



Pilot Study of Pharmacists' Attitudes towards and Expectations for Remuneration of Value-added Pharmacy Services (VAPS) in Bulgaria

Stefan V. Balkanski¹, Joana I. Simeonova², Stanislav R. Gueorguiev³, Elina S. Petkova-Gueorguieva³, Ivan G. Gitev¹, Ilko N. Getov^{1,4}

¹ Bulgarian Pharmaceutical Union, Sofia, Bulgaria

² Faculty of Pharmacy, Medical University of Pleven, Pleven, Bulgaria

³ Faculty of Pharmacy, Medical University of Plovdiv, Plovdiv, Bulgaria

⁴ Faculty of Pharmacy, Medical University of Sofia, Sofia, Bulgaria

Corresponding author: Elina S. Petkova-Gueorguieva, Faculty of Pharmacy, Medical University of Plovdiv, 15A Vassil Aprilov Blvd., 4002 Plovdiv, Bulgaria; E-mail: elinapetkova@abv.bg; Tel.: 0899961848

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Abstract

Introduction: Value-added pharmacy services (VAPS) are additional services to the traditional pharmacy activities, which do not include dispensing of medicinal products and professional consultation. These services have cost reduction effect on the healthcare system and add value to the work of the pharmacist as a healthcare professional.

Aim: To assess the pharmacists' attitudes and expectations towards the remuneration of value-added pharmacy services (VAPS) in Bulgaria.

Materials and methods: A cross-sectional study including pharmacists working in community pharmacies was carried out between August 2018 and October 2018. A web-based 15-item questionnaire was developed. The questionnaire was distributed to all members of the Bulgarian Pharmaceutical Union (n=5165). Two hundred thirty-three questionnaires were filled in and returned (response rate of 4.5%). Data were processed by SPSS v. 24.0.

Results: Over 51% of the community pharmacies in Bulgaria offer VAPS, mainly measuring blood pressure (67.4%) and blood glucose (12.9%). Over two-thirds of the pharmacists considered charging a remuneration fee for blood pressure measurement irrelevant. About 30.5% of those who held the opposite opinion proposed that the fee charged should not be higher than EUR 2.56. Over 44% of the respondents proposed that the fee for blood glucose measurement should not be higher than the same amount. Most pharmacists (98.3%) supported the idea of charging a remuneration fee for injections and influenza vaccination in a pharmacy.

Conclusion: The study shows that pharmacists in Bulgaria are ready to offer VAPS, but additional remuneration for the services should be provided.

Keywords

value-added pharmacy services, remuneration, pharmacists, community pharmacy, patient benefits

INTRODUCTION

According to Michael Porter (2010) "... value in healthcare is measured by the outcomes achieved, not by the volume of services delivered".¹ He also defines the value in healthcare as the ratio of health outcomes achieved relative to the amount of money spent.²

In a study from 2016, Osama Al-Quteimat concludes that pharmacists are effective in delivering high-quality care to their patients. There is strong data suggesting that evidence-based pharmaceutical care lead to improvement in health outcomes and cost-effective therapy of the patient.^{3,4} Pharmaceutical care is defined as the contribution of the pharmacist to the care of the patient in order to optimize the use of medicinal products and to improve treatment outcomes.⁵

To achieve the high level of patient care we need to introduce the value-added services into the pharmacy. The value-added pharmacy services (VAPS) are additional services to the traditional pharmacy activities, which do not include dispensing of medicinal products and professional consultations. These services exert a cost reduction effect on the healthcare system and add value to the work of the pharmacist as a healthcare professional.^{3,6}

VAPS can also be defined as the services that a pharmacist uses, based on their professional knowledge, to optimize treatments, improve treatment outcomes, and assess patients health.⁷

Offering additional services that satisfy the specific needs of patients visiting the pharmacy can contribute to this pharmacy's success and increase its competitiveness.⁸

AIM

The aim of the present study was to assess the pharmacists' attitudes towards and expectations for remuneration of value-added pharmacy services (VAPS) in Bulgaria.

