

To pay or not to pay? A multicountry study on informal payments for health-care services and consumers' perceptions

Tetiana Stepurko PhD,^{*†} Milena Pavlova PhD,[‡] Irena Gryga PhD[§] and Wim Groot PhD^{¶**}

^{*}Assistant Professor, [§]Associate Professor, School of Public Health, National University of 'Kyiv-Mohyla Academy', Kiev, Ukraine, [†]Doctor, [‡]Associate Professor, [¶]Professor of Health Economics, Department of Health Services Research, CAPHRI, Maastricht University Medical Center, Faculty of Health, Medicine and Life Sciences, Maastricht University, Maastricht and ^{**}Professor of Evidence-Based Education, Topinstitute Evidence-Based Education Research (TIER), Maastricht University, Maastricht, The Netherlands

Abstract

Correspondence

Tetiana Stepurko PhD
Assistant Professor
School of Public Health
National University of Kyiv-Mohyla
Academy
Skovorody street 2
Kiev 04655
Ukraine
E-mails: t.stepurko@maastrichtuniversity.nl; stepurko12@gmail.com

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Background Although the literature offers various theoretical explanations for the existence of informal patient payments, empirical research has mostly focused on socio-demographic features as determinants of these payments. The role of health-care users' perceptions on informal payments are rarely taken into account especially in multicountry surveys.

Objective Our aim is to examine the association between informal payments for health-care services and perceptions of health-care consumers about paying informally as well as socio-demographic characteristics.

Design We use data from a multicountry quantitative empirical research conducted in 2010.

Setting and participants A national representative sample is drawn in six Central and Eastern European countries – Bulgaria, Hungary, Lithuania, Poland, Romania and Ukraine. In each country, about 1000 respondents are interviewed.

Main variables studied Data related to informal payments for health-care services consumed during the preceding 12 months are analysed in addition to data on respondents' perceptions about paying informally and socio-demographic data.

Results Health-care users in Bulgaria and Poland are less inclined to make informal payments, while health-care users in Romania and Ukraine most often report such payments. The informal payment rates for Hungary and Lithuania fall between these two groups. In all six countries, individuals who feel uncomfortable when leaving the physician's office without a gratuity and who feel unable to refuse the request of medical staff to pay informally, more often make informal payments.

Conclusions Such consumers' perceptions can undermine policy efforts to eradicate these payments; therefore, health policy measures should reinforce social resistance to informal payments.

Introduction

Empirical studies on informal (under the table) patient payments provide evidence on their diverse pattern in Central and Eastern European countries.^{1–3} The results of a multicountry comparison, conducted about 10 years ago, indicate that at that time, informal patient payments presented a comparatively minor problem in the Czech Republic. However, in Poland, Hungary and Romania, they were significant even though a negative attitude towards these payments prevailed in the countries.⁴ Virtually at the same time, another cross-country study in Estonia, Latvia and Lithuania reported gifts (14% of users) and informal payments (1–8% of users) to health-care staff at government facilities.⁵ Only about half of the general public in these countries stated that such payments are a form of corruption. Although informal patient payments are still the focus of research, cross-country studies are rare. The numerous single-country studies on informal patient payments^{6–8} do not allow for cross-country comparisons due to differences in the methodology used.^{3,9}

Nevertheless, single-country studies are important because they provide an indication of the scale of informal payments in a country,^{10–12} or of their determinants.^{6,13,14} Overall, respondents' socio-demographic features rarely appear significant in predicting whether an individual makes informal payments and in determining the size of the payments.^{4,7} Occasionally, age, education and household expenditures (or income) have a significant relation with the incidence of informal payments (negative association with age and positive association with level of education and income/expenditure).^{5,7,13,15} Although there are a number of descriptive studies on health-care users' attitudes and perceptions regarding informal payments in the public sector,^{10,16–18} attitudes

and perceptions are rarely included in quantitative explanatory studies.^{19–21} The inclusion of attitudes and perceptions is important, as individuals perceive informal payments differently and exhibit various attitudes and behavioural patterns related to these payments even within a single-country context. Personal motivations and reasons to pay informally, revealed in previous studies, represent a specific individual reflection of the health-care system as well as of wider socio-political and economic arrangements. These individual perceptions, before being formed, pass through previous experience as well as emotional characteristic features of personality and are seen as a part of disposition that assures resorting to certain patterns of future behaviour.²²

In the cognitive-behavioural model suggested by Gaal and McKee,²³ this personal disposition appears to be a behavioural response within the given 'transaction (micro) level' sector. Micro level transactions do not exclude linkage to the 'system (macro) level'. The meaning of the context in terms of individual perceived behaviour seems to be well demonstrated in cross-country comparative analysis.^{1,2} It suggests a multidimensional nature of informal patient payments, where economic, legislative and socio-cultural context matter. Within this context, individuals take decisions, which presumably fit their moral principles and values with a certain pattern of consistency. Besides, the health-care sector is not unique for its informal payments as such payments are also present in education, police, court and custom offices.²⁴ Informal practices are quite common in Eastern European countries whereas the more formalized relations in Western European countries imply different trajectories of social interactions.^{25,26} The transition period of post-socialistic European countries is characterized by 'multiple moralities'²⁷ that have emerged after the collapse of the

restraints of the Soviet state and the aim to achieve for well-being when the state fails to ensure social welfare.²⁷ Thus, informal exchanges serve as a means for individuals to access certain goods or services (like health care). This is especially relevant for policymakers and other stakeholders who attempt to deal with informal practices. Specifically, governmental and civil society actions aimed at purifying the environment from informal payments, can preserve perceptions of informal payments as behaviour that does not fall in the socially accepted norms of behaviour. Consequently, the habit and inclination to pay informally can be diminished, which in turn can result in a lower share of the public paying informally, when compared to the context of mass tolerance towards informal patient payments.

