



Monitoring financial protection and utilization of health services in Mongolia 2009–2018



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Monitoring financial protection and utilization of health services in Mongolia: 2009-2018

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Financial protection is a key dimension of universal health coverage (UHC) and can be monitored within the framework of the Sustainable Development Goals (SDGs). The World Health Organization (WHO) conducted this study to monitor progress towards UHC within the SDG framework. The data and results aim to inform policy-making to advance the goals of the Government of Mongolia.

The team tasked with producing this report includes colleagues from WHO headquarters, the WHO Regional Office for the Western Pacific and the WHO Representative Office in Mongolia.

The principal writers of the report were Ms Maria Peña (WHO consultant) and Dr Gabriela Flores (Health Economist). Valuable inputs were supplied by Ms Erdenechimeg Enkhee (Technical Officer), Mr Tomas Roubal (Health Economist) and Ms Ding Wang (Technical Officer).

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Abbreviations

GDP	gross domestic product
HIGO	Health Insurance General Office
HSES	household socioeconomic survey
MNG	Mongolia
OOP	out of pocket
PHC	primary health care
PPP	purchasing power parity
SDG	Sustainable Development Goal
SHI	social health insurance
UHC	universal health coverage
WHO	World Health Organization

Introduction

Mongolia is working towards achieving the goal of universal health coverage (UHC), which is defined as all people receiving needed quality services without financial hardship (1,2). This report's objective is to provide evidence for policy-makers on gaps in health service utilization and the extent of financial hardship incurred by the people of Mongolia over the past decade. It relies on measures of financial hardship used within the Sustainable Development Goals (SDGs) monitoring framework to track progress towards UHC as well as those linking financial hardship to SDG 1 of poverty eradication. The analysis is based on the Household Socioeconomic Survey (HSES) conducted between 2009 and 2018, and indicators are reported at national levels, as well as across population subgroups.

To date, few studies have focused on financial protection in Mongolia, and yet assessment is critical to understand whether the health financing system is able to protect the population from the negative consequences of out-of-pocket (OOP) payments for health (3–5). OOP payments are defined as direct payments made at points of service to get any type of health care (promotive, preventive, curative, rehabilitative, palliative or long-term) and to receive any supporting service (such as laboratory services), medicine or health product needed to get such care; they include user fees and co-payments but exclude pre-payments (6). OOP payments represent a barrier to accessing care and a source of financial hardship for all people in all countries at all income levels because health services and products are delivered only when individuals pay. Sicker people are requested to pay more for the treatment they need without taking into account their ability to pay, and people's ability to pay depends solely on the economic resources of their families. OOP payments for health do not need to be large in absolute terms to threaten household living standards as even small amounts can push or further push people into poverty and/or deter poorer households from seeking the health services they need (2,7).

This report is organized as follows: section I provides an overview of the health financing system and health system of Mongolia; section II provides an overview of the sources of data and methodology used in this report; and section III presents the results of the analysis, including health service utilization, OOP financial protection and impoverishment due to health spending trends between 2009 and 2018 in Mongolia. Section IV summarizes the findings from section III, and section V provides policy recommendations.



I. Background

Health financing system and overall health system

In 1993, social health insurance (SHI) was introduced in Mongolia in order to ensure health equity across population groups. To ensure coverage of low-income and vulnerable populations, the Government fully subsidizes the health insurance contributions of children, students, pensioners and the low-income group (8). Since the introduction of SHI, Mongolia has sustained over 80% SHI coverage for its population. Coverage has fluctuated over the years; however, as of 2018, reached 90.4% of the total population (Fig. 1) (9). Historically, benefit entitlements for the tax-funded system and health insurance were complementary and funded different services. Health promotion, disease prevention and curative care for the priority areas of maternal and child health, communicable diseases and noncommunicable diseases are primarily funded through the state budget. SHI covers inpatient and outpatient services at secondary and tertiary hospitals including emergency services and long-term care (Annex 1).

Legally, all Mongolian citizens have free access to essential primary care services provided at family health centres and *soum* (district) health centres (9). Primary care services delivered by state-owned *soum* health centres, state and privately owned family health centres are funded through the state budget, as of 2018 (10). Inpatient care is provided by both public and private sector hospitals in urban areas and by *soum* health centres in rural areas. There are secondary and tertiary level hospitals; all the higher-level public hospitals are located in the capital (Ulaanbaatar) and provincial areas. The private sector hospitals are predominantly located in urban areas. Inpatient care provided by *soum* district health centres is fully funded by the state (4). In terms of funding for secondary and tertiary level hospitals, SHI covers 85–90% of costs (9). Additionally, the state budget also funds the treatment of select chronic and infectious diseases provided at secondary and tertiary level hospitals (11). Essential drugs prescribed by *bagh*, *soum* and family doctors are funded by SHI and can be purchased at contracted private pharmacies (12). In Mongolia, all pharmacies are private. The only available pharmacies in the public sector can be found in public hospitals, and therefore limited to *inpatients* (13,14). Co-payments exist at the primary care level for essential medicines. SHI covers 50–100% of the essential medicine cost prescribed by family physicians and medical doctors; co-payment for inpatient services is at 10% at the secondary care level and at 15% at the tertiary care level (12).

The Mongolian health system relies on three main sources: the government budget, an SHI fund and household OOP payments. Government health spending remains the predominant source of financing for health, but OOP payments account for a third of spending since 2010. Even with high population coverage, OOP payments have remained between 30% and 40% (Figs. 1 and 2) of total current health expenditure. Government health spending accounted for 2.2% of gross domestic product (GDP) and OOP spending for 1.2% of GDP (increased by 21% between 2009 and 2018), and government health spending as a share of GDP decreased by 28% (Annex 2). This increased reliance on household OOP spending can negatively impact the living standards of people or deter people from using services.

Health financing policies

Table 1 highlights the key health financing policies in Mongolia between 2010 and 2020. The Government endorsed a health financing strategy for 2010–2015 to improve financial protection to the Mongolian population. Since 2010, SHI expanded coverage for a number of health services, including inpatient care, diagnostics and palliative care, for which the SHI payment was increased, and essential medicines were made more accessible by increasing the number of private pharmacies contracted by SHI (13).

TABLE 1. Health financing policies over time

Year	Policy	Description
2010	Expanding SHI benefit package	<ul style="list-style-type: none"> The Ministry of Health used 115 diagnostic-related groups to pay for hospital inpatient care, diagnostics and palliative care from SHI. A total of 339 essential drugs can be partly reimbursed (5–91%) where prescribed by a family doctor, <i>soum</i> hospital doctor or <i>bagh feldsher</i> and dispensed by a health insurance designated or contracted pharmacy.
2011	Subsidy	<ul style="list-style-type: none"> A one-time subsidy was provided to cover uninsured groups.
2015	Adoption of a new Health Insurance Law	<ul style="list-style-type: none"> The premium rate was increased. Expanded SHI benefit entitlements to include primary health care (PHC) services, high-cost services and essential medicines. The law provides incentives and discounted prices for 16 types of health-care services including: ambulatory care, rehabilitative care, selected diagnostic tests, 812 essential medicines¹ and cancer treatment. Changed the form of government subsidy used to cover SHI contributions for the exempt population from a flat rate to a percentage of the minimum wage. As a result, government contribution to SHI has increased.
2018	Expanding SHI benefit package	<ul style="list-style-type: none"> As of August 2018, SHI funded four main areas under the PHC package: (1) rehabilitation; (2) home care; (3) day care; and (4) laboratory diagnostics. As of 2018, <i>soum</i> and family health centres started receiving reimbursement from SHI.
2020	Increased discount for medicines	<ul style="list-style-type: none"> Amendments to Health Insurance Law are approved by the Parliament in August 2020. As a result, the decision was made to integrate state budget funding to SHI fund, and SHI operates as single purchaser. Accordingly, the health insurance benefit package has been revised, redefined and extended. State-funded health services are: obstetric care during pregnancy, delivery and postnatal care, treatment of tuberculosis, cancer, psychiatric disorders, emergency and ambulance care, PHC, diagnosis for communicable disease, and other services.

Source: Adapted from various sources (13,15)

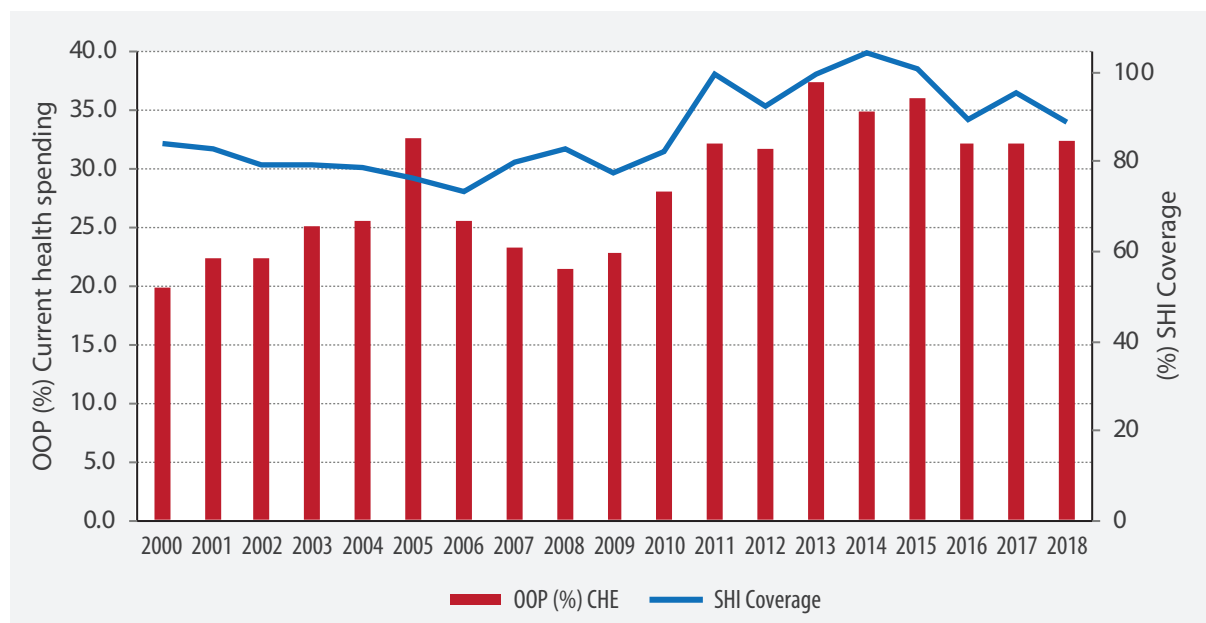
¹ Select drugs can be bought at a discounted price when prescribed by a doctor. There are 812 medicines listed and can be bought with a discount ranging from 20% to 80%.

In 2015, the Health Insurance General Office (HIGO)² expanded the benefit package to include primary health-care services, high-cost services and essential medicines. Additionally, the law provided discounted prices for 16 types of health-care services, including 812 medicines where the discount ranged from 20% to 80%. By 2018, half of the population of Mongolia had benefited from this reform with an estimated 1.5 million people benefiting from medicines reimbursed by the health insurance fund (9).

In 2017, the Ministry of Health implemented a new state policy on health in which the Government aimed to keep OOP spending at 25% of total health spending.

In 2018, the Mongolia Ministry of Health, with support from the World Health Organization and partners, introduced a new strategic purchasing initiative in primary health care (PHC) through the SHI reform. The benefit package expanded coverage to day care, home care, rehabilitation care and select diagnostic tests (9). Prior to 2018, SHI did not finance PHC, which was only financed via the state budget.

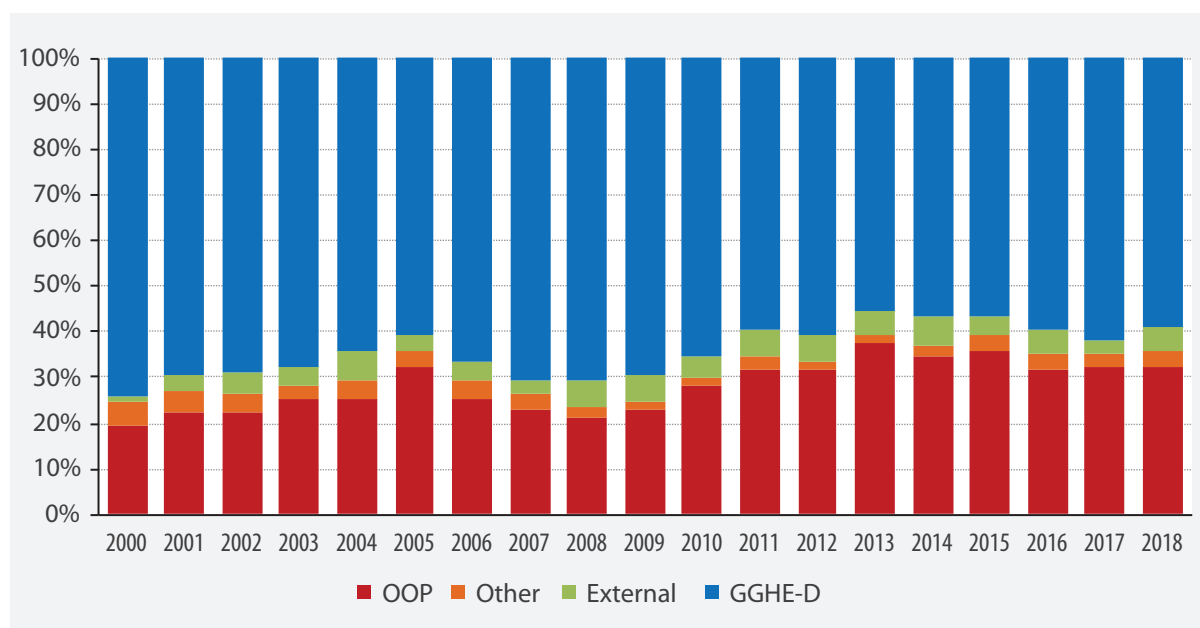
FIG. 1. OOP spending as a share of current health expenditure (CHE) and health insurance coverage, 2000–2018



Sources: Adapted from various sources (8,16,17)

² The main agency for SHI.

FIG. 2. Components of national current health expenditures 2000–2018



Notes: GGHE-D = Domestic General Government Health Expenditure

Source: World Health Organization. Global Health Expenditure Database (accessed 9 December 2020).

II. Methods

Data source

The analysis in this report is based on the Household Socioeconomic Survey (HSES) conducted in Mongolia in 2009, 2010, 2011, 2012, 2014, 2016 and 2018.³ The HSES is a nationally representative survey that aims to estimate and monitor the level of poverty in the country and people's living standard. Its purpose is also to update consumption weights for the consumer price index baskets and estimate private consumption expenditure for the national accounts (GDP) (7). It is the only source of information available to monitor financial protection in health as it includes information on both total household consumption and household health expenditures.

The HSES questionnaire includes information on household characteristics, education, health, employment, livestock, breeding and crop farming, nonagricultural manufacturing, trade, services, savings, loans, dwelling and energy, durable goods, food consumption and non-food expenditure. It uses a combination of recall and diary to collect information on food consumption. All information on non-food expenditure is based on both a 12-month and 1-month recall. A 12-month recall period is used for all non-food consumption items in this analysis. Information on health expenditures is available in the health module as well as the non-food consumption module. The information on health included in the non-food module is structured according to division 06 of the classification of Individual Consumption According to Purpose (COICOP-1999). For cross-country comparability, the analysis in this report uses the information on health collected through the non-food consumption module.

The sample size between 2009 and 2012 consisted of approximately 11 000 households, and since 2014, the HSES has collected a sample of more than 16 000 households. The HSES is representative at the national, regional, urban/rural, residential location and *aimag* levels. Urban residents are defined as households living in Ulaanbaatar city province/*aimag* centres, whereas rural residents are defined as households living in *soum* centres or the countryside. The primary sampling units are *Kheseg* in Ulaanbaatar, *bagh* in *aimag*, *soum* centres and the countryside.

³ 2012 was excluded for health service utilization analyses due to data discrepancies. 2012 and 2016 are excluded in certain financial protection disaggregated analysis.

Construction of key variables⁴

Health service utilization and illness

OOP health payments occur only when people seek care. To understand the health-seeking behaviour of people in Mongolia over the past decade, information on health service utilization was extracted from the individual-level health module of the HSES, which covers all household members. Variables include inpatient and outpatient utilization, provider type, and the share of people with a health problem in the month prior to the survey (Table 1). The information on utilization of outpatient services is reported conditionally on declaring a health problem over the past month, similar to the information on inpatient care.

The prevalence of a health problem is estimated as the percentage of the population self-reporting a health problem in the past month.

Health services utilization rates are estimated based on the percentages of the population accessing outpatient services over the past month or inpatient health services over the past year⁵ (conditional on reporting illness).

TABLE 2. Health service utilization variables

Variable name	Variable description
Illness	Reported a health problem in the past month
Outpatient utilization⁶	Sought care in the past month
Inpatient utilization	Stayed at a hospital in the past 12 months
Facility type for inpatient or outpatient care	Primary level= <i>Soum</i> centre family clinic Secondary level= <i>Aimag</i> /district clinic Tertiary level= Central hospital/clinic Private facility= Private, abroad and other
Reasons for not seeking treatment when reporting illness	Reported one reason for not seeking treatment when reporting illness in the previous question

⁴ Further information on the construction of food and non-food components can be found in a supplementary report, *Methodology to produce Financial Protection estimates in Mongolia Household Socioeconomic Survey (HSES)*, which will be available upon request.

⁵ Outpatient utilization has a recall period of 1 month and inpatient utilization uses a recall period of 12 months to acknowledge that inpatient care is a low probability event.

⁶ Annex 1 for further information on a sensitivity to the choice of the module (non-food versus health) and reference period. In general, household spending on health is larger when based on the health module which is consistent with findings in other countries (give references).

Barriers to access

The prevalence of barriers to access is estimated as the percentage of the population not seeking care when self-reporting a health problem over the past month.

Variable name	Variable description
Reasons for not seeking treatment when reporting illness	Reported one reason for not seeking treatment when reporting illness in the previous question

OOP expenditure

OOP expenditure was extracted from the non-food module and includes medicines, consultations, dental care, hospitalization, ancillary services and other medical services with a recall period of 12 months.

TABLE 3. OOP payment components

Variable name	Variable description
Outpatient	OOP on consultations and dental care
Inpatient	OOP on hospitalizations
Other	OOP on ancillary services (injection, diagnostic imaging, laboratory tests, etc.) and OOP on medical products (optic glass, lens, hearing aid, orthopaedics, etc.)
Medicines	OOP on medicines (drugs, medicines, vitamins, medical supplies including condoms, thermometers, etc.)

