

More than 70 Percent of Insured Patients are Paying Informally During Outpatient Visits? Country Wide Evidence from Iran

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Abstract

Background: Reliance heavily on out-of-pocket (OOP) payments, including informal payments (IPs), to finance total health expenditure has undesired effects on financial risk protection and access to care. While a significant share of total health expenditure is spending on outpatient services, there is scant evidence of the amount paid informally by patient in outpatient services. Such evidence is available for inpatient services, showing high prevalence of informal payments, ranging from 7-10% in a hospital department to 20-48% in the whole hospital. This study aimed to investigate the extent of IPs for outpatient services in Iran.

Methods: Data used were drawn from the 2015 IR. Iran's Utilization of Health-care Services Survey, with a focus on all individuals with basic health insurance who were visited at least once by a physician in two private and public health care centers. The percentage of OOP and the frequency of IP were determined and the relationships between them and demographic variables were investigated.

Results: The share that insured patients in Iran pay for a general practitioner (GP) visit was 38% in the public versus 61% in the private sector, while for a specialist practitioner visit the figures were 80% and 96%, respectively, which is higher than defined copayment (=30%). This share was significantly more in female, urban area, high educated people, private service providers, and specialist visits. The frequency of IPs also was 73% for a GP in the public versus 86% in the private sector, while for a specialist practitioner visit these were 90% and 93%, respectively.

Conclusion: It seems that informal patient payments for outpatient services is more prevalent for outpatient service. Hence, more interventions are required to eliminate or control the IPs in outpatient services, particularly in private sector. In this regard, making a well-regulated market, reinforcing the referral system and developing an equity-oriented essential health services package would be fundamental.

Trial registration: NA

Background

Many countries aim to strengthen their health systems financing in ways that would increase financial risk protection (1, 2), which is often threatened by high share of patient out-of-pocket (OOP) payments. The high share of OOP, in form of both formal user fees and informal payments, is itself a serious threat to achieve universal health coverage (UHC) (3–5). In addition, it may disturb the patient-physician relationship (6), decreases the poor households' utilization of health services, and leading to self-medication which has many consequences (7). While many efforts have been done to decrease the share of patient direct payments, health financing is still in part provided by OOP, particularly in developing countries (8, 9).

To improve the financial risk protection, Islamic Republic of Iran launched a Health Transformation Plan (HTP) in May, 2014, with a focus on implementing actions that reduce OOP, particularly in inpatient services. Examples of these actions include insuring people who were not covered by basic health insurance; reducing copayment for inpatient services; control the price of medicines and medical equipment; and controlling and eliminating IPs through revising tariff schedule and establishing a new legal mechanism to deal with offenders (10). These actions have reduced the share of OOP as total health expenditure (THE) from 47.0 in 2013 to 38.1 in 2015 (11, 12). Furthermore, the IPs for inpatient services significantly decreased and were close to being eliminated, particularly in the public sector (13). However, the OOP share continues to remain far from the desired figures, i.e. 20% (14, 15) and the percentage of population affected by catastrophic expenditures remained unchanged (ranging from 2.5 – 2.4% during 2013–2015) (16). Thus, it is vital to identify major OOP drivers in the health sector and to work towards reducing OOP.

It seems that one of the OOP drivers is related to outpatient expenditure, which has %42 of total health expenditure in 2014 (12). On the one hand, outpatient services, especially outpatient visits (by general practitioners (GPs) and specialists), are more commonly used because they are the starting point of utilizing other health services (the outpatient visits per person per year was 4.9 in comparison with hospital admission that was 0.107 in 2014 (17)). On the other hand, private sector provides around 80% of outpatient care, which is significantly more than public sector (18). Therefore, to apply any intervention to further eliminate or control IPs, it is important to determine the amount of payment paid informally by patients to receive outpatient services.