In view of the above, this study contributes to the current literature by presenting a quantitative cross-country study that aims to investigate the relation between informal payments made by an individual (actual behaviour) and perceptions of health-care consumers related to making such payments (perceived behaviour statements) as well as socio-demographic characteristics. We define informal patient payments as payments for health-care services in the public sector that occur outside the formal payment channels (i.e. health-care users do not get receipts for these payments). Both cash payments and in-kind gifts given by the health-care consumers are estimated by consumers in monetary form and reported in the study. With regard to perceptions, we focus on perceptions (beliefs) about making an informal payment stated by respondents given a hypothetical situation. We use these statements as indicators of the individual acceptance or willingness to pay informally for health care. Beliefs about probable future behaviour appear to be part of this disposition²⁸. Thus, we expect that health-care users' beliefs about making informal patient payments have more explanatory power than socio-economic characteristics. In contrast to previous studies, we combine quantitative data on individual perceptions and socio-demographic

characteristics to explain variations in informal patient payments. Moreover, we apply the same analysis to data for six Central and Eastern European countries, which allows for a cross-country comparison and to establish the robustness of our findings.

Methods

The six Central and Eastern European countries included in our analysis – Bulgaria, Hungary, Lithuania, Poland, Romania and Ukraine – provide a suitable base for a comparative study given their common health-care system development (former-socialist countries with a Semashko type of health care before the 1990s) and common health-care problems experienced during the transition period (low service quality and poor access to care). At present, however, the countries differ in terms of economic and social development, as well as progress of health-care reforms even though the countries – except for Ukraine – have established an insurance-based health-care system in an attempt to improve the provision of public health-care services.^{29–32}

The data for our analysis are collected in July–August 2010 in all six countries simultaneously within the frame of larger surveys that focus on consumers' payments, preferences and willingness to pay for health care. A national representative sample is drawn in each country (about 1000 respondents per country) following a multistaged random probability approach. First, sampling points are chosen in consideration of regional, urban/rural and ethnic characteristics. Then, about 10 addresses/households per sampling point are selected using the random route method. One household member older than 18 years is selected for the survey using the 'last birthday' principle. Respondents who are unable or refuse to participate are replaced following the same procedure. Face-to-face interviews (of about half an hour) are carried out with each respondent on the basis of a standardized questionnaire. The questionnaire is developed in English by a multicountry research team. It is then pre-tested

and reviewed by external experts in the area of patient payments. The final version of the questionnaire is translated in the local language. The translations are verified using the backward translation method. The questionnaire is kept identical for all countries to assure a meaningful comparison of the results between the countries. Taking into account the sensitivity of the research topic, a research instrument has been designed to decrease potential bias²: (a) questions on attitudes and perceptions of informal patient payments appeared after two sets of questions related service consumption; (b) the question on the amount of informal patient payments asked the respondents to estimate the total patient payments in monetary terms per year (both cash payments and in-kind gifts); (c) introductory words opened the questions on informal payments to reassure the respondents that we were solely interested in their personal opinion.

This study analyses the data related to informal patient payments made by respondents (or respondents' families) for out- and in-patient services that they used during the preceding 12 months, in addition to data on respondents' perceptions about making informal patient payments and socio-demographic data. Both in-kind gifts and cash payments are included in the wording of the question when respondents are asked about the size of informal payments during the preceding 12 month. Respondents are also asked to confirm, deny, or express ambiguity about five perception statements that indicate individual acceptance or readiness to pay informally for health care (e.g. feeling uncomfortable when leaving the physician's office without a gratitude payment, or being unable to refuse to pay informally if asked). For comparative purposes, respondents are also asked to give a positive or negative answer on questions about being ever requested to pay informally and about ever giving cash or in-kind gifts to medical staff. The inclusion of these questions allows us to examine two recall periods – preceding 12 months and unlimited time period. We primarily focus on the preceding-12-months period, and we use the infinite

recall period for validation purposes. The English wording of the questions and the five perception statements used in our analysis is presented in Appendix A.

Although we recognize that self-administrated modes of data collection would have been more suitable for collecting data on a potentially sensitive topic, such as informal patient payments, we have used the face-to-face interview mode due to respondents' needs in interviewer's assistance that appeared during the pre-test. Nevertheless, we have considered strategies to improve the validity of data collection, such as the involvement of skilled interviewers (on average 100 trained interviewers per country), pre-tests of the wording of the questions, inclusion of the questions on perceptions (i.e. the most sensitive questions) in the middle of the questionnaire.

We carry out binary regression analysis to determine the extent to which individual perceptions about making informal payments, as well as socio-demographic features, are associated with actually making informal patient payments. We include only respondents who used out- or in-patient services during the preceding 12 months. Our binary dependent variable is coded with 0 when the service user did not pay informally during the preceding 12 months and with 1 when the user paid informally during the preceding year. The independent variables include socio-demographic indicators as well as two indicators for each of the five perception statements presented in Appendix A (thus 10 indicators in total). The first indicator (for each perception statement) has the value 1 for respondents whose response to the statement suggests certain acceptance/readiness to pay informally and otherwise, the value of the indicator is 0. Similarly, the second indicator per perception statement takes a value 1 for respondents whose response to the statement suggests uncertainty about making informal payment (i.e. 'somewhat' or 'do not know' response) and otherwise, the value of the indicator is 0. Respondents, whose responses to a given statement suggest a certain resistance to informal payments, are taken as

base categories in the regression analysis (see Table 2). The correlation between the independent variables included in the analysis is weak (correlation coefficient < 0.6) or insignificant ($P > 0.05$).

