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Catastrophic Healthcare Payments and Impoverishment in the Occupied Palestinian Territory

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Abstract

Background: Financial protection from the risks of ill health has globally recognized importance as a principal performance goal of any health system. This type of financial protection involves minimizing catastrophic payments for healthcare and their associated impoverishing effects. Realization of this performance goal is heavily influenced by factors related to the overall policy environment and sociopolitical context in each country.

Objectives: To examine the incidence and intensity of catastrophic and impoverishing healthcare payments borne by Palestinian households between 1998 and 2007. The incidence and intensity of these effects are examined within the historically unique policy and socioeconomic context of the occupied Palestinian territory.

Methods: A healthcare payment was considered catastrophic if it exceeded 10% of household resources, or 40% of resources net of food expenditures. The impoverishing effect of healthcare was examined by comparing poverty incidence and intensity before and after healthcare payments. The data source was a series of annual expenditure and consumption surveys covering 1998 and 2004–7, and including representative samples of Palestinian households (n = 1231–3098, per year). Total household expenditure was used as a proxy for household level of resources; and the sum of household expenses on a comprehensive list of medical goods and services was used to estimate healthcare payments.

Results: While only around 1% of the surveyed households spent $\geq 40\%$ of their total household expenditures (net of food expenses) on healthcare in 1998, the percentage was almost doubled in 2007. In terms of impoverishing effect, while 11.8% of surveyed households fell into deep poverty in 1998 due to healthcare payments, 12.5% of households entered deep poverty for the

same reason in 2006. Over the same period, the monthly amount by which poor households failed to reach the deep poverty line due to healthcare payments increased from \$US9.4 to \$US12.9.

Conclusions: The inability of the Palestinian healthcare system to protect against the financial risks of ill health could be attributed to the prevailing sociopolitical conditions of the occupied Palestinian territory, and to some intrinsic system characteristics. It is recommended that pro-poor financing schemes be pursued to mitigate the negative impact of the recurrent health shocks affecting Palestinian households.

Background

Combined with important social determinants (e.g. low income, inadequate housing and unsafe workplaces),^[1] healthcare systems have a significant impact on the health status of a population.^[2,3] Healthcare systems have three well recognized performance goals: promoting good health, responding to the expectations of the population and assuring fair financial protection from the risks of ill health.^[4] In many countries, these goals are often unevenly met. Under certain conditions, the opportunity cost of accessing needed care inhibits utilization, which eventually compromises the well-being of households.^[5] Obstacles to performance are multiple and vary from one context to another.^[6] These obstacles, however, could be grouped into two categories: intrinsic system features, and extrinsic factors related to the context within which the healthcare system performs.

In health financing systems dominated by out-of-pocket payments, the unpredictable nature of most illnesses can lead to expenditures constituting a relatively high share of individual and household resources. Such 'health shocks' can significantly disturb the living standards of households, and even push households into poverty.^[7] Standard measures of equity, based on an assessment of the progressivity and the redistributive effect of healthcare payments, by means of concentration indices – e.g. using the Kakwani Progressivity Index^[8] for the former and the Reynolds-Smolensky Index^[9] for the latter – may not be informative enough in contexts where utilization patterns are contingent on payments.^[10] In these cases, coun-

tries ought to examine the extent of catastrophic health spending^[11] and the impoverishing effect^[12] of healthcare payments on the well-being of households. Protecting patients from catastrophic 'health shocks' spending and their impoverishing effects are widely accepted as important health policy objectives.^[4]

Empirically, health expenditures are considered 'catastrophic' if they exceed a certain fraction of household resources^[11,13] – a level that is perceived to be individually unaffordable and socially unacceptable. The rationale is that, surpassing a certain threshold, households become obliged to sacrifice other basic needs (e.g. food, clothing and housing), sell assets or incur debts to acquire the needed care.^[14] As for the impoverishing effect of healthcare payments, standard measures of poverty, where a measure of household level of resources is compared with a poverty line (commonly defined based on minimum expenditures on the above-mentioned basic needs and some other necessities), are found not to reflect the potential impoverishing effects of healthcare payment. This is because the necessity nature of healthcare culminates in households diverting their expenditures toward healthcare commodities, to the extent that spending on basic needs falls below the poverty line. Therefore, households labeled 'not poor' using traditional poverty judgement criteria might indeed be facing substantial impoverishing healthcare risks.^[12]

In the case of the occupied Palestinian territory (the West Bank and the Gaza Strip), several factors challenge the establishment of an effective, efficient and equitable healthcare system^[15] and undermine the ability of individuals and

households to access needed care.^[15,16] Moreover, in view of the continuously unstable political and social conditions in the area,^[17] healthcare needs are likely to grow in the future,^[18] and the need to assure greater financial protection is likely to increase.^[15] This article examines the financial implications of healthcare payments over time and within the context of the Palestinian healthcare system. The data source was a series of Palestinian Households Expenditure and Consumption Surveys (PECS) conducted in 1998 and 2004–7.^[19–23] We assessed both the catastrophic and the impoverishment effects of healthcare payments, and attempt to explain variations as associated with the emergence of major socioeconomic and political shocks particular to the occupied Palestinian territory.

