

# The quality of the professional practice of community pharmacists: what can still be improved in Europe?

• A.M. Cancrinus-Matthijssse, S.M. Lindenberg, A. Bakker and P.P. Groenewegen

## Introduction

Besides attention for and concern about the growing expense of the health care, the quality of care supplied and its evaluation is an important item these days. Much has been published about the definitions of 'quality assessment' (defining the level of the quality), 'quality assurance' (maintaining the quality) and 'quality improvement' [1-8]. Also within the pharmacy community there has (of old) always been much attention for the quality of the supplied products. However, because the professional practice of community pharmacists has changed drastically since the sixties [9], the quality of the pharmaceutical care is now also judged by other criteria. Within the profession the accent has shifted from traditional tasks like medicine preparation and analysis to so-called 'new' tasks like medication control and giving information to patients, general practitioners and other workers in health care [see amongst others 10-15]. When the quality of pharmaceutical care is evaluated, these new tasks have therefore also to be taken into consideration.

There are different ways to define the term 'quality' [4], although that of Donabedian [12] is one of the best known. Donabedian distinguishes three kinds of quality aspects, viz. those relating to:

- 1 *the structure* (the circumstances under which care is supplied);
- 2 *the process* (the activities which take place within the cadre of the care); and
- 3 *the outcome* (the results of the supplied care or the consequences thereof for the patient).

The question of which European country offers the patient the best quality of pharmaceutical care is difficult to answer straight away. It is very clear that there are big differences in the legal and organisational circumstances under which pharmacists in Western Europe are working [16-20]. Pharmacies in Western Europe differ greatly from each other: from small one-man businesses in Belgium to large nationalised pharmacies in Sweden. Much less is known about the way in which community pharmacists differ amongst each other as far as time-spending and fulfilling of their professional tasks are concerned. When patients are questioned, this gives mainly information about the outcome aspects of the supplied care. In the inquiry described in this article the professional practitioners (viz. the first responsible pharmacists of community pharmacies) were interviewed themselves and therefore it is possible to pay more attention to the so-called structure and process aspects of the pharmaceutical care. Concerning structure aspects one could think of the availability of certain apparatus; regarding process aspects one could for instance think of the way in which preparations and controls take place. In this article the central question is how far differences exist in structure and process aspects of the quality of

A.M. Cancrinus-Matthijssse, S.M. Lindenberg, A. Bakker, P.P. Groenewegen. *The quality of the professional practice of community pharmacists: what can still be improved in Europe?* *Pharm World Sci* 1996;18(6): 217-228.

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## Keywords

Community pharmacists  
Dimensions, professional and commercial  
New tasks  
Professional practice  
Quality  
Questionnaire  
Task conceptions  
Time-spending  
Western Europe  
Working week

## Abstract

This article describes a research project concerning the professional practice of community pharmacists in Western Europe. In 1990 interviews were held with key figures and practising pharmacists in the Netherlands, Belgium, Great Britain, Sweden and Portugal. In 1991 a questionnaire was sent which was answered by 929 pharmacists. Concerning the quality of the professional practice it appeared that pharmacists have integrated certain structure aspects such as the use of a computer or a separate patient consultation room to varying degrees. Also concerning process aspects with regard to quality, for example the degree to which attention is given to counter work and prescription controls, there are large differences between pharmacists from the different countries. These differences between pharmacists appeared to depend upon differences in legal rules (such as the compulsory presence of a pharmacist in Belgium, Sweden and Portugal or the compulsory prescription control by a pharmacist before delivery in Great Britain), financial and economic circumstances, internal organizational characteristics of the pharmacy and the individual personal task conceptions of the pharmacist. New developments, for example in areas of patient information and computer use, seem to be followed most in the Netherlands and Sweden. General statements about differences in quality are not easily made because the community pharmacy in other countries also has certain positive aspects, such as being easily accessible (Portugal), personal involvement of the pharmacist (Belgium) and personal control by the pharmacist (Great Britain). Looking at the diversity within Europe the conclusion can be reached that 'the European pharmacist' does not yet exist.

Accepted August 1996

the professional practice of community pharmacists in a number of Western European countries.

## Methods

The World Health Organisation (WHO) in various meetings has formulated recommendations with regard to the quality of the professional practice of community pharmacists [15-21]. By comparison with these standards of the WHO, this article investigates how far community pharmacists have included certain structure and process aspects in their professional practice. The relevant structure aspects are, among others, the availability of certain apparatus like a computer and a compartment for aseptic work. Process aspects, to which attention is paid, are the time that pharmacists spend on certain tasks, like counter work, and the way in which pharmacists fulfil certain tasks, for instance the controlling of prescriptions.

An international inquiry was conducted and for practical reasons the number of investigated countries was limited to the next five: the Netherlands, Belgium, Great Britain, Sweden and Portugal. In 1990 interviews were held with key figures and practising pharmacists in these countries. In 1991 a written inquiry was held in the five countries; 929 first responsible pharmacists cooperated in this inquiry<sup>1</sup>. The pharmacists were, *inter alia* selected on organisation form of the pharmacy (so that health centres, chain pharmacies etc. were sufficiently represented in the test) and on competition position (number of pharmacies in a location). Thus the test was not representative for the situation in the different countries and the results were weighted to the total population in a country by means of statistical calculations. How far the inquiry group was representative of all pharmacists in the inquiry country was examined by comparing the sex and the age of the respondents with those of all pharmacists in a country<sup>2</sup>. For this purpose statistical data were collected from national professional organisations.