In addition to this, we carry out a second regression analysis using the same set of independent variables, but with a different binary dependent variable whether any of the respondents in the sample has ever made informal payments (either in cash or as gifts in-kind) assuming that each respondent has ever used health care (e.g. having at least one visit to a physician – GP or specialist). We also carry out linear regression analysis to examine variations in the size of informal patient payments made by an individual during the preceding 12 months.

Results

The response rate varies from 38 to 42% in Poland and Ukraine, respectively, about 55% in Romania and Lithuania, till 67 and 76% in Bulgaria and Hungary, respectively. The initial analysis of the samples prior to our study indicated that the sample characteristics, related to

age, gender, place of residence and household income, were comparable to the countries' national statistics. This suggests that irrespective of the non-response, the procedure applied for the selection of respondents (namely replacing the respondents who refused or were unable to participate), resulted in samples that are representative for the countries.

Experience with informal patient payments

Our preliminary analysis shows that the level of health-care consumption is the lowest in Ukraine and Romania (59 and 65% of respondents are health-care users, respectively). This number is the highest for Hungary, where four of five respondents report consumption of out- and in-patient services during the preceding 12 month. For other countries, about 75% of respondents report using health-care services (data not shown).

Despite the comparatively low number of Romanian and Ukrainian respondents, who used out- and in-patient services during the preceding 12 months, the share of health-care users who report informal patient payments (see Table 1) is the highest in these two

Table 1 Experience with informal patient payments reported in the six countries

		Bulgaria	Hungary	Lithuania	Poland	Romania	Ukrainian	Total
Sample size		<i>n</i> = 1003	<i>n</i> = 1037	<i>n</i> = 1012	<i>n</i> = 1000	<i>n</i> = 1000	<i>n</i> = 1000	<i>n</i> = 6052
1. Paid informally during the preceding 12 months [number of users]	No (<i>n</i>)	650	625	551	667	414	341	3248
	Yes (<i>n</i>)	90	206	185	61	218	237	997
	Yes (Valid %)	12.2	24.8	25.2	8.4	34.5	41.0	23.5
2. Amount of informal payments by those who paid during the preceding 12 months [euro]	Median	12.8	53.0	43.5	43.7	36.6	15.3	30.6
	Mean	73.9	112.4	120.3	80.6	119.0	62.6	98.0
	St.Dev.	203.7	182.9	200.6	93.6	348.7	130.9	223.0
5. Have ever paid informally (either cash or in-kind gift) [number of respondents]	No (<i>n</i>)	487	326	340	608	286	296	2343
	Yes (<i>n</i>)	486	719	669	356	708	700	3630
	Yes (Valid %)	49.9	68.6	66.3	36.9	71.2	70.3	60.8
6. Have ever been personally asked to pay informally [number of respondents]	No (<i>n</i>)	806	969	887	843	774	689	4968
	Yes (<i>n</i>)	166	68	122	130	215	303	1004
	Yes (Valid %)	17.1	6.6	12.1	13.4	21.7	30.5	16.8
7. Knows where to complain if asked to pay informally [number of respondents]	No (<i>n</i>)	650	665	757	635	734	787	4228
	Yes (<i>n</i>)	353	372	255	365	266	213	1824
	Yes (Valid %)	35.2	36.1	25.2	36.5	26.6	21.3	30.1

samples (34.5 and 41% of health-care users, with a total median payment of 36.6 and 15.3 euro per health-care user per year, respectively). This share is the lowest for Poland (8.4%) and Bulgaria (12.2%). In case of Bulgaria, the total median is also the lowest (12.8 euro informal payments per health-care user per year) compared to the other countries. However, for Poland, the total median is one of the highest (43.7 euro informal payments per health-care user per year). About 25% of all health-care users in Hungary and Lithuania report to have made informal payments during the preceding 12 months, with a median of 53 and 43.5 euro informal payments per health-care user per year, respectively. It should be noted, however, that the median values are not adjusted for the variation in purchasing power across countries. Also, within the countries, the median values hide a wide variation as the mean values for all countries are much higher than the median values. For some countries, the standard deviations are much larger than the mean values (especially for Bulgaria, Romania and Ukraine).

For validation purposes, we include a second recall period by asking all respondents whether they have ever given either cash or in-kind gifts

to medical staff (assuming that each respondent has ever used health care). Hence, when the recall period is extended to infinity, the cross-country pattern of respondents reporting informal payments (either cash payments or in-kind gifts) virtually does not change (see Table 1). Specifically, Ukrainians and Romanians considerably more often report being ever requested to pay informally (30.5 and 21.7%, respectively) in contrast to the lowest rate of requests noted in Hungary (6.6%).

In all six countries, a major part of the sample does not know where/how to complain in case informal payments are requested by the providers (ranging from 78.7% in Ukraine to 63.5% in Poland).

