The Companion Pandemic to COVID-19: The Use of Informal Practices to Access Public Healthcare Services in the European Union

Adrian V. Horodnic1*, Colin C. Williams2 and Răzvan Ionuţ Drugă1,3

1Faculty of Medicine, Grigore T. Popa University of Medicine and Pharmacy, Iaşi, Romania, 2Management School, The University of Sheffield, Sheffield, United Kingdom, 3Faculty of Economics and Business Administration, Alexandru Ioan Cuza University of Iaşi, Iaşi, Romania

Objectives: The objective of this paper is to evaluate the use of informal payments and personal connections to gain preferential access to public health services during the COVID-19 pandemic and to propose effective policy measures for tackling this phenomenon.

Methods: Using data from 25,744 patients in the European Union, six different scenarios are analyzed in relation to making informal payments and/or relying on personal connections to access public healthcare services. To evaluate the propensity to engage in informal practices in healthcare, probit regressions with sample selection and predicted probabilities are used. Robustness checks are also performed to test the reliability of the findings.

Results: For each scenario, a statistically significant association is revealed between the propensity to make informal payments and/or rely on personal connections and the asymmetry between the formal rules and the patients’ personal norms and trust in public authorities.

Conclusion: To tackle informal practices in healthcare, policy measures are required to reduce the asymmetry between the formal rules and personal norms by raising trust in public authorities.

Keywords: COVID-19, informal payments, personal connections, healthcare access, asymmetry formal-informal institutions, trust in authorities

INTRODUCTION

The COVID-19 pandemic, together with the responses adopted by public authorities, have generated different types of behaviors. Unfortunately, one such behaviour has been engagement in corrupt actions [1]. One such corrupt informal practice used during this period has been informal payments, sometimes referred to as “under the table” payments [2], “out-of-pocket payments” [3] and “unofficial” payments [4]. Along with gifts, they differ from declared official payments in that they are not mediated by the state or brought to their attention [5]. Informal payments in the health sector are here defined as direct contributions made in cash or in kind by patients or others acting on their behalf, to health care providers for services that the patients are entitled to [6]. According to the
literature, there are three main reasons why informal payments are used. These are: “excessive red tape,” “to solve a problem” and “to do something that goes against legal codes” [5, p. 386]. They help solve access to health services.

Another corrupt informal practice has been for patients to use personal connections during the COVID-19 pandemic either to gain preferential access to services, benefit from a service superior to the classic ones [1] or to gain faster access to services, jumping the waiting list. Various terms are adopted in different countries to describe the system of using personal connections, including “dear brothers” in Finland and “ties” in the Balkans [7]. According to Transparency International, based on data collected in 2020, over the last year, 29% of instances when personal connections have been used relate to gaining preferential access to public clinics and hospitals [1].

Comparing these two types of informal practice, patients using personal connections to receive preferential access to health services is more easily accepted by the public [8]. Sometimes, moreover, the two practices are directly related in that a lack of personal connections can result in difficulties in making informal payments [9]. But both practices however create losers and winners among patients, affecting the allocation of public healthcare resources, reducing healthcare access and raising social equity issues [10]. Offering (preferential) treatment based on informal practices is made at the expense of medical services needed by other patients, often marginalised socio-economic groups [8,12–16]. When patients consider that the norm is to offer an informal payment, not having the financial resources to offer that payment may lead to the decision to postpone the visit to the healthcare professional, visit less specialized medical staff or even give-up healthcare services [11,17]. The situation is even worse when demand exceeds the available supply for healthcare services or when are service disruptions (like happened during the COVID-19 pandemic [13,19]). Therefore, due to their impact on health systems and patients, these informal practices are a core issue on the policy agendas of various international organizations, such as OECD [19], European Commission [20], World Health Organization [21] or Transparency International [11].

In the European Union during the COVID-19 pandemic, informal payments have been found to be more common in some countries more than others, and most common in Romania (where 22% of patients have used informal payments) and Bulgaria (19%), while the use of personal connections to gain preferential access to health services has been most common in Czechia (where 54% of patients have used personal connections), Hungary (41%) and Portugal (46%) [1]. Given that formal and informal practices are inextricably inter-linked [22], the high use of informal practices during the pandemic suggest that unless action is taken to stem their growth, in some countries the situation might be reached where informal practices will become the norm rather than an exception [23], and ever more patients will engage in such practices to gain access to health services [24].

To discourage informal practices, one method could be to deter the engagement of health services staff in such practices, using harsher penalties or sanctions (e.g., “naming and shaming”) [8]. Given the lack of effectiveness of this policy approach, an alternative policy approach has emerged in recent years grounded in institutional theory. This argues that all societies have both formal institutions (laws and regulations) and informal institutions (citizens norms and values). When there is asymmetry between these formal and informal institutions, informal payments emerge [25,26]. Indeed, in the field of informal practices, the role of socio-cultural factors such as the values at societal level has been previously documented in many studies [27–29]. According to these studies the informal payments are rooted in culture and evolved throughout the historical context [28]. Differences also exist between informal practices used in rural and urban areas. While in the rural space informal payments to the medical staff usually takes the form of provision of gifts, in the urban setting the phenomenon is more complex as it requires at least a loose connection (e.g., a friend of a friend) to put the patient in touch with the medical staff in order to be able to make an informal payment, which is mostly monetary [29,30]. Similarly, cultural differences between countries are identified in the literature of informality. For example, in post-communist societies informal practices are found as being more acceptable by the citizens [14,31]. In this context therefore, the policy approach is to reduce the asymmetry between the formal rules and the personal norms of staff and patients regarding the acceptability of informal practices [25,26]. This asymmetry mostly arises when there is a culture of gratitude (a custom of showing appreciation; informal practices being considered “legitimate” in the viewpoint of informal institutions) embedded in society [13] or when there is a lack of trust by citizens in the authorities [32]. The solution, therefore, is to bolster trust in public authorities [33], not least by providing high quality services and reducing perceptions of corruption in public service provision [34]. Indeed, the lack of trust in receiving high quality medical services in the event of not offering informal payments, based on rumours about inadequate treatments or on previous experience, represent a strong enough argument for a patient to make such informal payments [29,35]. For instance, it is plausible to assume that one can find acceptable and use informal practices to secure access to healthcare services for his child or parent in need of care that is not available (e.g., not meeting strict selective criteria (due to lack of funds) to access treatment). The root of the asymmetry (which makes informal practice acceptable) is the failure or imperfections of the formal institutions (e.g., lack of resources).