The Healthcare System in the Occupied Palestinian Territory

The structure and organization of the Palestinian healthcare system has been largely shaped by the complex political history of the country.^[17] Since the establishment of the Palestinian Authority (PA) in 1994, attempts have been made to institute an effective, efficient and equitable healthcare system to serve the 3.76 million people living in the West Bank and the Gaza Strip regions.^[15] A recent series of articles published in *The Lancet* on health in the occupied Palestinian territory^[15–18,24] describes how, after an enhancement of several important population health indicators, improvements stalled and sometimes reversed, beginning in the 1990s.

Healthcare services are managed by four main providers: the Palestinian Ministry of Health (PMoH), a group of Palestinian Non-Governmental Organizations (PNGOs), the United Nations Relief and Works Agency (UNRWA) and a private for-profit sector.^[25] In terms of delivery of care, 46% of healthcare services are provided by PMoH facilities and 21% are provided by the private sector – with the remainder shared between facilities run by the UNRWA and PNGOs.^[26] Health sector expenditure reviews estimated total health spending at 8–9% of GDP,^[27,28] and per capita health expenditure at about \$US135 in

2005.^[28] In a recent national health expenditure survey,^[29] households reported spending significant proportions of their own resources, out of pocket, on healthcare.^[29] The average amounts paid by all households surveyed in the study ranged from a low 9% of total household expenditures (among the ‘best off’ households living in refugee camps) to a high 61% (among the poorest rural households),^[28] with an overall average of 40%.^[29] Average out-of-pocket payments were \$US5.4 at PMoH facilities, \$US43.5 in the private sector and \$US32.3 at PNGO facilities.^[30] The current structure of out-of-pocket payments involves no price-discrimination policies, which would take into account discrepancies in individual abilities to pay, resulting in a regressive payment structure.^[30]

A governmental health insurance (GHI) programme exists, and is the main insurance scheme in the occupied Palestinian territory. It covers both inpatient and outpatient services primarily provided at PMoH facilities, with co-payments being paid for medications and specified services.^[30] In addition, until recently, the GHI scheme covered most of the costs of treatment abroad (treatment provided outside PMoH facilities, including services provided outside the occupied Palestinian territory) for referred patients. Few private health insurance schemes exist, and these few were responsible for <10% of the total health expenditure in 2005.^[30] GHI enrolment is compulsory only for public sector employees and their dependents.^[31] However, after 1994, extended coverage was achieved based on voluntary special contracts for employees of the private sector, and for the self-employed.^[32] In addition, following the commencement of the second Palestinian *Intifada* – i.e. the Palestinian Uprising – in 2000, an almost free public insurance programme was introduced: the ‘al-Aqsa Intifada Insurance’.^[31] Its objective was to address the needs of those injured and affected by repressive Israeli measures.^[31]

Unfortunately, the expanded coverage was not always associated with a parallel enhancement in the capacity of provided services, resulting in a deterioration in the quality of care and a lack of some services – including essential drugs and

supplies – at PMoH facilities.^[31] Consequently, a larger number of Palestinians started to seek care in the growing private sector, despite the associated higher financial burden.^[33] Recently, unemployment rates have spiralled upwards, and in 2007, more than one-fifth (21.5%) of the active population were unemployed,^[34] resulting in an average monthly expenditure (a proxy for per capita income) of around \$US136,^[35] and leaving 57.2% of Palestinian households with an income less than the national poverty line of \$US95.4 per capita per month.^[35]

Methodology

Theoretical Framework

Catastrophic health spending is commonly presented as the percentage of households with healthcare budget shares that exceed a predefined threshold (z), namely, the catastrophic payment head count (H_c); and as the combined amount by which households exceed the threshold z , namely, the catastrophic payment overshoot (O). While H_c represents the incidence of catastrophic health spending, O reflects its intensity. The two measures are related through the mean positive overshoot (MPO), which reflects the mean overshoot among those exceeding the threshold z .^[5]

Given that, under severe budget constraints, the budget share of health payments would be *de facto* low (due to the relatively high budget share of non-discretionary expenditures), households that cannot afford to meet catastrophic payments would consequently not be included in the estimated H_c . Therefore, an alternative approach, comparing health expenditures with resources net of spending on basic necessities (i.e. resources net of non-discretionary spending) was recommended.^[7] A common approach is to use household expenditures (a proxy for household level of resources) net of food spending (a proxy for non-discretionary spending) as an indicator of living standards, in the assessment of the incidence and intensity of catastrophic health spending.