MATERIALS AND METHODS

A cross-sectional study was carried out between August 2018 and October 2018. The study included pharmacists working in community pharmacies. We developed a web-

based 15-item questionnaire. Our approach was based on gathering information about pharmacists' attitudes toward an implementation of a charging fee to measure blood pressure in a pharmacy, as well as to measure blood glucose, administer injections or give seasonal flu vaccination. The service fee is measured in Bulgarian lev (BGN). The fixed exchange rate is EUR 1 =1.95583 BGN.

We also assessed the pharmacists' attitudes to practical training in injection skills, vaccination and first aid. The age of surveyed pharmacists and the characteristics of the customers to the pharmacy were used as variables (customers served per day and the proportion of regular customers were assumed more constant).

The questionnaire was available on Intranet platform for all members of the Bulgarian Pharmaceutical Union (BPhU) in the above-mentioned period (n=5165). Two hundred thirty-three questionnaires were distributed, filled in, and returned (response rate, 4.5%). The low response rate can be explained by the low level of use of the Intranet platform by the members of BPhU.

Data were processed using SPSS v.24.0. The number of cases falling into each range of categorical variables and percentage were displayed. Some variables were recoding. For example, the variables "attitudes toward an implementation of charging a fee to measure blood pressure" and "attitudes ... a blood glucose" consisted of 5 categories. Three of the categories, b) "I would charge a fee up to EUR 2.56-5.11", c) "I would ... up to EUR 5.62-7.67" and "I would... more than EUR 7.67" were combined into the new category "I would ...more than EUR 5.11". The category "I would ...more than EUR 5.11" of the variable "attitudes toward an implementation of a charging fee to injection and vaccination" was recoding and consisted of one additional category "I would ...more than EUR 10.23" besides the categories listed above. Pearson's chi-square test was used. We assumed the differences between groups were significant if the p-value was less than or equal to 0.05.

RESULTS

Distribution of the pharmacists by gender is shown in **Table 1**. Women were 74.7% and men - 25%. The highest proportion (39.9%) of pharmacists was in the age group 20-

Table 1. Characteristics of the studied pharmacists (Number, %)

| Variable | Number (%) | Variable | Number (%) | Variable | Number (%) |
|----------|-------------|-------------|-------------|-------------------------|-------------|
| Gender | | Age | | Professional Experience | |
| Male | 59 (25.3) | 20-30 years | 93 (39.9) | Under 5 years | 86 (36.9) |
| Female | 174 (74.7) | 31-40 years | 59 (25.3) | 6-15 yrs | 66 (25.3) |
| Total | 233 (100.0) | 41-50 years | 38 (16.3) | 16-30 yrs | 53 (22.7) |
| | | 51-60 years | 31 (13.3) | Over 30 yrs | 28 (12.0) |
| | | Over 60 yrs | 12 (5.2) | Total | 233 (100.0) |
| | | Total | 233 (100.0) | Total | 233 (100.0) |

30 years. About 40% had professional experience under 5 years, and 25.3% - between 6 and 15 years (Table 1).

Over 51% of the respondents working in pharmacies offered VAPS (Fig. 1). Blood pressure monitoring (67.4%)

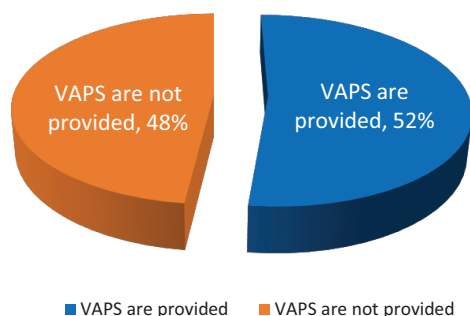


Figure 1. Pharmacies offering VAPS (%).

and blood glucose measurement (12.9%) were the most commonly provided VAPS.