Based on this, we here test the following hypotheses related with institutional asymmetry thesis:

**H1**: Patients having personal norms and values in asymmetry with formal rules are more likely to resort to informal practices to access public healthcare services.

**H2**: Patients with low trust in public authorities are more likely to resort to informal practices to access public healthcare services.

**METHODS**

We here report the results of The Global Corruption Barometer (GCB)—European Union 2021 [1], which involved
TABLE 1 | Scenarios considered for informal practices in healthcare (Global Corruption Barometer—European Union, Europe, 2021).

| Scenarios | Use of personal connections to access public healthcare services | Use of informal payments to access public healthcare services |
|-----------|---------------------------------------------------------------|---------------------------------------------------------------|
|           | Once or twice or Few times/Often                             | Once or twice or Few times/Often                             |
| Scenario A | Yes | Yes |
| Scenario B | No | Yes |
| Scenario C | Yes | Yes |
| Scenario D | No | Yes |
| Scenario E | No | No |
| Scenario F | No | No |

To analyze H1 regarding the asymmetry between personal norms and the formal rules (i.e., institutional asymmetry), the acceptability of corrupt behavior is used, based on an attitudinal question about how “acceptable it is for the government to engage in corruption as long as it delivers good results.” High acceptability means high asymmetry level. To analyze H2 regarding trust in public authorities, a Trust in Public Authorities Index for each patient is constructed. This is based on patients trust in the national and local government. The index is normalized on a scale from 0 to 1, where 0 means low trust and 1 means high trust in public authorities.

To analyze H1 regarding the asymmetry between personal norms and the formal rules (i.e., institutional asymmetry), the acceptability of corrupt behavior is used, based on an attitudinal question about how “acceptable it is for the government to engage in corruption as long as it delivers good results.” High acceptability means high asymmetry level. To analyze H2 regarding trust in public authorities, a Trust in Public Authorities Index for each patient is constructed. This is based on patients trust in the national and local government. The index is normalized on a scale from 0 to 1, where 0 means low trust and 1 means high trust in public authorities.

In summary, from the analysis of the data, we can conclude that:

- The use of personal connections to access public healthcare services is widespread, especially in scenarios A, C, and E.
- The use of informal payments to access public healthcare services is more prevalent in scenarios A and C.
- The asymmetry between personal norms and formal rules is significant in both scenarios A and C.
- Trust in public authorities is high in scenarios A and C, indicating a low level of asymmetry.

These findings provide insights into the nature of informal practices in healthcare and their impact on the healthcare system. Further research could explore the underlying factors contributing to these practices and their consequences on healthcare outcomes.
cross regional variations in the use of informal practices in public healthcare services. With 35.1% of patients in East-Central Europe, 33.9% in Southern Europe, 27.9% in Western Europe and 18.6% in Nordic countries using at least one informal practice to access public healthcare services, the finding is that this is not some minor practice. Starting with those who used both informal connections and informal payments for accessing public healthcare services (scenario A), the prevalence is higher in East-Central Europe with 9.4% of those using healthcare services making use of both these informal practices, followed by Southern Europe, Western Europe and Nordic nations where only 2.1%, 1.8% and 0.6% respectively of those using healthcare services employed both informal practices.

Moving to those who use both types of informal practices to access healthcare services more often (Scenario B), suggesting that the use of informal practices is rather a norm for them and not an exceptional event happening once or twice, the result is that less than a half of respondents declaring using connections and informal payments to access healthcare services do so on a regular basis. The picture is the same as in the first scenario with a higher prevalence in East-Central Europe (3.5%) and lower prevalence in Southern Europe (1.4%), Western Europe (0.7%) and Nordic nations (0.3%). However, this is not the case when analyzing the use of personal connections for accessing public healthcare services. Starting with all those declaring using only their connections for accessing public healthcare services (Scenario C), the finding is that this practice is rather extensive with one in five or more of the healthcare users making use of their informal connections. The practice is more prevalent in Southern Europe (30.3% of patients), Western Europe (24.9%) and East-Central Europe (22.4%) and less prevalent in the Nordic nations where 17.9% of healthcare users declared that they have used personal connections to access public healthcare services. A similar regional ranking is observed when analyzing those who use on a more regular basis the informal connections to access the public healthcare services (Scenario D). Finally, moving to those who used only informal payment to access public healthcare services, the discrepancies between regions and countries are lower. However, the practice is more prevalent in East-Central Europe (3.8%) and not existing at all in the Nordic countries (Scenario E). This is an interesting result and shows that all Nordic nations as well as

