Do those individuals in training and/or on placement in the practice record the consultations/shared contacts under their own code in the Electronic Patient File (so that this information may be used for evaluation/feedback)? Yes/no
[1)]Other relevant items on this topic can be generated from other parts of the instrument, see items 24-26, 251-272
quality of care and the practice organisation[1)]
Information on this topic can be generated from other parts of the instruments, see items 342-353.
facilities and equipment[1)]
605 Is there video equipment available in the practice? Yes/no
Other relevant items for this topic are items 455, 564. The overall management of facilities and equipment is assessed in dimension 6
working conditions/preventing safety, health and well-being risks to students and trainee doctors
606 Does the practice check whether those individuals in training and/or on placement in the practice have been vaccinated against hepatitis b, polio, rubella and whooping cough? Yes/no
607 If so, are these checks recorded? Yes/no
608 Does the practice have an induction programme in place for those individuals in training or on placement in order to familiarise them with the practice organisation and staff? Yes/no
609 Do those individuals in training or on placement also receive information during the induction period about the specific risks of working in the GP practice and the measures, codes of conduct, working agreements, etc. they should take into consideration in order to be able to work safely? Yes/no
scientific culture and attitude[1)]
The relevant items for this topic can be generated from other parts of the instrument, see items 567, 580, 581
activities and contributions
basic medical training/student education
610 Has the practice been a training/placement practice in the previous and/or current year for: a) 2nd year placements, b) scientific placements, c) junior GPs, d) any other placements for basic medical training?[2)] Yes/no
611 If so, how often? Numeric

[1)] one or more relevant items for this topic can be generated from other parts of the instrument
[2)] (customized) VIA®-item[3)] to be generated from the GP information system

612 Has the practice participated in the previous and/or current practice year in a pilot project for basic medical training where an innovative form of practical training was tested in the practice? Yes/no

GP training

613 Has the practice been a training/placement practice in the previous and/or current year for: a) 1st year trainee doctors, b) 3rd year trainee doctors, c) military doctor trainees or other trainee doctors?[2)] Yes/no

614 If so, how often? Numeric

615 Has the practice participated in the previous or current practice year in a pilot project from the gp training institute? Yes/no

other (para)medic professional training

616 Has the practice in the previous and/or current practice year been a training practice and/or placement practice for other (para) medical professional training for: a) practice assistants, b) practice assistants, c) physician assistants, d) practice nurses, e) nurse practitioners? Yes/no

617 If so, for which professional training programmes? List

own professional field and of other professionals allied to health

618 Have any of the GPs contributed to the following in the previous and/or current practice year: a) developing post-qualification programmes for their own professional group, b) developing post-qualification programmes for other (para)medical professional groups, c) organising post-qualification activities, d) delivering post-qualification programmes? Yes/no

619 If so, does the practice maintain an annual record of these post-qualification contributions? Yes/no

620 Have any GPs been (co-)authors of articles published in the previous and/or current practice year (both publication in national or international medical/scientific journals, as well as non-scientific publications)? Yes/no

621 If so, does the practice maintain an annual record of these publications? Yes/no

622 Have any of the GPs held presentations in the previous and/or current practice year to their own professional group and/or other (para)medical professional groups? Yes/no

623 If so, does the practice maintain a record of the annual presentations provided to the GPs to their own professional group and/or other (para)medical professional groups? Yes/no

624 Are any of the GPs members of the Diabetes Expert Group (DiHAG) or the COPD/Asthma Expert Group (CAHAG)?[2)] Yes/no

625 Do any of the GPs participate in other national, regional or local expert groups? Yes/no

626 If so, which GP(s) and which expert group(s)? Open

assessment and evaluation[1)]

627 Does the practice have: a) the "assessment and evaluation in GP training" protocol, b) training plan for the institute for which the practice is a training/placement practice? Yes/no

628 Are the practice activities and contributions to education and knowledge transfer periodically evaluated with the university GP department/UMC with which the practice is collaborating? Yes/no

629 If so, how often? List

630 If so, are evaluation documents available? Yes/no

Another relevant item for this topic is item 634

Teacher training and promoting expertise

631 How many hours have individual GPs spent in the previous practice year on post-qualification training that was aimed at improving knowledge and skills in respect of teaching and other forms of knowledge training (for instance teaching skills training, presenting, participating in review days for GP trainers)? Numeric

focus points for patients with regard to teaching and education

information provision to patients

632 Is there information in the practice folder about: a) the training/educational activities that may be taking place in the practice, b) how patients are to be informed about individuals who are in training or undertaken a placement at the practice? Yes/no