We assessed the pharmacists' attitudes towards an implementation of a charging fee to measure blood pressure and blood glucose in the pharmacy premises (Table 2).

Over two-thirds of the respondents considered charging a remuneration fee for blood pressure measurement irrelevant. About 30.5% of those who held the opposite opinion proposed that the fee charged should not be higher than EUR 2.56 (Table 2). The pharmacists not willing to charge a fee for blood pressure measurement were the most in the age ranges 20 to 30 years (39.2%) and 31-40 years (23.6%).

Regarding the implementation of a charging fee to blood glucose measurement, there are different opinions – 46.3% of the pharmacists did not support it, and 53.7% supported it. Over 44% of them proposed that the fee charged should not be higher than EUR 2.56. Almost 60% of the respondents that were opposed to charging a remuneration fee for blood glucose measurement were aged 20-40 years compared with 21.3% of the pharmacists aged over 50 (p=0.193).

About 60% of the respondents were willing to provide such VAPS as injection or seasonal flu vaccination. Most pharmacists (98.3%) supported the idea of charging a remuneration fee to injection and influenza vaccination in a

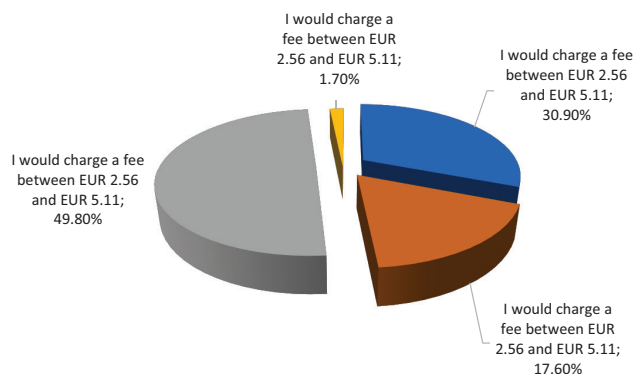


Figure 2. Distribution of pharmacists by their attitudes towards charging fee to administer injections and give influenza vaccination in the pharmacy premises (%).

pharmacy. According to 49.8%, charging such a fee should be more than EUR 5.11, and 30.9% thought that it should not be higher than EUR 2.56 (Fig. 2).

Among the pharmacists that proposed charging a fee more than EUR 5.11, the proportion of those aged 20-30 years was higher (42.2%) than those aged more than 50 (20.7%). There were marginal significant results (p=0.053) (Fig. 3).

The pharmacists' willingness to provide VAPS was confirmed by their positive attitude towards practical training to acquire better skills to administer injections, give vaccinations and first aid training (80.3% chose the category "I agree"). Motivation to participate in the training was higher for the young age groups (42.8% and 24.1%, respectively) with decrease in the motivation with ageing. There were no statistically significant differences between groups by the age attitudes to participate in training courses (p=0.098).

An important stage of our analysis was whether the pharmacists' attitudes to implement a remuneration fee for VAPS were associated with the number of customers in the pharmacy.

Over 52% of the pharmacies provided services for patients in the range 50-200 per day (Table 3). Increasing the number of patients in a pharmacy leads to an increase of pharmacists that did not support the idea of charging fee to blood glucose measurement. The negative replies vary from 9.3% in the pharmacies providing services for up to 50 patients per day to 52% in the pharmacies in which patients

Table 2. Pharmacists' attitudes to VAPS (Number, %)

| Category | I would charge a fee up to EUR 2.56 | I would charge a fee between EUR 2.56 and EUR 5.11 | I would charge a fee between EUR 5.62 and EUR 7.67 | I would charge a fee more than EUR 7.67 | I would not charge any fee | Total |
|----------------------------------------------------------|-------------------------------------|----------------------------------------------------|----------------------------------------------------|-----------------------------------------|----------------------------|-------------|
| A fee to measure blood pressure in the pharmacy premises | 71 (30.5) | 12 (5.2) | 1 (0.4) | 1 (0.4) | 148 (63.5) | 233 (100.0) |
| A fee to measure blood glucose in the pharmacy premises | 103 (44.2) | 19 (8.2) | 2 (0.9) | 1 (0.4) | 108 (46.3) | 233 (100.0) |