**TABLE 2 | Personal connections and informal payments by patients for accessing public healthcare services: by country and scenario considered (%; N = 25,774; Global Corruption Barometer—European Union, Europe, 2021).**

| Scenario | N | TIP | Scenario A | Scenario B | Scenario C | Scenario D | Scenario E | Scenario F |
|----------|---|-----|------------|------------|------------|------------|------------|------------|
|          |   |     | PCH and IPH | PCH and IPH (frequently) | PCH | PCH (frequently) | IPH | IPH (frequently) |
| East-Central Europe | 10,859 | 35.1 | 9.4 | 3.5 | 22.4 | 10.4 | 3.8 | 1.3 |
| Romania | 1937 | 43.4 | 14.9 | 7.8 | 21.1 | 9.8 | 6.7 | 4.1 |
| Bulgaria | 1,585 | 38.2 | 13.6 | 6.0 | 18.6 | 9.0 | 5.5 | 2.1 |
| Hungary | 633 | 47.7 | 12.2 | 5.7 | 28.8 | 13.4 | 6.3 | 1.5 |
| Lithuania | 716 | 33.0 | 11.3 | 5.0 | 13.8 | 7.6 | 7.6 | 2.7 |
| Croatia | 631 | 38.4 | 11.3 | 5.7 | 24.1 | 14.0 | 3.6 | 0.3 |
| Czechia | 615 | 56.1 | 8.5 | 1.9 | 45.8 | 19.3 | 1.8 | 0.7 |
| Poland | 1,534 | 39.2 | 7.4 | 2.7 | 28.9 | 15.0 | 2.4 | 1.0 |
| Slovakia | 1,336 | 26.4 | 6.5 | 1.9 | 16.5 | 7.7 | 2.9 | 0.7 |
| Latvia | 543 | 34.3 | 6.1 | 2.3 | 23.7 | 10.4 | 3.8 | 2.3 |
| Slovenia | 623 | 19.7 | 2.8 | 0.5 | 15.2 | 3.6 | 1.7 | 0.2 |
| Estonia | 706 | 12.9 | 1.3 | 0.5 | 10.7 | 4.5 | 0.7 | 0.3 |
| Southern Europe | 4,885 | 33.9 | 2.1 | 1.4 | 30.3 | 17.9 | 0.5 | 0.2 |
| Greece | 652 | 32.4 | 8.3 | 3.7 | 21.9 | 12.2 | 2.0 | 0.9 |
| Malta | 355 | 31.3 | 3.6 | 0.8 | 27.2 | 16.4 | 0.0 | 0.0 |
| Cyprus | 278 | 27.1 | 3.1 | 1.5 | 23.9 | 8.9 | 0.2 | 0.0 |
| Italy | 1,029 | 29.0 | 2.4 | 1.7 | 26.1 | 18.3 | 0.4 | 0.1 |
| Portugal | 816 | 43.9 | 1.5 | 1.0 | 41.9 | 25.7 | 0.5 | 0.0 |
| Spain | 1755 | 35.6 | 1.0 | 0.5 | 34.4 | 21.1 | 0.2 | 0.1 |
| Western Europe | 7,672 | 27.9 | 1.8 | 0.7 | 24.9 | 11.0 | 0.7 | 0.1 |
| Belgium | 564 | 33.5 | 5.4 | 2.3 | 26.3 | 13.7 | 1.8 | 0.2 |
| Austria | 463 | 37.9 | 4.8 | 1.4 | 31.4 | 11.7 | 1.2 | 0.0 |
| France | 2,115 | 37.4 | 1.7 | 0.5 | 34.9 | 18.0 | 0.8 | 0.2 |
| Germany | 2,784 | 18.2 | 1.3 | 0.2 | 15.8 | 6.2 | 0.6 | 0.1 |
| Luxembourg | 359 | 28.0 | 0.9 | 0.4 | 27.1 | 10.0 | 0.0 | 0.0 |
| Ireland | 619 | 24.0 | 0.7 | 0.2 | 22.1 | 8.1 | 0.8 | 0.1 |
| Netherlands | 768 | 18.1 | 0.6 | 0.2 | 17.5 | 9.7 | 0.0 | 0.0 |
| Nordic Nations | 2,388 | 18.6 | 0.6 | 0.3 | 17.9 | 7.9 | 0.0 | 0.0 |
| Denmark | 752 | 19.3 | 0.8 | 0.5 | 18.5 | 7.5 | 0.0 | 0.0 |
| Finland | 816 | 20.7 | 0.5 | 0.3 | 20.0 | 9.0 | 0.0 | 0.0 |
| Sweden | 790 | 16.1 | 0.5 | 0.0 | 15.6 | 7.3 | 0.0 | 0.0 |

Notes: N, number of patients surveyed; TIP, total informal practices (personal connections or informal payments); PCH, personal connections in healthcare; IPH, informal payments in healthcare; figures computed with survey weighting scheme; scenario estimates may not add to total informal practices (TIP) due to rounding.

Source: author’s calculations based on data from 2nd (2021) Global Corruption Barometer (GCB)—EU [1].

Int J Public Health | Owned by SSPH+ | Published by Frontiers October 2022 | Volume 67 | Article 1604405
in some of the countries from Western and Southern Europe (Malta, Luxembourg and the Netherlands) patients do not use solely informal payments. They only make informal payments simultaneously with using personal connections as Scenario A displayed. As such, informal payments in these countries occur only when they trust the person who made the link between the patient and the healthcare provider. A similar picture is found when investigating those who only used informal payments in order to access public healthcare services, but did so on a more regular basis (Scenario F).

Starting to investigate the link between the informal practices used for accessing public healthcare services and the level of asymmetry between the formal and informal institutions as well as the trust in public authorities, Table 3 display the prevalence of these practices by the level of institutional asymmetry and the self-assessed level of trust in public authorities. The finding is that for all the analyzed scenarios, the use of informal practices in healthcare is higher with a high level of institutional asymmetry and a lower level of trust in public authorities.

Analyzing the results of the descriptive statistics, the finding therefore, is that informal practices exist across all European member states although with a different prevalence, and tend to be more common with higher institutional asymmetry and lower trust in public authorities. To explore whether these findings remain significant when other control variables are included in the analysis, Table 4 displays the results of a probit regression with sample selection. Indeed, the estimates of probit equations for the analysed scenarios would be inconsistent if ignoring the selection into healthcare user status, as the results of the likelihood ratio test of independent equations reveal. As the selection equations shows, there is a positive significant association between the education, age and residency area and healthcare services use. Older individuals, those more educated as well as those living in small- or middle-sized towns are more likely to use healthcare services.