It appeared that the sex proportion in the Dutch, the Belgian, the British and the Swedish test did not differ significantly from that of all pharmacists in respectively the Netherlands, Belgium, Great Britain and Sweden ( $p > .05$ , in the Netherlands, Belgium, Great Britain as well as in Sweden). However, the sex proportion in the Portuguese test of 1991 was significantly different from that of all first responsible pharmacists in Portugal in 1995 ( $\text{Chi}^2=8.11$ ,  $\text{df}=1$ ,  $p < .01$ ). This difference can possibly be explained by the fact that the country data were supplied four years later than the test and the number of first responsible women had increased<sup>3</sup>.

The age proportion in the inquiry in the Netherlands does not differ significantly from that of all Dutch first responsible pharmacists ( $p > .05$ ). However, the age proportion in the inquiry in Great Britain differs significantly from that of all British pharmacists ( $\text{Chi}^2=9.39$ ,  $\text{df}=2$ ,  $p < .01$ ). In the inquiry the British pharmacists in the age category from 35 to 50 years are over-represented. This difference between the inquiry and the figures per country is possibly connected with the fact that the country data, which were obtained from the Royal Pharmaceutical Society of Great Britain (RPSGB), concern all pharmacists, including those who are not working in the community pharmacy. Especially people in the age group from 35 to 50 years will have the ambition for a busy function as pharmacy manager, a possible reason why the age proportion of the first responsible pharmacists differs from that of all community pharmacists in Great Britain. Also in the Portuguese test the age proportion in 1991 differs considerably from that of all Portuguese pharmacists in 1995 ( $\text{Chi}^2=54.63$ ,  $\text{df}=3$ ,  $p < .001$ ). This is probably connected with the fact that the age data from Portugal concern all Portuguese pharmacists. The average age of first responsible pharmacists in Portugal is relatively high and it is rather difficult to become a first responsible pharmacist at a young age. On grounds of comparison on sex proportion between the results of the test and the figures per country it can be concluded that the test is reasonably representative of the total population of pharmacists in the inquiry countries, except Portugal. Unfortunately it is not possible to draw more conclusions about the representability of the test, because more specific data were not available about community pharmacists and proportion according to sex and age in other years and countries than mentioned before.

## Results

### Time spent

The professional practice of community pharmacists includes a large number of very different tasks; on the one hand one is working as a professional helper in primary health care; on the other hand one has, as a free professional worker, to fulfil a large number of commercial tasks, like financial management and personnel matters [22-24]. When the tasks of community pharmacists are arranged on the professional and the commercial dimension, one task remains, *viz.* the counter work, which cannot be determined as mainly professional nor as mainly commercial. On the one hand, when helping patients at the counter, pharmaceutical expertise can prevail, on the other hand a more commercially orientated pharmacist can consider it important to be at the counter himself, because this can for instance lead to a better relationship with the customer or because he sometimes possibly can even sell more. Table 1 shows how much time pharmacists spend in total on the professional and com-

<sup>1</sup> In Sweden there are, next to pharmacists, also 'receptariet' (with a shorter university education) who can perform the same tasks as the pharmacists. In this article when Swedish pharmacists are discussed the 'receptariet' is considered to be a pharmacist.

<sup>2</sup> To this means the weighed fractions in the test were compared with the fractions in the total population. This was done by means of Chi-square tests. This is an approximation, because it concerns weighed test fractions.

<sup>3</sup> The Portuguese professional organisation, the 'Associação Nacional das Farmácias' (ANF), did not have data available about first responsible pharmacists regarding the division between men and women in other years.

**Table 1** Time spent on different tasks (in hours per week and -between brackets - as a percentage of the total time spent)

	country				
	NL (N=191)	BE (N=173)	GB (N=118)	SW (N=310)	PO (N=128)
time spent on:					
professional tasks	22 (45 %)	21 (38 %)	26 (44 %)	11 (28 %)	19 (32 %)
commercial tasks	15 (30 %)	8 (15 %)	13 (22 %)	9 (23 %)	13 (23 %)
counter work	11 (23 %)	26 (47 %)	19 (33 %)	18 (46 %)	26 (45 %)

NL= the Netherlands, BE= Belgium, GB= Great Britain, SW= Sweden, PO= Portugal

mercial tasks and on the counter work; the time spent as a percentage of the total working week of pharmacists in the country concerned is given between brackets.

From this table it appears that British pharmacists spend the most time on professional tasks and Swedish pharmacists the least. On commercial tasks the most time is spent by Dutch, British and Portuguese pharmacists and the least time by Belgian and Swedish pharmacists. Portuguese and Belgian pharmacists spend the most time on counter work and Dutch pharmacists the least. In comparison with pharmacists from other countries Swedish pharmacists spend the least time on the professional and commercial tasks. Consequently they have the shortest working week<sup>4</sup>. When the percentages of pharmacists from different countries are compared with each other, it appears that Dutch and British pharmacists spend - within their total working week- the most time on the professional tasks, while for Belgian, Swedish and Portuguese pharmacists the accent lies on the counter work. Within their working week Belgian, British, Swedish and Portuguese pharmacists spend the least time on the commercial tasks, while Dutch pharmacists spend the least time on the counter tasks within their working week.

From table 1 it can be concluded that there are large differences between pharmacists in time spent. It appears that these differences within and between countries can be partly explained by differences in<sup>5</sup>:

1. *Financial and economic circumstances*, like the size of the pharmacy (measured by the number of prescription lines and the number of inhabitants which make use of the pharmacy). The more inhabitants that are

taken care of by a pharmacy, the more time the first responsible pharmacist spends on professional tasks.

2. *Internal organisation characteristics*, like the opening hours of the pharmacy and the number of other pharmacists and assistants. When the pharmacy is open longer than other pharmacies, the first responsible pharmacist spends more time on professional tasks, more on commercial tasks and especially more time on counter work. Pharmacists, who work in pharmacies with longer opening hours, also have longer working weeks. Furthermore it appears that, when the number of assistants and other pharmacists working in the same pharmacy increase, the first responsible pharmacist spends less time on counter work.