Perceptions about making informal patient payments

Table 2 presents the data on respondents' perceptions about making informal patient payments measured through their responses to the five perception statements included in our analysis. The Bulgarian and Polish samples reflect rather similar perceptions about paying informally. For instance, three per four respondents in these countries do not feel uncomfortable to

Table 2 Behaviour statements regarding informal payments (all respondents)

		Bulgaria	Hungary	Lithuania	Poland	Romania	Ukrainian	Total
Sample size		<i>n</i> = 1003	<i>n</i> = 1037	<i>n</i> = 1012	<i>n</i> = 1000	<i>n</i> = 1000	<i>n</i> = 1000	<i>n</i> = 6052
		Valid %	Valid %	Valid %	Valid %	Valid %	Valid %	Valid %
Feels uncomfortable to leave without giving gifts	No [base]	77.9	69.6	61.0	73.2	52.3	56.3	65.1
	Yes	6.8	14.4	16.4	12.6	22.1	14.7	14.5
	Uncertain	15.3	15.7	22.6	14.2	25.6	29.0	20.4
Would recognize the hint for informal payments	No [base]	5.4	14.8	16.0	21.8	13.1	10.5	13.6
	Yes	64.7	62.0	63.5	46.7	65.2	57.5	60.6
	Uncertain	29.9	23.2	20.5	31.4	21.7	32.0	26.4
Would refuse to pay informally if asked to make such payments	No	11.7	25.9	28.0	14.7	34.6	41.1	26.0
	Yes [base]	54.8	45.8	35.1	57.8	35.8	26.6	42.6
	Uncertain	33.5	28.3	37.0	27.5	29.8	32.2	31.4
Prefers to use private health care because of the informal payments	No	17.4	42.9	24.1	21.3	20.0	32.7	26.1
	Yes [base]	50.7	34.1	51.9	50.4	49.4	34.0	45.0
	Uncertain	31.9	23.0	26.7	28.3	30.6	33.3	28.9
Ready to pay informally in case of serious health problems	No	15.8	18.5	10.1	17.3	11.7	12.4	14.3
	Yes [base]	42.7	50.5	56.0	38.6	60.4	54.9	50.5
	Uncertain	41.5	31.0	33.9	44.0	27.9	32.7	35.1

leave the physicians' office without any gratuity (the highest rate when compared to the other countries). Each second respondent in these countries states that he/she prefers to use private health-care services instead of making informal payments for such services provided by public facilities (the same rate as in Lithuania and Romania). Also, more than two per four respondents in Bulgaria and Poland would refuse to pay informally when requested (the highest rate for all countries), and less than two per four respondents are willing to pay informally if they have serious health problems (the lowest rate for all countries). However, in Bulgaria, 64.7% of respondents believe that they are able to recognize the hint for informal payments, while fewer Polish respondents (46.7%) are experienced in recognizing hints. The rest of the countries do not demonstrate such similarities in respondents' perceptions. It should be noted, however, that 41.1% of the respondents in Ukraine and 25–35% in the other three countries (Hungary, Lithuania and Romania) would not refuse to pay informally if asked. Also, 32.7% of Ukrainians and 42.9% of Hungarians (the highest rate among countries) have chosen the 'no' answer on preferences for paying officially in the private health-care sector instead of making informal payments in the public one.

Results of the regression analysis

Table 3 shows the results of the binary regression carried out on data for respondents who report that they used out- and/or in-patient services during the preceding 12 months. We divide all respondents into respondents who used services and paid informally (coded with 1) and respondents who used services, but did not pay informally (coded with 0). As explained in the method section, we use two groups of independent variables: socio-demographic characteristics as well as perception indicators.

To validate the above results, we also carry out binary regression analysis using an infinite recall period (i.e. ever making informal pay-

ments). We include in this analysis all respondents assuming that every person has ever used health-care services. The results of this regression are also presented in Table 3.

Based on the models for the 12-months recall period, we find some consistent patterns across countries. In particular, those who feel uncomfortable to leave without a gratitude payment and who feel unable to refuse to pay informally if asked (certain and uncertain responses to both perception statements) more often report making informal payments during the preceding 12 months than the rest of the respondents. However, the statistical significance of the corresponding coefficients varies among the countries, which indicates differences in the explanatory power of these perceptions between countries.

Only for Hungary and Poland, we find that respondents who are ready to pay as much as they have when they have serious health problems, significantly more often report paying informally for health-care services compared to the rest of the sample. Also, only for Lithuania and Romania, we find a significant association of the ability to recognize the hint for an informal payment and actually paying informally. Specifically, those who recognize the hint, more often make informal payments.

The direction of the regression coefficient (when significant) is not consistent across countries in case of the statement that indicates preferences to consume private services to avoid informal payment for public ones. Certain negative and/or uncertain responses to this statement are associated with a significantly higher probability of being an informal payer in Hungary and Romania, but with a significantly lower probability of being informal payer in Bulgaria and Ukraine.