Having explained the importance of considering the selection issue, the analysis now turns to the analysis of the results of the scenarios related to the informal practices used for accessing public healthcare services.

Starting with those who used both personal connections and informal payments (Scenario A), the finding is that women are more likely than men to use these type of practices as well as younger people. Similarly, those more educated make use of informal practices more than those less educated. Meanwhile, those retired, those not working and homemakers are more likely to use informal practices for accessing public healthcare services than those employed. Those with financial difficulties are more likely to use informal practices and so too are those living in towns compared with those living rural areas or villages.

As the Hypothesis 1 asserted, the results show that indeed, those with a medium or high asymmetry level are more likely to use informal practices to access public healthcare services than those with a low asymmetry level, confirming this hypothesis. Similarly, Hypothesis 2 is confirmed, those with a higher level of trust in public authorities are less likely to employ such informal practices than those with a higher level of trust in public authorities (Scenario A, Model 1). Turning to those who use the two informal practices for accessing public healthcare services on a regular basis (i.e., they do so frequently and not only once or twice as an exceptional event), broadly the same findings are identified, except the fact that gender and occupation do not have a significant association anymore. However, the role of the institutional asymmetry and of trust in public authorities remains unchanged, confirming the Hypothesis 1 and Hypothesis 2 in Scenario B (Model 2).

Moving to those who use personal connections but not informal payments (Model 3, Scenario C), the results show that youngsters are more likely to use their connections than other older groups and so too are the students compared with those in employment and those with financial difficulties compared with those affording to buy what they want. This indicate that those with limited financial possibilities as students or those struggling financially use rather their connections alone and do not afford informal payments in additions. Meanwhile, those living in large towns are less likely to use their connections to access public healthcare services. When investigating the link between the prevalence of using connections to access public healthcare services and the level of asymmetry between formal

| Scenarios | PCH and IPH | PCH and IPH (Frequently) | PCH (Frequently) | IPH | IPH (Frequently) |
|-----------|-------------|--------------------------|------------------|-----|------------------|
| Low asymmetry level | 3.8 | 1.5 | 23.7 | 11.8 | 1.4 | 0.5 |
| Medium asymmetry level | 5.3 | 2.1 | 24.3 | 11.8 | 2.4 | 0.8 |
| High asymmetry level | 8.4 | 3.8 | 26.6 | 13.3 | 3.0 | 1.2 |
| Trust in Public Authorities Indexa | | | | | |
| Below mean | 6.5 | 2.8 | 26.8 | 13.5 | 2.2 | 0.8 |
| Above mean | 2.2 | 0.8 | 21.2 | 10.0 | 1.2 | 0.3 |

aHigh asymmetry = personal norms, values not in accordance with formal rules.

Notes: PCH, personal connections in healthcare; IPH, informal payments in healthcare.

Source: author’s calculations based on data from 2nd (2021) Global Corruption Barometer (GCB)—EU [1].
TABLE 4 | Probit regression (with sample selection) of the propensity to engage in informal practices in healthcare (personal connections and informal payments by patients) in Europe: by scenario (Global Corruption Barometer—European Union, Europe, 2021).