To our knowledge, an extensive literature is available on IPs prevalence in inpatient services, due to the well-known methodology of measuring IPs and the feasibility of data gathering in inpatient services (19). Based on this evidence, high prevalence of IPs, ranging

from 7–10% in a hospital department to 20–48% in the whole hospital is still a major challenge in the Iranian healthcare system for many years (20). However, such evidence is sparse in the outpatient services, due to difficulties of methodology and data gathering in un-regulated outpatient market in Iran. Our interest to conduct this study stems from the necessity of picturing the prevalence of IPs in outpatient services based on the national survey of Utilization of Health-care Services.

Methods

This is a secondary data analysis of the 2014 IR. Iran's Utilization of Health-care Services (IrUHS) Survey. The IrUHS survey was jointly run in Iranian rural and urban households by Iran's National Institute for Health Research and Iran's Statistical Research Center. It was performed from January 3 to January 13 in which the data of 22,470 households were collected across the country. Among them, all individuals with basic health insurance who were visited at least once by a GP and specialist in both private and public health care centers (n = 11,782) were studied. These individuals answered "yes" to 1) did you feel any need for outpatient care in the 2 weeks preceding the interview? and 2) did you receive the services (physician visit) that you demanded? The share of OOP was captured for different kind of visits. These OOPs only represent the cost for a practitioner visit, without including the payments for any other outpatient services, e.g. medical procedures and diagnostic services. Indeed, by adding all types of outpatient services, the OOPs would be higher. However, it is methodologically impossible to include all these procedures for the OOPs share. Then, regarding the formal defined copayment, the difference between the formal copayment and the paid copayment was calculated. This additional payment endorses the existence of the IPs in outpatient services. The percentage of those who paid more than defined copayment was considered as the prevalence of IPs. The study variables included demographic characteristics of health recipients (sex, place of residence, education), service provider's location (health posts, health center, public hospitals affiliated to a public hospital from Ministry of Health and Medical Education (MoHME), public hospital not affiliated with MoHME and hospital affiliated with Social Security Organization, physician office, private clinics, charity clinics, outpatient surgery center, home care), service provider (GP and specialist), and visit cost. Descriptive statistics were used to determine the frequency and percentage of OOPs and IPs, and Mann-Whitney test was applied to evaluate the relationship between the variables. Weighting procedures were applied to obtain parameters from the dataset resulted from sampling to represent the Iranian population.

Results

A- Demographic characteristics

Table 1 presents the demographic characteristics of the participants (Table 1).

Table 1
Socioeconomic Status of the Study Population

| Variable | No. (%) |
|----------------|-----------------|
| Gender | |
| Female | 11266952 (57.2) |
| Male | 8445803 (42.8) |
| Education | |
| University | 2458528 (12.5) |
| Non-university | 15275632 (77.5) |
| Unknown | 1978584 (10) |
| Residence | |
| Urban | 13780658 (69.9) |
| Rural | 5932097 (30.1) |

B- Mean and percentage of the payments paid by insured people for GP and specialist visits

Data showed that the highest OOP for a GP visit was related to private physician office (USD 13) and lowest was related to public health centers and posts (USD 3). The highest OOP for a specialist visit was related to private physician office (USD 29) and lowest was related to charity clinics (USD 6). Data analysis showed the median OOP for one GP visit was USD 3 in the public and USD 11 in the private sector. The median OOP for one specialist visit was USD 9 in the public and USD 29 in the private sector.

Comparison of median OOP, with regards to the defined formal tariff for GP and specialist visits in 2015 as USD 9 and USD 11 in the public and USD 19 and USD 30 in the private sector respectively, showed that the share that paid by insured people for GP and specialists visits without considering franchise. The percentage was 38% and 61% for GP visits in the public and private sector and 80% and 96% for specialist visits in the public and private sector, respectively. Considering formal defined copayments (30%) with basic insurance coverage for visit costs (franchise), the real difference between what paid and what should be paid, was 8% (USD 1) and 31% (USD 8) for GPs in the public and private sector and 50% (USD 3) and 66% (USD 20) for specialists in the public and private sector, respectively (Table 2).