The models for the infinite recall period suggest similar results. However, more significant relations are observed for these models than for models for the 12-months recall period. For example, in the infinite recall period models all countries show significant associations with the ability to recognize a hint. Also, the preference for private health-care services as a

Table 3 Binary logistic regression for informal patient payments experience (0 = did not pay informally, 1 = paid informally)

	Recall period: preceding 12 months						Recall period: infinity					
	Bulgaria	Hungary	Lithuania	Poland	Romania	Ukraine	Bulgaria	Hungary	Lithuania	Poland	Romania	Ukraine
Feeling uncomfortable to leave without giving a gift [1 – Yes]												
SE	0.405	0.248	0.242	0.471	0.247	0.282	0.314	0.268	0.273	0.296	0.239	0.380
Feeling uncomfortable to leave without giving a gift [1 – Uncertain]												
SE	0.782*	1.124*	0.724*	1.179*	0.756*	0.420**	1.302*	1.120*	0.846*	1.613*	1.325*	1.331*
Is able to recognize the hint [1 – Yes]												
SE	0.299	0.245	0.230	0.401	0.230	0.223	0.241	0.259	0.201	0.284	0.224	0.221
Is able to recognize the hint [1 – Uncertain]												
SE	0.694	0.319	0.306	0.494	0.333	0.332	0.341	0.213	0.215	0.248	0.231	0.272
Ready to refuse to pay if asked [1 – No]												
SE	0.707	0.365	0.360	0.542	0.383	0.358	0.353	0.241	0.251	0.262	0.271	0.281
Ready to refuse to pay if asked [1 – Uncertain]												
SE	1.814*	1.293*	1.088*	2.105*	0.492*	1.051*	0.964*	0.615*	0.993**	1.857*	1.116*	2.057*
Private services preferences as response to IPP [1 – No]												
SE	0.385	0.245	0.240	0.415	0.239	0.256	0.264	0.207	0.207	0.268	0.210	0.235
Private services preferences as response to IPP [1 – Uncertain]												
SE	1.142*	0.813*	0.195	1.026*	0.006	0.673**	0.946*	0.546*	0.697*	0.765*	0.684*	1.048*
Private services preferences as response to IPP [1 – No]												
SE	0.304	0.245	0.245	0.437	0.253	0.270	0.173	0.196	0.177	0.208	0.202	0.218
Private services preferences as response to IPP [1 – Uncertain]												
SE	-0.580	0.520*	0.256	-0.137	0.528**	-0.422**	-0.148	-0.235	-0.368**	-0.937*	0.505*	-0.684*
Ready to pay the last penny if serious health problem occurs [1 – Yes]												
SE	0.401	0.245	0.249	0.474	0.290	0.249	0.234	0.192	0.210	0.253	0.256	0.233
Ready to pay the last penny if serious health problem occurs [1 – Uncertain]												
SE	-0.538**	0.115	0.259	0.533	0.408**	-0.194	-0.150	-0.244	-0.111	-0.787*	0.244	-0.712*
Ready to pay the last penny if serious health problem occurs [1 – Yes]												
SE	0.313	0.263	0.231	0.385	0.233	0.243	0.187	0.217	0.193	0.224	0.210	0.230
Ready to pay the last penny if serious health problem occurs [1 – Uncertain]												
SE	-0.069	1.528*	-0.051	1.664*	-0.056	0.023	0.555*	0.887*	-0.257	0.713*	0.293	0.344
Ready to pay the last penny if serious health problem occurs [1 – Yes]												
SE	0.464	0.326	0.332	0.672	0.328	0.331	0.248	0.217	0.289	0.267	0.288	0.268
Ready to pay the last penny if serious health problem occurs [1 – Uncertain]												
SE	-0.064	0.793*	-0.187	1.138**	-0.063	-0.077	0.337	0.427**	-0.501**	0.362	-0.122	0.090

Table 3. Continued

	Recall period: preceding 12 months					Recall period: Infinity						
	Bulgaria	Hungary	Lithuania	Poland	Romania	Ukraine	Bulgaria	Hungary	Lithuania	Poland	Romania	Ukraine
Ready to pay the last penny if serious health problem occurs [1 – Uncertain]												
SE	0.452	0.358	0.345	0.672	0.349	0.343	0.237	0.218	0.292	0.258	0.301	0.274
Age [Years]	-0.009	0.006	-0.005	-0.020	-0.020*	-0.005	0.010	0.012*	0.013*	0.033*	-0.002	0.005
SE	0.011	0.006	0.008	0.013	0.008	0.007	0.006	0.005	0.006	0.007	0.006	0.006
Gender [0 – Male; 1 – Female]	0.551*	0.393**	0.444*	-0.346	-0.287	-0.186	0.229	0.553*	0.610*	0.277	0.297**	0.542*
SE	0.265	0.201	0.205	0.336	0.199	0.213	0.152	0.155	0.157	0.175	0.169	0.185
Residence ^a	-0.098	0.051	-0.164*	0.118	0.280*	-0.033	0.011	-0.186*	0.031	0.118	0.181*	0.195*
SE	0.114	0.079	0.077	0.174	0.086	0.085	0.068	0.059	0.063	0.085	0.083	0.080
Education ^b	-0.186	0.132	0.064	0.053	-0.079	-0.097	0.093	0.191*	0.162*	0.295*	0.145	0.091
SE	0.138	0.085	0.097	0.173	0.104	0.100	0.082	0.073	0.082	0.095	0.091	0.094
Health problems [0 – No; 1 – One or more health problems]	0.952*	1.110*	0.706*	1.834*	0.816*	0.755*	0.885*	1.002*	0.694*	0.947*	0.338**	0.692*
SE	0.337	0.222	0.225	0.435	0.233	0.224	0.182	0.177	0.172	0.207	0.199	0.208
Number of ADULTS in household	-0.035	-0.223	-0.049	0.049	-0.246**	0.000	0.031	-0.133	-0.157	-0.130	-0.108	-0.011
SE	0.157	0.124	0.128	0.172	0.133	0.121	0.086	0.095	0.102	0.091	0.103	0.102
Number of children in household	-0.100	-0.076	0.034	0.221	0.139	0.121	0.121	0.059	0.218*	0.236*	0.090	0.116
SE	0.200	0.116	0.119	0.215	0.128	0.130	0.108	0.097	0.096	0.098	0.095	0.117
Income ^c	0.061	0.074**	0.061*	-0.094	0.067**	-0.026	0.067*	0.034	0.101*	0.026	0.073*	0.082*
SE	0.053	0.043	0.031	0.072	0.038	0.044	0.031	0.030	0.025	0.037	0.030	0.040
Constant	-2.882*	-5.659*	-3.334*	-4.661*	-1.613*	-0.781*	-3.219*	-2.153*	-2.935*	-5.166*	-2.187**	-2.902
SE	1.155	0.749	0.747	1.264	0.822	0.796	0.626	0.499	0.587	0.655	0.675	0.683
Number of observations	667	803	720	638	586	537	880	997	980	832	915	927
The Nagelkerke R ²	0.181	0.344	0.198	0.360	0.189	0.185	0.240	0.270	0.280	0.360	0.255	0.379