3. *Personal task conceptions of the pharmacist*, in the professional as well as in the commercial field. Pharmacists with a higher professional task conception spend more time on professional tasks, pharmacists with a higher commercial task conception spend more time on commercial tasks and relatively less time on the professional tasks.

The way in which the pharmacy is organized sometimes appears to be important for differences in time-spending, especially whether the first responsible pharmacist is owner or a pharmacist in paid service. Pharmacy-owners spend more time on professional and commercial tasks than pharmacists in paid service and consequently work more hours per week on average.

Besides the previously mentioned differences in financial, economic and organisational circumstances, internal organisation characteristics and personal task conceptions there are differences between countries which explain part of the differences in time-spending. Some national legal rules seem to have a strong influence on the professional practice of pharmacists, such as the obligatory presence of a pharmacist during opening hours in Belgium, Portugal and Sweden and the obligatory prescription check before delivery in Great Britain. In Great Britain every prescription must be checked by a pharmacist before delivery and therefore it is not surprising that the accent within the professional practice of British pharmacists lies more on the professional tasks. In Sweden all pharmacists

<sup>4</sup> The average working week of the Swedish pharmacists is approximately 39 hours (N=305), the average working week of the British and Portuguese pharmacists is 43 respectively 44 hours (N=117 respectively N=123), while Belgian and Dutch pharmacists work on average 50 respectively 51 hours per week (N=167 respectively N=187).

<sup>5</sup> These conclusions are based upon multiple regression equations; the results of these equations will be made available upon request by the authors or see [25].

work in paid service of the 'Apoteksbolaget' and therefore they have a limited, fixed working week, while they have to account for their time spent to this organisation. In the Netherlands, in contrast to Belgium, Portugal and Sweden, it is not obligatory that a pharmacist is present in the pharmacy during opening hours and therefore Dutch pharmacists occupy themselves relatively more often with professional activities outside the pharmacy, as is shown in table 2.

When a pharmacist spends more time on professional tasks and on counter work (table 1) respectively on intercolleagial testing (table 2), this could possibly improve the quality of the care. These different kinds of time-spending could therefore be seen as process aspects of the quality of the professional practice. The WHO [21] has formulated the following recommendation about advising patients- a professional task which often takes place at the counter:-

*'Pharmacists should continue to develop their advisory service in response to symptoms which are described by members of the general public, by referring such persons for medical advice when appropriate, and in other cases providing suitable advice with or without the sale of a medicine.'*

Furthermore, the WHO is of the opinion that pharmacists should be paid for their advisory function and

has formulated the following recommendation about this [21]:

*'Government policies should provide for pharmacists in both the public and the private sectors to be adequately remunerated for their advisory services, as well as for their supply functions.'*

Table 3 shows the degree to which pharmacists pay attention to certain process aspects in comparison with colleagues from other countries. When pharmacists in a certain country, compared with other countries, spent relatively much time on a quality aspect, this is indicated by a +; when this is relatively little, compared with other countries, this is indicated by a - and a very low level is indicated by —.

As to the process aspects mentioned in table 3, British pharmacists distinguish themselves favourably in time spent on the professional tasks, while the Belgian and Portuguese pharmacists distinguish themselves favourably in time spent on counter work. Dutch pharmacists give relatively much attention to intercolleagial testing.

#### The way in which tasks are fulfilled

When pharmacists are compared according to the way in which they perform certain tasks, distinct differences between countries can also be distinguished. When trying to determine how far pharmacists can

**Table 2** Percentage of the pharmacists who spent time on certain tasks during three years (1988-1990)

	country				
	NL (N=191)	BE (N=173)	GB (N=118)	SW (N=310)	PO (N=128)
<i>Time-spending on:</i>					
Intercolleagial testing	86.2 %	9.4 %	17.0 %	10.3 %	2.8 %
Research on professional practice/ use of medicines	36.1 %	11.7 %	16.7 %	24.8 %	12.4 %
Special pharmaceutical activities <sup>7</sup>	25.5 %	2.1 %	8.2 %	19.9 %	16.7 %

NL= the Netherlands, BE= Belgium, GB= Great Britain, SW= Sweden, PO= Portugal

**Table 3** Degree to which pharmacists pay attention to certain aspects of quality in their professional practice

<i>Process aspects</i>	country				
	NL	BE	GB	SW	PO
Time spent on professional tasks	-	-	+	—	-
Time spent on counter work	—	+	-	-	+
Intercolleagial testing	+	-	-	-	-

a) NL= the Netherlands, BE= Belgium, GB= Great Britain, SW= Sweden, PO= Portugal

b) + = relatively much attention, - = relatively little attention, — = relatively very little attention

<sup>7</sup> Such as the editorship of a pharmaceutical publication

work still more professionally within their professional practice, there still seem to be many possibilities. We now investigate how far pharmacists have implemented certain professional developments in their professional practice<sup>6</sup>.

It appears that especially in Portugal and Belgium the checking of prescriptions is less extensive than in other countries, for example controls on dosage, contra-indications and interactions. The WHO [21] has formulated the following recommendation about this:

*'Pharmacists should have responsibility for checking prescriptions to ensure that they are clear and in accordance with legal requirements, and also for ensuring that prescriptions are dispensed in accordance with prescribers' intentions.'*

The use of a computer could be quality-improving here, because certain controls take place automatically when a prescription is processed in the computer. In Portugal and Belgium there are still many pharmacists who do not possess a computer, viz. about 46 % (N=128) respectively 27 % of the pharmacists (N=173). It appears that pharmacists in Belgium, Great Britain, Sweden and Portugal who have a computer at their disposal, quite often do not use this for professional tasks like medication control. In Sweden it is not permitted to keep patient data by name, so that controls on the ground of medication history are impossible.