Financial protection indicators

There are two key indicators that are used to monitor household financial protection from health payments. Within the SDG monitoring framework, SDG indicator 3.8.2 of catastrophic health spending is defined as the proportion of the population with household OOP health spending exceeding 10% and 25% of the household budget (total consumption or income). For the purposes of this analysis, we will make use of two thresholds (10% and 25%) to monitor catastrophic health spending.⁷ The 10% and 25% thresholds are based on the SDG 3.8.2 methodology to measure catastrophic spending (18,22). If their share of OOP expenditure is greater than 10% or 25% of the household budget, they are identified as incurring catastrophic health expenditures. The share of the population with catastrophic health spending indicates large health-care expenditures or OOP payments that diminish a household's capacity to pay for other goods.

The SDG-related indicators of financial protection link UHC directly to SDG 1 – to end poverty in all its forms everywhere. The proportion of the population impoverished by OOP health spending is an estimate of the percentage of the population living in households in which this spending leaves non-medical consumption below a poverty line. This indicator is the second

⁷ There are several thresholds and denominators that can be used for catastrophic spending (18–21).

most widely used indicator of financial protection, which is not an official SDG indicator but supplements the catastrophic payment indicator by estimating how much poverty is increased by households having to pay OOP for health care and thereby divert resources from other goods and services that are also needed for subsistence. Three poverty lines are used to demonstrate the interdependence between the eradication of poverty and UHC:

- An absolute poverty line of extreme poverty, defined as living on \$1.90 a day (in 2011 purchasing power parity or PPP terms), which corresponds to the median national poverty line of low-income countries (18,22).
- A higher poverty line of \$3.20 a day (in 2011 PPP terms), which corresponds to the typical standard used to assess national poverty levels by lower middle-income countries (18,22).
- A relative poverty line of 60% of median daily per capita consumption or income, which captures the impact of OOP health spending on poverty across all countries, at all income group levels.

Consumption quintiles

Consumption quintiles are used in this report to highlight the differences in the degree of financial protection across different socioeconomic groups. The first quintile is labelled poorest and the fifth quintile as the richest; some households may appear to be richer than they actually are because they have borrowed money to finance spending on health (or other items), but it can be safely assumed that households in the poorest quintile are genuinely poor. Consumption expenditure quintiles are constructed based on consumption expenditure per person per day.

III. Analysis

This analysis aims to monitor changes in health service utilization, OOP spending, catastrophic and impoverishment due to health payments over the period between 2009 and 2018:

- Health service utilization and access to care
- OOP spending
- Catastrophic health spending
- Impoverishment due to health spending.

The analysis is presented at the national level, but also by place of residence, including by urban and rural residency and by consumption quintiles.

What is the level of health service utilization and access to care in Mongolia?

In 2018, 9.1% of the population reported a health problem, up from 7.2% in 2009 (Table 4). Over time, the proportion of the population reporting a health problem increased by 7% per year; however, this fluctuated over time. Whereas inpatient and outpatient health-care utilization experienced a decrease between 2009 and 2016 and increased in 2018 (Fig. 3). The share of the population utilizing outpatient services decreased by 3.1% per year between 2009 and 2016 to reach 4.7% and then increased to 7.0% in 2018 (Fig. 3). Inpatient health-care utilization also decreased from 9.0% in 2009 to 7.3% in 2016, with the fastest reduction observed between 2014 and 2016. In 2016, inpatient care started to increase, reaching 9.4% in 2018.

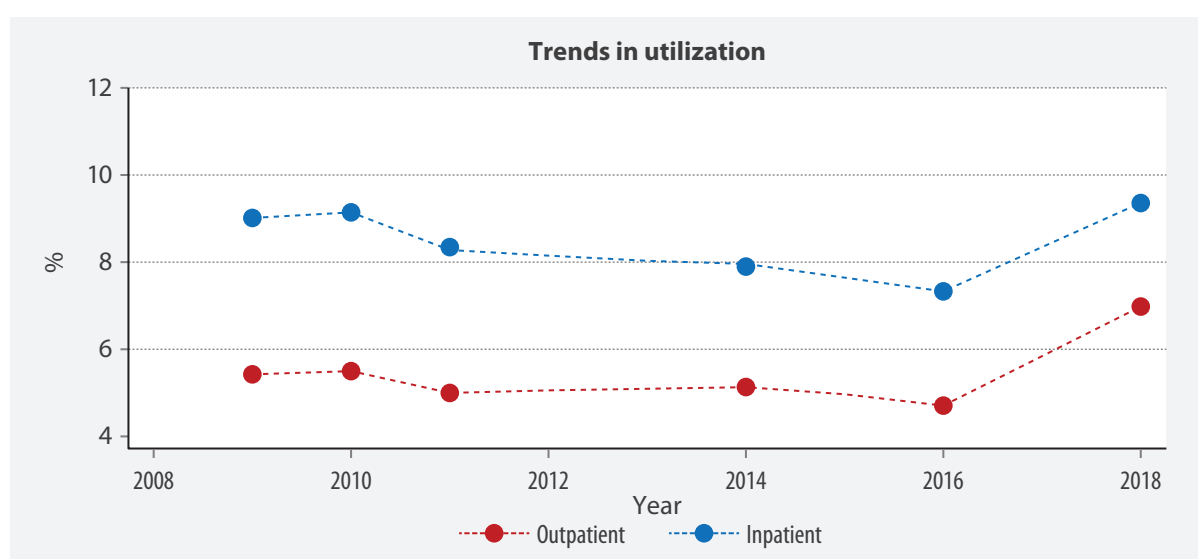
Almost 8 out of 10 individuals who reported a health problem utilized outpatient services between 2009 and 2018 with very little fluctuation over the entire period (Fig. 4). Conditional on being sick, outpatient utilization rates remained stable at around 78% on average over the whole period.

Outpatient utilization among individuals reporting a health problem increased across consumption quintiles (Fig. 4). In general, the poorer households tend to have low perceived need to seek medical care, relative to richer households with an average difference of 3.4 percentage points over the whole period (Fig. 4). On average, a 3.4-percentage-point difference is found between the poorest quintile (Q1) and the richest quintile (Q5) when it comes to seeking care when ill (among all age groups). In 2018, 79.1% of individuals in the richest quintile sought care versus 76.5% of the individuals in the poorest quintiles. Inequalities in seeking care when ill were the highest in 2016, when 81% of those in Q5 sought care and only 74% of those in Q1 did too.

TABLE 4. Proportion of the population reporting a health problem, 2009–2018

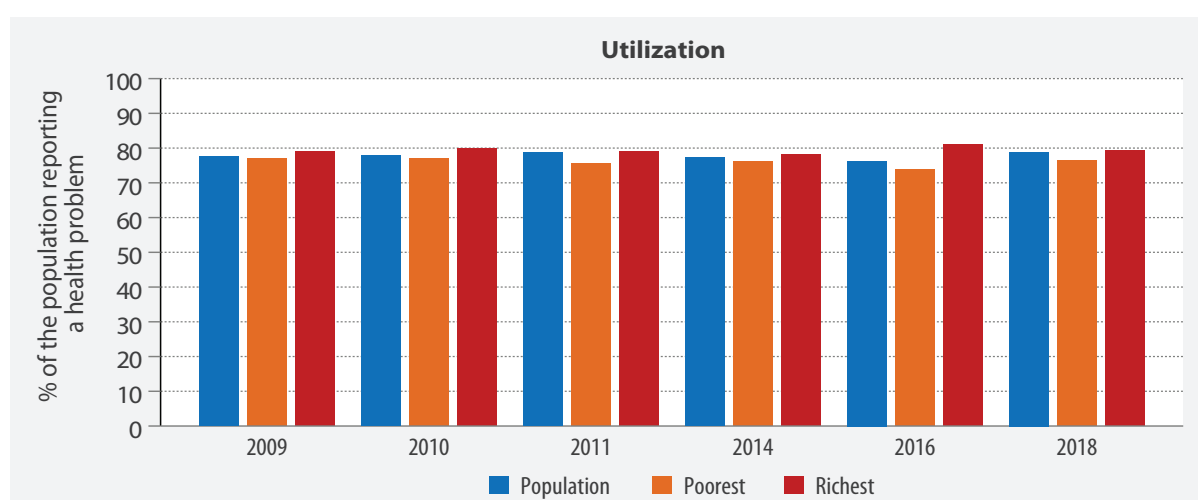
	National	Quintile 1	Quintile 2	Quintile 3	Quintile 4	Quintile 5
2009	7.1%	5.3%	5.6%	7.4%	8.0%	9.3%
2010	7.2%	5.1%	5.6%	7.3%	8.2%	9.9%
2011	6.5%	4.6%	5.0%	6.4%	7.5%	9.0%
2014	6.9%	5.6%	6.2%	6.6%	7.3%	8.5%
2016	6.4%	4.7%	5.4%	5.8%	7.0%	8.8%
2018	9.1%	7.3%	7.5%	8.1%	9.7%	13.0%

FIG. 3. Share of total population utilizing outpatient and inpatient services in Mongolia



Source: MNG, WHO (draft) survey-based estimates

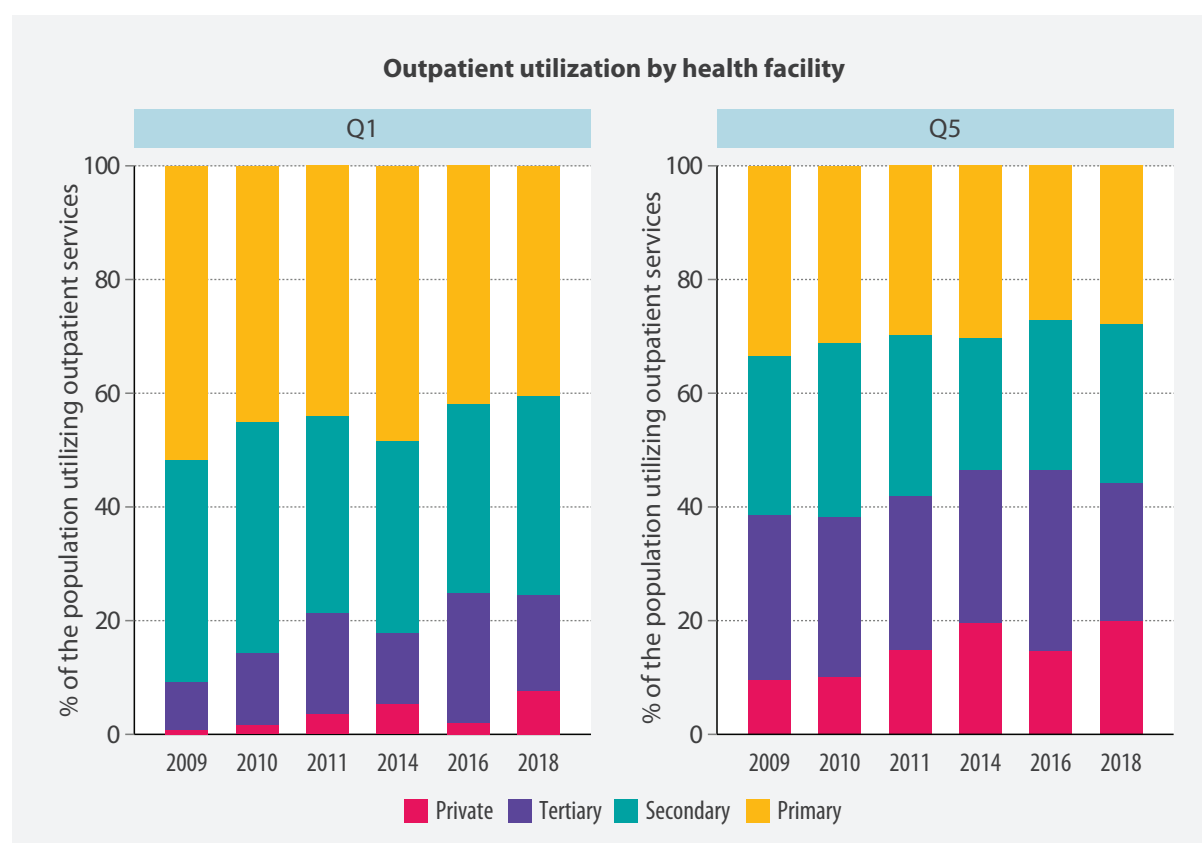
FIG. 4. Outpatient utilization among those who reported a health problem by quintile



Source: MNG, WHO (draft) survey-based estimates

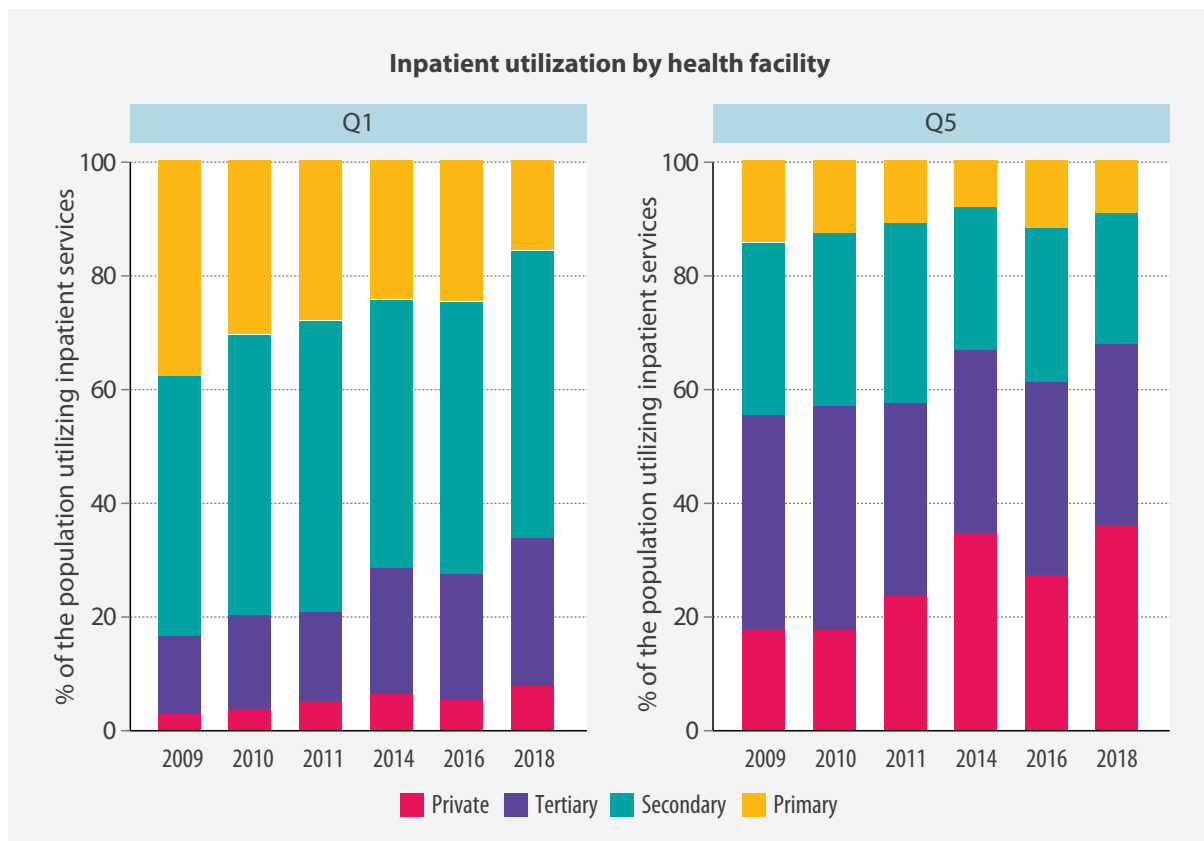
Differences across quintiles were observed in health-seeking behaviour by health facility; the poorest households tend to seek outpatient care at primary and secondary level health-care facilities (Fig. 5). The poorest households tend to seek inpatient care at secondary level facilities, whereas the richest quintiles seek care equally across public tertiary and secondary facilities as well private (Fig. 6). Between 2009 and 2018, the use of private facilities for both inpatient and outpatient care across quintiles has more than doubled. Between 2009 and 2018, the poorest quintile sought inpatient care predominantly at primary level facilities or *soum* centre family clinics (40%) and secondary health-care facilities (34%), whereas the richest were accessing outpatient services at tertiary level specialized centres, central hospitals and private institutions and only 27% of their services at PHC facilities. Interestingly, we see an increase in the use of tertiary and private care among the poorest quintile, with the exception of 2016, when we saw a decrease in private facility use.

FIG. 5. Outpatient utilization by health facility across Q1 and Q5



Source: MNG, WHO (draft) survey-based estimates

FIG. 6. Inpatient utilization by hospital type across Q1 and Q5

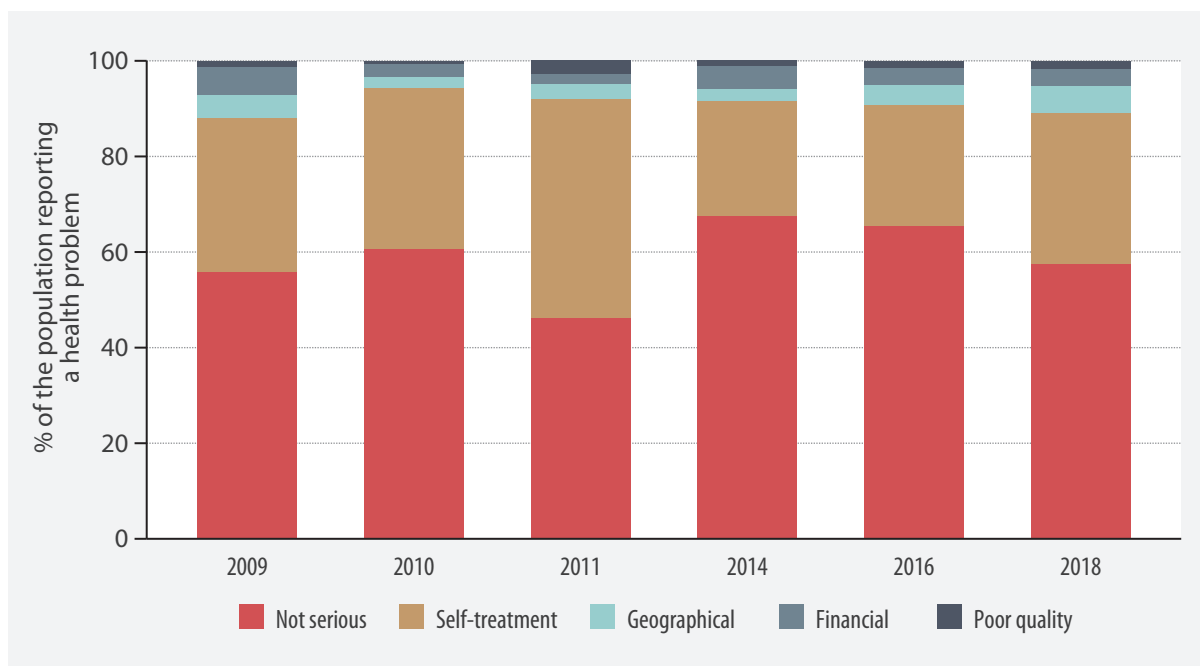


Source: MNG, WHO (draft) survey-based estimates

Rural area residents seek care predominantly at primary care facilities, whereas urban area residents receive the majority of their services at upper care facilities (Annex 4). Rural area residents sought 55% of their services at PHC facilities, and urban area residents sought only 28% of their services at PHC facilities.