The coding of the questions is: ^a4, Capital; 3, Big city; 2, City; 1, Town; 0, Village; ^bFrom 0 – uncompleted primary education to 5 – Tertiary education; ^cFrom 0 – less than 50 euro till 17 – more than 3000 Euro.

* $P < 0.05$; ** $P \leq 0.10$.

Statistically significant associations are shown in bold type.

response to informal payments appears to be significant in case of Poland and Lithuania. When the indicator of uncertain behavioural perception related to the willingness to pay the last penny is examined, we observe a negative significant relation in Lithuania and positive relations in other countries.

In addition, as shown in Table 3, some socio-demographic features show consistent effects. Thus, being female (in Bulgaria, Hungary and Lithuania) and having a chronic or major health problem (in all countries and both recall periods), as well as belonging to a household with a higher income (in case of Hungary, Lithuania and Romania) and fewer family members (most countries) increases the probability of reporting informal payments during the preceding 12 months. However, being older and higher educated in Hungary, Lithuania and Poland, also belonging to a household with higher income (Bulgaria, Lithuania, Romania and Ukraine) and being woman (Hungary, Lithuania, Romania and Ukraine) increases the probability of a positive answer on 'have you ever paid informally' questions.

Although we apply linear regression to analyse the variation in the size of informal patient payments during the preceding 12 months, we do not present these results because of the small number of observations for some countries (namely Bulgaria and Poland) and because of the few significant associations for the other countries. Thus, our data do not show any cross-country pattern regarding the relation between the size of informal payments on the one side, and behavioural perceptions and socio-demographic variables on the other side. However, education (in Lithuania) and income variables (in Romania and Ukraine) have a positive significant association with the size of informal payment.

Discussion

Although informal patient payments exist in all countries included in the survey, the share of health-care users who pay informally as well as the size of the informal payments differs among

the countries. This finding confirms the results of previous research^{2,3} that informal patient payments in Central and Eastern European countries are characterized by huge variability (irrespective of the recall period). In our study, Bulgarians and Ukrainians report the lowest median values of informal payments per respondent per year (12.8 and 15.3, respectively), but we observe that three times smaller number of patients paid informally in Bulgaria than in Ukraine. Similarly, in Poland and Lithuania, this median value of annual informal payments is about 43 euro per respondent while Lithuanian health-care users are three times more likely to report making informal payments than those in Poland. The amounts of money paid informally per year by health-care users in all six countries are considerable, especially when compared to the minimum wage asserted in the countries.³³ The mean informal patient payments per respondent per year that we find in our study is equal to half monthly minimum wage in Bulgaria, Hungary, and Lithuania, and about one minimum wage in Ukraine and Romania. In contrast in Poland, the average payment is four times less than the minimum wage. Moreover, for each country, the median value is much lower than the corresponding mean value, which indicates a large disparity in informal patient payments within the countries as well. Nevertheless, the above comparison suggests that informal payments represent a considerable burden on households, especially for low-income households, and this necessitates the urgent attention of policymakers in these countries.

Most importantly, our results confirm the link between informal payments and health-care users' perceptions about making these payments. This link appears stronger than the link between informal payments and socio-demographic features. This suggests the importance of the awareness of health-care consumers' beliefs for policy-making irrespective of the socio-demographic group they belong to. Thus, resorting to informal patient payments seems a suitable behavioural pattern when socio-economic and political arrangements pre-

dispose informal exchange, when alternatives are not offered as a response to 'self-coping' strategies and when informal payments do not have a negative connotation. In particular, our findings differ from those reported about 10 years ago⁴ that informal patient payments were equally significant in Poland and Hungary, and widespread in Romania. We provide evidence on a much lower number of informal payers in Poland than in Hungary (while in Romania they remain widespread). Also, the difference between Bulgaria and Ukraine regarding the ability to refuse to pay informally when requested was not observed in previous research.¹⁶ In contrast, we find that at present Bulgarians feel more confident that they can refuse to pay informally than Ukrainians. This difference in results indicates that the prevalence and level of informal payments has changed during the years, as well as consumer perceptions related to informal payments.