The mentioning of the name of the patient respectively written warnings/ indications on the packing is still done much less in Portugal and Belgium than in the other countries. More than 60 % of the Portuguese and Belgian pharmacists do not mention the name of the patient on the packing (N=108 respectively N=168). The supply of written information for patients is still relatively less customary in Belgium, Great Britain and Portugal (more than 20 % of the pharmacists do not do this at all, N=155 respectively N=117 respectively N=111). These tasks are important from a professional point of view. The European Union also occupies itself with this matter and has made certain information in the patient leaflets obligatory since 1994 [26]. About giving information to patients, WHO [21] has formulated the following two recommendations:

*'The pharmacist should play a central role in the provision of advice and information to patients and the general public on the use of medicines, and the pharmacist should cooperate effectively with prescribers to ensure a common approach to patients in the provision of advice and information.'*

*'Pharmacists should adequately inform patients and the general public about unwanted effects of medicines, and should monitor such unwanted effects and their consequences in collaboration with other health care professionals and the appropriate authorities.'*

The mentioning of the name of the patient on the packing usually happens automatically when a computer is used to make labels, and therefore this apparatus is also useful for this purpose.

A consulting hour for patients seems to be an important way to contribute to a better use of medicines. British pharmacists most often have a consult-

ing hour (36.1 %, N=117), but in none of the countries do a majority of the pharmacists customarily occupy themselves with this.

About the place where patients are advised, the WHO has formulated the following recommendation [21]:

*'Pharmacists should provide their professional advisory service, associated with the dispensing or sale of medicines, in a quiet area within the pharmacy.'*

It appears that many pharmacists respect the privacy of patients. However, only a majority of the Dutch pharmacists (viz. 59.3 %, N=180) have a separate patient consultation room at their disposal.

Giving lectures to groups of patients/ interested people is not often done by many pharmacists and is very unusual in Portugal.

In Sweden, Great Britain and Portugal the self preparation of medicines in the pharmacy is not very common, while Belgian and Dutch pharmacists, according to European standards, still prepare relatively much (viz. 7.4 % (N=147) respectively 4.6 % (N=183) of the total amount of supplied medicines are still prepared in the pharmacy in these countries). The question to what extent pharmacists must go on with this traditional task can be discussed, but advantages of a medical nature can play a part, like adapting the composition and administration form to the individual wishes of patients and fewer problems with the tenability. The WHO [21] has formulated the following recommendations about preparing medicines and about the availability of apparatus:

*'The extemporaneous preparation of medicines to meet individual needs should be maintained and developed in accordance with guidelines for good manufacturing and distribution practices.'*

*'To meet changing needs, there should be progressive adaptation of the legal requirements relating to the equipment ... of pharmacies.'*

It is obvious that the degree to which pharmacists have certain preparation apparatus at their disposal is connected with the degree to which they prepare. However, it appears that in Belgium many pharmacists make sterile preparations (viz. about 82 % of the pharmacists (N=173)), but only 12 % have at their disposal a separate compartment for aseptic preparations (N=173).

The control of own pharmacy preparations appears to be still rather unusual. In Belgium and the Netherlands, where preparations are made in every pharmacy, no control on composition takes place in 76.9 % (N=173) respectively 27.5 % (N=190) of the pharmacies.

The WHO considers the cooperation with other helpers in health care to be important and amongst others the following two recommendations were formulated about this [21]:

*'Physicians and pharmacists within communities and hospitals should work together to establish common approaches to the choice of medicines to be used, and the role of the pharmacist in advising the physician and other health care professionals should be developed in community care as well as in hospitals.'*

*'Pharmacists should communicate and cooperate effectively with the other members of the health care team.'*

The discussion with general practitioners about individual prescriptions is less usual in Portugal and

<sup>6</sup> For a more quantitative description of the results see [25].

Belgium than in other countries. 72.5 % (N=119) of the pharmacists in Portugal and 57.9 % (N=173) of the pharmacists in Belgium contact doctors about prescriptions less than once a week, while in the other countries these percentages vary from 4 to 14 %. Structured discussion with doctors only occurs on a larger scale in the Netherlands and in Sweden (84.1 % (N=190) respectively 68.4 % (N=309) of the pharmacists).

More than a quarter of the Belgian pharmacists appear to have no contact with any other colleague in a month (N=173).

British pharmacists appear least to follow refresher courses about pharmaceutical matters and patient information. This is probably connected with the fact that they have to control every prescription before delivery and therefore must always be present in the pharmacy. However, there are also many courses in the evening, so that these could easily be followed. The WHO [21] has formulated the following recommendation about this:

*' National authorities should make every effort to increase the participation of pharmacists in continuing education programmes by the introduction of incentives, by using flexible and practice-related learning programmes, and by the use of a full range of educational techniques and technologies.'*

The following of refresher courses by assistants is still less usual in Belgium and Portugal than in other countries.