|                      | Model 1                      | Model 2                      | Model 3                      | Model 4                      |
|----------------------|------------------------------|------------------------------|------------------------------|------------------------------|
|                      | Scenario A                   | Scenario B                   | Scenario C                   | Scenario D                   |
|                      | PCH and IPH (total)          | PCH and IPH (frequently)     | PCH (total)                  | PCH (frequently)             |
| PCH and IPH          |                              |                              |                              |                              |
| Control Variables    |                              |                              |                              |                              |
| Gender (R: Male)     | 0.065** (0.027)              | 0.021 (0.037)                | 0.018 (0.018)                | 0.047** (0.020)              |
| Female               | -0.009*** (0.001)            | -0.007*** (0.002)            | -0.006*** (0.001)            | -0.006*** (0.001)            |
| Education (R: Primary, Secondary) |                          |                              |                              |                              |
| Tertiary             | 0.219*** (0.029)             | 0.163*** (0.040)             | -0.020 (0.020)               | -0.059*** (0.023)            |
| Occupation (R: Employed) |                          |                              |                              |                              |
| Not working, Homemaker | -0.115** (0.046)           | -0.119* (0.063)              | 0.031 (0.031)                | 0.058* (0.035)               |
| Retired              | -0.099** (0.047)             | -0.103 (0.064)               | 0.011 (0.029)                | 0.036 (0.033)                |
| Student              | -0.030 (0.071)               | -0.001 (0.098)               | 0.115** (0.050)              | 0.064 (0.058)                |
| Household income (R: Enough to buy what wanted) |                          |                              |                              |                              |
| Enough to buy what is needed | 0.130*** (0.032)          | 0.101** (0.048)              | 0.067*** (0.020)             | 0.081*** (0.023)             |
| Manage with difficulties | 0.252*** (0.040)          | 0.257*** (0.054)             | 0.110*** (0.028)             | 0.133*** (0.031)             |
| Not enough to buy what is needed | 0.298*** (0.047)       | 0.300*** (0.063)             | 0.081** (0.035)              | 0.120*** (0.039)             |
| Residency area (R: Rural area or village) |                          |                              |                              |                              |
| Small or middle-sized town | 0.098*** (0.035)         | 0.090* (0.047)               | 0.015 (0.022)                | 0.031 (0.025)                |
| Large town           | 0.115*** (0.035)             | 0.094** (0.048)              | -0.041* (0.023)              | -0.029 (0.027)               |
| Institutional Asymmetry Thesis |                        |                              |                              |                              |
| Asymmetry formal-informal institutions (R: Low asymmetry level) |                          |                              |                              |                              |
| Medium asymmetry level | 0.170*** (0.047)          | 0.197*** (0.064)             | 0.037 (0.035)                | 0.021 (0.040)                |
| High asymmetry level | 0.351*** (0.032)            | 0.374*** (0.043)             | 0.125** (0.025)              | 0.104*** (0.028)             |
| Trust in Public Authorities Index | -0.988*** (0.056)       | -1.087*** (0.076)            | -0.456*** (0.038)            | -0.511*** (0.043)            |
| Constant             | -1.217*** (0.071)           | -1.621*** (0.097)            | 0.022 (0.068)                | -0.180*** (0.077)            |
| HU                   |                              |                              |                              |                              |
| Age (exact age)      | 0.002*** (0.001)             | 0.002*** (0.001)             | 0.001 (0.001)                | 0.002*** (0.001)             |
| Education (R: Primary, Secondary) |                          |                              |                              |                              |
| Tertiary             | 0.208*** (0.015)             | 0.203*** (0.015)             | 0.191*** (0.014)             | 0.193*** (0.015)             |
| Residency area (R: Rural area or village) |                          |                              |                              |                              |
| Small or middle-sized town | 0.036* (0.017)          | 0.030* (0.018)               | 0.033** (0.016)              | 0.035* (0.017)               |
| Large town           | -0.016 (0.018)               | -0.023 (0.018)               | -0.029* (0.017)              | -0.026 (0.017)               |
| European Region (R: East-Central Europe) |                        |                              |                              |                              |
| Western Europe       | 0.041** (0.016)             | 0.060*** (0.016)             | 0.060*** (0.016)             | 0.057*** (0.016)             |
| Southern Europe      | 0.338*** (0.020)             | 0.350*** (0.021)             | 0.406*** (0.019)             | 0.428*** (0.019)             |
| Nordic Nations       | 0.738*** (0.030)             | 0.762*** (0.031)             | 0.690*** (0.030)             | 0.687*** (0.031)             |
| Constant             | -0.152*** (0.027)            | -0.218*** (0.028)            | 0.053* (0.025)               | -0.093*** (0.028)            |
| Observations         | 32,857                       | 31,904                       | 37,796                       | 34,831                       |
| Censored             | 14,642                       | 14,642                       | 14,642                       | 14,642                       |
| Uncensored           | 18,015                       | 17,262                       | 23,144                       | 20,189                       |
| χ²                   | 793.2                        | 444.2                        | 470.3                        | 373.4                        |
| p>                   | 0.000                        | 0.000                        | 0.000                        | 0.000                        |
| LR test of indep. eqns. (rho = 0): p> | 0.000                        | 0.000                        | 0.000                        | 0.000                        |

Notes: Patients who used a specific informal practice vs. patients who never used that informal practice; Significant at *p < 0.1, **p < 0.05, ***p < 0.01; Standard errors displayed in parentheses; Coefficients compared to the reference category (R) in brackets; 1) Need to borrow/spend savings or can’t buy at all things needed.

PCH, personal connections in healthcare; IPH, informal payments in healthcare; HU, healthcare users.

Source: author’s calculations based on data from 2nd (2021) Global Corruption Barometer (GCB)—EU / [1].

and informal institutions, the previous results remain valid, confirming Hypothesis 1 and 2 (Scenario C, Model 3). Moving to those who use this practice more often, the results show that women are more likely to use their connections compared with men. Similarly, youngsters as well as those with financial difficulties are more likely to use their connections. Meanwhile, those more educated are less likely to use their connections than those less educated. Turning to the role of institutional asymmetry and the level of public trust, the association is again confirmed, validating the Hypothesis 1 and Hypothesis 2 in Scenario D (Model 4). Due to the low number of cases and consequently low reliability of the regression results, no multivariate analysis could be performed for Scenario E and F.

In sum, the results of the regression analysis show that regardless of the type of informal practice analyzed, there is a strong relationship between the prevalence of these practices and the asymmetry between the formal and informal institutions and the trust in government. As Table 5 displays, the results are robust and these relationships remain unchanged when using...
alternative methods to analyze the data namely, probit regression with sample selection for imputed data and multilevel mixed-effects probit regression.

The predicted probability to engage in informal practices for a “representative” patient in Europe further reinforce these findings. The “representative” patient in Europe has been obtained by using the mean and the mode of the control variables used in the analysis. As Supplementary Figure S1 displays, regardless whether we analyze the informal practices together or if we analyze solely the use of connections for accessing the public healthcare services, the predicted probability to make use of these practices increase with a high asymmetry between formal and informal institutions and a low trust in public authorities.

**DISCUSSION**

This paper has explored an aspect of corruption in the health services sector [42–47], namely the informal practices of making informal payments and personal connections to gain preferential access to healthcare services during the COVID-19 pandemic. Metaphorically, this corruption can itself be seen as an ignored pandemic in the present-day health services sector [11,13,48–50].

This paper has revealed the magnitude of the use of informal payments and personal connections to gain access to health services during the COVID-19 pandemic in the European Union. It has also revealed, based on institutional theory, an explanation for these informal practices. It has been shown that when there is asymmetry between formal and informal institutions, informal practices are more prevalent. Institutional asymmetry is greater, meanwhile, when there is a greater lack of trust in public institutions.

To tackle informal payments therefore, it will be necessary to address this institutional asymmetry. This requires changes in on the one hand, the personal norms that constitute the informal institutions [14,51–53] but also the formal institutions [14,54,55]. To change the personal norms that view informal practices as acceptable (i.e., the informal institutions), three policy initiatives are required. Firstly, social marketing campaigns are required targeting the groups identified above with high levels of institutional asymmetry. These need to inform patients of the costs and risks of engaging in informal practices. Secondly, normative appeals to medical staff can be used to try to curb the tendency to engage in such practices. And third and finally, education is required to inform staff and patients of the benefits of not engaging in informal practices. Formal institutions must also change. Informal practices are more common in systems where there is low public trust in formal institutions. There is therefore a need to modernise healthcare services to improve trust in these institutions.