633 Does the practice website have information for patients about: a) any potential training/professional activities that may be taking place in the practice, b) individuals who are (currently) in training or undertaking a placement at the practice? Yes/no

consultation of patients

634 Does the practice periodically survey patient experiences or satisfaction with the training/educational activities taking place in the practice? Yes/no

social accountability and annual reporting[1)]

635 Does the practice record its activities and contributions to education and knowledge transfer in its annual report? Yes/no

636 If so, do you also record in the annual report any points for improvement in terms of practice organisation and/or care provision that have been highlighted from the placements or educational assignments? Yes/no

Other relevant items for this topic are items 358 and 359

relevant documents and records for internal quality control system

637 Summary of the relevant documents and records of dimension 10 for the internal quality control system. List

[1)] one or more relevant items for this topic can be generated from other parts of the instrument
[2)] (customized) VIA®-item
[3)] to be generated from the GP information system

Summary

Summary

In this thesis we described the development of an evaluation instrument to measure the quality of care and practice management in Academic General Practices (AGPs), and their academic activities in research, innovation, teaching and education. AGPs are general practices, which cooperate with the university medical centres (UMCs) in different academic areas. The AGPs form the core of the university general practice networks in the Netherlands.
At the start of our project, there was still debate on the question what exactly formed an AGP. Since the 1980s each UMC in the Netherland has formed networks of AGPs according to its own vision and interpretation. There was no clear and collective vision, and no uniform definition or clear profile of an AGP. The same was true for quality requirements, which the university departments of general practice had for their AGP's, if these were formulated at all. In 2003, the university department of general practice of VUmc took the initiative for this research project, because it felt the need to be able to systematically monitor and measure the quality and contributions of its own AGPs. From contacts with other universities, it soon appeared that there was a need for a joint reorientation to the tasks and positioning of AGPs, and also to the best way of determining the quality and output of these practices. In this chapter we provide a summary of the process of instrument development, with the successive steps and results of the different studies we conducted.

Step 1. Reviewing the literature (chapter 2)

As a first step in the development of the new evaluation instrument for AGPs, we reviewed the national and international literature on existing instruments. [1] In our literature search we acknowledged that the AGPs are part of the academic general practice networks, and that the performances of the AGPs and these networks are interconnected. [2, 3] Therefore, we reviewed the literature about the evaluation of academic general practice networks and other primary care research networks as well. The term ''primary care research network'' (PCRN) covers a variety of networks in primary care, that do not purely focus on research, but may also be active in teaching, and quality improvement [4-9] (such as the Dutch academic general practice networks).
In addition to the provisional instrument for AGPs of the Maastricht University, HALMA [3, 10], which was not further developed and included hardly any items to measure the quality in AGP's, we found one accreditation scheme for research practices [11], (which usually are linked too with a primary care research network [11]), and two (provisional) instruments that were proposed for the evaluation of PCRNs [12-14]. However, after evaluating their content and methodological quality, we considered none of them appropriate for either the evaluation of the Dutch AGPs or academic general practice network, though we did use some elements and items of HALMA and the PCRTA in our later studies (see chapter 4 and 5). Further discussion with stakeholders was needed to decide on how the Dutch AGPs, and academic general practice networks could best be evaluated. In the

next stages of our research we have tried to answer this question for the AGPs, starting with defining and demarcating the concept of an AGP.

Step 2. Clarifying the concept and reaching consensus on a definition for AGPs (chapter 3)

Experts in the field of instrument development and evaluation emphasize the importance of a clear description of the concept which the new instrument intends to measure before actually constructing an instrument. [15] Only when the concept and topics have been clearly described, it is possible for others to assess whether the new instrument adequately represents the concept under study, and measures what it plans to measure. In the field of instrument development and evaluation, this is referred to as the ''content validity'' of the instrument. [15]
In the ideal situation this information can be generated from extensive available literature. However, we had found little information about what makes a practice an ''academic'' general practice, and what determines its success. Up to then stakeholders had defined the concept of an AGP in a variety of ways. These differences were due to a lack of consensus as to what type of GP care and AGP should provide (regular or ''academic'' GP care), which activities should be integrated in practice, and what aims an AGP should strive for.
We used a focus group method with stakeholders to help us clarifying what the concept entails, and what the most important characteristics, aims and roles of AGPs are. The focus group consisted of 13 representatives from the university departments of general practice in the Netherlands and the Dutch College of General Practitioners (NHG). The group included, amongst others, GPs working in an AGP, network coordinators, and heads of the university departments of general practice. In this focus group, we arrived at the following definition, aims and functions for the Dutch AGPs:

> ''An Academic General Practice is an academic development practice and workplace for the discipline of General Practice. It therefore works structurally together with a university GP department. This collaboration takes place within a university network setting. An AGP focuses on the development, optimal use, and the transfer and dissemination of knowledge, and combines research, innovation, and teaching activities, with patient care. More specifically it is expected to: 1) Work structurally and in a scientifically sound way on generating new knowledge and improving patient care through active development of care innovations, and initiating and conducting research (the developmental function of AGPs). 2) Provide the best possible care and apply up-to-date knowledge in daily practice. 3) Participate in the transfer and dissemination of knowledge and expertise within its own professional group, other (para)medical professional groups, and medical education/training programmes (the transfer and dissemination function of AGPs). 4) Create a synergy between its research, innovation, patient care and teaching activities. 5) Serve as an exemplary role model for other general

practitioners and become a (regional) expert in specific clinical areas (the exemplary and expert function of AGPs).''