Diagnostic testing is not common practice for many pharmacists, except in Portugal. In remarkably many Portuguese pharmacies it is very common prac-

tice to do pregnancy tests for patients (80.9 %, N=128) and to measure the blood pressure (75.6 %, N=128) and body weight (71.9 %, N=128). Also the determination of blood sugar is, in comparison with other countries, done relatively often in Portuguese pharmacies (20.6 %, N=128). The WHO considers diagnostic testing within pharmacies to be important and has formulated the following recommendation about this [21]:

*' Pharmacists should continue to contribute to the promotion of healthy lifestyles and to the prevention of illness by, inter alia, participating in screening activities, such as for example blood pressure measurement and determination of blood sugar.'*

The fulfilling of the different home care tasks is not customary for large groups of pharmacists in any of the investigation countries. Especially in Portugal this is an unknown phenomenon. However, because an increasing number of seriously ill patients are treated at home, pharmacists could play an important part here, for instance by giving information and supplying medicines and auxiliary material. The WHO [21] has formulated the following recommendation about this:

*' Pharmacists should provide appropriate and adequate services and levels of support to the community through, for example, domiciliary services, services to nursing homes and aspects of primary health care.'*

In table 4 the previously mentioned results are summarized; this table indicates how far pharmacists have integrated certain structure and process aspects in their professional practice. As in table 3, when pharmacists in a certain country have, in comparison with

**Table 4** Degree to which pharmacists have integrated certain quality aspects in their professional practice

Quality aspects	country				
	NL	BE	GB	SW	PO
<b>Structure aspects</b>					
Use of a computer for prescription control	+	-	+	+	-
Use of a computer for medication control	+	-	-	-	-
Separate patient consultation room	+	-	-	-	-
Compartment for aseptic preparations	+	-	-	-	-
<b>Process aspects</b>					
Prescription controls	+	-	+	+	-
Labelling	+	-	+	+	-
Printed patient information	+	-	-	+	-
Patient consulting hour	-	-	+	-	-
Giving lectures	-	-	-	-	—
Self preparation of medicines	+	+	-	-	-
Controlling pharmacy preparations	-	—	—	—	—
Incidental discussions with doctors	+	-	+	+	-
Structural discussions with doctors	+	-	-	+	-
Contact with colleagues	+	-	+	+	+
Refresher courses about pharmaceutical matters and patient information	+	+	-	+	+
Refresher courses for assistants	+	-	+	+	-
Diagnostic testing	-	-	-	-	+
Home care tasks	-	-	-	-	—

a) NL= the Netherlands, BE= Belgium, GB= Great Britain, SW= Sweden, PO= Portugal

b) += relatively high quality level, -= relatively low quality level, — = relatively very low quality level

other countries, integrated a quality aspect relatively often, this is indicated by a +, when this is relatively less often compared to other countries, this is indicated by a -, and with a very low quality level of the relevant aspect, this is indicated by —.

From table 4 it appears that especially in Portugal and Belgium and regarding some aspects also in Great Britain certain professional developments are still scarcely followed.

### Discussion and recommendations

From the point of view that the pharmacist has followed a long professional education, it appears important that especially his professional knowledge is used for the good of the community. It is necessary that the pharmacy is a healthy business and functions in an economically sound manner, but patients have still more interest in an optimal professional service. The first responsible pharmacist in many cases obviously cannot do all the work alone, but he should be involved with all this work. The degree of delegation and the control with respect to the execution of the professional tasks are thus important. Furthermore the pharmacist will have to employ initiatives himself to implement professional improvements where necessary.

The results of the research project have shown that pharmacists spend more time on professional tasks when they have a higher professional task conception and in Great Britain when more prescriptions are processed in their pharmacy per day. The professional task conception appeared to coincide with the motivation for the choice of the profession 'wishing to work in the health care'. If a pharmacist is looking for a successor or colleague with a high professional task conception the question whether this professional motive played a part when choosing for the profession, could be a selection criterion. Furthermore the professional task conception of pharmacists seems to be lower if they have been working in the community pharmacy for a longer period of time. Perhaps it is possible to change this by means of refresher courses where (just as in the education) the accent is placed on professional matters. For this reason these refresher courses could be made, for example, a compulsory part of (re-)registration courses. In Great Britain pharmacists spend much time on controlling prescriptions before delivery because this is legally demanded. It is not to be expected that this rule will be introduced in other countries in the near future. This would also have a great influence on the way in which the business is run. Pharmacists in other countries could try, together with their colleagues in the pharmacy, to implement such a control in their pharmacy practice. This system has the advantage that the pharmacist is closely involved in the daily business, has direct control and uses his knowledge directly for the benefit of the patient.

By doing counter work the pharmacist is also involved in the daily business and he can use his professional knowledge (for example by giving advice and answering questions). It also appears that this is what many patients request; patients ask more questions and want to know more about their health and medicine use. The research results show that whether a first responsible pharmacist spends much time on

counter work especially depends upon the manner in which the pharmacy is organized (number of employees and opening hours). This shows that the amount of time a pharmacist spends on counter work depends upon the circumstances and is not a conscious choice, even though the pharmacist can use his professional knowledge in this task. Furthermore it appears that less time was spent on professional tasks when more time was spent on counter work (and vice versa). This does not seem to be a conscious choice but is more likely a result of pressure of work. Nearly all pharmacists indicate that they find it important to personally do counter work. The fact that pharmacists think of counter work as a task that has to be done when the work pressure is high, seems to be a structural problem. Now pharmacists let assistants do the counter work, but they could also change roles by for example letting their assistants do more commercial tasks, so that they have more time for counter work. This links up with plans in the Netherlands for a follow up course for assistants to become 'pharma-experts' which would enable them to execute a number of commercial tasks which are now done by the pharmacist, for example in areas of purchasing and stock management [27 28]. In practice it would be ideal if a pharmacist is more or less continuously involved with the counter work. This is most easily realized if there are more pharmacists working in the pharmacy, but of course then the financial reserves must be present to employ these pharmacist(s). The results of the research project show that pharmacies with higher net profits do not have more pharmacists in employment and it seems that the extra money which they earn – even when this is possible – is not sufficiently used to hire more professional knowledge. The fact that in the subject countries, except for the Netherlands, the presence of a pharmacist is compulsory during opening hours provides favourable conditions; the only item that could be improved on, is that the pharmacist shifts the accents of importance within his professional practice.