Table 2
Median and percentage of OOP paid by insured people for an outpatient visit

| Health service provider | | Physician office | Private clinic | Charity clinic | Home care | Public health center/post | Public hospitals affiliated with Ministry of Health | Public hospitals nonaffiliated with Ministry of Health | Public hospitals affiliated with Social Security Organization |
|---|-------------------------|------------------|----------------|----------------|-----------|---------------------------|---|--|---|
| Median of OOP (\$) | General practitioner | 13 | 11 | 5 | - | 3 | 4 | 8 | 8 |
| | Specialist practitioner | 29 | 23 | 6 | - | 7 | 11 | 11 | 9 |
| | General practitioner | 11 | | | | 3 | | | |
| | Specialist practitioner | 29 | | | | 9 | | | |
| Formal tariff | General practitioner | 11 | | | | 9 | | | |
| | Specialist practitioner | 30 | | | | 19 | | | |
| Percentage of OOP regardless defined copayment (= 30% tariff) | General practitioner | 91.1 | 77.0 | 47.2 | - | 53.1 | 84.5 | 95.1 | 85.9 |
| | Specialist practitioner | 93.8 | 89.4 | 42.2 | 100 | - | 89.5 | 92.9 | 92.7 |
| | General practitioner | 60.1 | | | | 37.5 | | | |
| | Specialist practitioner | 96.2 | | | | 80.0 | | | |
| Percentage (median) of OOP regarding defined copayment (= 30% tariff) | General practitioner | 61.1(9) | 47 (8) | 17.2 (1) | - | 23.1 (0) | 54.5 (1) | 65.1 (5) | 55.9 (5) |
| | Specialist practitioner | 63.8 (20) | 59.4 (14) | 12.2 (0) | 70 (48) | - | 59.5 (1) | 62.9 (6) | 62.7 (6) |
| | General practitioner | 30.1 (8) | | | | 7.5 (1) | | | |
| | Specialist practitioner | 66.2 (20) | | | | 50 (3) | | | |

C- The percentage of informally payments paid by insured people for outpatient GP and specialist visit

The highest and lowest frequency of IPs for one outpatient GP visit was seen in the public hospitals nonaffiliated with Ministry of Health (95%) and the charity clinics (47%), respectively. The highest and lowest frequency of IPs for one outpatient specialist visit was seen in the home visit (100%) and the charity clinics (42%), respectively. In total, the private sector had the highest frequency of IPs for both GP and specialist visits (Table 3).

Table 3
Frequency of IPs paid by insured people for an outpatient visit (%)

| Health service provider | | Physician office | Private clinic | Charity clinic | Home care | Public health center/post | Public hospitals affiliated with Ministry of Health | Public hospitals nonaffiliated with Ministry of Health | Public hospitals affiliated with Social Security Organization |
|-------------------------|-------------------------|------------------|----------------|----------------|-----------|---------------------------|---|--|---|
| Frequency of IP | General practitioner | 91.1 | 77.0 | 47.2 | - | 53.1 | 84.5 | 95.1 | 85.9 |
| | Specialist practitioner | 93.8 | 89.4 | 42.2 | 100 | - | 89.5 | 92.9 | 92.7 |
| | General practitioner | 86.1 | | | | 72.9 | | | |
| | Specialist practitioner | 93.0 | | | | 90.2 | | | |

D- Determinants of the informal payment

Data showed that the OOP was significantly different considering the variables of gender, residency, educational status, and type of providers. The OOP was significantly higher in female, urban area, high educated people, private service providers, and specialist visits. For those who paid more than defined copayments, significant differences were found among IPs with gender, residency, educational status, and type of providers for a GP visit in public; gender, educational status, and type of providers for a specialist visit in public and GP visit in private; and gender and type of providers for a specialist visit in private (Table 4).