Indeed, Golinowska³⁴ reports on a reduction of informal payments in Poland after public campaigns against such payments. These campaigns have taken place in addition to overall intensive fights with corruption that might have changed attitudes in the country. In Bulgaria, the current government elected in 2009 has also emphasized the need to fight corruption in all social spheres, including the informal payments for health care. This was extensively reflected in public debates and mass media, and might have well affected the attitudes of the Bulgarian population. At the same time, the country has one of the highest private expenditure on health in Europe (about 42.8% of the total health expenditure in 2007) most of which consists of out-of-pocket payments in both public and private health-care sector.³⁵ Thus, given the experience in Poland and Bulgaria, and the favourable results for these countries reported in this study, we can conclude that public campaigns and anti-corruption measures are important elements in dealing with informal payments in a country.

Indeed, anticorruption legislation is found to be an important element to reduce informal payments not only in the health-care sector,

but also in other sectors, for example education, police.^{36,37} Still, it is not the only measure that purifies the environment from bribes, this also depends on other factors, for example the degree of transparency in the system of taxes and income, as well as the government's ability to monitor the application of laws and regulations. Also, the punishment system, the rule of law, a well-designed execution of the law (anti-corruption agencies, mass media campaign) as well as the ability of the government to match fiscal space with the entitlement package can lead to positive effects with regard to the accessibility of public services. Across the Central and Eastern European countries, the government effectiveness in this direction has varied within last decade which is also reflected in updated regulations and implementation of country-specific policies.

Also, as shown by the Bulgarian experience, it is important to develop the private health-care sector. Private health-care services provide an alternative for those health-care consumers who prefer to escape informal extortions in public sector.³⁸ The descriptive data from our survey show that there is less inclination in Hungary and Ukraine to use private services as a response to informal payments. Moreover, the different directions of significant coefficients (related to this aspect of perceived behaviour) in the regression models seem to reflect private service availability and other peculiarities in a single country, for example for Hungary and Romania. Such diversity in associations in these and other countries can be explained by different levels of private sector development, the spread of corruption, lack of stability and transparency which do not facilitate investments and donations, in addition to the specificity of regulations, monitoring measures and ensuring quality mechanism applied in the countries.^{39,40} Overall, developed private markets create a competitive climate and this can bring improvements in public health-care service provision.^{39,41,42}

Meanwhile, thankfulness, 'just a habit' to pay informally^{10,43,44} and feeling uncomfortable are quite popular answers to the reason of

informal payment question. The later is shown by our results as well. This indicates the need of a deeper look in the situations that lead to informal patient payments to identify the real roots of these payments. In particular, it is necessary to recognize that it is not always the health-care user who chooses to bribe the physician. Informal payments can also be initiated by physicians. The ability of medical staff to press health-care consumers to pay informally is extensively discussed in previous studies^{8,17,21} This is also indicated by our results for Romania and Ukraine, which provide evidence that more health-care users are being requested to pay informally and more users make such payments compared to other countries. Furthermore, Romanian and Ukrainian health-care consumers are less likely to decline a physician's request for informal payments especially when compared to Poland and Bulgaria, but also to Hungary and Lithuania. From the users' perspective, the obedience to the requests of medical staff to pay informally can be due to expectations for better treatment but also due to the fear that the treatment can be denied.^{10,45} Consumers' inability to refuse to pay informally is conditioned not only on their individual values but also on external pressures (e.g. by low-paid medical staff, who in the absence of free patient choice, brings informal practices in patient–physician relation), the latter having a greater impact in resorting to unethical behaviour.^{16,43}

Salaries in the health-care sector of most of Central and Eastern European countries remain lower than in the industrial and other sectors.^{46,47} This makes health-care consumers obliged to pay extra to the physician, and at the same time gives an excuse to the medical staff to request informal payments. However, nowadays in some of these countries (e.g. Romania), salaries of medical staff are increasing with a consequent light decrease in the informal payments.⁴⁸ In addition, medical staff's disposition against accepting informal payments, cherished by an adequate working conditions and system of penalties, can also provide the desired effect (e.g. shifting from

informal to formal practices). When health-care providers do not request or give a hint for a gift by a 'nobody values my work' expression but receive adequate official remuneration, and remind health-care users who initiate informal payments, about the professional ethics,^{16,49} consumers can be discouraged to search for informal payment channels.

When compared to perceived behaviour statements, we find a lower relevance of socio-demographic characteristics in predicting whether a health-care user makes informal payments. Such irrelevance of typical characteristics was also identified in previous studies.^{4,6,7,20} Our findings emphasize the importance of incorporating perceived behaviour aspects in research on informal patient payments. In particular, the differences between the two groups of users should be studied at the individual perception level rather than in socio-demographic characteristics. It should be pointed out, however, that neither behaviour statements nor socio-demographic characteristics included in our analysis explain the variations in the total size of informal payments. An analysis of this issue would require collecting more detailed information on factors causing these payments, for example type of illness and treatment procedures.

The study has other limitations as well. Although we have used a reasonable recall period (one year) for our comparative study, we cannot exclude recall bias, especially in case of in-patient services. Second, we acknowledge a potential bias related to the sensitive nature of informal payments. To address these issues, we followed specific strategies when designing the research instrument as described above in the methods section. As a result, the share of those who agreed to participate in the survey, but refused to answer some of the questions on informal payments is not higher than 5%. This suggests that the questions asked are of a low sensitive nature for the respondents. There is also a potential bias related to providing socially desirable answers. The unwillingness to discuss experiences with informal patient payments is also an indicator of public's

consciousness of the negative connotation of corruption. Especially in Poland and Bulgaria, where informal payments are most often perceived as corruption, coupled with more intensive anticorruption campaigns in these countries,⁵⁰ researchers should be especially careful when interpreting the results as positive attitudes might be understated. However, in our study, the share of those who refused to answer the question is rather moderate in Poland. Apart from the mentioned limitations, a sample size of 1000 respondents has limited depth of cross-country analysis because of the low share of informal payers in Bulgaria and Poland. Thus, future research should account this small share in the sample size design.