Apart from this, the pharmacist could try to find more time for professional and counter work by spending less time on commercial tasks. The research results show that pharmacists spend more time on commercial tasks when they have a higher commercial task conception, in Belgium and Sweden when more prescriptions are processed in a day and when the opening hours are longer. Pharmacist-owners also spend more time on commercial tasks than pharmacists in paid service. The fact that pharmacists spend more time on commercial tasks when more prescriptions are processed in a day (Belgium and Sweden) or when the pharmacy is open longer, shows that the pharmacist lets his commercial time-spending depend upon the work pressure and thus especially in a busy pharmacy should delegate more tasks to employees within the pharmacy (or – so far as this is practically and financially possible – outside the pharmacy). A higher commercial task conception seems to be linked to the importance that pharmacists place on the opinion of financiers. These financiers, such as governments and sick-funds, could perhaps stress the importance of certain professional matters or even make the execution of certain tasks compulsory, thus forcing pharmacists with a high commercial task conception, who find the opinion of the financiers impor-

tant, to pay more attention to professional tasks. Pharmacists, especially pharmacist-owners, can also try to organize their commercial tasks as efficiently as possible, for example by using the possibilities of automation. Sick-funds and health insurance companies can save time for the pharmacists by making the rules under which declarations have to be presented as simple as possible.

Pharmacists can also spend more time on professional and counter tasks by working longer. The research results showed that pharmacists who work longer have on average a higher commercial task conception. The results also show that pharmacists who work longer spend relatively more time on commercial tasks. Decreasing the amount of commercial tasks within a long working week creates possibilities to spend more time on other tasks.

Based on the above the conclusion can be drawn that pharmacists can, more than is now the case, make use of their professional knowledge by spending more time on professional and counter work and less time on commercial tasks, for example by delegating the latter and by an efficient organization as is the case with automation. Governments and other financiers can stimulate certain developments by for example changes in the payment system in such a manner that the performance of certain professional and counter tasks are specifically rewarded. Governments and other financiers can also contribute to decreasing the number of commercial work by decreasing the amount of rules with regard to administrative obligations (for example declarations).

Pharmacists themselves can, by means of intercolleagial testing rounds and contacts with other pharmacists, actively contribute to the professional progress within the occupational group. Table 2 shows that intercolleagial testing takes place only in the Netherlands within a large group of pharmacists. In other countries this is also an area where initiatives can be developed.

With regard to the way in which the professional tasks are fulfilled matters could also be handled in a different matter. Table 4 shows that in this respect there are large differences between countries.

As reasons for not yet making use of a computer, the costs and the unavailability of properly functioning software were mentioned in the interviews. Professional organizations in Portugal, Belgium and Great Britain could promote the use of the computer for professional tasks among their members and could possibly contribute by means of financial arrangements (for example by obtaining discounts from suppliers when buying large quantities for many pharmacists) and by involving themselves with the software development. Perhaps the rules in Sweden could be changed in such a way that it is permitted to register patients' names and addresses, thus enabling certain medication controls or the introduction of a 'smart card' which the patient keeps himself and on which all the medication data are stored, could be a solution.

Especially professional organisations from Belgium and Portugal could stimulate *labelling and the use of printed patient information* on a larger scale by developing suitable material and enabling pharmacists to buy this material for an affordable price. Perhaps it would even function better if the pharmacists them-

selves are involved in the drafting of the manuscripts for warnings/ indications and leaflets, but obviously they must have sufficient time to do this.

It is relatively simple and not very costly to start a *patient consulting hour*. The patients must however know that they can go to the pharmacist for advice at certain times and therefore some publicity must be given to this.

Professional organisations could emphasize the importance of a *separate patient consultation room* in the pharmacies. Pharmaceutical inspections, taking into account the more patient orientated developments in the pharmacy, could make this separate patient consultation room obligatory in the future. But because pharmacies in Belgium, Great Britain and Portugal often only have limited space, this will be difficult to realize for many pharmacists at short notice.

Professional organisations, especially the Portuguese organisations, can stimulate *the giving of lectures* by offering slide series with certain standard texts, for instance.

When certain preparations are no longer paid for by health insurers or when the government is going to decrease demands placed on apparatus and spaces for preparations, the number of *own preparations* by community pharmacists could decrease strongly or maybe even disappear completely, as in Sweden, and it is a question if this will not harm the quality of the health care. From the quality point of view it seems that the situation in Belgium, where a majority of the pharmacists make sterile preparations, but do not have a *separate compartment for aseptic working* at their disposal, could be improved. However, if the pharmaceutical inspection were to make the possession of such a separate compartment obligatory, this would result in high extra expenses for the pharmacists and this will have to be considered when introducing such a rule. Because *controls of own pharmacy preparations* could be quality-improving, professional organisations could perhaps encourage this and develop protocols, for instance.

Pharmacists in Portugal, Belgium and Great Britain could try to develop a more active attitude towards *general practitioners (and other health care workers)*. Governments could stimulate the cooperation with these people by for instance financial contributions to doctors and pharmacists, so that the time spent on this subject, is compensated. By changes in the payment system for pharmacists could possibly be effected that the structural contact with doctors is remunerated (but this also applies to other professional tasks). Furthermore the government could create conditions for the discussion between doctors and pharmacists, for instance by written documentation with specified discussion subjects. As a matter of fact governments or for instance sick-funds also have the possibility to make these tasks obligatory.

The *contact with colleagues* seems to be important from a quality point of view, because one can improve his knowledge and a certain controlling effect can result from this. Especially in Belgium it should perhaps be considered to organise circles of pharmacists who discuss professional matters regularly with each other, but the question is – if participation is not obligatory – whether the autonomous working pharmacists will cooperate in this.