The results from our focus group study enabled us to use the activities, aims, and roles that stakeholders considered relevant for the design and content of the new instrument. The new instrument should at least cover all relevant activities of AGPs, and include sufficient and valid items to evaluate the success of the AGPs in achieving their aims and functions.

Step 3. Clarifying the concept of quality of AGPs (chapter 4)

Another concept that needed further clarification before we could continue with the actual construction of the instrument, was the concept of quality of AGPs. Quality is a subjective concept. Different people can have different ideas on what quality is. Therefore we aimed to operationalize the quality of AGPs into clear and measurable topics and criteria. This resulted in a generic quality framework for the Dutch AGPs. In the framework we described which quality dimensions and topics had to be covered with the new instrument, in order to adequately evaluate the quality of care and services, practice management and academic activities in AGPs. In addition, we worked out good practice criteria for all topics of the framework. The framework covers 10 dimensions, 44 topics and includes 129 good practice criteria for AGPs.
For the development of the framework we used the ISO 9001:2008 as a gold standard for the management of quality, and as a guidance. [16] The framework was founded on a generic quality model for Dutch health care organizations, the HKZ-model, [17] which we adapted, and where necessary extended, for general practice and AGPs. We performed a comprehensive review of the Dutch literature on the quality in general practice, to identify the relevant quality topics for each dimension of the framework, and to work out criteria on all topics.
After we developed the framework, and formulated all criteria 28 representatives from the national GP umbrella organisations and university departments of general practice took part in a stakeholders panel, and judged the 129 good practice criteria in the framework. The participants of the panel rated each criterion on a five-point scale (1. not relevant, 2. little relevant, 3. somewhat relevant, 4. relevant, 5. very relevant). The panel found most of our criteria (90%) relevant. This contributed to the content validity of the framework and criteria, and especially for those criteria, for which we found no or little literature support.

Step 4. Constructing the instrument. Selecting and formulating items & choice of measurement methods (chapter 5)

In the construction step we aimed to compose a relevant and comprehensive set of questions (items) for each topic of the framework, and focused on the actual development of the new instrument. This step also included the choice of measurement methods.

Using the quality framework as a reference frame, we began with investigating whether we could use and build on an existing evaluation instrument for non-academic general practices: the Visitation Instrument Accreditation (VIA®). [18] The VIA® was introduced in 2005, shortly after we started our research. In 2008, after we developed the quality framework for AGPs, the VIA® was updated. We evaluated to which extent the VIA®(version 2008) covered the three performance areas, ten dimensions and 44 topics of the framework. We found that the VIA®-items could not adequately evaluate the AGPs on all relevant academic performance areas (research, innovation, teaching and education), and also were incomplete for a thorough evaluation of GP care and practice management in AGPs.

Therefore, we decided to build a new instrument, in which the relevant VIA®-items would be integrated where possible. The National Steering Committee of University General Practice Networks (LSUNH), supported our findings and decision. The LSUNH was established in 2003. Its role and goal is to promote the development, evaluation, organization and quality policy of university GP networks and AGPs. In 2005 the Interfaculty Council for GP (IOH) and NHG acknowledged LSUNH as the national IOH-working group for academic networks and AGPs.

Our new instrument, the Academic General Practice Quality Instrument (AGPQI), is constructed in a modular way. By supplementing the VIA®-items with other instruments' items and newly developed items we managed to cover all three performance areas, all 10 dimensions and all 44 topics of the quality framework for AGPs. The new instrument includes in total 637 questions (items): 334 items for evaluating GP care and services, 217 items for evaluating practice management, and 86 items for evaluating the academic activities in research, innovation, teaching and education. To select and develop the items for the new instrument, we used information from literature searches, and consulted experts and stakeholders. We constructed the instrument in line with the framework. In this way, the content of the instrument and its correspondence with and coverage of the content of framework can easily be compared and evaluated by those who are interested in using the instrument. This information is relevant to assess the content validity of the instrument.[15]

Most items in the new instrument can be collected through questionnaires, which can be completed by the GP(s) or practice manager in AGPs; 82 items have to be generated from the GP information system. These items involve: record keeping; contact and consultation details; and clinical performance items. This leaves 555 items to be answered by respondents in the AGPs through (newly developed) questionnaires.