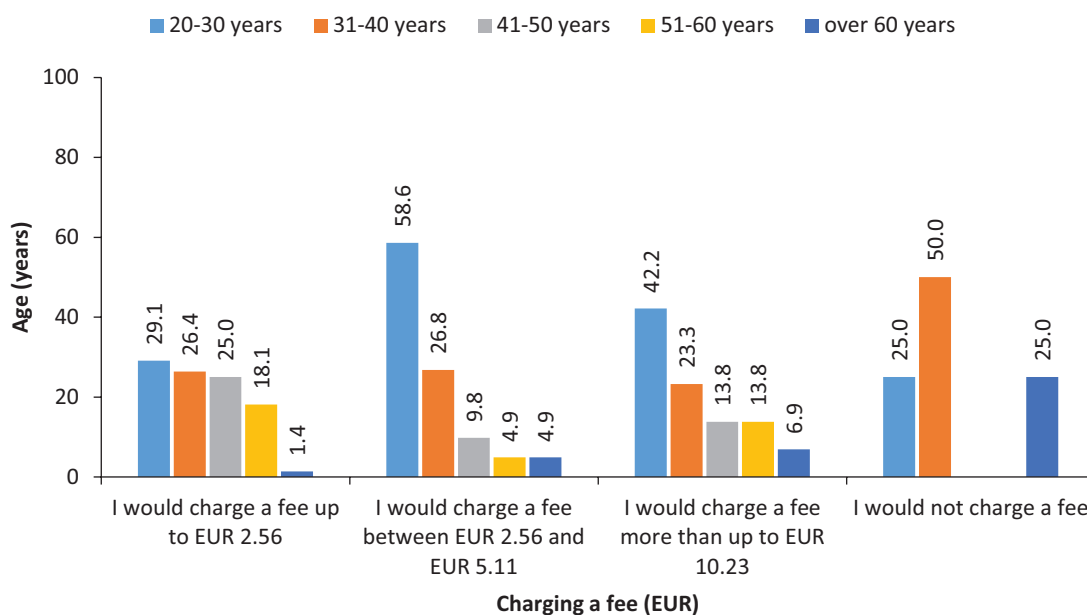


Figure 3. Distribution of pharmacists by age and their attitudes towards a fee for injections and influenza vaccination in the pharmacy premises (%).

Table 3. Characteristics of pharmacy’s customers (Number, %)

| Variable | Number (%) |
|--------------------------------------------------|-------------|
| Number of pharmacy customers per day | |
| Up to 50 customers | 21 (9.0) |
| 50-200 customers | 123 (52.8) |
| 201-500 customers | 64(27.5) |
| 501-1000 customers | 19(8.2) |
| Over 1000 customers | 6 (2.6) |
| Total | 233(100.0) |
| Proportion of customers has stayed more constant | |
| Up to 10% | 3 (1.3) |
| 10-20% | 17 (7.3) |
| 21-40% | 45 (19.3) |
| 41-60% | 76 (32.6) |
| 61-80% | 71 (30.5) |
| Over 80% | 21 (9.0) |
| Total | 233 (100.0) |

were more than 500 per day ($\chi^2=12.127$; $df=6$; $p=0.059$). There were no statistically significant differences in the number of pharmacy customers per day and pharmacists’ attitudes towards charging fee for the service ($p=0.260$).