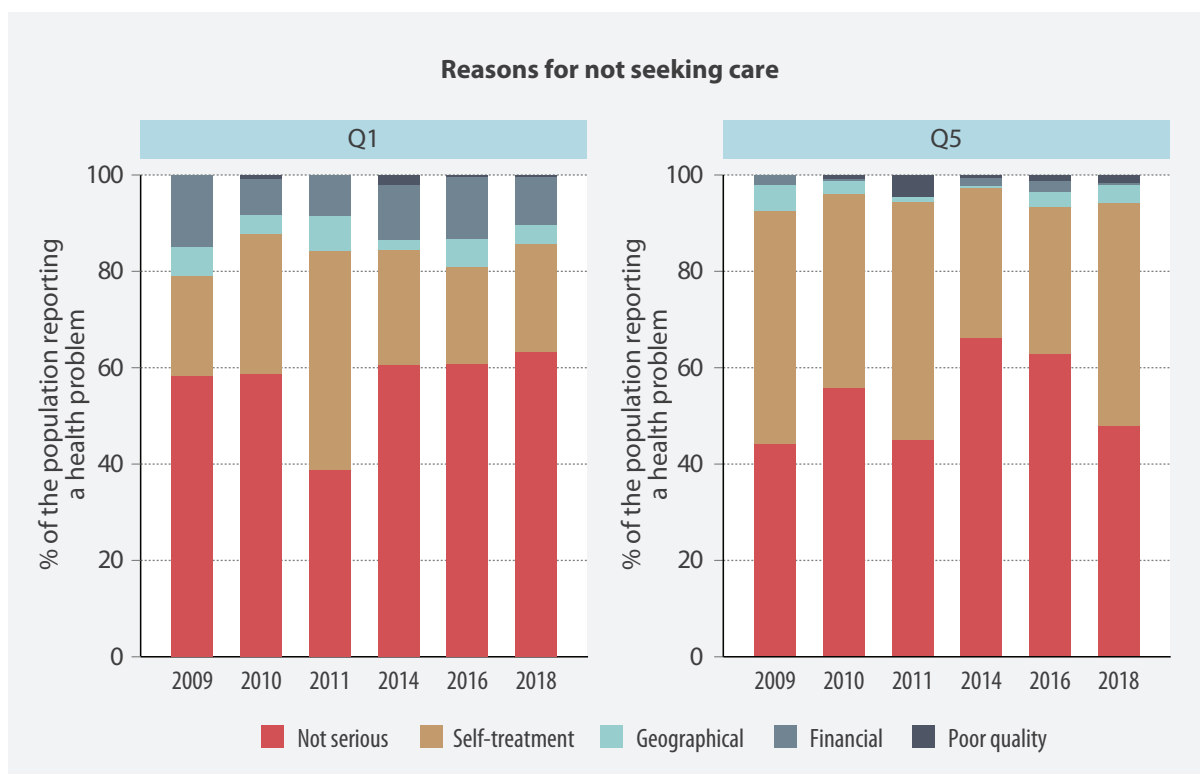
The main reason for not seeking health services is based on the perceived seriousness of the illness and self-treatment. Over 80% of individuals who did not seek outpatient care when ill reported that they did not seek care because they did not perceive the illness as serious enough to seek care, and secondly because they self-treated (Fig. 7). The trends were similar between 2009 and 2018. Across consumption quintiles, the predominant reasons for not seeking care is the perceived illness is not serious followed by self-treatment. However, we do find that individuals in the lowest quintiles report financial and geographical barriers as well (Fig. 8).

FIG. 7. Barriers to access health-care services



Source: MNG, WHO (draft) survey-based estimates

FIG. 8. Barriers to access health-care services by quintile



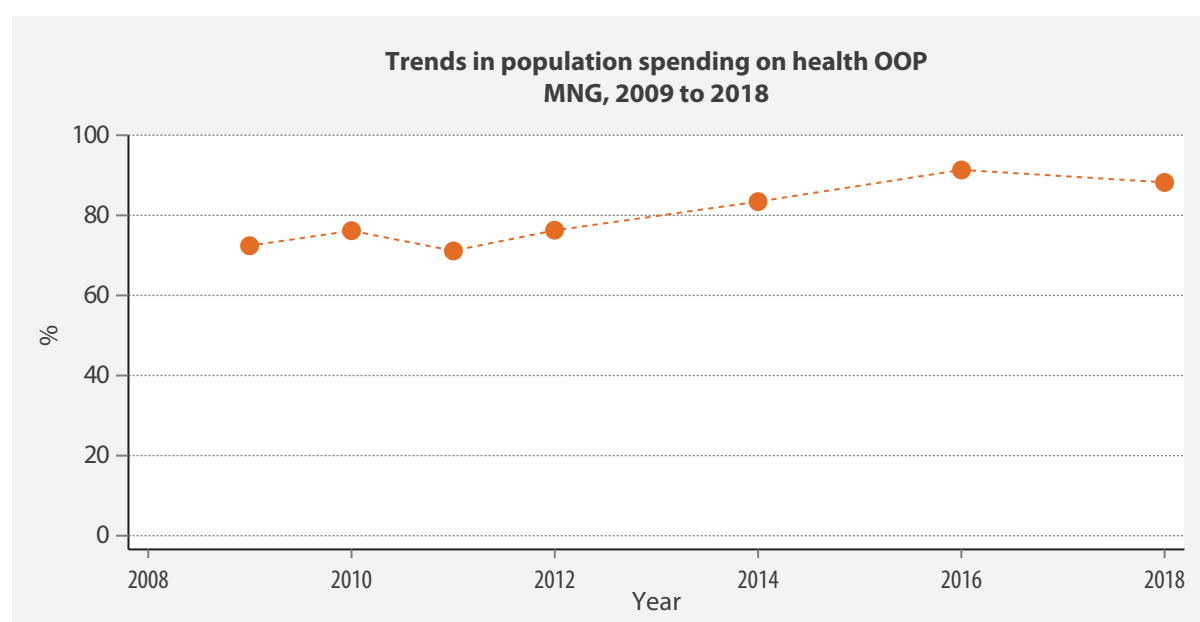
Source: MNG, WHO (draft) survey-based estimates

How has the proportion of the population spending on health OOP evolved over time?

The proportion of the population spending on health OOP has increased between 2009 and 2018. During this period, OOP payments were driven mainly by spending on medicines, especially among the poorest quintiles. While almost 7 out of 10 people were spending on health OOP in 2009, by 2018 almost 90% of the population spent OOP on health over the past 12 months with large differences across the poorest and richest households. On average, in 2018, spending on medicines accounted for over 70% of a household's total OOP spending, but for the poorest households, they accounted for 81% of their OOP spending versus 61% for those in Q5.

Between 2009 and 2018, the share of the households spending OOP increased from 72% to 88% (Fig. 9). The share of households spending on health grew at a rapid rate among the households in the upper quintile (Annex 5) from 76% to 93% and the poorest quintile from 68% to 80%. By 2016, there was a 13-percentage-point difference between the number of households spending on health in the upper quintile relative to the lower quintile.

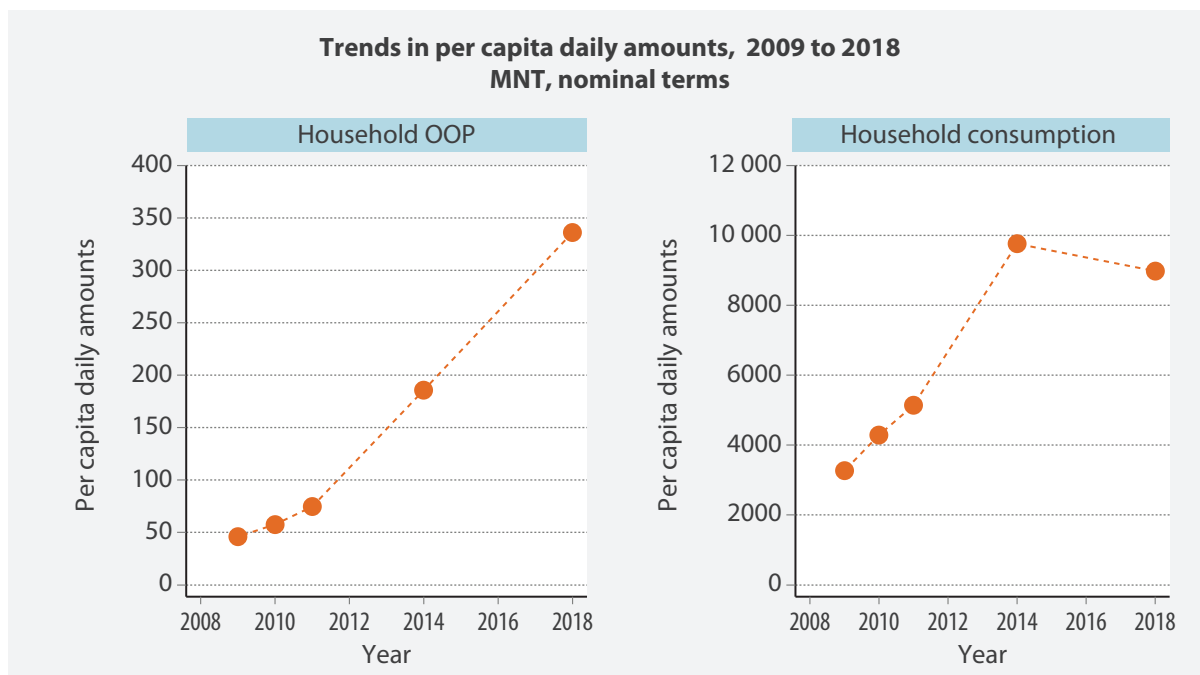
FIG. 9. How many spent on health OOP?



Source: MNG, draft estimates produced by WHO and WB (2012, 2016)

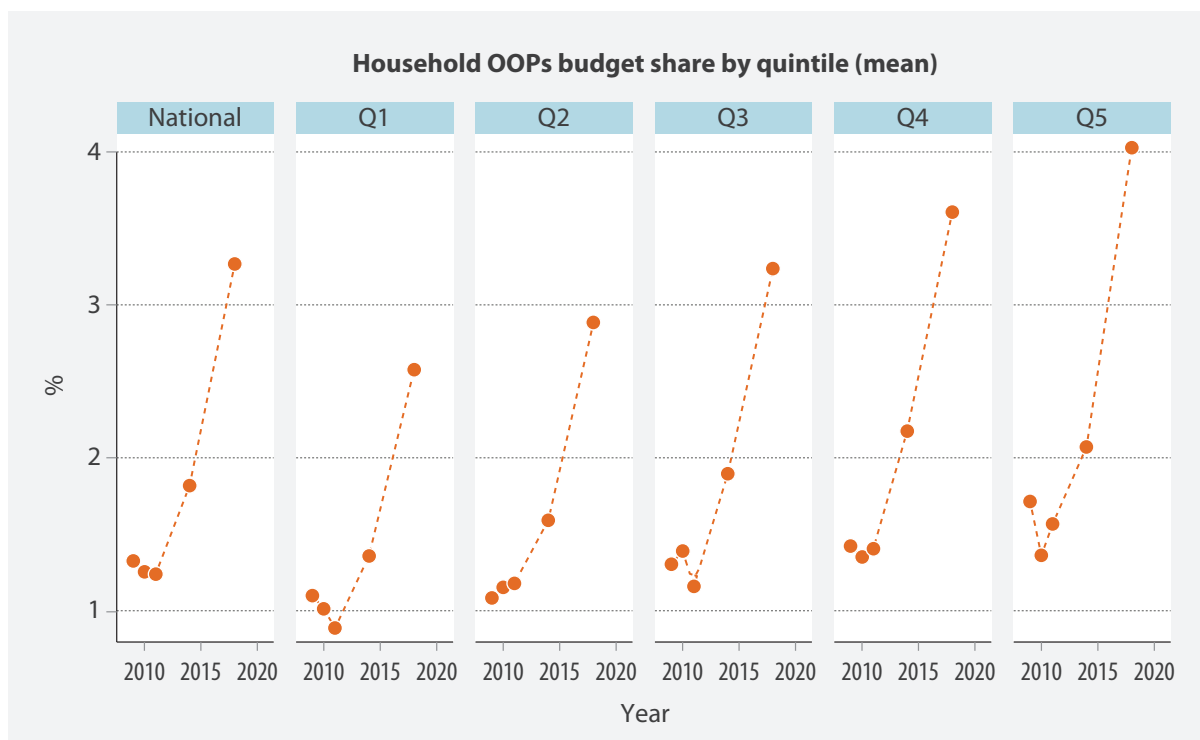
In nominal terms, daily OOP spending on health per person has increased over seven times in a period of nine years and daily household consumption per person has doubled (Fig. 10). OOP spending has grown more rapidly than overall household consumption. In nominal terms, OOP spending has risen from a daily per capita amount of 46 tugrik in 2009 to 336 tugrik in 2018 amounting to a sevenfold increase. Consumption, however, has increased at a slower rate from 3264 tugrik in 2009 to 8979 tugrik in 2018 doubling in this nine-year period.

FIG. 10. Trends in per capita household consumption and OOP amounts, 2009–2018



Source: MNG, WHO survey-based estimates, 2012 and 2016 excluded

FIG. 11. How much was spent on health OOP as a share of the household budget by quintile?

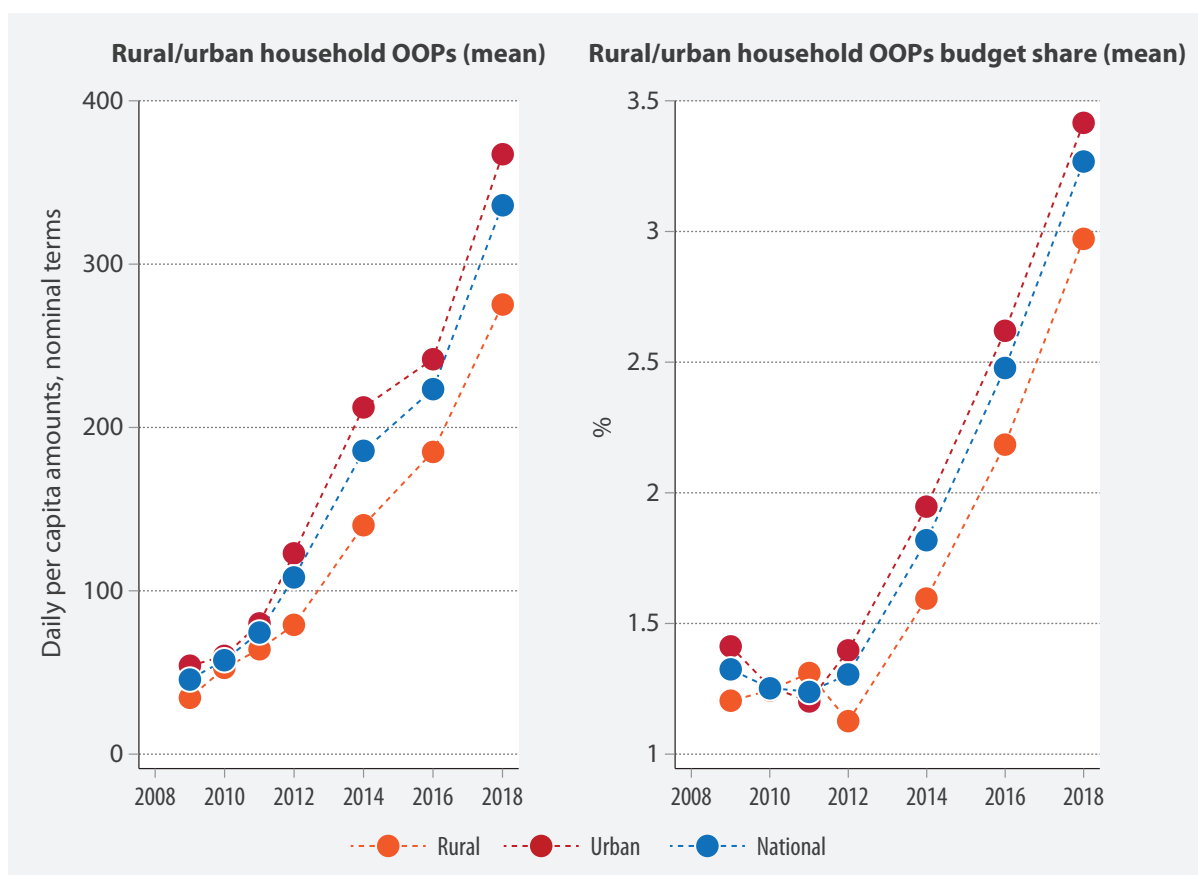


Source: MNG, WHO (draft) survey-based estimates, 2012 and 2016 excluded, 2009 to 2018

The share of household budget spent on health more than doubled between 2009 and 2018 (Fig. 11). OOP spending as a share of the household budget also increased from 1.3% to 3.3%. Among the poorer households between 2009 and 2018, the share of their budget spent on health increased 2.4 times to reach 2.6%, whereas among richer households the share of their budget increased 2.2 times to reach 4.0%. The richest households are spending more on health than the poorest households in both nominal terms and as a share of household budget, but growth in OOP payments as a share of budget is higher among the poorest households.