Step 5. Pilot testing (chapter 6)

The new measurement instrument has to be acceptable for the target population. [15] Therefore, as a final step in the development of the instrument, we conducted a pilot study. In this pilot study we wanted to test the feasibility of newly developed questionnaires for the data collection of the 555 questionnaire items in the instrument. With feasibility we refer to the relevance and completeness of the

items in the questionnaires, the difficulty to fill out the questionnaires and the required time by respondents. A representative sample of 10 Academic General Practices (which included solo practices, partnership/group practices, and practices that were located in a primary health care centre), tested the new questionnaires, and provided feedback on their feasibility. We collected this feedback by adding an evaluation form to each questionnaire, which respondents had to fill out immediately after they completed the questionnaire items. We asked respondents 1) to what extent they found the items relevant for the topics addressed in the questionnaire; 2) whether they missed any relevant items; and 3) if so to give examples; 4) how difficult it was to fill out the questionnaire; and 5) how much time they needed to complete the questionnaire. For the scoring of the relevance of the items and the difficulty of the questionnaires we used a five-point scale. The practices completed 18 questionnaires: 12 questionnaires on the performance area ''care and services'', four questionnaires on ''practice management'', and two questionnaires on the ''academic activities''.

For most questionnaires the respondents considered the items relevant and complete for the topics that were covered by the questionnaires, and we received almost no comments on the difficulty of the questionnaires. Most respondents needed between four to four and a half hours to complete all questionnaires.

As the pilot practices did not report major issues with the instrument, and stakeholders considered the results of the pilot satisfactory, we think the instrument can be applied for all AGPs.

Discussion, Chapter 7

Our research resulted in the development of a shared definition and a generic quality framework for the Dutch AGPs, which lists all relevant performance areas, dimensions,topicsand criteria for the management and evaluation of quality of the Dutch Agps, which can be used as an accreditation or certification scheme. On that basis, we constructed and validated an evaluation instrument to measure quality and output of AGPs. The difference with existing or proposed instruments is that the new instrument covers all relevant academic areas for AGPs and includes both quality and output items for their measurement, so that it can actually measure the quality and contributions of AGPs in research, innovation, teaching and education. And as the university departments of general practice also expect an excellent level in care and practice management in AGPs, we developed and included a comprehensive set of new items so that the instrument can measure whether AGPs are successful in achieving this higher level of quality in care and practice management.

We developed our framework and instrument for the university departments of general practice who want to verify whether AGPs meet their expectations for quality. In addition, the NHG, the scientific society of the Dutch GPs, can use our framework and instrument to lift the quality level of the whole professional group of GPs, so there will be a spinoff for non-academic general practices as well.

The (academic) general practices themselves can use both framework and instrument for internal evaluation and gap analysis (to identify gaps in the internal quality system). Our quality framework can

serve as the directive, whereas the new instrument provides practices with a list of relevant quality and evaluation items for the included topics in the framework. By reviewing the criteria in the framework and filling out the questionnaires practices can check for themselves how far they are from or how close they are to the outlined ideal state in the framework.

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Samenvatting

Samenvatting

Dit proefschrift beschrijft de ontwikkeling van een instrument voor academische huisartsenpraktijken om de kwaliteit van zorg, het praktijk management, en academische activiteiten op het gebied van onderzoek, innovatie, onderwijs en opleiding te meten. De academische huisartsenpraktijken werken op verschillende academische terreinen samen met de universitaire medische centra (UMCs) en vormen de kern van de Nederlandse universitaire netwerken huisartsgeneeskunde.
Aan het begin van ons onderzoek werd nog steeds gedebatteerd over wat nu precies een academische huisartsenpraktijk was. Sinds de jaren '80 had elk UMC een eigen invulling gegeven aan de ontwikkeling van haar academische praktijken, waarbij er nauwelijks sprake was van onderlinge uitwisseling of afstemming tussen universiteiten. Een heldere en gemeenschappelijke visie ontbrak, evenals een uniforme definitie, of een duidelijk praktijkprofiel. Dit gold ook voor de kwaliteitseisen die de UMCs aan hun academische praktijken stelden, voor zover ze die hadden geformuleerd.
VUmc is in 2003 met dit onderzoek gestart omdat zij de kwaliteit en bijdragen (output) van haar eigen academische huisartsenpraktijken systematisch wilde monitoren en meten. Al snel bleek uit contacten met andere universiteiten dat er behoefte was aan een gemeenschappelijke heroriëntatie op de taakstelling en positionering van de academische huisartsenpraktijken, en op wat de beste manier was om hun kwaliteit en output te beoordelen. In dit hoofdstuk geven we een samenvatting van het proces van instrumentontwikkeling, met de opeenvolgende stappen en resultaten van de verschillende studies die we hebben uitgevoerd.