Nevertheless, this study has limitations. Due to lack of data, this analysis could not control for the total use of public healthcare services nor to evaluate patients' level of dependence on informal practices when they access public healthcare services. However, based on previous studies, the frequency of using public healthcare services does not raise confounder issues. Firstly, previous studies investigating the relationship between informal practices and healthcare utilisation frequency revealed inconclusive findings [56–58]. These findings are further reinforced by the fact that informal payments are found to be more prevalent for in-patient services [59] and for specific health services (e.g., gynaecology) [56]. Maternal healthcare involves a large number of antenatal visits and an informal payment is usually made at the time of delivery.

**Table 5 | Robustness checks (Global Corruption Barometer—European Union, Europe, 2021).**

|                       | Scenario A | Scenario B | Scenario C | Scenario D |
|-----------------------|------------|------------|------------|------------|
| **Control Variables** |            |            |            |            |
| Socio-demographic variables | Yes       | Yes       | Yes        | Yes        |
| Institutional asymmetry |            |            |            |            |
| Asymmetry formal-informal institutions (R: Low asymmetry level) |            |            |            |            |
| Medium asymmetry level | 0.167***   | 0.196***   | 0.042 (0.034) | 0.026 (0.039) |
| High asymmetry level   | 0.344***   | 0.368***   | 0.119***   | 0.096***   |
| Trust in Public Authorities Index |            |            |            |            |
| −0.990*** | −1.076*** | −0.456*** | −0.514*** |
| Selection equation with socio-demographic variables |            |            |            |            |
| Observations | 33,893 | 33,109 | 39,254 | 36,189 |
| Imputations (multivariate) | 30 | 30 | 30 | 30 |
| Variance at country level (IOC (%)) | 7 | 6 | 3 | 6 |

Notes: Significant at *p < 0.1; **p < 0.05; ***p < 0.01; Coefficients compared to the reference category (R) in brackets; Standard errors displayed in parentheses.

Source: author’s calculations based on data from 2nd (2021) Global Corruption Barometer (GCB).
REFERENCES

1. Transparency International. Global Corruption Barometer (GCB) – EU, Database (2021). Available from: https://www.transparency.org/en/gcb/eu/2021/press-and-downloads (Accessed August 1, 2021).

2. Delcheva E, Balabanova D, McKee M. Under-the-counter Payments for Health Care: Evidence from Bulgaria. Health Policy (1997) 42:89–100. doi:10.1016/s0168-8510(97)00061-4

3. Balanov D, McKee M. Understanding Informal Payments for Health Care: The Example of Bulgaria. Health Policy (2002) 62:243–73. doi:10.1016/s0168-8510(02)00035-0

4. Ensor T. Informal Payments for Health Care in Transition Economies. Soc Sci Med (2004) 58:237–46. doi:10.1016/j.socscimed.2003.09.007

5. Polese A. Informal Payments in Ukrainian Hospitals: On the Boundary between Informal Payments, Gifts, and Tribes. Anthropol Forum (2014) 24:381–95. doi:10.1080/00664677.2014.953445

6. Gaal P, Beli PC, McKee M, Stócska M. Informal Payments for Health Care: Definitions, Distinctions, and Dilemmas. J Health Poliit Pol L (2006) 31:251–93. doi:10.1215/03616878-1-2-251

7. Global Informality Project. What Is Informality? (2020). Available from: https://www.in-formality.com/wiki/index.php?title=What_is_informality%3F

8. Stephens T, Mezei A, O’Hara NN, Potter J, Mugurura R, Blachut PA, et al. When Surgical Resources Are Severely Constrained, Who Receives Care? Determinants of Access to Orthopaedic Trauma Surgery in Uganda. World J Surg (2017) 41:1415–9. doi:10.1007/s00268-017-3874-1

9. Neerup Handlos L, Fog Olwig K, Bygbjerg I, Norredam M. Return Migrants’ Experience of Access to Care in Corrupt Healthcare Systems: The Bosnian Example. Int J Environ Res Public Health (2016) 13:E924. doi:10.3390/ijerph13090924

10. Cepeda Cuadrado D. The Ignored Pandemic behind Covid-19: The Impact of Corruption on Healthcare Service Delivery. Transparency International (2020). Available from: https://societyjournalsdataprod.blob.core.windows.net/documents/IJPH%20Instructions%20for%20Authors.pdf

AUTHOR CONTRIBUTIONS

All authors listed have made a substantial, direct, and intellectual contribution to the work and approved it for publication.

FUNDING

This work was supported by a grant of the Ministry of Research, Innovation and Digitization, CNCS/CCCDI—UEFISCDI project number PN-III-P1-1.1-TE-2019-0163, within PNCDI III.

CONFLICT OF INTEREST

The authors declare that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

SUPPLEMENTARY MATERIAL

The Supplementary Material for this article can be found online at: https://www.ssph-journal.org/articles/10.3389/ijph.2022.1604405/full#supplementary-material

11. Transparency International. The Ignored Pandemic: How Corruption in Healthcare Service Delivery Threatens Universal Health Coverage (2019). Available from: http://ti-health.org/wp-content/uploads/2019/03/UploadedFile-WEB-v3.pdf (Accessed August 10, 2021).