OOP spending in nominal terms and as a share of the household's budget is higher in urban areas than in rural areas (Fig. 12). OOP spending in nominal terms increased more rapidly in rural areas relative to urban areas between 2009 and 2018. Between 2009 and 2018, OOP spending daily per capita increased eight times among rural residents, whereas it increased seven times among urban area residents. The difference between rural/urban households in terms of the budget share has remained relatively constant between the study period, where rural area households spend 1.1 times OOP as a share of the budget. The difference in the share of population spending on health OOP was less than 1 percentage point between urban and rural and has remained at that low level since then (Fig. 12).

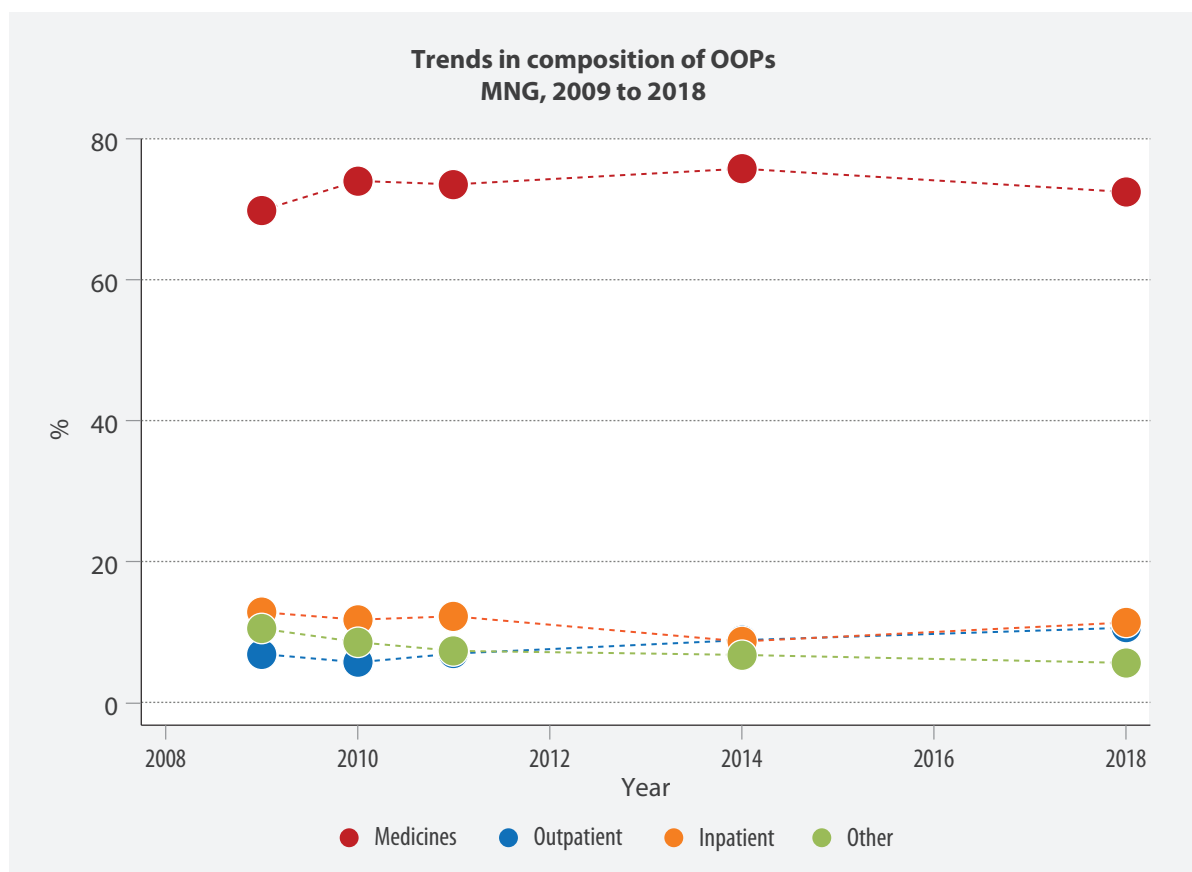
FIG. 12. How much was spent on health OOP in rural/urban areas in nominal terms and as a share of household budget?



Source: MNG, draft estimates produced by WHO and WB (2012, 2016)

Medicines are the predominant driver of OOP expenditures for health, especially among the poorest households and rural area residents (Figs. 13 and 14). In 2009, 69% of total OOP health expenditures were driven by expenditures on medicines and increased by 4 percentage points to 73% in 2018. However, overall, this has remained relatively stable as the predominant driver of OOP payments (Fig. 13). For the poorest, over 80% of their OOP expenditures were on medicines in 2018, whereas less than 65% of OOP spending among the richest households was on medicines (Fig. 14) which is consistent with the poorest household self-treating and seeking care at primary care facilities (Fig. 5).

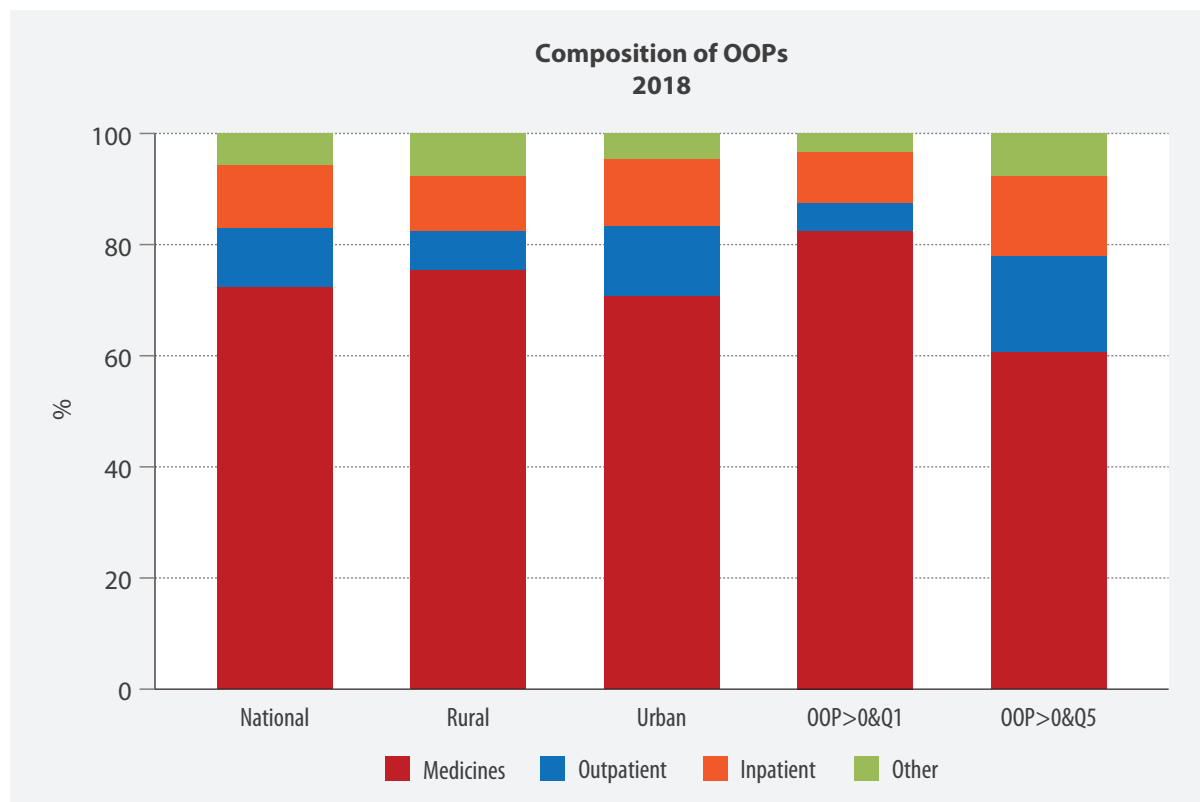
FIG. 13. On what kind of health services and products are people spending for health OOP?



Note: composition of OOPs among spenders

Source: MNG, WHO survey-based estimates, 2012 and 2016 excluded

FIG. 14. How does the composition of OOP health spending vary among rural/urban residents and for the poorest/richest



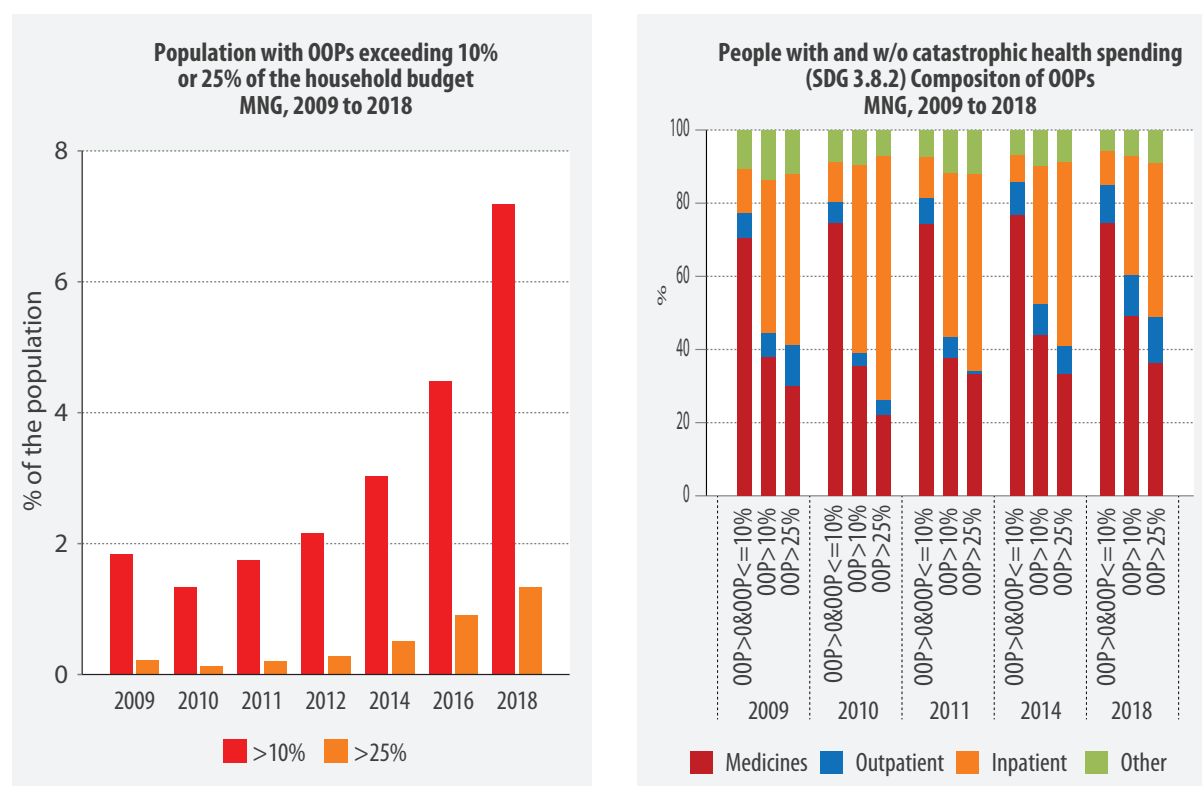
Note: composition of OOPs among households with catastrophic spending
 Source: MNG, WHO (draft) survey-based estimates

Who experiences financial hardship and due to which health products/services?

SDG indicators show that the incidence of catastrophic health spending increased between 2009 and 2018. Catastrophic health spending rates increased across all quintiles in this period. In 2009, less than 50 000 people were spending more than 10% of their budget on health, whereas by 2018, over 200 000 were spending over 10% of their budget on health.

The incidence of catastrophic health spending, defined as the proportion of the population spending more than 10% of their household budgets on health OOP, increased threefold between 2009 and 2018. These increases were mainly driven by inpatient care and medicine spending (Fig. 15). In 2009, 1.8% of the population spent more than 10% of their household budget on health. This rose to 7.2% in 2018 with the share of the population who spent more than 25% of their household budget on health rising from 0.2% to 1.3%. The main driver of catastrophic spending (Fig. 15, panel B) is inpatient care followed closely by medicines, even though the main component of OOP payments is medicines. The relative importance of inpatient care as a driver of OOP payments for people incurring catastrophic health spending at the 25% threshold has decreased over time to account for 52% in 2018 versus almost 47% in 2009.

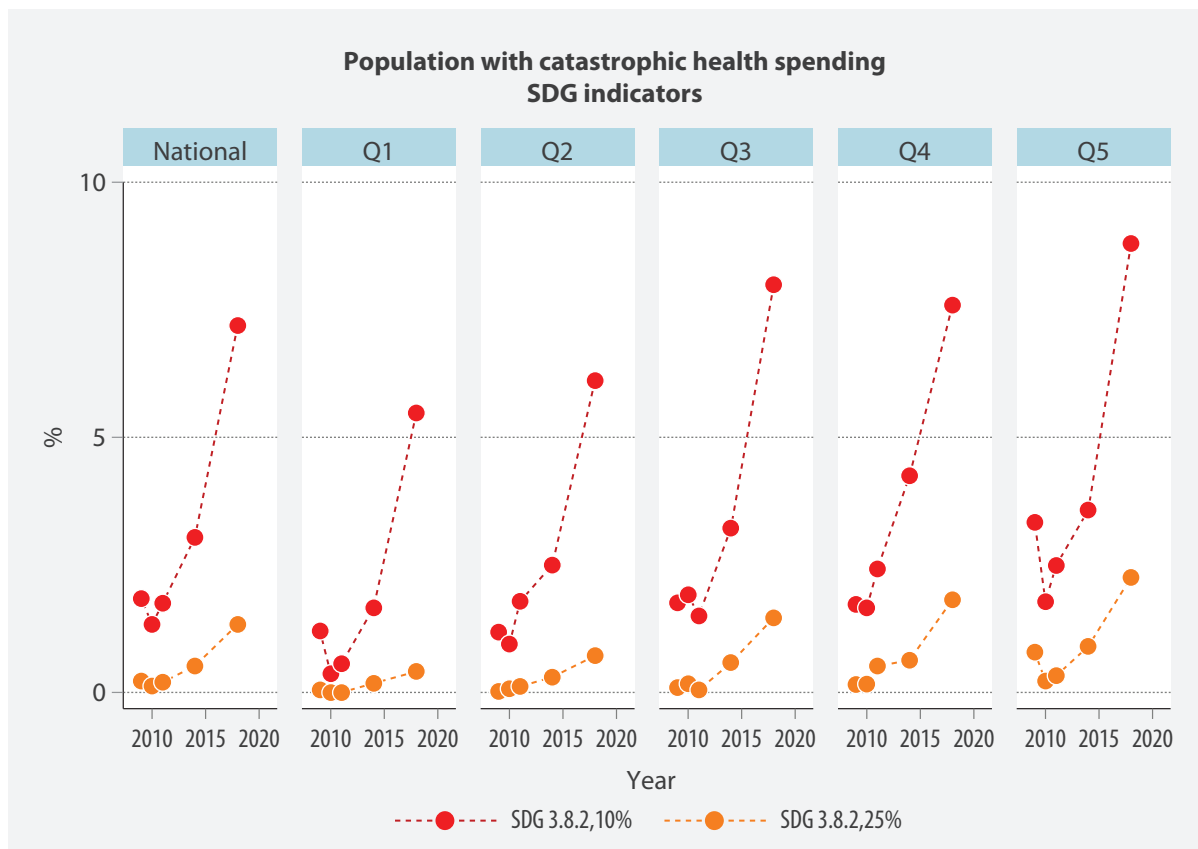
FIG. 15. Population with catastrophic health spending (SDG indicator 3.8.2) and composition of OOP health spending over time



Source: Data from the Global database on financial protection assembled by WHO and the World Bank, 2021 update

Note: composition of OOPs among spenders
Source: MNG, WHO survey-based estimates, 2012 and 2016 excluded

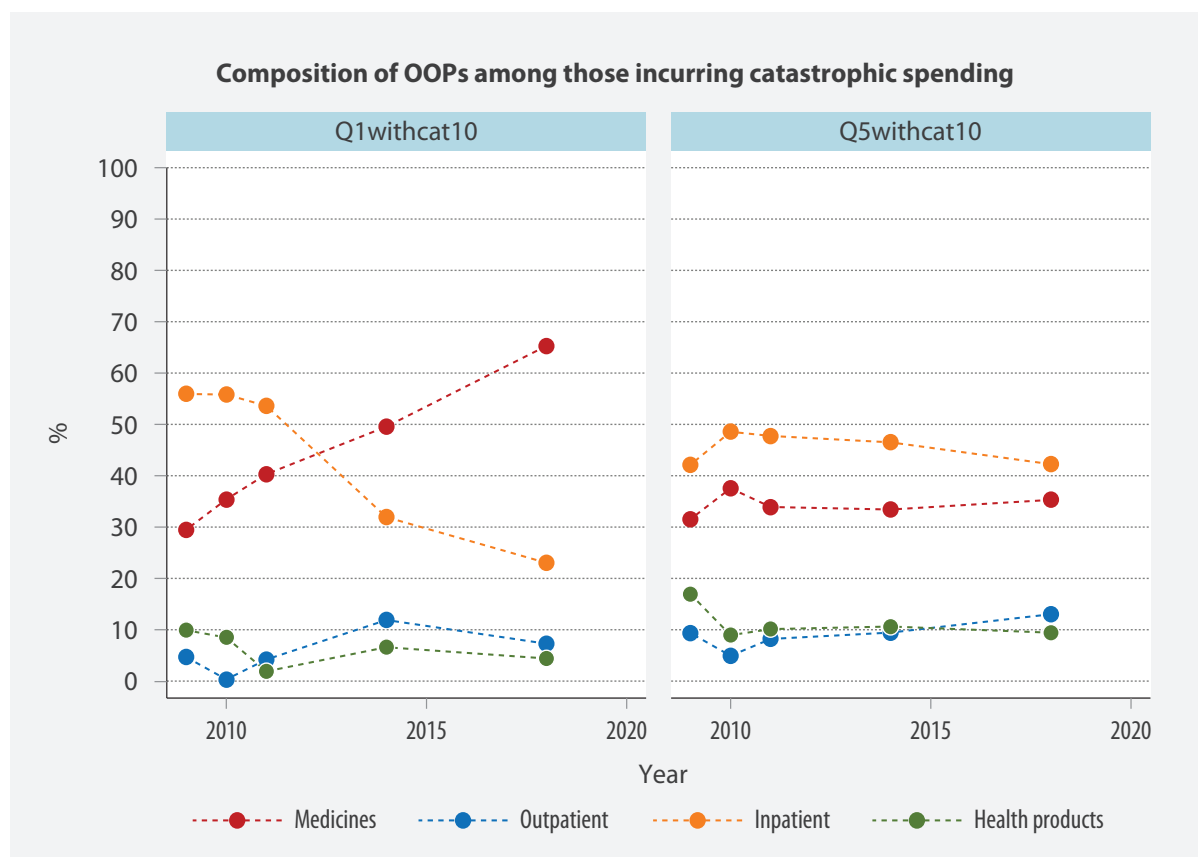
FIG. 16. Population with catastrophic health spending (SDG indicator 3.8.2) over time and across quintiles



Note: SDG indicators 3.8.2 of catastrophic health spending are defined as % of pop with OOPs >10% and >25% of household total consumption
 Source: MNG, WHO (draft) survey-based estimates, 2012 and 2016 excluded, 2009 to 2018

The share of the population experiencing catastrophic spending has risen across quintiles (Fig. 16). In 2018, the incidence of catastrophic spending was higher among the richest quintiles. The differences in catastrophic spending incidence among the richest and poorest quintiles are slowly decreasing. Between 2009 and 2018, catastrophic spending incidence at the 10% threshold rose from 1.8% to 5.5% among the poorest quintiles and 3.3% to 8.8% among the richest quintiles. The differences in catastrophic incidence between the poorest and richest quintiles decreased during this period, where the richest quintiles suffered 2.8 times catastrophic spending incidence compared to the poorest quintiles in 2009 and decreased to 1.6 times in 2018.