If professional organisations made *the following of*

refresher courses obligatory for (re-)registration, this would stimulate the following of these courses. However, before this rule is introduced, it should be investigated whether pharmacists could, as far as financial and time pressure is concerned, comply with this obligation. Governments could also create conditions for stimulating the participation in refresher courses. The assistants do part of the professional work and it is important that they also have sufficient knowledge. *The following of refresher courses by personnel members can, especially in Belgium and Portugal, be stimulated by enlarging the possibilities.* Certain refresher courses could be made obligatory. Furthermore an improvement of salary after following certain courses could possibly have a stimulating effect. Pharmacists could stimulate the following of refresher courses by assistants by means of financial contributions and free hours. This implies that the pharmacist must have the possibilities for this, as far as finances and other personnel are concerned.

As far as *diagnostic tests* are concerned patients in some countries, like the Netherlands, buy blood sugar and pregnancy tests and scales for determining bodyweight themselves, and extending the tasks of

the pharmacist in this field will add little. However, most people are not yet used to measuring blood pressure and cholesterol concentration themselves and pharmacists could take this into account and offer these services. The blood pressure as well as the cholesterol concentration must, certainly when patients are getting medication for this, be measured regularly and (also because the pharmacy is a readily accessible institution) pharmacists can, by their ability to trace deviating values and their controlling function, fulfil a useful task beside to the doctor. Professional organisations can, by supportive information for their members and by publicity, promote the execution of these tests by pharmacies.

To be able to treat *home care patients* some pharmacists will possibly have to follow some refresher courses, because this subject does not yet get much attention in the training. Professional organisations could organise these, and also provide the pharmacists with written information about home care subjects. Furthermore pharmacists could try to cooperate with existing home care organisations, on a local as well as on national level. The performance of tasks in the home care field, but also for instance giving

**Table 5** Percentage of the pharmacists that want to spend more time on certain professional aspects of their profession

	country				
	NL (N=191)	BE (N=173)	GB (N=118)	SW (N=310)	PO (N=128)
<i>Percentage of the pharmacists that want to spend more time on:</i>					
Actively advising patients	58.8 %	63.1 %	72.7 %	62.8 %	62.7 %
Advising doctors about medicine choices and new medicines	72.2 %	34.9 %	69.6 %	71.2 %	37.5 %
Advising doctors about the choice of therapy for individual patients	62.6 %	24.3 %	76.2 %	33.2 %	28.7 %
Consulting with other health care workers <sup>8</sup>	55.4 %	36.6 %	71.7 %	65.0 %	37.1 %
Home care activities	56.3 %	34.3 %	71.6 %	71.5 %	34.6 %
performing diagnostic tests	13.6 %	14.2 %	47.1 %	12.5 %	23.3 %
Giving lectures about medicines (and their use) for groups of patients	29.8 %	7.1 %	40.7 %	54.4 %	55.7 %

NL= the Netherlands, BE= Belgium, GB= Great Britain, SW= Sweden, PO= Portugal

<sup>8</sup> Outside the pharmacy, such as district nurses (not doctors or pharmacists)

**Table 6** Percentage of the pharmacists that hold the opinion that there should be extra quality demands for the professional practice of community pharmacists

	country				
	NL (N=191)	BE (N=173)	GB (N=118)	SW (N=310)	PO (N=128)
Percentage of the pharmacists that would want extra quality demands	58.2 %	65.4 %	100.0 %	42.0 %	83.5 %

NL= the Netherlands, BE= Belgium, GB= Great Britain, SW= Sweden, PO= Portugal

advice to doctors and other helpers, has the result that the pharmacist has more contact with health care workers and consequently the quality of the supplied care could possibly be improved by the extra cooperation.

### New developments

In a research project conducted by the Dutch 'Koninklijke Nederlandse Maatschappij ter bevordering der Pharmacie' (KNMP) [29] it was investigated to what extent pharmacists (and assistants) were prepared to change from 'process orientated medicine deliverers' to 'client orientated service providers'. In this KNMP project it appeared that different segments can be defined within the (Dutch) group of pharmacists with regard to the degree to which they are prepared to change. 20 % of the Dutch pharmacists belong to the 'leaders', 60 % to the average middle group and 20 % belong to the 'stragglers' [29]. From the above it is apparent that there is room in different areas for professional organizations, pharmaceutical inspections, governments and other financiers to stimulate certain developments and motivate 'stragglers' in the professional group to participate in the professional developments. Whether new developments are carried through or not, will depend in the first place on what the pharmacists are prepared to do themselves. Table 5 shows the percentage of the pharmacists that want to spend more time on the 'newer' tasks in their profession.

From this table it appears that in all countries a majority of the pharmacists want to spend more time on advising patients about medicines. Next to this a majority of pharmacists from the Netherlands, Great Britain and Sweden want to give more attention to consulting with doctors and other health care workers and to home care activities. Apparently the percentage of pharmacists mentioned in table 5 have noticed that it is possible to widen and deepen the present task package. On basis of table 5 the impression is created that the Netherlands, Great Britain and Sweden are the leaders in this field. The pharmacists were asked separately on which kind of tasks they would like to spend more time, the professional or the commercial tasks. With the exception of Sweden, it appears that a large number of pharmacists want to spend more time especially on the professional tasks, much more often than they want to spend more time on commercial tasks. The desire to become more

involved with professional tasks definitely seems to be present, but certain conditions and stimulants are necessary to put these developments into practice.

### Extra quality demands

When it becomes compulsory to put certain professional ideas into practice by means of legal regulations or quality demands, a certain level of professional practice will be guaranteed. Table 6 shows the percentage of the pharmacists which is of the opinion that there should be extra standardized quality demands, besides the already existing demands, to regulate the professional practice of pharmacists.