The recommended value of z depends on whether health expenditures are compared with total expenditures or with expenditures net of non-

discretionary food spending. In practice, while spending 10% of total expenditures on healthcare is commonly considered to be catastrophic,^[7] spending 40% of non-food expenditures on healthcare is also considered to be so.^[11] The underlying rationale is that such percentages represent the threshold at which the household is forced to sacrifice basic needs, sell productive assets or incur debt.^[7,11,36,37] However, it is also commonly seen as more appropriate to present a set of results using several values for z and leave it to policy makers to decide on what would be ‘too much’.^[5]

Formally, if T is out-of-pocket payments for healthcare, x is total household expenditure and f is food expenditure, then H_c and O are estimated as shown in equation 1:

$$H_c = \frac{1}{N} \sum_{i=1}^N E_i$$

$$O = \frac{1}{N} \sum_{i=1}^N E_i \left(\left(\frac{T_i}{x_i} \right) - z \right) \tag{Eq. 1}$$

where $E_i = 1$ if $\frac{T_i}{x_i} > z$ (or $\frac{T_i}{x_i - f_i} > z$), and $E_i = 0$ otherwise. The MPO is calculated by dividing O by H_c .

On the other hand, an individual is considered poor (or in deep poverty) if their level of resources falls below a certain threshold, called the poverty (or deep poverty) line. For practical reasons, it is common to use total expenditures as a proxy for level of resources. Hence, the impoverishing effect of healthcare payments can be estimated by comparing the poverty incidence before and after the healthcare payments take place (H_{pre} and H_{post} , respectively), where the difference is called the poverty head count H_p . The impoverishing effect of healthcare payments can also be estimated by comparing the poverty intensity before and after the healthcare payments. This reflects the combined amounts by which poor households fail to reach the poverty line (G_{pre} vs G_{post}) – called the poverty gap (G).^[7] The two measures H_p and G are related by the mean positive poverty gap (MPG).^[5] Formally, $H_p = H_{post} - H_{pre}$ and $G = G_{post} - G_{pre}$, while $MPG = \frac{G}{H_p}$.

Several poverty lines were used to assess the impoverishing effect of healthcare payments in

the occupied Palestinian territory. These depended on the survey year and on whether 'poverty' or 'deep poverty' was being considered. Indeed, the Palestinian Central Bureau of Statistics (PCBS) has developed two poverty lines according to actual spending patterns of an average Palestinian household comprising two adults and four children. These are the 'deep poverty line' (which reflects minimum spending on food, clothing and housing) and the 'poverty line' (which includes, in addition to expenditures on basic needs, minimum spending on other necessities such as education, health, transportation and personal care).

Results from the years 2004–7 were compared with those of 1998, using the test of difference between two independent proportions. This was performed by comparing the year-specific 'head count' (H_c) and 'poverty head count' (H_p) with their equivalent value in 1998.

Survey, Instrument and Sample

A series of annual PECS, conducted by the PCBS for 1998 and 2004–7,^[19–23] were used to complete the analyses. PECS is a key survey designed and conducted by the PCBS to provide indicators about the standards of living in the occupied Palestinian territory. It was first conducted in 1995, and was completed every other year until 2004, and yearly thereafter. Respondents are asked detailed questions about all household income and expenditures, including health-related spending. A diary approach is used; respondents are given a book in which they provide details of all their expenditure and consumption items over an entire month.

The survey instrument is divided into two parts. Part one includes a set of demographic and socioeconomic indicators related to the selected household and its sources of income and standard of living. Part two includes a list of 30 expenditure and consumption groups based on the UN system of classification.^[38] Each group incorporates a comprehensive list of goods and services (a total of 667 items). Household expenditures on the various health and medical commodities are covered by 25 items (numbered from 3301 to 3325), constituting 'Group 17' in the UN classification system.

In addition, item 4504 covers household expenditures on various health insurance schemes.