FIG. 17. Population with catastrophic health spending (SDG indicator 3.8.2) over time and across quintiles



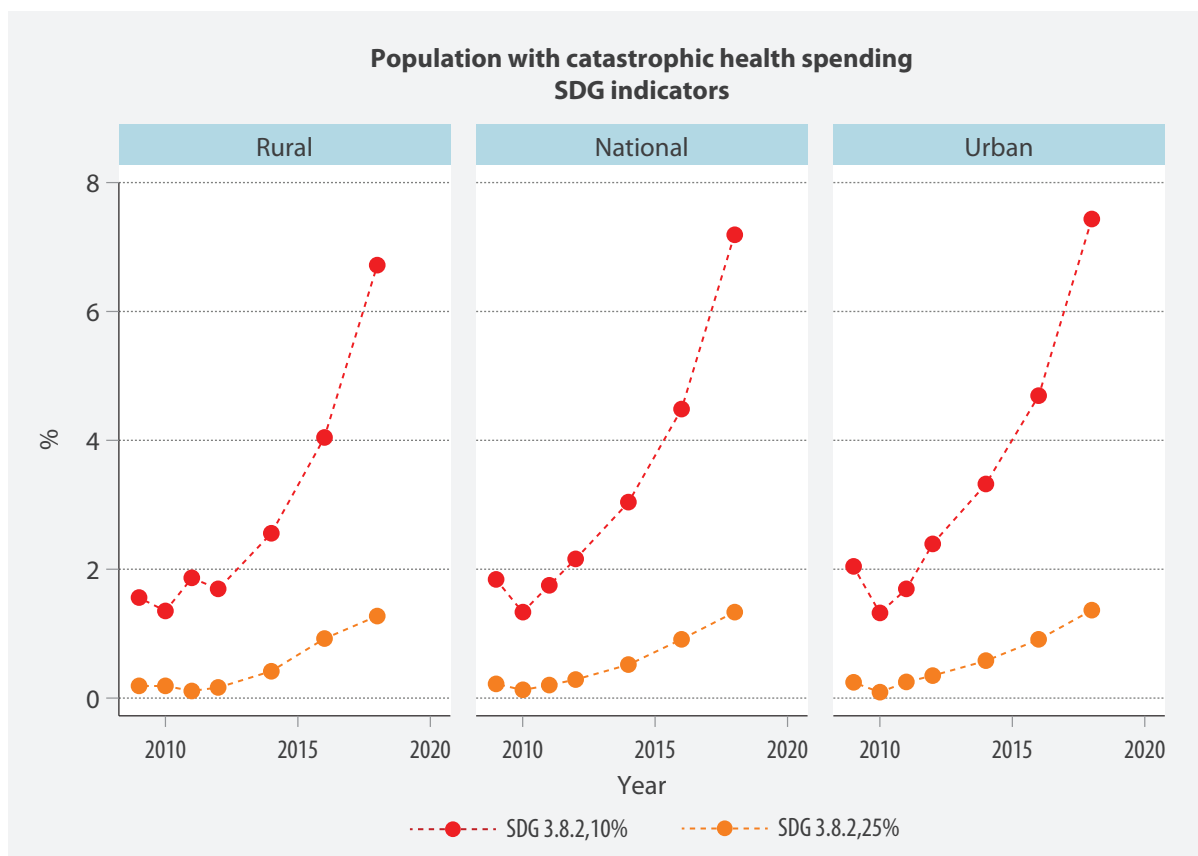
Notes: Composition of OOPs among those incurring catastrophic spending at the 10% threshold, 2009 to 2018; Q1withCat10= First or poorest quintile with catastrophic spending at the 10% threshold, Q5withcat10= Fifth or richest quintile with catastrophic spending at the 10% threshold.

Source: MNG, WHO (draft) survey-based estimates, 2012 and 2016 excluded

Drivers of catastrophic spending differ by quintile. Households in the poorest quintile are driven into catastrophic spending by medicines, whereas households in the richest quintile are driven by inpatient spending. The relative importance of inpatient care as a driver of OOP payments for poorer households incurring catastrophic health spending shifted in 2011 to medicines. The overall population catastrophic spending is driven by inpatient care and followed by medicines, and this pattern is similar across households in the highest quintile and over time. However, among the poorest households, the main driver of catastrophic spending is drugs followed by inpatient care. A shift occurred in 2011, where the main driver of catastrophic spending shifted from inpatient care to medicines (Fig. 17).

The incidence of catastrophic health spending, defined as the proportion of the population spending more than 10% of their household budgets on health OOP, increased 4.3 times in rural areas and 3.6 times in urban areas between 2009 and 2018 (Fig. 18). By 2018, 6.7% of rural area residents incurred catastrophic spending and 7.4% of urban area residents. The incidence of catastrophic spending using the SDG indicators is higher in urban areas, but it has grown more rapidly in rural areas.

FIG. 18. Catastrophic health spending over time and across rural/urban households



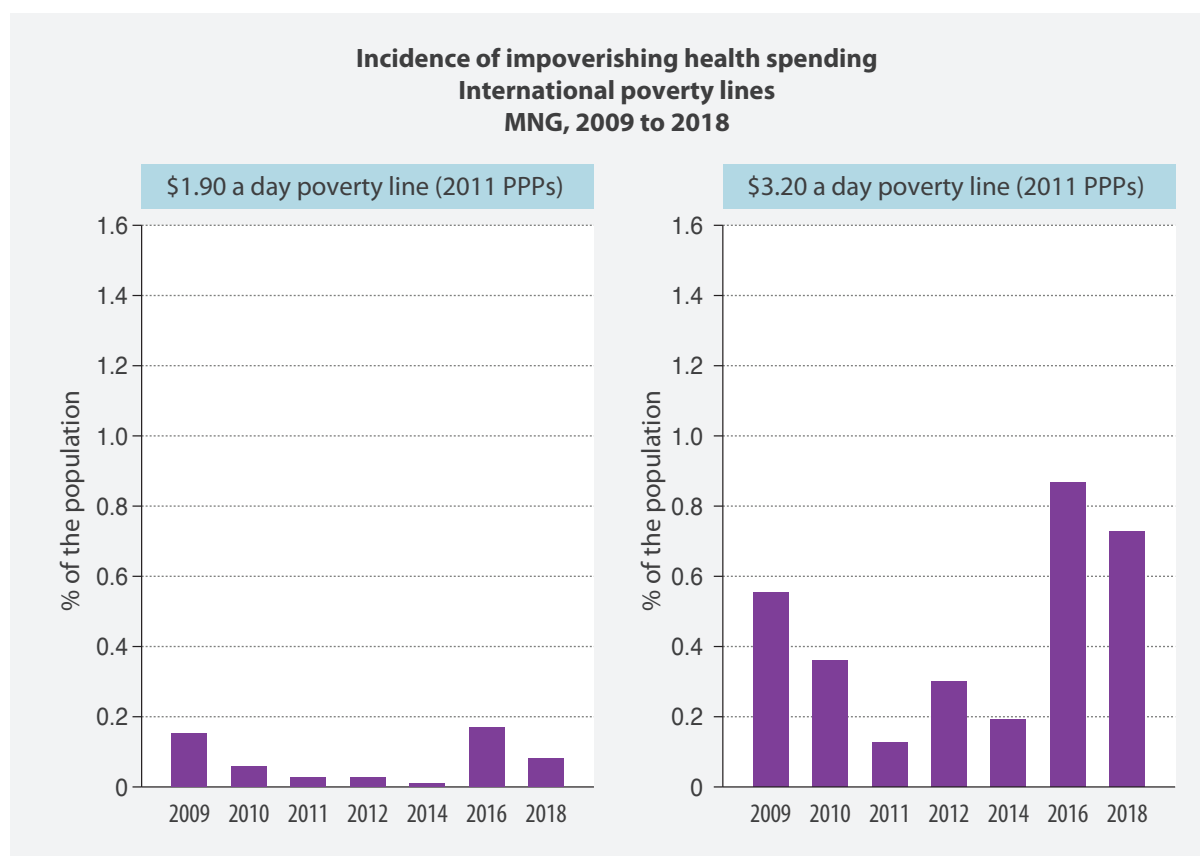
Note: SDG indicators 3.8.2 of catastrophic health spending are defined as % of pop with OOPs >10% and >25% of household total consumption

Source: Data from the Global database on financial protection assembled by WHO and the World Bank, 2021 update

Impoverishment due to OOP health spending

Results presented are for the second most widely used indicator of financial protection, namely impoverishment due to OOP health spending, which is not an official SDG indicator but supplements the catastrophic payment indicator by estimating how much poverty is increased by households having to pay OOP for health care and thereby divert resources from other goods and services that are also needed for subsistence. In this profile, we use two international poverty lines – \$1.90 a day (in 2011 PPP terms) and \$3.20 a day (in 2011 PPP terms) – and a relative poverty line, which is defined as 60% of median daily per capita consumption or income.⁸ Based on the \$1.90 poverty line measure of extreme poverty and the \$3.20 poverty line, the national incidence of impoverishing health spending experienced a decline until 2014 but increased in 2016 (Fig. 19). The relative poverty line reflects an increasing trend in the rate of impoverishment due to health spending between 2009 and 2018 (Fig. 21).

FIG. 19. Incidence of impoverishment due to health spending at the PPP \$1.90 and PPP \$3.20 a day poverty lines



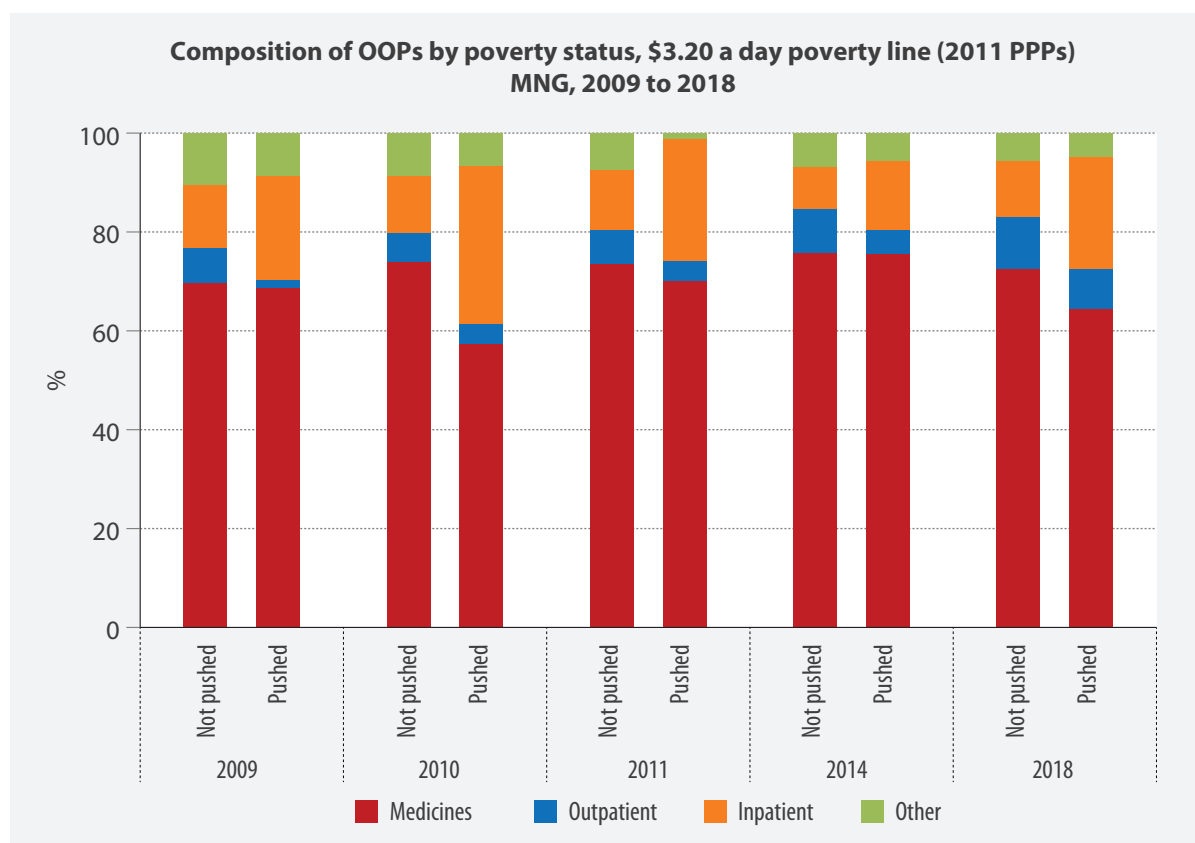
Source: Data from the Global database on financial protection assembled by WHO and the World Bank, 2021 update

⁸ Refer to Annex 5 for the distribution of daily per capita consumption.

The incidence of impoverishment due to health spending remained less than 1% across international poverty lines. Between 2009 and 2014, the incidence of impoverishing health spending remained below 0.2% at the \$1.90 a day poverty line and below 0.6% at the \$3.20 poverty line, decreased in both cases and increased in 2016, remaining above 2014 levels. In 2018, almost 3000 people (<0.1%) were impoverished due to health spending at the extreme poverty line (Fig. 19). The trends in impoverishing health spending are consistent with the trends in poverty (Annex 8), with a decline in the incidence of poverty between 2010 and 2014, then an increase between 2014 and 2016. The poorest households experienced the highest share in the population pushed into poverty using the international poverty lines during this period.⁹

Impoverishment due to health spending is mainly driven by medicines when using the \$3.20 a day poverty line.¹⁰ Between 2009 and 2018, among households pushed below the poverty line, on average, the predominant driver of impoverishment was medicines, followed by inpatient costs (Fig. 20).

FIG. 20. Composition of OOP health spending among people pushed, further pushed and not pushed below the PPP \$3.20 a day poverty line



Notes: “Not pushed” is defined as the proportion of the population that spent on health care OOP but was not impoverished at the poverty line, “pushed” is the proportion of the population that spent on health care OOP and was impoverished at the poverty line, and “further pushed” is defined as the proportion of the population that was already under the poverty line without health expenditures but with health expenditure was driven further under the poverty line. Further pushed was excluded from this figure due to small sample size.

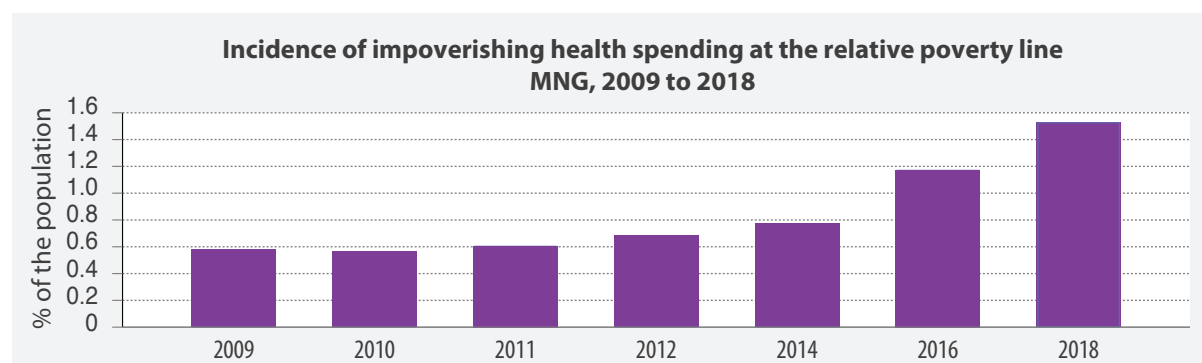
Source: MNG, WHO survey-based estimates, 2012 and 2016 excluded

⁹ Annexes 7 and 8 present the changes over time across quintiles.

¹⁰ Components by the \$1.90 poverty line were excluded due to small sample size.