In 32.6% of the pharmacies the share of regular customers was constant in the range 41-60%; the share of regular customers was between 61 and 80% in 30.5% of the pharmacies (Table 3). In 38.9% of the pharmacists indicating are remuneration fee for medical manipulations (injection and vaccination) to be not higher than EUR 2.56, the share of regular customers was in range 41-60% and in 31.9% of them the share of regular customers was between 61-80%. A higher charging fee (more than EUR 5.11) was proposed

by the pharmacists working in a pharmacy (34.5%) where the proportion of regular customers was in the range of 41-60%, respectively 26.7% in the range of 61-80%. There were no statistically significant differences between groups in the pharmacists’ attitudes to implement a charging fee to blood glucose measurement and the proportion of customers has stayed more constant was in range ($p=0.861$).

DISCUSSION

The final goal of a pharmacy should be perceived not only as a dispensary for medication, but also as a place where patients can receive additional health related services.⁷ At the same time, for such services to be carried out on a regular basis, developed and/or implemented new ones, value has to be provided for both patients, as well as the institutions that pay for the service.⁹

Management of services that qualify as “value-added pharmacy services” (VAPS) is essentially additional workload for the pharmacy’s staff and is a complicated process. They have to be carefully planned, standardized in terms of activities included in the service package that a pharmacy offers, most often in return for payment (in some countries in the form of reimbursement) from the ones who are interested in using them. They are mainly directed at the prophylactic and/or screening of socially significant diseases with higher sickness and death rates. Those are the so-called “clean services”, which are not connected to minimal information on a specific medical problem, but to an all-around program for an in-depth health condition evaluation and an individual consultation with every patient. Carrying out VAPS takes a long time, often requires additional well-trained staff that facilitates for a quality ser-

vice. A specific place in the pharmacy has to be set up for the needs of offering the service and providing good communication attitude between patient and pharmacist, without interfering with the pharmacy's regular activities like dispensing medicinal products and health and well-being goods. Ensuring confidentiality is another key element.^{10,11}

For the successful development of VAPS, a reasonable payment should be provided. There are two options for payment – from the patients (out-of-pocket) or from the external payer (insurer or external body – health institution, municipality, etc.). Payment can also be provided in the form of compensation or reimbursement. Compensation means that the patient, health insurer or another payer covers the direct service cost, plus a compensation percentage to pay for the pharmacy's mark-up. Reimbursement, on the other hand, means covering the direct service cost, without any additional earnings.¹² That is why pharmacies tend to aim at receiving remuneration for their services. Compensation can come from providing different services – prevention of cardiac diseases, reducing body weight, controlling asthma, screening for dyslipidemia, osteoporosis, diabetes, etc. Pharmacists can also receive a separate remuneration for procedures which accompany the services (e.g. taking blood samples for laboratory analysis). Immunizations for influenza and other types of vaccines are also activities that can provide remuneration. All of the above-mentioned services can be classified as “direct patient services” (like providing help to quit smoking) - laboratory activities (measuring clinical indexes), procedures (measuring body mass index and bone density) and immunizations.¹³

Costs are always generated when providing value-added services. Costs for direct patient services include wages, setting up a place for consultation in the pharmacy, office equipment (computer, software, fax, copier), advertising costs, medical devices and equipment (blood pressure monitor, weighing scale, etc.), educational material and many others. When offering laboratory tests and measurements are also included costs for obtaining testing licenses (if needed), purchasing laboratory equipment (apparatuses and supplies, lancets, gloves, disinfecting materials, bio waste containers, etc.). In certain procedures, like measuring bone density and spirometry costs are added for renting the measuring equipment. When doing immunizations added costs for vaccines, gloves, needles and syringes, disinfection and bandages, waste separators, etc. are calculated.¹⁴

A couple of methods to measure the readiness to purchase value-added pharmaceutical services exist. The fastest and easiest way is to survey pharmacy patients' and customers' and determine which kinds of services they are ready to pay for, what amounts and expectations they might have. The most secure way to determine the readiness to pay is to offer a service at a fixed price and to observe whether patients actually use it and are willing to purchase it. Although, this can happen only after the decision

has been made granting the service offer (Blumenschein and Johannesson, 1999).