The survey comprises a monthly sample of approximately 120 households, selected using multi-stage cluster sampling procedures. The survey subjects vary, generally from month to month, implying a repeated cross-sectional survey design, with a few households being purposively repeated to enable intra-subject comparisons. The raw data for the 5 years were provided by the PCBS, accompanied with a relative weight variable to allow reconstitution of the structure of the Palestinian population as per the latest population census.

Variables and Their Preparation

Two variables were needed to assess catastrophic and impoverishment effects: a measure of household levels of wealth and a measure of household levels of health expenditures. Given the questionable reliability of the income variable – as reported by PCBS – a concern consistent with other observations from similar studies conducted in other developing countries,^[5,39,40] total expenditure was used as a proxy for household level of wealth. All expenditure groups, including medical expenditures, were taken into account in calculating the wealth variable (i.e. pre-healthcare payment income). Household health expenditures were estimated by summing up all health and medical expenditures contained in Group 17 (see previous section). Health insurance premiums (item 4504) were included in the estimation of impoverishment effects; however, these were not accounted for in estimating catastrophic effects, which is conceptually concerned with *ex post* household health expenditures.

Post-healthcare payment income was estimated as pre-healthcare payment income minus healthcare expenditures. Per capita estimates were used in the various poverty analyses, where total household expenditures are divided by the number of household members. All expenditure data were transformed from New Israeli Shekels and Jordanian Dinars into \$US values using year-specific exchange rates. Different poverty lines were used for the different survey years as suggested by the PCBS – estimated based on

country- and year-specific cost of living indices. The analysis was conducted using STATA 9.2.

Results

Catastrophic Expenditures

Table I summarizes the incidence (H_c) and intensity (O) of catastrophic healthcare payments for the 5 survey years, based on health spending as a share of both total and non-food expenditures. Results are estimated using the commonly recommended cut-off points of 10% and 40%, associated with total and non-food expenditures, respectively. The findings are also sketched in figure 1. Detailed results emerging from the use of other cut-off points are presented in Appendix A of the Supplemental Digital Content 1 (<http://links.adisonline.com/APZ/A26>).

Results suggest that, following a steady decrease in the incidence of catastrophic payments in 2005 and 2006, the percentage of households incurring catastrophic healthcare payments more than doubled in 2007. When non-food expenditures are used as the proxy for household level of resource, results reveal that, while around 1% of the surveyed households reported having spent $\geq 40\%$ of their non-food expenditures on healthcare before 2007, this percentage more than doubled in 2007. When assessed using total household

expenditures, with the exception of 2005, all variations in the incidence of catastrophic healthcare payments compared with 1998 were significant at the 5% level. In the same vein, using non-food expenditures as the denominator, the catastrophic payment overshoot had, on average, almost tripled in 2007 compared with previous years.

These trends are obvious in the different curves presented in figure 1. All four curves demonstrate the drastic increase in the incidence of catastrophic healthcare payments in 2007. Although not clear with the other curves, the curve representing the percentage of households spending $\geq 10\%$ of their total expenditures on healthcare demonstrates a steady decrease in the catastrophic impact of healthcare payments after 2004, followed by a significant jump in 2007. Our findings signal a deterioration in the capacity of households to absorb the cost of healthcare, under the particular conditions of political and economic instability of recent years.

On the other hand, it is interesting to notice that, in 1998, those spending $\geq 10\%$ of total expenditure on healthcare spent, on average, 18.89% ($10\% + 8.89\%$) of their total expenditure on healthcare. This level remained almost the same in 2007: here, those spending $\geq 10\%$ of total expenditure on healthcare spent, on average, 18.07%. When healthcare payments were considered as a share of non-food expenditures, a similar result was

Table I. Incidence and intensity of catastrophic health payments in the occupied Palestinian territory, defined with respect to total and non-food expenditure, over various years^a

| Year | 1998 | 2004 | 2005 | 2006 | 2007 |
|--|-------------|-------------|-------------|-------------|--------------|
| Sample size (n) | 2851 | 3098 | 2152 | 1281 | 1231 |
| Out-of-pocket health spending as share of total expenditure (cut-off point = 10%) | | | | | |
| head count (SE) | 7.46 (0.49) | 8.94 (0.61) | 6.59 (0.54) | 5.33 (0.66) | 12.13 (0.99) |
| p-value ^b | | 0.0393 | 0.2340 | 0.0106 | <0.0002 |
| overshoot (SE) | 0.66 (0.07) | 0.76 (0.08) | 0.55 (0.07) | 0.43 (0.09) | 0.98 (0.14) |
| mean positive overshoot | 8.89 | 8.49 | 8.38 | 8.15 | 8.07 |
| Out-of-pocket health spending as share of non-food expenditure (cut-off point = 40%) | | | | | |
| head count (SE) | 1.16 (0.20) | 1.05 (0.22) | 0.81 (0.20) | 0.85 (0.26) | 2.15 (0.44) |
| p-value ^b | | 0.7346 | 0.1957 | 0.3870 | 0.0190 |
| overshoot (SE) | 0.16 (0.04) | 0.13 (0.04) | 0.08 (0.02) | 0.11 (0.05) | 0.34 (0.10) |
| mean positive overshoot | 14.18 | 12.29 | 10.04 | 13.18 | 15.77 |

a Presented as % unless otherwise indicated.

b Statistical testing was conducted by comparing the year-specific 'head count' with the equivalent value in 1998.