Table 4
The determinants of informal payments

| Informal payments paid by patients | Variables | | Mean Rank | Mann-Whitney U | p-value |
|------------------------------------|------------|----------------|-----------|----------------|---------|
| for a GP visit in public | Gender | Male | 3179.12 | -2.677 | .007* |
| | | Female | 3305.39 | | |
| | Resident | Urban | 3310.25 | -3.549 | 0.0004* |
| | | Rural | 3134.17 | | |
| | Education | university | 2351.64 | -4.328 | .000* |
| | | Non-university | 2132.84 | | |
| | Provider | Private | 3925.32 | -41.083 | .000* |
| | | Public | 1896.82 | | |
| Type of provider | General | 2254.99 | -43.304 | .000* | |
| | Specialist | 4268.04 | | | |
| for a specialist visit in public | Gender | Male | 2531.15 | -3.404 | .001* |
| | | Female | 2675.04 | | |
| | Resident | Urban | 2636.83 | -1.507 | .132 |
| | | Rural | 2569.38 | | |
| | Education | university | 1843.07 | -2.623 | .009* |
| | | Non-university | 1726.64 | | |
| | Provider | Private | 2868.26 | -22.765 | .000* |
| | | Public | 1726.68 | | |
| Type of provider | General | 1662.17 | -41.01 | .000* | |
| | Specialist | 3380.26 | | | |
| for a GP visit in private | Gender | Male | 2687.73 | -3.267 | .001* |
| | | Female | 2829.92 | | |
| | Resident | Urban | 2789.86 | -1.294 | .196* |
| | | Rural | 2730.17 | | |
| | Education | university | 1954.03 | -2.762 | .006* |
| | | Non-university | 1827.49 | | |
| | Provider | Private | 3113.25 | -27.746 | .000* |
| | | Public | 1737.03 | | |
| Type of provider | General | 1829.80 | -40.211 | .000* | |
| | Specialist | 3560.70 | | | |
| for a specialist visit in private | Gender | Male | 2240.46 | -3.028 | .002* |
| | | Female | 2360.83 | | |
| | Resident | Urban | 2316.89 | -0.41 | .682 |
| | | Rural | 2299.58 | | |

| Informal payments paid by patients | Variables | | Mean Rank | Mann-Whitney U | p-value |
|------------------------------------|------------------|----------------|-----------|----------------|---------|
| | Education | university | 1603.06 | -1.695 | .090 |
| | | Non-university | 1533.13 | | |
| | Provider | Private | 2415.47 | -11.765 | .000* |
| | | Public | 1802.54 | | |
| | Type of provider | General | 1425.95 | -36.617 | .000* |
| | | Specialist | 2890.36 | | |

Discussion

Our study sought to provide an overall picture of the current situation of OOP and IPs in outpatient services in Iran. Our findings showed that the share that paid by insured people for outpatient visit costs, especially for specialist visits, was high, even considering the formal copayment. However, as mentioned earlier, this share was regardless of other outpatient services like diagnostic services or drugs. The Household Expenditure and Income Survey in 2016 also showed the higher OOP for outpatient versus inpatient services (21). According to this study, the copayment for outpatient services is 3.6 times more than inpatient services. This finding has three important messages for policymakers. The first is that copayments for outpatient services is one of the drivers of high OPP. They can affect the ability to pay of poor people and propagate refusal to treatment or other treatment options like self-medication. Therefore, it is suggested that next steps of health reform include regulatory interventions for oversight and supervision enhancement in the outpatient setting.

Since the copayment of outpatient costs is considerable while all of them are covered by at least one of the country's basic insurances, the second message to policymakers is that although effective insurance coverage of the population is a necessary condition for UHC, it is not desired in the country. The global experience shows that an important factor in the success of insurance coverage expansion plans is to define the covered services based on evidence (22, 23). Accordingly, special attention should be paid to health service coverage, particularly to develop the essential and benefit package for outpatient services as well as other interventions aimed at financial risk protection to move towards UHC. The importance of this issue is underlined when the results of other studies, indicating that utilization of outpatient services does not change with the status of insurance coverage or type of insurance except for the lowest-income households, are taken into account (24). Therefore, organizing the status of insurance coverage may play an important role in decreasing poverty and increasing equity.

The third message to policymakers is that specialized services have a higher share of OPPs in the outpatient setting. It seems that this high share is due to incomplete implementation of the referral system leading to many unnecessary specialist visits, while full implementation of the referral system not only decreases the rate of unnecessary visits but also leads to more financial protection due to the possibility of more coverage of the costs.