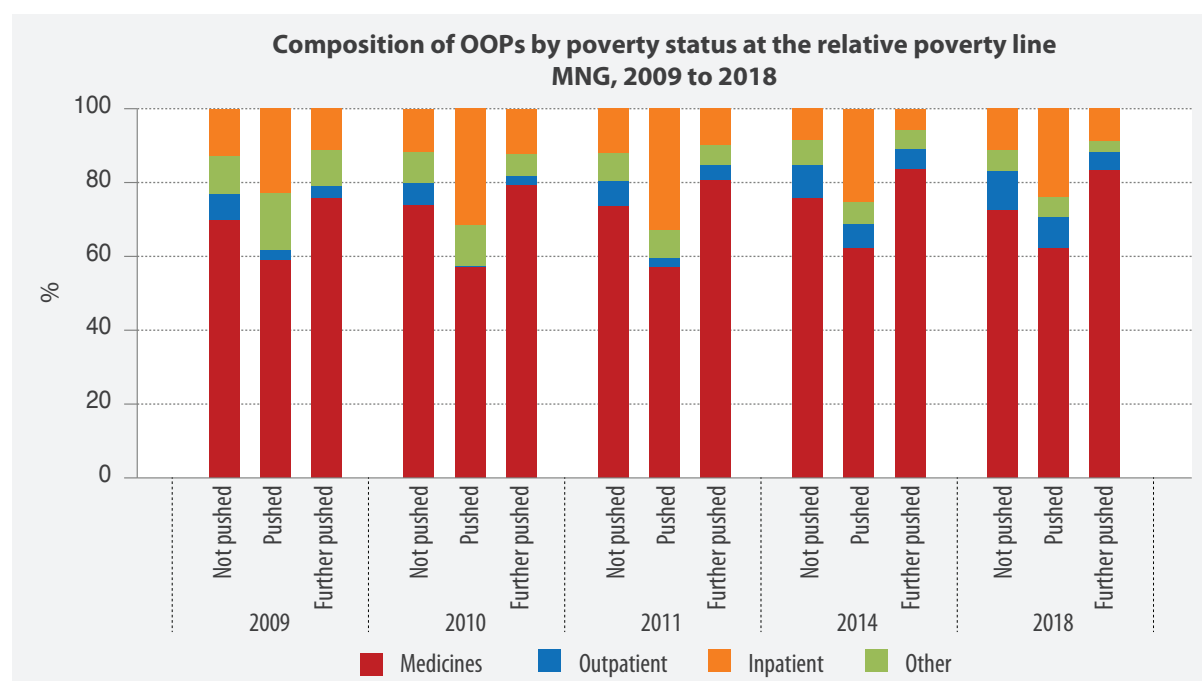
Incidence of impoverishment due to health spending at the relative poverty line has been increasing since 2009, mainly affecting households in the two poorest quintiles¹¹ (Fig. 21). The incidence of impoverishment due to health spending at the relative poverty line increased from 0.6% to 1.5%. By 2018, OOP spending was impoverishing 4.4% of households in the poorest quintile and 2.9% of households in the second poorest quintile.

FIG. 21. Incidence of impoverishment due to health spending at the relative poverty line of 60% of median per capita consumption and composition of OOP health spending among people pushed, further pushed and not pushed into relative poverty



Note: Relative poverty line is defined as 60% of median per capita daily consumption

Source: Data from the Global database on financial protection assembled by WHO and the World Bank, 2021 update



Relative poverty line is defined as 60% of median per capita daily consumption.

Notes: “Not pushed” is defined as the proportion of the population that spent on health care OOP but was not impoverished at the poverty line, “pushed” is the proportion of the population that spent on health care OOP and was impoverished at the poverty line, “further pushed” is defined as the proportion of the population that was already under the poverty line without health expenditures but with health expenditure was driven further under the poverty line.

Source: MNG, WHO survey-based estimates, 2012 and 2016 excluded

¹¹ Refer to Annex 9.

Impoverishment due to health spending is mainly driven by medicines when using the relative poverty line. Those households pushed further into poverty tend to spend more than 80% of their OOP on medicines, whereas in households not pushed under the poverty line due to health spending, medicines accounted for 70% of their OOP spending.

IV. Summary of findings and discussion

Health service utilization and access to care

In Mongolia, the accessibility of health services by poorer and rural households is lower than among richer and urban households. Conditional on self-reporting a health problem, differences in utilization rates have remained constant. Rural and poorer households tend to seek predominantly PHC facilities. Both outpatient and inpatient health service utilization was lower on average by 3 percentage points among poorer households relative to richer households between 2009 and 2018. Furthermore, poorer households tend to seek outpatient care at primary and secondary health-care facilities, while those from richer households seek outpatient care at tertiary care centres and private hospitals, located mainly in Ulaanbaatar and other urban settings. This inequality in health service utilization has been associated with income status, economic activity (being herder and unemployed) and distance to the nearest health-care centre (23), which we also identified in this report as rural area residents sought over 50% of their health care at PHC facilities. People living in rural areas sometimes need to travel 50 to over 300 kilometres to reach the nearest health centre. Even if individuals are not reporting geographical barriers within the survey, this problem has been identified in previous studies (23). Additionally, health-care provider density in rural areas was found to be lower than in Ulaanbaatar, which could be contributing to differences in health-seeking behaviour (24). In Mongolia, PHC is predominantly funded by the government budget and deemed financially accessible to the entire population, regardless of their health insurance eligibility. However, gaps in utilization by rural households can be driven by geographical barriers and a limited number of health providers in rural areas. Higher utilization at secondary and tertiary levels of care by higher income households could be driven by the weakened primary care referral system and the higher level of direct and indirect costs of care and lower health insurance coverage of rural people including herders (3,25).

Out-of-pocket payments

Despite a predominant public financing system, high population coverage of health insurance and various financial protection policies implemented in Mongolia, OOP spending has increased threefold and is increasing at a faster rate than total household expenditure, mainly driven by OOP spending on medicines. This increase can be seen across all income quintiles, with higher income quintiles tending to have a higher OOP expenditure. By 2018, the richest households spent eight times the amount spent by the poorest households. It is notable that the richest households spent a larger share of their budget on health as they had sought care at tertiary care hospitals, private and overseas. OOP expenditure on medicines and drugs remains the predominant driver of OOP expenditures across all quintiles, similar to other countries in Asia (26,27). High OOP payments due to medicine costs could also be driven by the existing price regulation system in Mongolia, and the difficulty in being able to

contain and regulate prices at private pharmacies by the Government (13). The Government does not have any regulation of medicines procured and sold at private pharmacies (28). Another possible driver of OOP payments could be informal payments, which are still prevalent in Mongolia (12,29).

Catastrophic spending and impoverishment due to health spending

The risk of catastrophic health expenditure and impoverishment due to health spending are closely linked with a household's economic status. As expected, households in poorer quintiles are more at risk of suffering impoverishment due to health spending, whereas households in the richer quintiles are at higher risk of suffering catastrophic expenditures due to health payments. The capacity to pay of richer households is higher; however, the amount spent on health is also much higher as they tend to seek care at higher levels of care.

Between 2009 and 2018, catastrophic spending increased among both the poorest and richest quintiles.

Mongolia's incidence of catastrophic spending at the 10% threshold in 2018 was 7.2% which accounted for over 200 000 people suffering from financial burden due to health spending. Relative to the average catastrophic incidence among upper middle-income and low-income countries at 15% of the population (30), Mongolia is fairing lower at 7.2%. Catastrophic costs due to health spending are primarily concentrated among the richest households and mainly driven by spending on inpatient services and medicines which is consistent with previous findings (4). However, among the poorest households, the main driver of catastrophic spending is still medicines. In Mongolia, there is a dual health system where the rich use private and tertiary facilities and the poor use public facilities (31). Furthermore, the Mongolian health system has a referral system in which high-income individuals can easily "self-refer" to secondary or tertiary hospitals resulting in higher expenditures (23) and may result in unnecessary hospital admissions (3) which could be driving higher costs and higher utilization of secondary and tertiary hospitals.

Between 2009 and 2014, and across different poverty lines, impoverishment due to health spending was concentrated among the poorest households which spent predominantly on medicines. Over time, impoverishment due to health spending has decreased; however, between 2014 and 2018, impoverishment due to health spending at the \$3.20 poverty line increased from 0.2% to 0.7% of the population and mainly concentrated among the poorest quintile. Only the poorest households are impoverished due to health spending using the international poverty line, meaning that even though poorer households spend much less OOP than near poor and richer households, they are still pushed below the poverty line as result of relatively "small" OOP payments for medicines. However, impoverishment due to health spending is consistent with the trend in poverty rates (Annex 7). When using the relative poverty line, between 2009 and 2018, there was an increase from 0.5% to 1.7% and spending on medicines and impoverishment due to health spending concentrated among the two poorest quintiles.

The main drivers of OOP spending are medicines, whereas the main driver of catastrophic spending is inpatient care. This differs by quintile, where the richest quintile is driven into

catastrophic spending by inpatient care and the poorest quintile by medicines. Medicines are consistently the main driver of impoverishment due to health spending. Between 2009 and 2011, the poorest quintile suffered catastrophic spending due to inpatient care, and beyond 2014, the predominant driver of OOP spending is medicines. The shift in the main drivers of OOP from inpatient care not being the main driver of OOP spending for the poorest quintile is consistent with SHI expanded coverage for inpatient care services. However, for the richest quintiles, between 2009 and 2018, the main driver of catastrophic spending was consistently inpatient care. In regard to coverage, the majority of services are covered by SHI or government budget across all quintiles, including essential medicines which are covered at a 40–80% rate for the insured and reimbursed to the contracted pharmacy. However, coverage is fragmented and the weak strategic purchasing mechanism results in uncertainty in terms of what medicines are covered, providing pharmacies with the opportunity to liberally price medicines (13).

V. Policy recommendations

This report indicates that there is significant scope to improve financial protection in Mongolia given the rising OOP costs, catastrophic spending risk and impoverishment due to health payments across economic groups.

Policy-makers are asked to consider:

As Mongolia strives towards UHC, attention should be focused on increasing access to services for poorer and rural households since these households consistently utilize health services less.

Providing services free at the point of use or offering subsidized health insurance can encourage poorer households to utilize needed health services. Low perceived need to seek medical care could be due to the financial barriers to access health-care services due to user fees for drugs or for services at point of care. Nevertheless, a low perceived need to seek medical care suggests a need to further educate patients about the importance of seeking preventive care and regular check-ups (32), and to also implement policies that reduce barriers to access care, such as geographical barriers faced by rural households, through introducing innovative ways of reaching out to them (23).

More closely linking pharmaceutical policies with health financing policies, given that medicines were a major driver of OOP health expenditures.

The main component of OOP payments is medicines. In Mongolia, the current essential medicines list was determined based on health indicators, specifically on the priority causes of mortality and morbidity. Medicines on the essential list are reimbursed at 40–80% of the cost of the medicine but only reimbursed if prescribed by a PHC physician (28). This list also outlines the maximum amount that a pharmacy can charge for medicines that are reimbursed by SHI. Recent changes in policy as of 1 November 2020 aims to expand the outpatient prescription to doctors at all levels of care, not just PHC doctors. The budget for medicines discount has increased substantially this year which is expected to impact the high OOP costs driven by medicines.

Further examination is needed of the specific medicines that are driving OOP costs and financial catastrophe for consideration as part of the benefit package design.

Given that this study is examining broadly medicines as a driver of OOP, further studies to unpack the medicines that are driving OOP costs would need to be conducted.

Strengthening gatekeeping at the primary care level, especially for high-income population groups, to reduce the rate of catastrophic spending and to improve health sector efficiency.

The richest quintiles tend to seek care at secondary and tertiary levels of care, and the richest households tend to incur the highest rates of catastrophic spending. This can be attributed to the weakened gatekeeping function of the PHC system where there are unnecessary self-referrals to upper levels of care (12,33).

Way forward

More systematic and frequent studies examining health service utilization and financial protection are needed for continuous monitoring of UHC and impact of health financing policies. Given frequent changes in health financing policies in Mongolia, continuous tracking of OOP payments is important to provide further evidence to decision-makers on the impact of these changes in policy.

Work closely with the National Statistics Office of Mongolia to include questions on: the sources of health-care payments, identifying gaps in barriers to care and the medicines used to “self-treat”. Qualitative studies have shown that people may sell their properties or borrow money to pay for health-care services; therefore, including a question on the source of health-care payments, such as borrowing, savings or selling assets, would be useful to gear more specific policy messages to decision-makers. Geographical barriers have not been identified as a prevalent barrier to accessing health-care services in this survey; however, this has been identified as a significant barrier in other studies. Self-treatment has been found more prevalent among households spending on health and understanding if individuals self-treat by using self-prescribing medicines and which medicines can be key in defining the barriers to access care and OOP medicine cost drivers. Identifying which medicines are driving these costs – essential medicines, brand-name drugs, traditional medicine or others – means these can be linked with health financing policies.

References

1. World Health Organization. Making fair choices on the path to universal health coverage: Final report of the WHO Consultative Group on Equity and Universal Health Coverage. 2014.
2. WHO Regional Office for the Western Pacific. Universal health coverage : moving towards better health : action framework for the Western Pacific Region [Internet]. 2016 [cited 2019 Feb 16]. Available from: <http://iris.wpro.who.int/handle/10665.1/13371>
3. Dorjdagva J, Batbaatar E, Svensson M, Dorjsuren B, Kauhanen J. Catastrophic health expenditure and impoverishment in Mongolia. *Int J Equity Health*. 2016 Jul 11;15(1):105.
4. Dorjdagva J, Batbaatar E, Svensson M, Dorjsuren B, Togtmol M, Kauhanen J. Does social health insurance prevent financial hardship in Mongolia? Inpatient care: A case in point. Goli S, editor. *PLOS ONE*. 2021 Mar 31;16(3):e0248518.
5. Bredenkamp C, Buisman LR, Prencipe LM, Somanathan A, Tsilaajav T, Wagstaff A. Mongolia - Health equity and financial protection report. Health equity and financial protection report. Washington, DC: World Bank Group; 2012.
6. OECD, Organization WH, Eurostat. A System of Health Accounts [Internet]. 2011. 524 p. Available from: <https://www.oecd-ilibrary.org/content/publication/9789264116016-en>
7. World Health Organization. Universal health coverage (UHC) [Internet]. 2019 [cited 2019 Feb 16]. Available from: [https://www.who.int/news-room/fact-sheets/detail/universal-health-coverage-\(uhc\)](https://www.who.int/news-room/fact-sheets/detail/universal-health-coverage-(uhc))
8. Bayarsaikhan D, Kwon S, Chimeddagva D. Social health insurance development in Mongolia: Opportunities and challenges in moving towards Universal Health Coverage: Social health insurance development in Mongolia. *Int Soc Secur Rev*. 2015 Oct;68(4):93–113.
9. World Health Organization. Mongolia: Progress towards Universal Health Coverage through strengthening primary care. 2019 Dec 17; Available from: <https://www.who.int/mongolia/news/feature-stories/detail/mongolia-progress-towards-universal-health-coverage-through-strengthening-primary-health-care>
10. Network JL, Health MM of, World Bank, World Health Organization. Assessment of Systems for Paying Health Care Providers in Mongolia: Implications for Equity, Efficiency and Universal Health Coverage [Internet]. Washington, DC: World Bank; 2015 [cited 2021 Nov 1]. Available from: <https://openknowledge.worldbank.org/handle/10986/22812>
11. Dashzeveg C, Mathauer I, Enkhee E, Dorjsuren B, Tsilaajav T, Batbayar C. A health financing review of Mongolia with a focus on social health insurance. 2011.

12. Ёsolmong r l T, Kwon S, Richardson E, Asia Pacific Observatory on Health Systems and Policies. Mongolia health system review. Copenhagen, Denmark: World Health Organization, on behalf of the European Observatory on Health Systems and Policies; 2013.
13. Byambaa M. Reducing out-of-pocket payments for health in order to achieve universal health coverage in Mongolia [Internet]. The Center for Policy Impact in Global Health; Available from: <https://centerforpolicyimpact.org/2019/01/28/reducing-out-of-pocket-payments-for-health-in-order-to-achieve-universal-health-coverage-in-mongolia/>
14. Dorj G, Sunderland B, Sanjjav T, Dorj G, Gendenragchaa B. Drug pricing and reimbursement decision making systems in Mongolia. *J Pharm Policy Pract.* 2017 Dec;10(1):11.
15. Bayarsaikhan D. The insured can receive up to 2 million MNT in health coverage. *UB Post* [Internet]. 2020 Apr 23; Available from: <https://theubposts.com/the-insured-can-receive-up-to-2-million-mnt-in-health-coverage/>
16. Social Health Insurance General Office of Mongolia. Mongolian Health Insurance Scheme [Internet]. 2012. Available from: http://www.mongolhealthnetwork.org/presentations/2012/1210_Health_Insurance_Mongolia_Gantsetseg_10.31.12_Eng.pdf
17. Ensuring the availability, accessibility, and affordability of health services to Mongolians [Internet]. Joint Learning Network for Universal Health Coverage; Available from: <https://www.jointlearningnetwork.org/members/mongolia/>
18. Hsu J, Flores G, Evans D, Mills A, Hanson K. Measuring financial protection against catastrophic health expenditures: methodological challenges for global monitoring. *Int J Equity Health.* 2018 May 31;17(1):69.
19. Xu K. Distribution of health payments and catastrophic expenditures Methodology. Distribuci n del gasto en salud y gastos catastr ficos: metodolog a [Internet]. 2005 [cited 2019 Feb 17]; Available from: <https://apps.who.int/iris/handle/10665/69030>
20. Wagstaff A. CATA meets IMPOV: A Unified Approach to Measuring Financial Protection in Health. Policy Research Working Paper; No. 6861. World Bank [Internet]. Available from: <https://openknowledge.worldbank.org/handle/10986/18353>
21. Wagstaff A. Measuring Financial Protection in Health. Policy Research Working Paper; No. 4554. World Bank [Internet]. 2008; Available from: <https://openknowledge.worldbank.org/handle/10986/6570>
22. World Health Organization, World Bank. Tracking universal health coverage: 2017 Global Monitoring Report [Internet]. 2017. Available from: <https://apps.who.int/iris/bitstream/handle/10665/259817/9789241513555-eng.pdf?sequence=1>
23. Dorjdagva J, Batbaatar E, Svensson M, Dorjsuren B, Batmunkh B, Kauhanen J. Free and universal, but unequal utilization of primary health care in the rural and urban areas of Mongolia. *Int J Equity Health* [Internet]. 2017 May 8 [cited 2019 Apr 17];16. Available from: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5422982/>

24. Center for Health Development, World Health Organization Office for the Western Pacific Region. Health indicators 2016. Ministry of Health Mongolia; 2017.
25. Health systems in transition : Mongolia : health system review / written by T. Bolormaa... [et al.] [Internet]. [cited 2019 Apr 17]. Available from: <https://apps.who.int/iris/handle/10665/107845>
26. WHO Regional Office for South-East Asia. Financial protection in the South-East Asia region: determinants and policy implications [Internet]. World Health Organization; 2017. Available from: https://www.who.int/health_financing/events/who_searo_uhc_day_report_web.pdf?ua=1
27. Bredenkamp C, Buisman LR. Financial protection from health spending in the Philippines: policies and progress. *Health Policy Plan*. 2016 Sep 1;31(7):919–27.
28. Dorj G, Sunderland B, Sanjjav T, Dorj G, Gendenragchaa B. Drug pricing and reimbursement decision making systems in Mongolia. *J Pharm Policy Pract*. 2017 Dec;10(1):11.
29. Oyungerel N. Hospital services costing survey at aimag and district health facilities. Ulaanbaatar, Mongolia; 2011.
30. Global Monitoring Report on Financial Protection in Health 2019 [Internet]. Geneva, Switzerland: World Health Organization; 2020. Available from: <https://www.who.int/publications/i/item/global-monitoring-report-on-financial-protection-in-health-2019>
31. Tubadeza J. Mongolia: Health and Social Protection. Asian Dev Bank. :86.
32. Taber JM, Leyva B, Persoskie A. Why do People Avoid Medical Care? A Qualitative Study Using National Data. *J Gen Intern Med*. 2015 Mar;30(3):290–7.
33. Bolorma T, Natsagdorj T, Tumurbat B, Bujin T. Health systems in transition Mongolia: Health System Review. Copenhagen: European Observatory on Health Systems and Policies; 2007. (Health Systems in Transition Mongolia: Health System Review).