Several researchers in Bulgaria¹⁵⁻¹⁷ evaluate the patients' willingness to pay for VAPS. The studies show that patients in Bulgaria are willing to pay for VAPS. An example can be given for the following services:

- Measuring blood pressure, where the average remuneration fee participants are willing to pay is EUR 1.20. The indicated price varies from EUR 0.10 to 5.11;
- Measuring blood sugar in plasma by using an in-vitro diagnostic medical device, where the average fee participants are willing to pay is EUR 2.88. The indicated price varies from EUR 0.26 to 25.56;
- Measuring body mass index by using active medical device where the average remuneration fee participants are willing to pay is EUR 4.04. The indicated price varies from EUR 0.26 to 15.34;
- Measuring total cholesterol in plasma via in-vitro diagnostic medical device where the average remuneration fee is EUR 3.16. The indicated price varies from EUR 0.51 to 10.23.

CONCLUSION

Value-added pharmacy services are proven to have positive impact on the patient well-being, pharmacies welfare and economic survival and to the healthcare system as a whole. Pharmacists in Bulgaria in similarity with worldwide tendencies are ready to implement this kind of services, but additional remuneration should be provided.

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Пилотное исследование отношения и ожиданий фармацевтов к оплате фармацевтических услуг с добавленной стоимостью (ФУДС) в Болгарии

Стефан В. Балкански¹, Йоана И. Симеонова², Станислав Р. Георгиев³, Елина С. Петкова-Георгиева³, Иван Г. Гитев¹, Илко Н. Гетов^{1,4}

¹ Болгарский фармацевтический союз, София, Болгария

² Факультет фармации, Медицинский университет – Плевен, Плевен, Болгария

³ Факультет фармации, Медицинский университет – Пловдив, Пловдив, Болгария

⁴ Факультет фармации, Медицинский университет – София, София, Болгария

Автор для корреспонденции: Елина С. Петкова-Георгиева, Факультет фармации, Медицинский университет – Пловдив, Пловдив, Болгария, бул. „Васил Априлов“ № 15А, 4002 Пловдив, Болгария E-mail: elinapetkova@abv.bg; Тел.: 0899961848

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Резюме

Введение: Фармацевтические услуги с добавленной стоимостью (ФУДС) – это дополнительные услуги к традиционной фармацевтической деятельности, которые не включают распространение лекарственных препаратов и профессиональные консультации. Эти услуги приводят к снижению расходов системы медицинского страхования и повышают ценность работы фармацевта в качестве медицинского работника.

Цель: Оценить отношение и ожидания фармацевтов к оплате дополнительных фармацевтических услуг (ФУДС) в Болгарии.

Материалы и методы: Было проведено перекрёстное исследование среди фармацевтов, работающих в общественных аптеках, в период с августа 2018 года по октябрь 2018 года. Была разработана веб-анкета из 15 пунктов. Анкета была распространена среди всех членов Болгарского фармацевтического союза (n = 5165). Двести тридцать три анкеты были заполнены и возвращены (4,5% ответили). Данные были обработаны с помощью SPSS v. 24.0

Результаты: Более 51% общественных аптек в Болгарии предлагают ФУДС, главным образом измерение артериального давления (67,4%) и сахара в крови (12,9%). Более двух третей из числа опрошенных фармацевтов считают оплату измерения артериального давления ненужной. Около 30,5% тех, кто не согласен, предложили оплату в размере не более 2,56 евро. Более 44% респондентов считают, что плата за измерение уровня сахара в крови не должна превышать такую же сумму. Большинство фармацевтов (98,3%) поддерживают идею оплаты инъекций гриппа и прививок в аптеке.

Вывод: Исследование показывает, что фармацевты в Болгарии готовы предложить ФУДС, но при этом считают необходимым обеспечить дополнительное финансирование.

Ключевые слова

фармацевтические услуги с добавленной стоимостью, оплата, фармацевты, общественные аптеки, пользы для пациентов