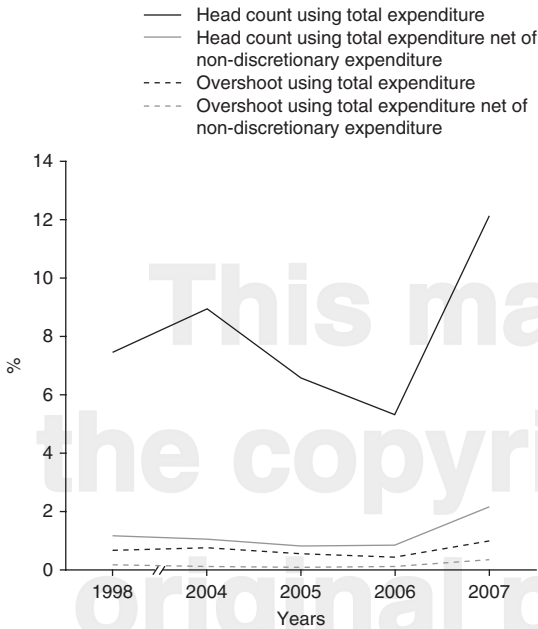


Fig. 1. Incidence and intensity of catastrophic health payment, using a threshold of 10% of total expenditures and 40% of expenditures net of non-discretionary expenditures, estimated over time.

obtained. This indicates that, although the percentage of households subject to catastrophic spending has increased in recent years, the amount that those households had to absorb financially to acquire necessary care did not vary much.

Finally, results in Appendix A (see the Supplemental Digital Content) show that, as the cut-off point was raised (from 5% to 25%), H_c and O were reduced by almost 15- and 8-fold, respectively, for all 5 years, when total expenditure was used to reflect the level of wealth; the year 2006 was an exception as H_c was found to decrease almost 25-fold. However, variations were less pronounced when health expenditures were compared with non-food expenditures. Unlike the catastrophic payment head count and the catastrophic payment overshoot, the mean overshoot among those exceeding the threshold (MPO) did not decline as the threshold was raised.

Impoverishment Effect

When assessed based on total per capita household expenditures, and using Palestinian-

specific per-year poverty thresholds, results suggest that 9% of the population were living below the deep poverty line of \$US1.74 per capita per day, and 15% were living below the poverty line of \$US2.13 per capita per day, in 1998. In 2006, the figures varied slightly to 8% of individuals living under the deep poverty line of \$US2.30, and 16% living under the poverty line of \$US2.88 per capita per day. When out-of-pocket payments for healthcare were netted out of household total expenditures, the percentages of individuals living under the Palestinian-specific deep poverty and poverty lines became 21% and 28%, respectively, for 1998, and 20% and 30% for 2006.

This indicates that the percentage of individuals who had fallen into poverty in 1998 due to healthcare payments was >13%, with almost the same percentage in 2006. Considering those who fell into deep poverty due to healthcare payments, in 1998 and 2006, the two percentages were around 12% and 13%, respectively. Surprisingly, the impoverishment effect of healthcare payments seems to be more pronounced than the associated catastrophic feature of the payment (the numbers calculated for 2006 indicate that the 12.5% absolute impoverishment effect is associated with only 0.85% catastrophic spending – estimated as out-of-pocket payment share of non-food expenditures).

Summarized impoverishment results for 1998, 2004, 2005 and 2006 are presented in table II; and detailed estimation results are found in Appendix B of the Supplemental Digital Content. In order to discern the trends embedded in the different numbers presented in the table, figure 2 shows the variations in the poverty head count and poverty gap over time. The trend in figure 2a suggests that an increase in the impoverishment effect of out-of-pocket healthcare payments took place in 2004 compared with 1998. However, this impoverishment effect decreased in the following year. In 2006, the situation seemed to have worsened. On the other hand, figure 2b describes the impoverishment impact of out-of-pocket healthcare payments on the poverty gap of the Palestinian population in 1998, 2004, 2005 and 2006. Results suggest that, contrary to variations in the poverty head counts, the poverty gap decreased in 2004, followed by an accelerated increase in 2005 and 2006.