Another finding of the study indicated that the copayment of insured people was higher in private sectors than public sectors. Part of this high share is to more visits to private sectors. Previous studies have shown that the public sector of Iran faces problems such as high density of the patients, long waiting queues, lack or non-usability of therapeutic or diagnostic devices, low number of medical staff compared to patients, unfavorable morale of the staff, and inappropriate facilities leading to decreased quality of the services (25). These factors increase the patients' interest in private service providers. Although great efforts have been made in recent years to enhance the availability and access to governmental and state facilities, it seems that there is still a need for further interventions to increase the access to the public services and their quality. Another reason for the high share of private outpatient services is the weak governance of the MoHME on their activity, which is still a major weakness of the country's health system (26). For this reason, despite the opportunity for the activity of the private sector and the possibility to benefit from its capabilities in delivering health services, not only their full capacity has not been used, but also their activity has led to increased people's share of health costs. For this reason, we recommend that the potential role of the private sector should be used to realize health system objectives through managerial interventions and more regulatory on its activity.

The third finding of the study was the prevalence of IPs in the outpatient setting, indicating that these kind of informal payments remain to be common in outpatients' market in both the public and private sectors. The phenomenon of informal payments and their negative effects on the performance of the health system have been investigated in many studies (19). Although these payments are not catastrophic considering their mean Rial value, this should not be used as the excuse to ignore these payments. Thus, there is still need to take action to eliminate or minimize them in the outpatient setting, particularly to organize and regulate the outpatient services arrangements. In this regard, making a well-regulated market would be a fundamental. In such market, a set of policies and rules prohibiting IPs should be developed by the government and be complied by both public and private sectors. If these rules are enforced and there are consequences for noncompliance, it will be expected to deter abuses. Furthermore, enhancing patient information and establishing more channels for complains can help to reduces IPs. Making sure that patients are aware of the official medical tariffs, know what staff are paid and recognize the rules against IPs are some examples of this intervention. Finally, in cases where patients continue to pay informally and providers still receive extra payments when it is not necessary, it seems that some behavioral change interventions are required. These interventions should address patient's fears and beliefs about poor quality of care or be punished by providers if they reject to make IPs. Additionally, they should formalize user fees and modify the providers' point of views about the expected level of their incomes.

This study was conducted in a national level using the data of a national survey, helping to provide a correct view of the patient payments in the outpatient setting. However, it had some limitations. The study was limited to insured people and there is no information available on the non-insured population. We could not also analyze the status of complementary insurance coverage. We also focused on GP and specialist visits and did not assess other outpatient services. Finally, the payments were not categorized according to visitors' needs (psychiatric, dentistry, internal medicine, and other services).

Conclusions

The prevalence of IPs for inpatient services is a major challenge of the health system in Iran. We found that the prevalence of IPs is more prevalent for outpatient service. Since reducing IPs is essential to ensure achieving UHC, apart from taking measures to eliminate IPs for inpatient services, more interventions are required to control the IPs in outpatient services and promote better health for all citizens, particularly in private sector. Some of these strategies that could be considered are making a well-regulated market, reinforcing the referral system and developing an equity-oriented essential health services package would be fundamental.

List Of Abbreviations

GP General Practitioner

HTP Health Transformation

IPs Informal payments

IrUHS IR. Iran's Utilization of Health-care Services

MoHME Ministry of Health and Medical Education

OOP Out-Of-Pocket

THE Total Health Expenditure

UHC Universal Health Coverage

WHO World Health Organization

Declarations

Ethics approval and consent to participate:

Not applicable

Consent to publish:

Not applicable

Availability of data and materials:

The datasets used and/or analyzed during the current study are available from the corresponding author on reasonable request.

Competing interests:

HSS was a faculty member of Iran's National Institute of Health Research. Other authors declare that they have no competing interests.

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Authors' contributions:

The study was conceptualized by HSS and RM. HSS has developed the framework of the work in collaboration with FSS and MY. HSS and MY wrote the first draft. RM and FSS worked in subsequent drafts. All of the authors confirmed the last version before submission.

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