12. Rahman Z, Brekke M. Antenatal and Obstetric Care in Afghanistan – a Qualitative Study Among Health Care Providers and Health Care Providers. BMC Health Serv Res (2013) 13:166. doi:10.1186/1472-6963-13-166

13. Horodnic AV, Mazilu S, Oprea L. Drivers behind Widespread Informal Payments in the Romanian Public Healthcare System: from Tolerance to Corruption to Socio-Economic and Spatial Patterns. Int J Health Plann Manage (2018) 33:e597–e611. doi:10.1002/hpm.2509

14. Williams CC, Horodnic AV. Explaining Informal Payments for Health Services in Central and Eastern Europe: an Institutional Asymmetry Perspective. Postcommunist Econ (2018) 30:440–58. doi:10.1080/14631377.2018.1442051

15. Arab M, Khosravi B, Safari H, Rahman I, Rajabi Vasokolaei G, Mobinizadeh M, et al. Reasons for Informal Payments from the Perspective of Health Care Providers and Recipients: a Qualitative Study in Iran. Glob Health Res Pol (2022) 7:30. doi:10.1186/s41256-022-00263-1

16. Mastad O, Mwisongo A. Informal Payments and the Quality of Health Care: Mechanisms Revealed by Tanzanian Health Workers. Health Policy (2011) 99:107–15. doi:10.1016/j.healthpol.2010.07.011

17. Habibov N, Cheung A. Revisiting Informal Payments in 29 Transitional Countries: The Scale and Socio-Economic Correlates. Soc Sci Med (2017) 28–37. doi:10.1016/j.socscimed.2017.02.003

18. World Health Organization. Second Round of the National Pulse Survey on Continuity of Essential Health Services during the COVID-19 Pandemic, Interim Report (2021). Available from: https://www.who.int/publications/i/item/WHO-2019-nCoV-EHS-continuity-survey-2021.1

19. OECD. Health at a Glance: Latin America and the Caribbean. Paris: OECD Publishing (2020). doi:10.1787/6089164f-en
20. European Commission. Inequalities in Access to Healthcare - A Study of National Policies (2018). Available from: https://ec.europa.eu/social/main.jsp?catId=228&lang=en (Accessed August 28, 2022).

21. World Health Organization. Addressing Informal Payments in the Greek Health System (2018). Available from: https://www.who.int/europe/publications/i/item/WHO-EURO-2018-3038-42796-59719 (Accessed August 28, 2022).

22. Pernegger L. Effects of the State’s Informal Practices on Organisational Capability and Social Inclusion: Three Cases of City Governance in Johannesburg. Urban Stud (2021) 58:1193–210. doi:10.1017/S0042098020910111

23. Pratt A. Formality as Exception. Urban Stud (2019) 56:612–5. doi:10.1077/0042098018810600

24. Gaal P, McKee M. Fee-for-service or Donation? Hungarian Perspectives on Informal Payment for Health Care. Soc Sci Med (2005) 60:1445–57. doi:10.1016/j.socscimed.2004.08.009

25. Williams CC, Horodnic AV. Rethinking Informal Payments by Patients in Europe: An Institutional Approach. Health Policy (2017) 121:1053–62. doi:10.1016/j.healthpol.2017.08.007

26. Horodnic AV, Williams CC. Informal Payments by Patients for Health Services: Prevalence and Determinants. Serv Industries J (2018) 38:841–55. doi:10.1080/02624069.2018.1450870

27. Tambor M, Pavlova M, Golimowska S, Sowada C, Groot W. The Formal-Informal Patient Payment Mix in European Countries. Governance, Economics, Culture or All of These? Health Policy (2013) 113:284–95. doi:10.1016/j.healthpol.2013.09.011

28. Cohen N. How Culture Affects Street-Level Bureaucrats’ Bending the Rules in the Context of Informal Payments for Health Care: The Israeli Case. Am Rev Public Adm (2016) 48:175–87. doi:10.1177/0096993714556349

29. Rekhviashvili L. Why Read Informality in a Substantivist Manner? on the Embeddedness of the Soviet Second Economy. In: A Polese, C Williams, I Horodnic, P Bejakovic, editors. The Informal Economy in Global Perspective. International Political Economy Series. Cham: Palgrave Macmillan (2017). p. 15−36.

30. Williams CC. Cash in Hand (General). In: A Ledeneva, editor. The Global Encyclopaedia of Informality. London, UK: UCL Press (2018). p. 185−8. doi:10.14324/1.9781787351999

31. OECD Public Governance Reviews. Trust and Public Policy: How Better Governance Can Help Rebuild Public Trust (2017). Available from: https://www.oecd-ilibrary.org/governance/trust-and-public-policy_9789264269820-en; jsessionid=ufQEsReEAgVujExg5brklip-10-240-5-141 (Accessed August 8, 2021).

32. OECD. OECD Guidelines on Measuring Trust (2017). Available from: https://www.oecd.org/governance/oecd-guidelines-on-measuring-trust-9789264278219-en.htm (Accessed August 8, 2021).

33. Weber GA. Forsaken Generation: Stress, Social Suffering and Strategies Among Working-Class Pensioners in Post-Socialist Moldova, Romania. New York (NY): New York: The City University of (2009). [dissertation thesis]..

34. Eurostat. NUTS Maps (2021). Available from: https://ec.europa.eu/eurostat/web/nuts/nuts-maps (Accessed July 10, 2021).

35. Transparency International. Methodology Global Corruption Barometer (GCB) – EU (2021). Available from: https://images.transparency.org/images/Methodology-GCB-EU-2021_2021-06-15-084143.pdf (Accessed June 25, 2021).

36. World Health Organization. Coronavirus Disease (COVID-19) Pandemic (2020). Available from: https://www.euro.who.int/en/health-topics/health-emergencies/coronavirus-covid-19/novel-coronavirus-2019-ncov (Accessed June 12, 2021).