Table II. Impoverishment effects of healthcare payments in 1998, 2004–6^a

| | 1998 | | | 2004 | | | 2005 | | | 2006 | | |
|--|-------------------|----------------|--------------|-------------------|---------------|----------------|-------------------|----------------|----------------|-------------------|----------------|----------------|
| | deep poverty line | poverty line | poverty line | deep poverty line | poverty line | poverty line | deep poverty line | poverty line | poverty line | deep poverty line | poverty line | poverty line |
| Poverty lines (\$US per capita per day) | 1.74 | 2.13 | 2.20 | 1.81 | 2.20 | 2.65 | 2.14 | 2.65 | 2.88 | 2.30 | 2.88 | 2.88 |
| Absolute difference in poverty head count [% (SE)] | 11.8 (0.002) | 13.3 (0.002) | 13.7 (0.002) | 13.0 (0.007) | 13.7 (0.002) | 12.31 (0.001) | 11.28 (0.002) | 12.31 (0.001) | 13.61 (0.003) | 12.50 (0.004) | 13.61 (0.003) | 13.61 (0.003) |
| p-Value ^b | 9.417 (1.653) | 10.872 (1.616) | 0.0991 | 0.8501 | 0.0991 | <0.0002 | <0.0002 | <0.0002 | 0.4449 | 0.1815 | 0.4449 | 0.4449 |
| Absolute difference in poverty gap [\$US (SE)] | 18.0 (0.032) | 17.0 (0.025) | 13.9 (0.015) | 7.552 (0.793) | 9.163 (0.686) | 10.336 (1.105) | 8.529 (1.156) | 10.336 (1.105) | 15.198 (6.076) | 12.915 (6.180) | 15.198 (6.076) | 15.198 (6.076) |
| Absolute difference in normalized poverty gap [% (SE)] | 73.0 | 47.8 | 34.6 | 48.6 | 34.6 | 28.0 | 42.7 | 28.0 | 48.7 | 78.7 | 48.7 | 48.7 |

a. See table I for sample sizes.
 b. Statistical testing was conducted by comparing the year-specific 'poverty head count' with the equivalent value in 1998.
 c. Normalized by dividing the poverty gap by the value of the poverty line.
 d. Estimated by taking the mean gap over all households below the poverty line.

This finding could be interpreted as follows: while the percentage of individuals impoverished by out-of-pocket healthcare payments increased in 2004 compared with 1998, the amount by which impoverished individuals did not reach the poverty line decreased. The situation was inverted in 2005, when the apparent decrease in the number of individuals impoverished by out-of-pocket healthcare payments was accompanied by an increase in the gap by which impoverished individuals did not reach the poverty line. The number of individuals impoverished again increased in 2006, but this time the impoverishment gap also increased, and by an even greater extent. Results for 2007 were not obtained because data were not available to complete the necessary estimations at the time of the analysis.

Discussion

The analyses presented in this article indicate an increase in the impact of external health shocks on Palestinian households in recent years, particularly in 2007. This increased exposure and vulnerability to large healthcare payments highlights weaknesses in the financial protection afforded to households by the current health financing system. The deteriorated situation might be due to the impoverishment of the population and the reduction in the availability of good-quality governmental health services.

Indeed, in 2006, the political difficulties of the occupied Palestinian territory intensified after the international and Israeli Government boycott of the governmental health sector following the victory of the Islamic Resistance Movement (Hamas) in the January 2006 elections of the Palestinian Legislative Council (the Parliament). In 2007, a series of abnormal events occurred in the occupied Palestinian territory, with the formation of a unity government, followed by its dissolution, culminating into two governments 'administering' each of the West Bank and the Gaza Strip. Moreover, in June 2007, a political impasse between the two main factions operating in the occupied Palestinian territory, Fateh and Hamas, resulted in an administrative separation between the West Bank and the Gaza Strip, accentuating