Annexes

Annex 1. Benefit packages by sources of funding

Levels of care	State budget	Social Health Insurance	OOP (households)
Primary care	<ul style="list-style-type: none"> ■ Consultations, diagnostics and treatments related to pregnancy and childbirth until the postnatal period ends ■ Epidemiological and sanitation measures for communicable diseases, including disinfection and routine immunization ■ Public health services, medical emergency and ambulance services, health services provided by the family, <i>soum</i> and village health centres, and medical services during disasters and infectious disease outbreaks ■ Treatment of individuals who have been injured or become ill while saving the lives of others or preventing large-scale damage ■ Treatment of tuberculosis, cancer, HIV/AIDS, and mental illness 	<ul style="list-style-type: none"> ■ Diagnostic tests ■ Essential drugs prescribed by bagh (subdistrict), <i>soum</i> and family doctors ■ Select high-cost items, medical goods 	<ul style="list-style-type: none"> ■ User charges for outpatient services ■ User charges applied for specific diagnostic services

Levels of care	State budget	Social Health Insurance	OOP (households)
Secondary care	<ul style="list-style-type: none"> Some drugs for diseases that require lengthy treatment and palliative care 	<ul style="list-style-type: none"> Day care Inpatient and outpatient services Day care 	<ul style="list-style-type: none"> User charges for inpatient care For inpatient care the patient has to pay 10–15% in co-payments (except for emergency and ambulance services and among others)
Tertiary care	<ul style="list-style-type: none"> Medical services for children provided by public hospitals Some drugs for diseases that require lengthy treatment and palliative care 	<ul style="list-style-type: none"> Inpatient and outpatient services Inpatient treatment using traditional medicine Long-term care in sanatoriums and rehabilitation centres Inpatient palliative care Rehabilitation services for patients admitted to sanatoriums 	<ul style="list-style-type: none"> User charges for inpatient care For inpatient care the patient has to pay 10–15% in co-payments (except for emergency and ambulance services among others) Hospitals can set user charges for services such as rooms with extra hotel services
Private hospital	<ul style="list-style-type: none"> None 	<ul style="list-style-type: none"> Some payment of inpatient admission Some payment for inpatient admission for traditional medicine, rehabilitative care and for palliative care (outside of the government budget) 	<ul style="list-style-type: none"> Patient has to pay all costs if not covered by SHI or by VHI

Source: Adapted from Network JL, Health MM of, World Bank, World Health Organization. Assessment of Systems for Paying Health Care Providers in Mongolia: Implications for Equity, Efficiency and Universal Health Coverage [Internet]. Washington, DC: World Bank; 2015. ЁSolmong r l T, Kwon S, Richardson E, Asia Pacific Observatory on Health Systems and Policies. Mongolia health system review. Copenhagen, Denmark: World Health Organization, on behalf of the European Observatory on Health Systems and Policies; 2013. Ministry of Health Government of Mongolia. Report on resource allocation and purchasing in Mongolia [Internet]. Ulaanbaatar, Mongolia; 2017 Jun.

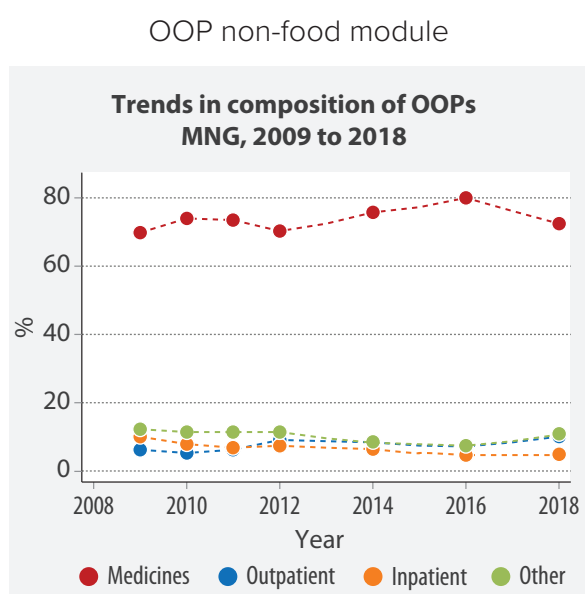
Annex 2. Sensitivity analysis: OOP spending from the non-food and individual health module, 2009 to 2018

In the HSES, there are two sources of OOP spending that can be derived from the non-food module and individual health module. For this analysis we made use of the OOP spending amount from the non-food module, given evidence that OOP spending from health modules tend to overestimate the amount spent on health.

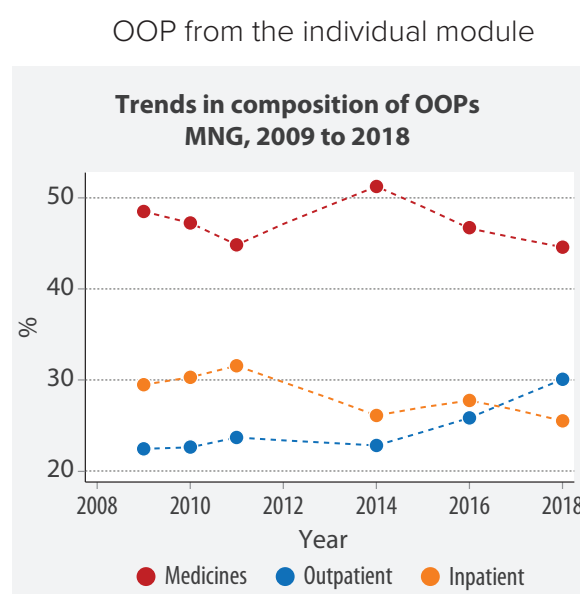
The majority of households report spending in the non-food module, whereas there are around 135–383 households who do not report spending in the non-food module but report in the health module.

TABLE A2.1. Number of households spending on health across modules, 2009–2018¹²

	2009	2010	2011	2014	2016	2018
	n	n	n	n	n	n
oop1<oop2	383	326	345	286	135	200
oop1=oop2	7165	6898	6856	8728	7410	9426
oop1>oop2	3652	3974	4010	7160	8906	6828
Average	0.29	0.33	0.33	0.42	0.533	0.40282



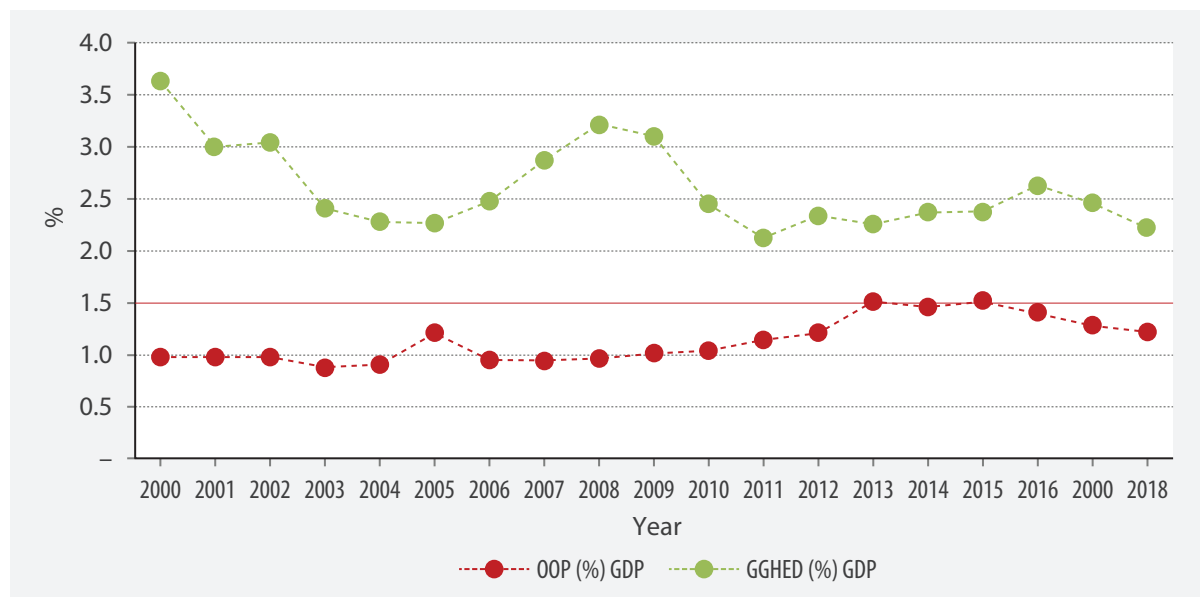
Note: Composition of OOPs among spenders
Source: MNG, WHO (draft) survey-based estimates



Note: Composition of OOPs among spenders from the individual health module
Source: MNG, WHO (draft) survey-based estimates

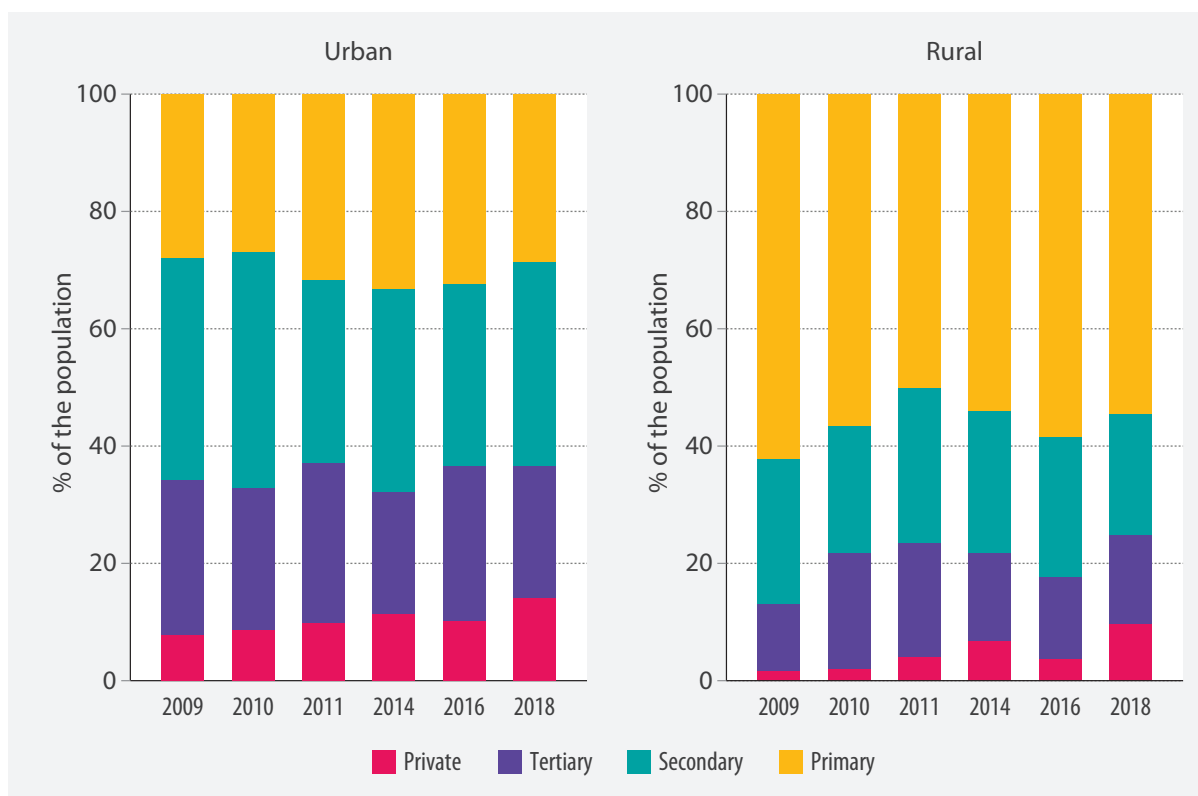
¹² 2012 has been excluded due to variable differences.

Annex 3. Share of OOP and government general expenditure on health, 2000–2018



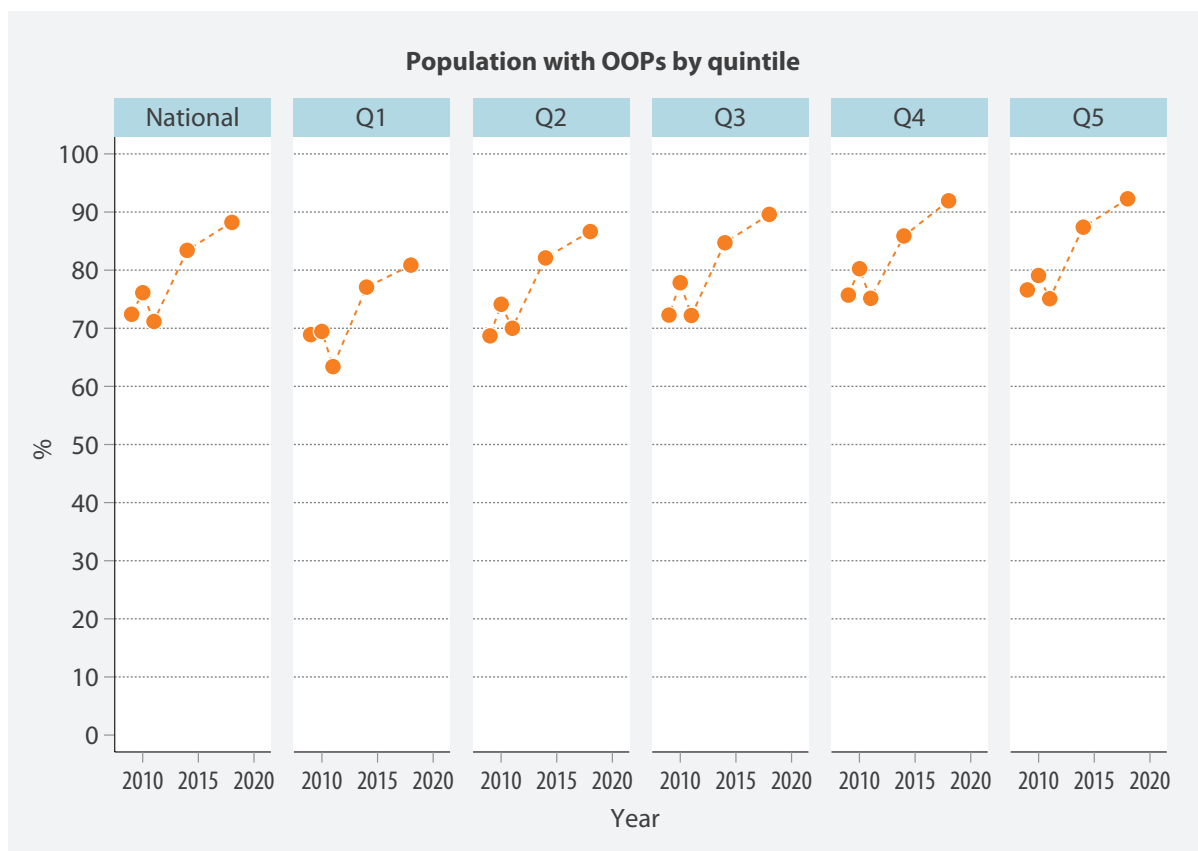
Source: World Health Organization. Global Health Expenditure Database (accessed 9 December 2020).