This table shows that in all countries, except Sweden, a majority of the pharmacists are of the opinion that there should be extra quality demands. In Great Britain all the pharmacists hold this opinion. Additional quality demands can contribute to implementing certain developments in the whole professional group. Many pharmacists thus think that in certain areas of professional practice improvements are still possible in their country. The fact that Swedish and Dutch pharmacists find this the least often is in accordance with the fact that they have already implemented certain professional developments in their practice to a larger degree than pharmacists from the other countries, as is shown in the previous discussion.

### Profile of the European pharmacist

From the above it appears that there are large differences between community pharmacists from the different countries. From this it can be concluded that 'the European pharmacist' does not (yet) exist.

In the Netherlands the medicine use with regard to volume is relatively low; on average the pharmacies are large with regard to patient numbers and numbers of employees. The pharmacies in the Netherlands are also large with regard to surface area because the inspection demands a surface area of at least 200 m<sup>2</sup>. The pharmacist in the Netherlands acts mostly as a manager; he spends relatively little time on counter work and relatively much time on commercial tasks. The fact that the pharmacist in the Netherlands, in contrast to pharmacists in the other countries of the research project, is not obliged to be continually present in the pharmacy during opening hours, enables him to employ more activities outside

the pharmacy. Thus pharmacists from the Netherlands relatively often occupy themselves with intercolleagial testing, meetings with doctors and scientific research. Due to the low pharmacy density in comparison with countries such as Belgium, Great Britain and Portugal and because sick-fund patients are obliged to register at one pharmacy, many patients are used to visiting the same pharmacy each time; this promotes the execution of a complete medication control by the pharmacy.

In *Belgium* the pharmacies have the smallest patient numbers in Western Europe. The competition between independent pharmacies and sick-fund pharmacies is large and threatening to the independent pharmacists; for example there is competition by giving patients discounts. Belgian pharmacists often work alone in the pharmacy without employees and because of this they have much contact with their patients. In Belgium, the automation has not really broken through in the pharmacies (this is also the case in Portugal); the use of the medication etc. is often written by hand on the package and keeping up medication records depends on the personal dedication of the pharmacist.

In *Great Britain* each prescription has to be controlled by a pharmacist before delivery, which means that British pharmacists spend relatively much time on professional tasks. Also in Great Britain there is relatively great competition, both from colleagues and other suppliers. Independent pharmacies experience especially strong intercolleagial competition from pharmacies belonging to a chain. The fact that many stores are authorized to deliver a (restricted) package of medicines is another competition factor. For the European tourist in Great Britain the pharmacies distinguish themselves from pharmacies in other countries by the enormous diversity of their assortment, also in non-medical areas.

In *Sweden* the community pharmacy is nationalized and all pharmacies are managed by the 'Apoteksbolaget'. This has a strong influence on the Swedish pharmacy. All pharmacists are in paid service and due to this the working week of the Swedish pharmacists is relatively short; the pharmacy managers spend little time on both professional and commercial tasks in comparison with pharmacists from other countries. In the Swedish pharmacy much attention is given to professional aspects such as patient information and contact with doctors. The financial pressure to ensure a paying business seems to be smaller for the individual pharmacy manager than in other countries. In Sweden there is no competition between pharmacies as there is in other countries. The pharmacy managers are on one hand satisfied with their organization and have relatively little trouble with dualism problems between the professional and the commercial dimension, but on the other hand they sometimes find the organisation too business-minded (for example concerning fewer refresher courses for pharmacists and the virtual disappearance of medicine production in the pharmacy). In contradiction with this is the fact that there exists a professional organization in Sweden, the 'Apotekarsocieteten', which occupies itself virtually only with professional tasks. The individual contribution of pharmacists in the commercial management appears to be less than in other countries.

In *Portugal* the general standard of living is lower than in other countries and this appears to be reflected in the community pharmacies. Patients visit the pharmacy with many different problems and it is quite usual that the pharmacist executes certain diagnostic tests. Up until a number of years ago there were, due to the fact that there was little control on the functioning of pharmacists, problems concerning the commercial management of the pharmacies. The first responsible pharmacist is expected to be present during opening hours of the pharmacy, but often it appeared that they occupied additional positions and sometimes the owners of the pharmacy were not pharmacists, which is also not permitted. The ownership of more than one pharmacy is forbidden in Portugal and due to stricter controls it seems that this rule is also more often obeyed. In Portugal it is difficult to become owner of a pharmacy and often pharmacists don't stop working until after they are 65. This implies that there are few young first responsible pharmacists and that it is more difficult to bring about changes in the pharmacy [30].

### Conclusion

One can ask the question in which European country the pharmacy is practised in the 'best' manner. As has been shown in the previous discussions, there are definite differences, but it is not possible to simply answer the question in which country the patient is best served. Pharmacies in the Netherlands have on average many patients with a relatively low medicine consumption; as a large pharmacy one has more possibilities to attend to certain matters, e.g. in professional or commercial areas such as purchasing a computer system. In the small Belgian pharmacies the pharmacist is a recognizable figure who can be easily consulted by the patients. In Great Britain the compulsory control of each prescription by the pharmacist before delivery promotes the involvement of the pharmacist in the daily prescription processing in the pharmacy. The Swedish pharmacies have reached high levels in matters concerning patient information. In Portugal the pharmacist has a much larger task package concerning diagnostic tests than pharmacists in other countries. The low medicine consumption and efficient commercial management in the Netherlands can be an example for the European pharmacist. In Europe one can learn from the Portuguese pharmacy that the pharmacist working in an easily accessible institute can distinguish himself for example in matters concerning diagnostic tests. Also the Belgian personal involvement, the British control and the Swedish 'kvalitet' could be new roads for the European pharmacist to follow.

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