Stap 1. Literatuur review (hoofdstuk 2)

Als eerste hebben we in de nationale en internationale literatuur gezocht naar bestaande instrumenten voor het evalueren van academische huisartsenpraktijken.[1] In onze literatuursearch hielden we er rekening mee dat de academische praktijken deel uitmaken van academisch huisartsen netwerken (een academisch netwerk bestaat uit alle academische praktijken binnen een universitair huisartsgeneeskundig netwerk) en dat de prestaties van de academische praktijken en netwerken nauw met elkaar zijn verbonden.[2,3] Daarom hebben we ook gekeken naar bestaande instrumenten voor het evalueren van academische huisartsen netwerken en andere zogenaamde ''primary care research networks.'' De term ''research network'' dekt een verscheidenheid aan netwerken in de eerste lijn, die zich niet alleen bezig hoeven te houden met onderzoek, maar ook actief kunnen zijn op gebieden als onderwijs en kwaliteitsverbetering (zoals de Nederlandse academische huisartsen netwerken).[4-9]
Naast het (concept)instrument voor academische huisartsenpraktijken van de Universiteit Maastricht, HALMA[3,10], dat niet verder is ontwikkeld en nauwelijks items bevatte voor het meten van kwaliteit in academische praktijken, vonden we één accreditatie-instrument voor onderzoekspraktijken (die vaak verbonden zijn aan een ''primary care research network''), de PCRTA[11], en twee (concept)

instrumenten voor het evalueren van primary care research networks. [12-14] Na beoordeling van de inhoud en methodologische kwaliteit vonden we geen van deze instrumenten geschikt voor het evalueren van de Nederlandse academische huisartsenpraktijken en netwerken. Wel hebben we in een latere fase van ons onderzoek gebruik gemaakt van sommige elementen en items uit de HALMA en het accreditatie-instrument voor onderzoekspraktijken (zie hoofdstuk 4 en 5), maar eerst was verdere discussie met stakeholders nodig over de vraag hoe de Nederlandse academische huisartsenpraktijken en netwerken het beste konden worden geëvalueerd. Deze vraag hebben we in de volgende stadia van ons onderzoek trachten te beantwoorden voor de academische huisartsenpraktijken. We begonnen met het vaststellen van een definitie en het afbakenen van het begrip ''academische'' huisartsenpraktijk samen met stakeholders.

Stap 2. Verduidelijking van het concept en het bereiken van consensus over een definitie voor academische huisartsenpraktijken (hoofdstuk 3)

Voordat tot de uitwerking van een instrument wordt overgegaan, is het belangrijk dat er een duidelijke omschrijving is van het te meten concept, aldus deskundigen op het gebied van instrumentontwikkeling en –evaluatie. [15] Alleen dan kunnen anderen beoordelen of de inhoud van het instrument het concept adequaat dekt, en meet wat het beoogt te meten. Dit wordt ook wel de ''content validiteit'' van een instrument genoemd. [15] Idealiter kan bij de uitwerking van een concept worden teruggevallen op omvangrijke literatuur. De literatuur over academische huisartsenpraktijken was echter beperkt, en gaf onvoldoende duidelijkheid over wat praktijken nu ''academisch'' maakte en wat bepalend was voor hun succes. Stakeholders hadden tot dan toe het begrip ''academische huisartsenpraktijken'' op verschillende manieren gedefinieerd. Deze verschillen waren te wijten aan een gebrek aan consensus over: wat voor huisartsenzorg academische praktijken moeten kunnen bieden (reguliere versus ''academische'' huisartsenzorg), welke activiteiten zij in hun praktijk horen te integreren, en welke doelen zij na moeten streven. Om meer duidelijkheid te krijgen over het begrip ''academische huisartsenpraktijk'', en wat de belangrijkste kenmerken, doelen en functies hiervan zijn, voerden we een focusgroeponderzoek met stakeholders uit. Aan de focusgroep namen 13 vertegenwoordigers van de universitaire afdelingen huisartsgeneeskunde en het Nederlands Huisartsen Genootschap (NHG) deel. De groep bestond onder andere uit huisartsen die werkten in een academische huisartsenpraktijk, netwerkcoördinatoren, en hoofden van de universitaire afdelingen huisartsgeneeskunde. In dit onderzoek kwamen we tot de volgende definitie, doelstellingen en functies voor de Nederlandse academische huisartsenpraktijken:

> "Een academische huisartsenpraktijk is een ontwikkelpraktijk en academische werkplaats voor de huisartsgeneeskunde. Daarom werkt zij structureel samen met een universitaire afdeling

huisartsgeneeskunde. Deze samenwerking vindt plaats binnen een universitaire netwerk setting. Een academische huisartsenpraktijk richt zich op het ontwikkelen, toepassen en overdragen van kennis, en combineert onderzoek, innovatie, en opleidingsactiviteiten met patiëntenzorg. Meer specifiek wordt van een academische huisartsenpraktijk verwacht dat zij: 1) Structureel en op wetenschappelijk verantwoorde wijze werkt aan het genereren van nieuwe kennis en het verbeteren van de patiëntenzorg door het ontwikkelen van zorginnovaties, en het ontwikkelen en uitvoeren van wetenschappelijk onderzoek (de ontwikkelfunctie van academische praktijken); 2) Optimale patiëntenzorg biedt en up-to-date kennis toepast in de dagelijkse praktijk; 3) Participeert in de overdracht en verspreiding van kennis en expertise binnen haar eigen beroepsgroep, andere (para) medische beroepsgroepen en medische onderwijs/ opleiding programma's (de overdrachtsfunctie van academische praktijken); 4) In staat is om een synergie te creëren tussen de onderzoeks- en innovatieactiviteiten, patiëntenzorg en opleidingsactiviteiten in haar praktijk 5) Als voorbeeld kan dienen voor andere huisartsen en een (regionale) expertisefunctie kan vervullen op specifieke klinische gebieden en (de voorbeeld- en expertfunctie van academische praktijken)."

De resultaten van ons focusgroeponderzoek stelden ons in staat om het ontwerp en de inhoud van het instrument af te stemmen op de activiteiten, doelen en functies die stakeholders relevant vonden voor academische praktijken. Het nieuwe instrument moest op zijn minst alle relevante activiteiten van academische praktijken dekken, en voldoende en valide items bevatten om te kunnen beoordelen of zij succesvol zijn in het bereiken van hun doelstellingen en functies.

Stap 3. Verduidelijking van het begrip kwaliteit in academische huisartsenpraktijken (hoofdstuk 4)

Een ander begrip wat verduidelijking behoefde, voordat we konden beginnen met de uitwerking van het instrument, was het begrip 'kwaliteit'' in academische huisartsenpraktijken. Kwaliteit is een subjectief begrip, en dus kunnen verschillende mensen, verschillende ideeën hebben over wat onder kwaliteit in een academische praktijk wordt verstaan. Daarom wilden we dit begrip nader uitwerken (operationaliseren) in duidelijke en meetbare onderwerpen en criteria. Dit resulteerde in een algemeen kwaliteitsraamwerk voor de Nederlandse academische huisartsenpraktijken. Het raamwerk beschrijft de dimensies en onderwerpen die door het nieuwe instrument moeten worden gedekt om de kwaliteit van de zorg, het praktijk management, en de academische activiteiten in academische huisartsenpraktijken adequaat te kunnen beoordelen. Daarnaast hebben we voor alle onderwerpen in het raamwerk, zogenaamde ''good practice criteria'' uitgewerkt. Het kwaliteitsraamwerk is onderverdeeld in 10 dimensies, 44 onderwerpen en beschrijft 129

good practice criteria die we relevant vonden voor academische huisartsenpraktijken. Bij de uitwerking van het raamwerk gebruikten we de ISO 9001;2008 norm [16] als leidraad en gouden standaard voor kwaliteitsmanagement. Het raamwerk is gebaseerd op een algemeen kwaliteitsmodel voor Nederlandse zorginstellingen, het HKZ-model. [17] Dit model hebben we aangepast en waar nodig uitgebreid voor de huisartsenzorg en academische huisartsenpraktijken. Nadat we het raamwerk en alle criteria hadden uitgewerkt, vroegen we 28 vertegenwoordigers van de overkoepelende landelijke huisartsenorganisaties en de universitaire afdelingen huisartsgeneeskunde om deel te nemen aan een stakeholderspanel en de 129 criteria uit het raamwerk te beoordelen. De deelnemers scoorden elk criterium aan de hand van een vijf-puntschaal (1. niet relevant, 2. weinig relevant, 3. matig relevant, 4. relevant, 5. zeer relevant). Het panel vond de meeste criteria relevant, wat bijdroeg aan de content validiteit van het raamwerk en de criteria. Dit gold vooral voor die criteria waarvoor we geen of weinig ondersteuning van literatuur hadden.

Stap 4. De uitwerking van het instrument. Items ontwerpen en selecteren, bepalen van de meet-methoden (hoofdstuk 5)

Bij het opbouwen van het instrument hebben we ons bezig gehouden met het ontwerpen en selecteren van een relevante en uitgebreide itemset (vragen) voor elk onderwerp in het instrument en met het vaststellen van de meetmethoden.