Annex 4. Population with OOP spending by geographical location and provider, 2009–2018

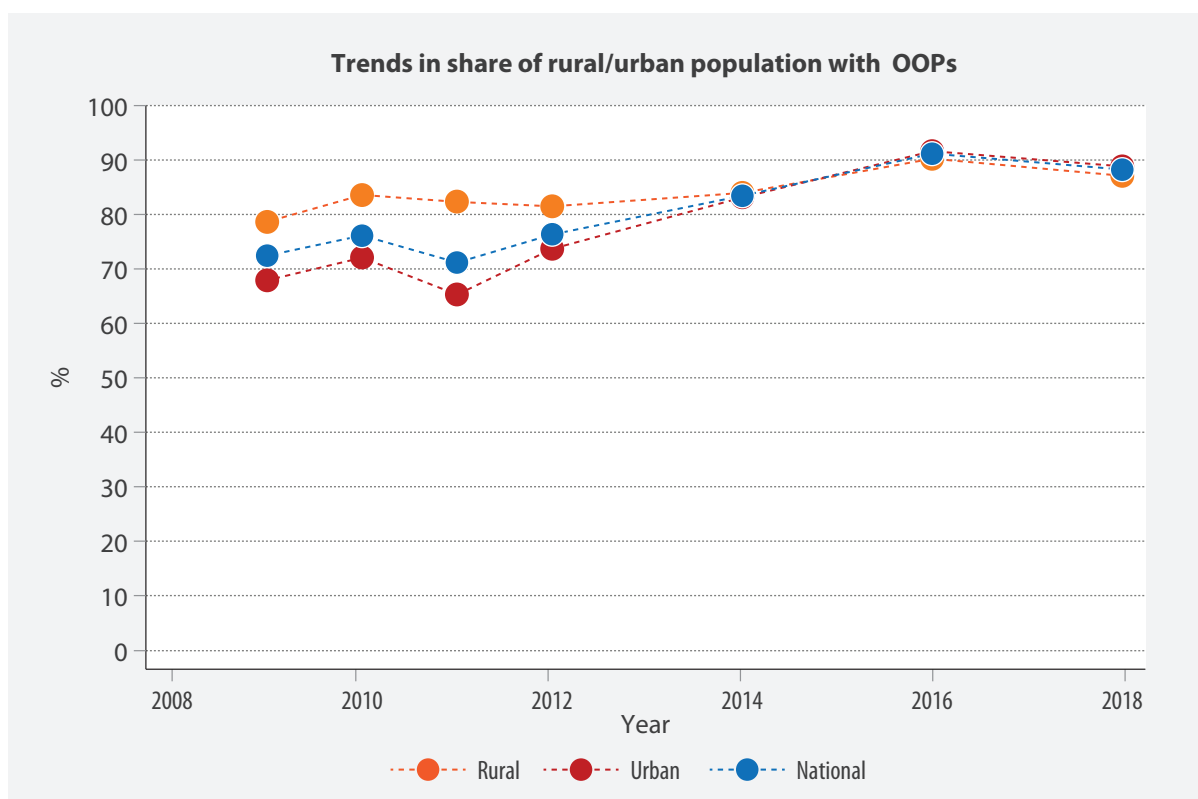


Source: MNG, WHO (draft) survey-based estimates

Annex 5. Population with OOP spending by quintile, and rural/urban, 2009–2018

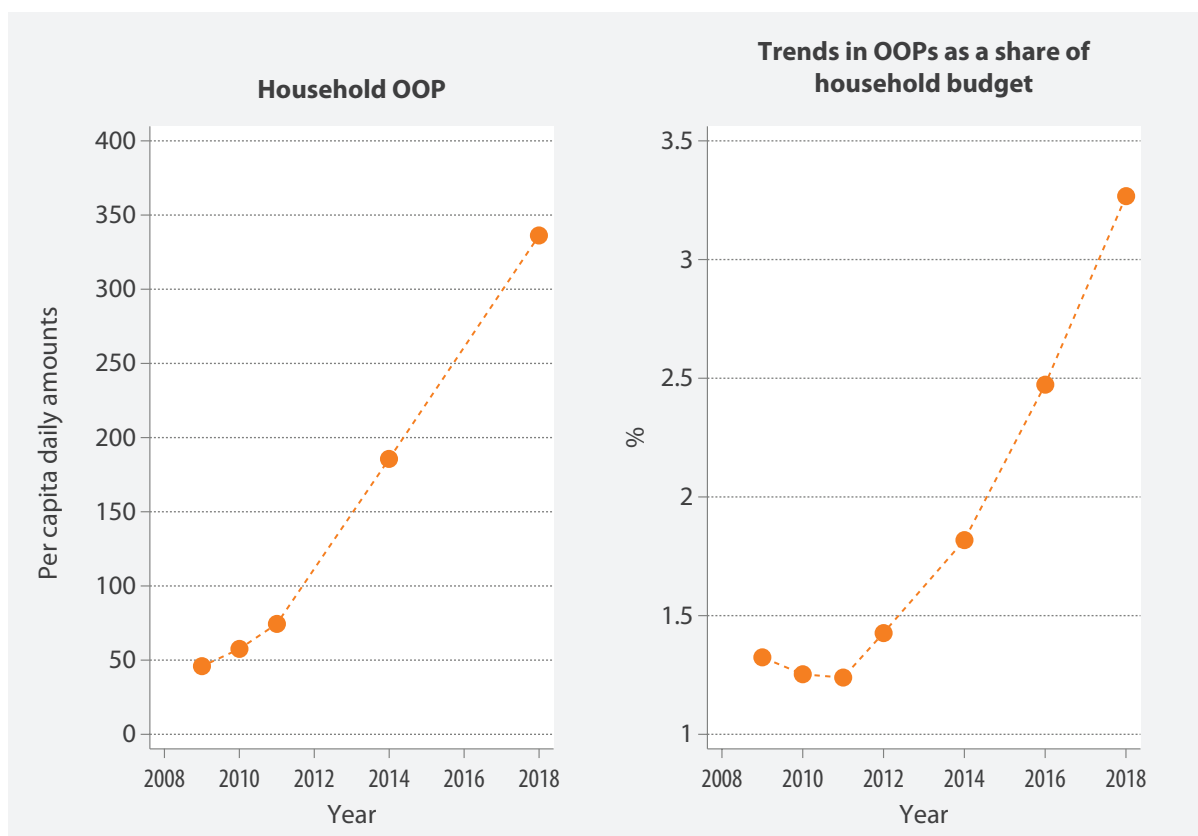


Source: MNG, WHO (draft) survey-based estimates, 2012 and 2016 excluded, 2009 to 2018



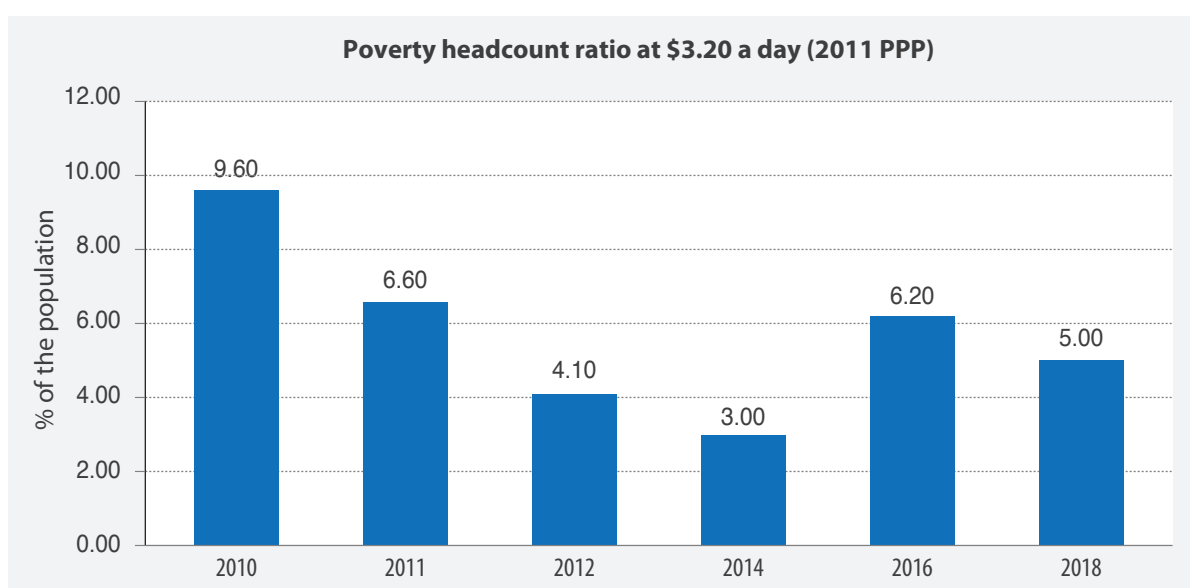
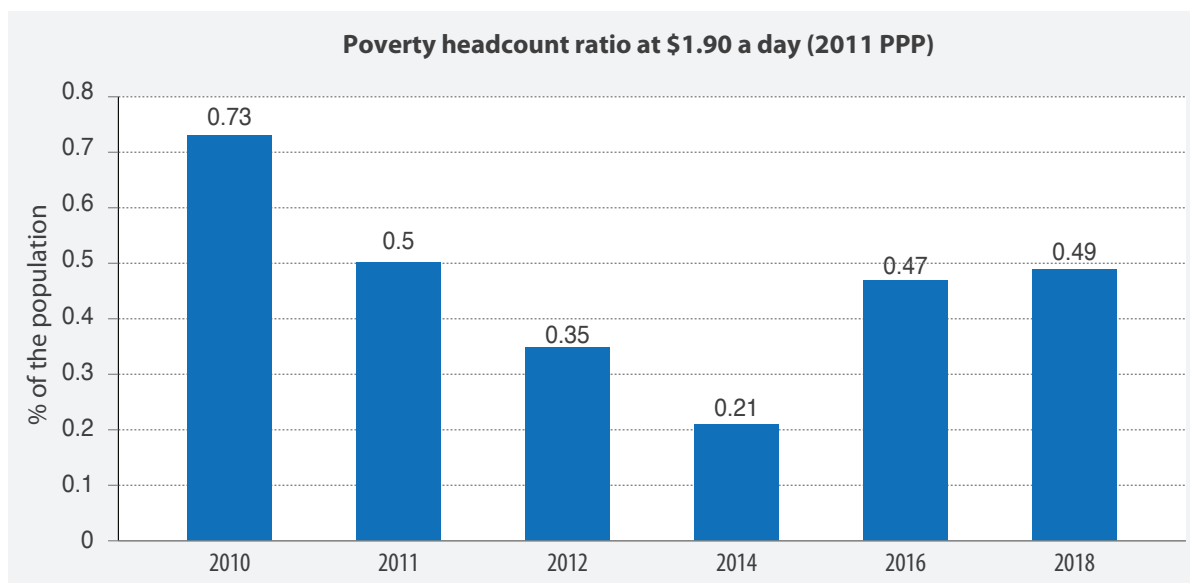
Source: MNG, draft estimates produced by WHO and WB (2012, 2016)

Annex 6. OOP spending in nominal terms and as budget share



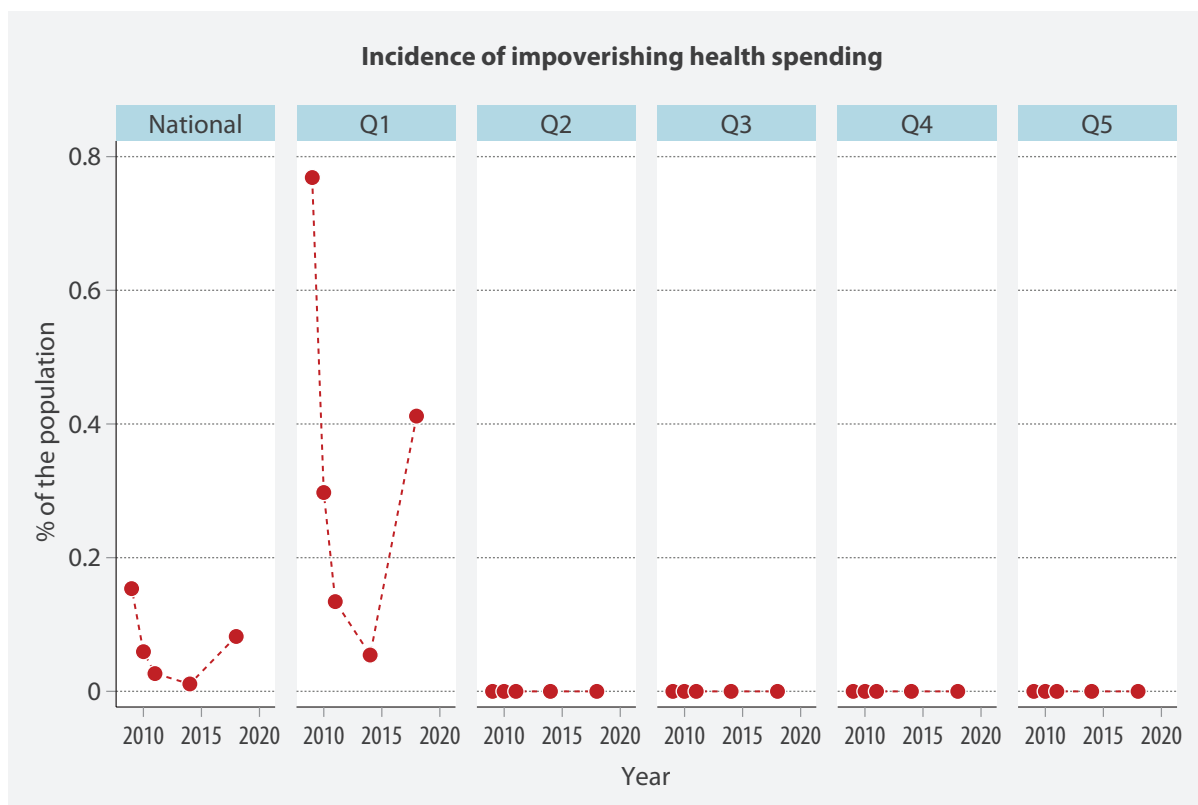
Source: MNG, draft estimates produced by WHO and WB (2012, 2016)

Annex 7. Incidence of impoverishment at the \$1.90 and \$3.20 (2011 PPP) (%) of the population



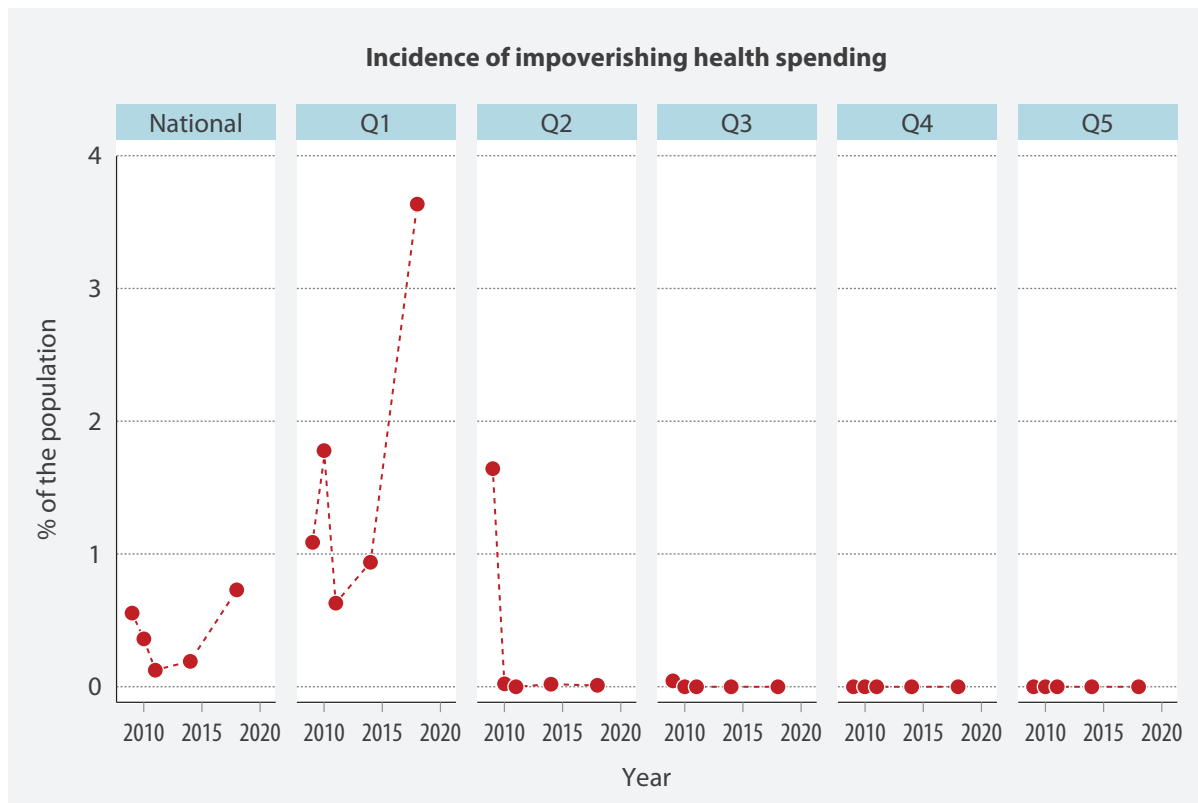
Source: PovcalNet, World Bank (accessed 26 May 2021)

Annex 8. Incidence of impoverishing health spending at the \$1.90 poverty line across quintiles



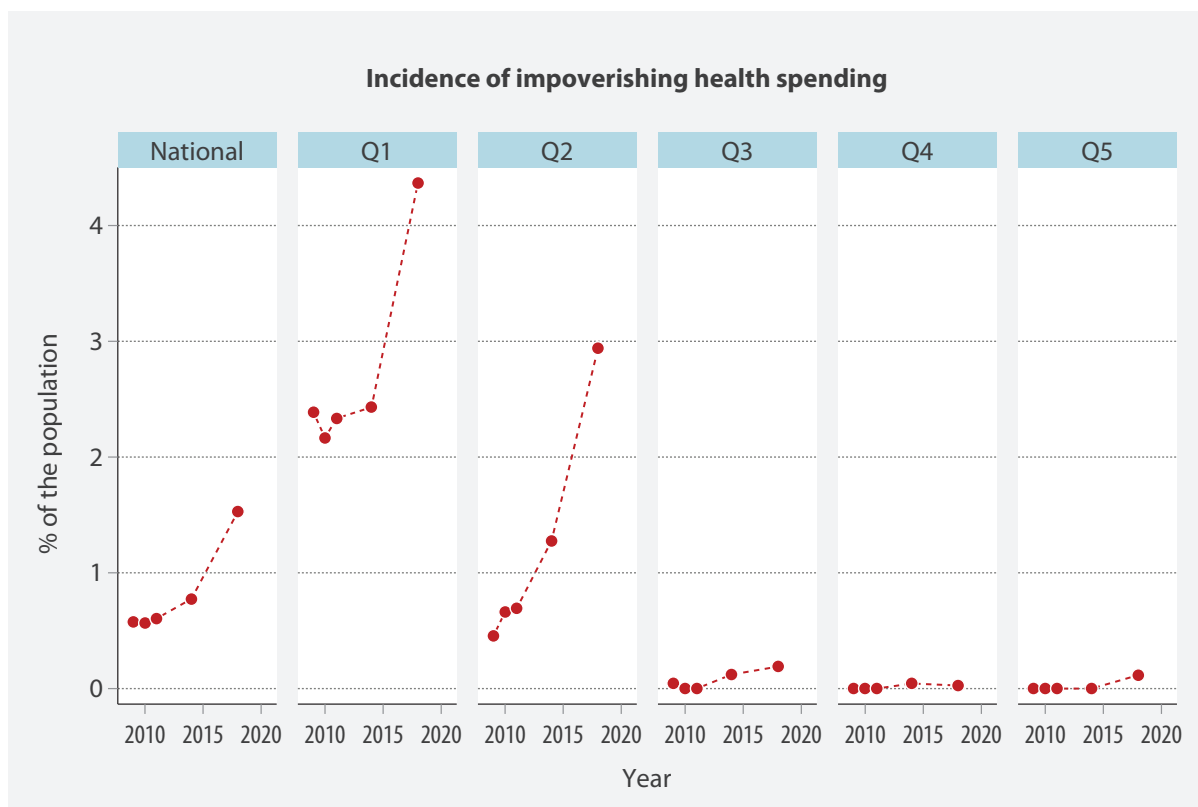
Source: MNG, WHO (draft) survey-based estimates, 2012 and 2016 excluded, 2009 to 2018

Annex 9. Incidence of impoverishing health spending at the \$3.20 poverty line across quintiles



Source: MNG, WHO (draft) survey-based estimates, 2012 and 2016 excluded, 2009 to 2018

Annex 10. Incidence of impoverishing health spending at the relative poverty line across quintiles



Note: Relative poverty line is defined as 60% of median per capita daily consumption

Source: MNG, WHO (draft) survey-based estimates, 2012 and 2016 excluded, 2009 to 2018