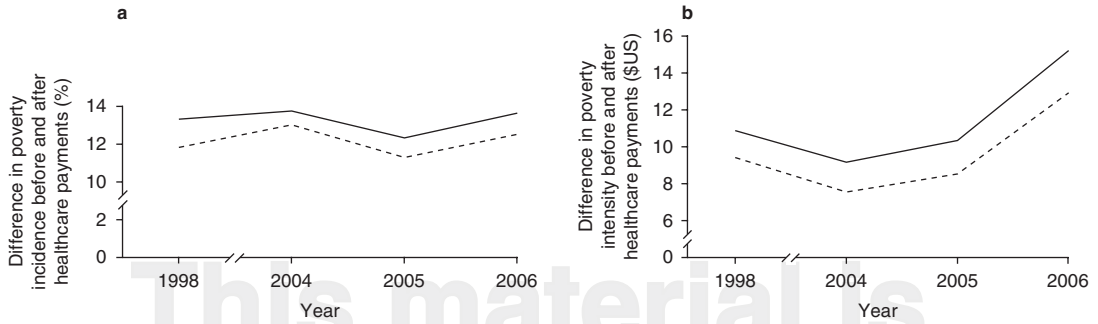


Fig. 2. Impoverishment effect of healthcare out-of-pocket payments on (a) poverty head counts and (b) poverty gap using Palestinian-specific poverty (solid lines) and deep poverty (dashed lines) lines.

an enduring territorial separation. As a result of the election, Israeli-imposed restrictions on access and movement increased throughout the West Bank and the Gaza Strip. As a consequence, Palestinian society was subjected to unprecedented mass impoverishment.^[41,42] This impoverishment prevented large segments of the population from meeting their needs for healthcare services.

In parallel with the generalized impoverishment of the population, the interruption of international donations to the governmental sector led to a decrease in the availability and quality of healthcare services. This deterioration was documented in a series of reports published by the WHO office in Jerusalem, describing shortages in basic items and essential medications needed for healthcare, mainly at governmental healthcare facilities, during 2006 and 2007.^[43,44] The latter issue led many patients to seek care in more expensive private sector facilities, which increased the impact of catastrophic and impoverishing healthcare payments.

The unexpected relatively higher impoverishment effect of healthcare payments compared with the incidence of catastrophic payments reflects the extremely vulnerable situation in which a large share of Palestinian households find themselves. Consequently, even a healthcare payment that is not 'too high' – not 'too high' to be considered catastrophic – is enough to push them into poverty. Results for the impoverishing effect of healthcare payments in 2007 are not presented here, but preliminary observations suggest that

the pronounced deterioration in 2006 has continued unabated in 2007,^[45] with an even higher impoverishing effect of healthcare out-of-pocket payments than the previous year. The discrepancy between the trends of poverty head counts and gaps might be because individuals who were outside the poverty pool are now becoming poor, and hence, mitigating the overall *MPG*. This can be supported by the decrease in the estimated values of the *MPG* in 2004 and 2005. The rebound increase in the estimated value of *MPG* in 2006 signals a continuing impoverishing process in which the poor are becoming poorer.

The increase in the catastrophic impact of healthcare payments in 2007 should cause increasing concern due to the impact that it can have on the livelihood of the public and their capacity to acquire their necessary non-health commodities. Moreover, the incapability of the healthcare system to fulfil its goal of protecting against the financial risk of ill health will ultimately compromise the health status of the population, with potentially negative consequences on the economic development of the country as a whole. However, health remains a basic human right before being an engine for economic development, and efforts should be made to promote it in the most equitable manner.

Comparison with Other Studies

Consistent with previous literature,^[5,7,11,36,37] catastrophic healthcare payments were estimated

by comparing health expenditures with total expenditures and with expenditures after netting non-discretionary expenses. The use of the two estimation approaches allowed us to assess the consistency in the obtained results where, even after netting expenses on food items, healthcare payments still appeared to have a highly negative impact on a non-negligible proportion of the population.

Assessments based on the standard summary measures of inequality for the particular case of the occupied Palestinian territory have been fully addressed in previous publications.^[5,31,46] Reported results clearly confirmed the 'pro-rich' regressive nature of the current structure of healthcare financing, with lower-income population groups bearing a higher burden of healthcare expenditure – as a proportion of their income – than the higher-income groups. On the other hand, although the worse off appeared to have a disproportionately greater need for all levels of healthcare (primary, secondary and tertiary care), access to and utilization of all levels of healthcare emerged as significantly higher for the better off.

However, it is suggested that standard measures of equity, based on an assessment of concentration indices pre- and post-healthcare payment, might be insufficient to capture the complete picture of the impact of healthcare payment on the livelihood of households.^[10] This is mainly the case where utilization patterns are contingent on payments, and where the healthcare cost constitutes a relatively high share of individual and household resources: something that corresponds to the healthcare system in the occupied Palestinian territory and in many other developing countries. Indeed, when the healthcare costs exceed a certain level of household resources, attaining a progressive healthcare payment schedule might prove not enough to allow for equitable healthcare financing. This is because, in such circumstances, even with a progressive payment schedule, individuals and households might find themselves obliged to sacrifice high proportions of their resources to acquire healthcare – 'high' inasmuch as they might become catastrophic and potentially push individuals and households into poverty. Consequently, in such circumstances, an assessment of

the extent of catastrophic healthcare payments and their impoverishment effects would be necessary to complete the picture.