We gebruikten het raamwerk als referentiekader en keken eerst of we gebruik konden maken en voortbouwen op een bestaand evaluatie-instrument voor niet-academische huisartsenpraktijken: het Visitatie Instrument Praktijkaccreditering (VIA®). [18] We onderzochten in hoeverre de VIA® de drie beoordelingsgebieden (kwaliteit van de zorg, praktijk management en academische activiteiten), tien dimensies, en 44 onderwerpen van het kwaliteitsraamwerk dekte. We concludeerden dat de VIA®-items de verschillende academische activiteiten in academische huisartsenpraktijken onvoldoende dekte. Ook vonden we de VIA®-items niet toereikend voor een grondige evaluatie van de kwaliteit van zorg en het praktijk management in academische praktijken. Daarom besloten we om een nieuw instrument uit te werken, waarin we relevante VIA®-items zoveel mogelijk integreerden. De Landelijke Stuurgroep Universitaire Netwerken Huisartsgeneeskunde (LSUNH) ondersteunde onze bevindingen en besluit. Deze stuurgroep werd in 2003 opgericht met als doel om de ontwikkeling, evaluatie, organisatie, en het kwaliteitsbeleid van de universitaire netwerken huisartsengeneeskunde en academische huisartsenpraktijken te bevorderen. In 2005 is de LSUNH door het Interfacultair Overleg Huisartsgeneeskunde (IOH) en het NHG de LSUNH erkend als landelijke IOH-werkgroep voor de universitaire huisartsen netwerken en academische praktijken.
Het nieuwe instrument, het Kwaliteitsinstrument Academische Huisartsen Praktijken, heeft een modulaire opbouw. De items in het instrument dekken alle drie gebieden, tien dimensies en 44 onderwerpen van het eerder ontwikkelde raamwerk (zie stap 3).

Dit hebben we bereikt door de VIA®-items aan te vullen met items uit andere bestaande instrumenten en met nieuwe items. Het nieuwe instrument bevat in totaal 637 items (vragen): 334 items voor het evalueren van de kwaliteit van de zorg, 217 items voor het beoordelen van het praktijk management, en 86 items voor evaluatie van de academische activiteiten in onderzoek, innovatie, onderwijs en onderwijs.
Voor het selecteren en ontwikkelen van items in het instrument maakten we gebruik van informatie uit literatuuronderzoek, en raadpleegden we experts en stakeholders.
We bouwden het instrument op dezelfde manier op als het kwaliteitsraamwerk. Hierdoor is het voor degenen die overwegen het instrument te gebruiken eenvoudig om vast te stellen of de inhoud van het instrument de inhoud van het kwaliteitsraamwerk voldoende dekt. Deze informatie is relevant voor het beoordelen van de content validiteit van het instrument. [15]
Het merendeel van de items kan worden verzameld door vragenlijsten, welke door de huisarts(en) of praktijkmanager in de academische praktijken kunnen worden ingevuld. 82 items moeten worden gegenereerd uit het Huisartsen Informatie Systeem (HIS). Het gaat om registratie items, contact- en consultgegevens , en klinische performance items. Dit betekent dat er 555 items resteren die door de huisarts(en) of de praktijkmanager in academische praktijken moeten worden beantwoord via (nieuw ontwikkelde) vragenlijsten.

Stap 5. Pilot studie (hoofdstuk 6)

Het nieuwe instrument moet acceptabel zijn voor de doelgroep waarvoor dit is ontwikkeld. [15] Daarom hebben we als laatste stap in het ontwikkelproces, een pilot studie uitgevoerd waarin we het nieuwe instrument hebben getest. In deze pilot wilden we de bruikbaarheid van de nieuw ontwikkelde vragenlijsten testen voor de datacollectie van de 555 vragenlijstitems in het instrument. Met het testen van de bruikbaarheid doelen we op het evalueren van de relevantie en volledigheid van de items, de moeilijkheidsgraad van de vragenlijsten, en de tijd die respondenten nodig hadden voor het invullen hiervan. Een representatieve groep van 10 academische huisartsenpraktijken (bestaande uit solo-, duo- en groepspraktijken en praktijken die gevestigd waren in een gezondheidscentrum) testte de vragenlijsten en gaf feedback over de bruikbaarheid hiervan. We verzamelden deze feedback door aan elke vragenlijst een evaluatieformulier toe te voegen, dat respondenten gelijk na het afronden van de vragenlijst moesten invullen. We vroegen respondenten: 1) in welke mate ze de items in de vragenlijst relevant vonden voor de onderwerpen die hierin aan bod kwamen; 2) of er relevante items ontbraken; en 3) zo ja hiervan voorbeelden te geven; 4) hoe moeilijk ze het invullen van de vragenlijst hadden gevonden; en 5) hoeveel tijd ze nodig hadden gehad om de vragenlijst in te vullen (in minuten). Voor het beoordelen van de relevantie van de items en moeilijkheidsgraad van de vragenlijsten gebruikten we een vijfpuntsschaal.
De pilotpraktijken vulden 18 vragenlijsten in:
12 vragenlijsten over de kwaliteit van de zorg; vier vragenlijsten over praktijk management, en twee