Additionally, the comparison of two groups of respondents – the general population and health-care users – can identify factors contributing to the understanding of health-care service consumption related to beliefs on informal payments. We noticed cross-country differences in coefficient significance and in its explanatory power within two time periods (preceding 12 month and infinity). Possibly, those respondents who had negative experiences with health-care consumption and have less resistance towards paying informally (measured in undesirable perceptions), try to avoid visiting physicians. This also corresponds to under consumption in Ukraine and Romania as suggested by our results.⁵¹

As diversity in associations as well as differences in descriptive statistics have suggested, an universal solution applied to all countries will not work. Thus, a country-specific anti-informal patient payment strategy is a topical issue. In detail, we observe a high level of requested payments in Romania and Ukraine, indicating an urgent need for funding increase and efficiency as well as in medical ethics obedience. However, the Hungarian case present primarily users' initiated informal payments, so other direction of relevant measures can be suggested, such as developing options for better quality services as well as informational campaigns against informal payments. Although informal payments continue existing

in Poland, a good case of individual resistance to informal payments is present. Hence, public support of governmental actions, their effectiveness, fighting with corruption should be key strategies for the decrease of informal patient payments.

Conclusions

This study has focused on the importance of health-care consumers' perceptions about making informal patient payments in explaining actual informal payments. As expected, our analysis confirms that behavioural perceptions (readiness to pay informally) are strongly associated with actual behaviour (i.e. paying informally). The extension of the recall period does not change this conclusion. These findings are an indication of the theoretical and convergent validity of our results. Thus, for policymakers, it is highly important to focus on changing consumer perceptions about making informal payments to be able to deal with these payments on the consumer side. Hence, raising health-care consumer awareness about their right to health-care services with adequate quality and access with no informal charges or gratitude payments, as well as empowering the health-care user to object to paying informally and to discourage physicians to request/collect informal revenues are essential policy strategies for the elimination of informal patient payments.^{20,37,38} In this regard, it is essential to create a simple, easily accessible and effective system for filing complaints by health-care consumers that are asked to pay informally for health-care services, as well as to disseminate information about this system among the public at large. As suggested by our results, the latter is still lacking in the countries included in our study.

Hence, consumers' and providers' resistance against this type of behaviour has to be supported by multidimensional measures. Indeed, the development of a supportive environment is highly important in countries where health-care consumers try to avoid the formal channels associated with inadequate service (poor

access and/or quality due to underpaid personnel, lack of funds, or inefficient resource allocation) and choose to pay informally to obtain better services even though they resent such payments. In this regard, the improvement of health-care provision (its organization, transparency and efficiency) seems to be an important measure to restrict the need of informal payments. Governments should also assure continuous investments in the improvement of health-care quality and access to health-care services, as well as an adequate funding for the normal functioning of the public health-care system. For policymakers, it is important to realize that when informal patient payments are tolerated, they shift from deviant to normal behavioural practices and become exceedingly deep rooted and therefore hardly reducible practices.

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Appendix A Wording of the questions asked in the study

Consumption and expenditures on out-patient services

- Q.1 During the preceding 12 months, how many times did YOU PERSONALLY visit a physician or a physician visited you personally at your home, including any physician in both the public and private system? (Homeopaths and traditional healers who are not physicians, and also dentists are excluded.)
- Q.2 Considering all types of official and informal cash payments, and in-kind gifts, how much IN TOTAL did you spend (out-of-pocket) on these visits EXCLUDING payments for travelling, transportation by ambulance and pharmaceuticals?
- Q.3 How much of this amount approximately was for INFORMAL cash payments and in-kind gifts?

Consumption and expenditures on in-patient services

- Q.4 During the preceding 12 months, how many times were YOU hospitalized (placed in a hospital), including day surgeries or day treatments? (Re-hospitalization, i.e. repeated hospitalization for the same health problem, should be counted separately as a different hospitalization.)
- Q.5 Considering all types of official and informal cash payments, and in-kind gifts, how much IN TOTAL did you spend (out-of-pocket) on these hospitalizations EXCLUDING payments for travelling, transportation by ambulance and pharmaceuticals?
- Q.6 How much of this amount approximately was for INFORMAL cash payments and in-kind gifts?

Experience of ever giving informal patient payments in cash or in-kind gifts

- Q.7 Have you ever personally paid INFORMALLY IN CASH to physicians, medical staff or other personnel in health care facilities?
- Q.8 Have you ever personally given any GIFT IN KIND to physicians, medical staff or other personnel in health care facilities?

Perceived behavioural statements related to informal patient payments

Do the following statements apply to YOU PERSONALLY?

- Q.9 I will feel UNCOMFORTABLE if I leave the physician's office without a gratitude cash payment or gift in kind.
- Q.10 I would RECOGNISE the hint of physicians or medical staff for an informal cash payment or a gift in kind.
- Q.11 I will REFUSE to pay if a physician or medical staff ask me to pay informally for a medical service.
- Q.12 I will PREFER to use private medical services if I have to pay informally for public medical services.
- Q.13 If I have SERIOUS PROBLEMS with my health, I will be ready to pay as much as I have in order to get better medical services.
-