The Commission on Macroeconomics and Health stated^[47] that "in most middle-income countries, average health spending per person is already adequate to ensure universal coverage for essential interventions. Yet such coverage does not reach many of the poor." This statement highlights the possibilities of reaching universal health insurance coverage for priority interventions and protecting the most vulnerable segments of society, if countries were able to more efficiently and effectively organize their health financing systems. For example, the unregulated exemptions of the al-Aqsa Intifada Insurance scheme in the occupied Palestinian territory should be reconsidered. This is prompted by observations pointing to the weaknesses of the current exemption and pricing policies in promoting equity.^[30] Furthermore, although the system was introduced in 2000 to help alleviate the social and economic consequences of the Israeli reaction to the second Palestinian uprising, it was not well administered. Its overall mismanagement also, paradoxically, led to deterioration in the quality of PMoH healthcare services due to inflation in the number of non-contributing insured individuals. This situation has severely jeopardized the financial sustainability of the PMoH, without significantly reducing the vulnerability of Palestinian households to financial risk.^[15]

While confirming previous findings about the weaknesses of the current healthcare system in protecting against the burden of ill health, it is worth noting that our approach to assessing catastrophic health spending and its impoverishment effects has a few limitations. First, the approach ignores households that cannot meet these expenses and hence must forgo the treatment.^[36] Second, it underestimates the negative consequences of lost earnings due to illness.^[48] Third, although the use of total expenditure as a proxy for household and individual level of resources helps avoid some of the problems related to income measurement, this approach does not account for the dynamics in household income formation and mechanisms of coping. An example of this is the selling of

household assets to meet healthcare demand. Adopting an 'asset approach', where wealth is assessed using an asset index combined with cash flow measurement, could help avoid such a problem. Fourth, although the utilized 'deep poverty lines', as defined by the PCBS, include only minimum expenses on basic needs (food, clothing and housing), the adopted 'poverty lines' are set to include some spending on other necessities, one of which is healthcare. This indicates that our quantification of the impoverishment effect of healthcare payment needs to be refined using more sensitive poverty lines that vary in function of whether or not healthcare payments are included within total individual or household expenditure. It is therefore acknowledged that, although the analyses presented in this article are informative, limiting the definition of catastrophic spending to the healthcare expenditure share of total expenditures, and limiting the assessment of the impoverishment effect to comparisons with predefined poverty lines, means that the welfare loss from the lack of financial protection against health shocks is not fully identified.

Further work is still needed to separate the effect of extrinsic contextual (political and economic) factors, and intrinsic system features, and identify the relative contribution of each. In addition, future work should address the characteristics of the population most vulnerable to catastrophic and impoverishment effects. This is important because, although it is useful to portray the general picture at the population level, it is also of equal interest to policy makers to be able to recognize where interventions are most needed. The limited sample size in the different PECS surveys analysed in the present study, and the generic feature of the survey instrument – covering all expenditure and consumption categories – did not allow for assessment of the financial impacts on different subcategories of the population. Finally, further work is also needed to specify the thresholds that ought to be used to qualify a healthcare payment as catastrophic, or one with impoverishing consequences. At present, the different thresholds presented in the literature remain more or less arbitrary, with no clear theoretical foundation to justify their appropriateness. The

same applies to the use of food spending as a proxy for non-discretionary expenditures. Although the latter remains a plausible approximation, it is worth noting that, under certain circumstances, some households can opt to limit their food expenditure in order to meet other necessary expenses, including healthcare.

Conclusions

Our analyses signal the alarming decline in the ability of Palestinian households to absorb the cost of healthcare services, under the prevailing conditions of political and economic instability of the occupied Palestinian territory. Improving risk pooling (either through general or payroll taxation) and poverty-targeting mechanisms are necessary in the future to strengthen financial protection. In the medium run, safeguarding interventions run by the various PNGOs and UNRWA facilities would help alleviate the excessive burden associated with out-of-pocket healthcare payments. It is recommended that pro-poor financing schemes be pursued to mitigate the negative impact of recurrent shocks prevailing in the country. Finally, improving the broader economic and sociopolitical situation of the occupied Palestinian territory is critical for a higher performing healthcare system in which households are protected from the deleterious effects of catastrophic healthcare payments.

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