37. Morrissey K, Kinderman P, Pontin E, Tai S, Schwannauer M. Web Based Health Surveys: Using a Two Step Heckman Model to Examine their Potential for Population Health Analysis. Soc Sci Med (2016) 163:45–53. doi:10.1016/j.socscimed.2016.06.053

38. Ziyaambo C, Siziy S, Fylkesnes K. Health Status and Socio-Economic Factors Associated with Health Facility Utilization in Rural and Urban Areas in Zambia. BMC Health Serv Res (2012) 12:389. doi:10.1186/1472-6963-12-389

39. Williams CC, Horodnic AV. Evaluating the Prevalence of Informal Payments for Health Services in Southeast Europe: an Institutional Approach. Southeast Eur Black Sea Stud (2018) 18:345–65. doi:10.1080/14683857.2018.1487138

40. Hutchinson E, Balabanova D, McKee M. We Need to Talk about Corruption in Health Systems. Int J Health Pol Manag (2019) 8:191. doi:10.15171/ijhpm.2018.123

41. Garcia P. Corruption in Global Health: the Open Secret. Lancet (2019) 394: 2119–24. doi:10.1016/S0140-6736(19)32527-9

42. Ensor T, Szelyava L. Informal Payments for Health Care in the Former Soviet Union: Some Evidence from Kazakhstan. Health Policy Plan (1998) 13:41–9. doi:10.1093/heapoli/13.1.41

43. Falkingham J. Poverty, Out-Of-Pocket Payments and Access to Health Care: Evidence from Tajikistan. Soc Sci Med (2004) 58:247. doi:10.1016/s0277-9536(03)00008-x

44. Bouchard M, Kohler J, Orbinski J, Howard A. Corruption in the Health Care Sector: A Barrier to Access of Orthopaedic Care and Medical Devices in Uganda. BMC Int Health Hum Rights (2012) 12:5. doi:10.1186/1472-698X-12-5

45. Ferrari L, Salustri F. The Relationship between Corruption and Chronic Diseases: Evidence from Europeans Aged 50 Years and Older. Int J Public Health (2020) 65:345–55. doi:10.1007/s00382-020-01347-w

46. Burki T. Corruption Is an “Ignored Pandemic”. Lancet Infect Dis (2019) 19: 471. doi:10.1016/S1473-3099(19)30178-1

47. World Bank. Ensuring Integrity in Governments’ Response to COVID-19 (2020). Available from: https://openknowledge.worldbank.org/bitstream/handle/10986/33705/Ensuring_Integrity_in_the_Government_Response_to_COVID19-April%202020.pdf?sequence=7 (Accessed August 2, 2021).

48. World Bank. Combating Corruption (2020). Available from: https://www.worldbank.org/en/topic/governance/brief/anti-corruption (Accessed August 2, 2021).

49. Morren M, Grinstein A. The Cross-Cultural Challenges of Integrating Personal Norms into the Theory of Planned Behavior: A Meta-Analytic Structural Equation Modeling (MASEM) Approach. J Environ Psychol (2021) 75:101593. doi:10.1016/j.jenvp.2021.101593

50. Young SD, Goldstein NJ. Applying Social Norms Interventions to Increase Adherence to COVID-19 Prevention and Control Guidelines. Prev Med (2021) 145:106424. doi:10.1016/j.ypmed.2021.106424

51. Neville FG, Templeton A, Smith JR, Winnifred RL. Social Norms, Social Identities and the COVID-19 Pandemic: Theory and Recommendations. Soc Personal Psychol Compass (2021) 15:e12596. doi:10.1111/spp3.12596

52. Williams CC, Horodnic IA, Horodnic AV. Who Is Making Informal Payments for Public Healthcare in East-Central Europe? an Evaluation of Socio-Economic and Spatial Variations. East J Eur Stud (2016) 7: 49−61.

53. Williams CC, Horodnic IA. Explaining the Prevalence of the Informal Economy in the Baltics: An Institutional Asymmetry Perspective. ESR6-P (2015) 22:127−45. doi:10.1515/ersp-2015-0029

54. Stupurko T, Pavlova M, Grga I, Gail P, Groot W. Patterns of Informal Patient Payments in Bulgaria, Hungary and Ukraine: a Comparison across Countries, Years and Type of Services. Health Policy Plan (2017) 32:453−66. doi:10.1093/heapro/czw147

55. Baji P, Pavlova M, Gulács I, Farkas M, Groot W. The Link between Past Informal Payments and Willingness of the Hungarian Population to Pay Formal Fees for Health Care Services: Results from a Contingent Valuation Study. Eur J Health Econ (2014) 15:853−67. doi:10.1007/s10198-013-0531-y

56. Atanaseva O, Pavlova M, Moutafova E, Rechel B, Groot W. Informal Payments for Health Services: the Experience of Bulgaria after 10 Years of Formal Co-payments. Eur J Public Health (2014) 24:733−9. doi:10.1093/eurpub/ckt165
59. Stepurko T, Pavlova M, Gryga I, Groot W. Empirical Studies on Informal Patient Payments for Health Care Services: a Systematic and Critical Review of Research Methods and Instruments. *BMC Health Serv Res* (2010) 10:273. doi:10.1186/1472-6963-10-273

60. Schaaf M, Topp SM. A Critical Interpretive Synthesis of Informal Payments in Maternal Health Care. *Health Policy Plan* (2019) 34:216–29. doi:10.1093/heapol/czz003

61. Cho WH, Lee H, Kim C, Lee S, Choi KS. The Impact of Visit Frequency on the Relationship between Service Quality and Outpatient Satisfaction: a South Korean Study. *Health Serv Res* (2004) 39:13–33. doi:10.1111/j.1475-6773.2004.00213.x

62. Horodnic IA. Tax Morale and Institutional Theory: a Systematic Review. *Int J Sociol Soc Pol* (2018) 38:868–86. doi:10.1108/ijssp-03-2018-0039

Copyright © 2022 Horodnic, Williams and Dragã. This is an open-access article distributed under the terms of the Creative Commons Attribution License (CC BY). The use, distribution or reproduction in other forums is permitted, provided the original author(s) and the copyright owner(s) are credited and that the original publication in this journal is cited, in accordance with accepted academic practice. No use, distribution or reproduction is permitted which does not comply with these terms.