vragenlijsten over de academische activiteiten.
Van het merendeel van de vragenlijsten vonden de respondenten de items relevant en compleet voor de onderwerpen die hierin aan bod kwamen. Ook kregen we weinig commentaar op de moeilijkheidsgraad van de vragenlijsten. De meeste respondenten hadden tussen de vier en de viereneenhalf uur nodig om alle 18 vragenlijsten te completeren.
Omdat de pilotpraktijken geen grote problemen meldden met het instrument en ook stakeholders tevreden waren met de resultaten van deze pilot, zijn we van mening dat het instrument gebruikt kan worden voor alle academische huisartsenpraktijken.

Discussie (hoofdstuk 7)

Ons onderzoek resulteerde in de ontwikkeling van een gemeenschappelijke definitie en een algemeen kwaliteitsraamwerk voor de Nederlandse academische huisartsenpraktijken. Het raamwerk beschrijft alle relevante prestatiegebieden, dimensies, onderwerpen en criteria voor het beheren en evalueren van de kwaliteit in academische huisartsenpraktijken. Het raamwerk kan worden gebruikt als accreditatie- of certificatieschema. Op basis van de definitie en het kwaliteitsraamwerk hebben we een evaluatie-instrument ontwikkeld en gevalideerd waarmee de kwaliteit en output van academische huisartsenpraktijken kunnen worden gemeten.
Het verschil met bestaande en eerder voorgestelde instrumenten is dat het nieuwe instrument alle relevante academische activiteiten dekt en zowel kwaliteits- als outputitems bevat voor het meten hiervan. Met het nieuwe instrument kunnen dus de kwaliteit en bijdragen van academische praktijken op het gebied van onderzoek, innovatie, onderwijs en opleiding worden gemeten. En omdat de universitaire afdelingen daarnaast van academische huisartsenpraktijken een excellent niveau verwachten op het gebied van de zorg en het praktijk management, hebben we een uitgebreide set van nieuwe items toegevoegd om met het instrument te kunnen vaststellen of academische praktijken ook succesvol zijn in het realiseren van dit niveau.
We ontwikkelden het raamwerk en instrument voor de universitaire afdelingen huisartsgeneeskunde, die willen toetsen of hun academische praktijken voldoen aan hun verwachtingen op het gebied van kwaliteit. Daarnaast kan het NHG, het wetenschappelijk instituut van de Nederlandse huisartsen, het raamwerk en instrument gebruiken om het kwaliteitsniveau van de hele beroepsgroep naar een hoger niveau te brengen. Hierdoor kunnen ook niet-academische huisartsenpraktijken profiteren van de resultaten van ons onderzoek.
De (academische) huisartsenpraktijken kunnen het raamwerk en instrument gebruiken voor interne evaluatie en het opsporen van hiaten in hun interne kwaliteitssysteem (gap-analyse). Het kwaliteitsraamwerk kan hierbij fungeren als richtlijn, en het instrument voorziet praktijken van een lijst met relevante kwaliteits- en evaluatie- items voor de onderwerpen die hierin zijn opgenomen. Door het nalopen van de criteria en het invullen van de vragenlijsten kunnen praktijken voor zichzelf vaststellen waar ze staan ten opzichte van het beschreven ideaal in het kwaliteitsraamwerk.

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Dankwoord

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About the author

List of publications

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Curriculum Vitae

Johanna Maria Christina (Joan) Bleeker werd op 20 juli 1964 geboren in Enkhuizen. Aanvankelijk opgeleid en werkzaam als jeugdhulpverlener (HBO-SPH) kwam Joan in 1998 in dienst van VUmc als onderzoeksassistente. Na twee jaar besloot ze om haar eigen bedrijf te starten, dat zich richtte op het bieden van project- en onderzoeksondersteuning aan promovendi en universiteiten. In 2003 voerde ze in opdracht van de afdeling huisartsgeneeskunde van VUmc een scenariostudie uit voor de nieuw op te richten universitaire huisartsenpraktijk (UHP). Hierna volgde een promotieonderzoek. De afgelopen vijf jaar werkte Joan als beleidsmedewerker bij het Academisch Netwerk Huisartsgeneeskunde. Zij is momenteel beschikbaar voor consultancy werkzaamheden.

“je hebt kaders nodig om de kern optimaal te kunnen laten functioneren”

“You need a frame to allow the core to function at its best”