# Progress towards Universal Health Coverage in the Lao People's Democratic Republic:

## Monitoring financial protection 2007–2019

Ministry of Health

LAO STATISTICS BUREAU

World Health Organization

Lao PDR

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# Foreword

The Ministry of Health and the Ministry of Planning and Investment of the Lao People's Democratic Republic and the World Health Organization (WHO) are pleased to present this financial protection analysis for the Lao People's Democratic Republic, an achievement made jointly through ministerial collaboration. This achievement is part of efforts to monitor one of the key indicators for Sustainable Development Goal (SDG) 3 and contribute to evidence-based and data-informed decision-making to further progress towards universal health coverage (UHC) in the Lao People's Democratic Republic and the policies that influence it.

As the foundation for strengthening a resilient health system, UHC ensures that all people can access quality health services across the continuum of care without suffering financial hardships due to health expenditure. Financial protection is an important objective of the health system and a key component of UHC. The Lao People's Democratic Republic is committed to achieving UHC by 2025. The Government has made efforts to expand the coverage of social health protection schemes by introducing the National Health Insurance (NHI) scheme in 2016 with substantial government subsidies for the informal sector.

It is critical to monitor financial protection and understand the barriers to it in order to ensure equitable and affordable access to health services. Data from the Lao Expenditure and Consumption Survey provide a timely opportunity for this financial protection analysis to examine progress on financial protection in the Lao People's Democratic Republic before and after the NHI scheme was introduced. This analysis will provide the Government with invaluable insight on progress made towards UHC and an evidence base on which to make informed policy decisions to better utilize limited resources and develop policies to advance further towards UHC.

Findings from the analysis show that financial protection has improved in the Lao People's Democratic Republic, to which the introduction of the NHI scheme is likely to have contributed. However, the analysis also shows the need for greater efforts to strengthen health systems by providing improved access to care and financial protection, especially for the poor and vulnerable populations. To make progress towards UHC, continuous monitoring of financial protection will be an important priority in the future.

On behalf of the Ministry of Health, the Ministry of Planning and Investment and WHO, we would like to express our gratitude to the Department of Finance and the Lao Institute of Tropical and Public Health of the Ministry of Health, the Lao Statistics Bureau of the Ministry of Planning and Investment and WHO teams who contributed to the content of this report. We look forward to working together to reach the UHC goal and make continued efforts to build a resilient health system for the future.

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# Acknowledgements

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# Abbreviations

| | |
|---|---|
| CBHI | Community-based Health Insurance |
| CHE | current health expenditure |
| GDP | gross domestic product |
| GGE | general government expenditure |
| GGHE-D | domestic general government health expenditure |
| HEF | Health Equity Funds |
| IPD | inpatient department |
| LAK | Lao kip |
| LECS | Lao Expenditure and Consumption Survey |
| MNCH | maternal, newborn and child health |
| MOH | Ministry of Health |
| MOLSW | Ministry of Labour and Social Welfare |
| NHI | National Health Insurance |
| NHIB | National Health Insurance Bureau |
| NSSF | National Social Security Fund |
| OOP | out-of-pocket |
| OPD | outpatient department |
| SASS | State Authority for Social Security |
| SDG | Sustainable Development Goal |
| SHI | social health insurance |
| SSO | Social Security Organization |
| UHC | universal health coverage |
| WHO | World Health Organization |

# Executive summary

This report, *Progress towards Universal Health Coverage in the Lao People's Democratic Republic: Monitoring financial protection 2007–2019*, is a comprehensive analysis of financial protection, health service utilization and access to care within the Lao People's Democratic Republic health system. It relies on measures of financial hardship used in the Sustainable Development Goals (SDGs) monitoring framework to track progress towards universal health coverage (UHC) as well as measures linking financial hardship to SDG 1 on poverty eradication.

Financial protection in health is achieved when direct payments, also called out-of-pocket (OOP) health payments, made to obtain health care do not expose individuals to financial hardship, nor threaten their living standards. Financial protection is an important component of UHC as well as a key objective of the health system. To reach the Government's goal to achieve UHC by 2025, the Lao People's Democratic Republic has made efforts to expand the population coverage of social health protection schemes through the introduction of the National Health Insurance (NHI) scheme in 2016 and integration of existing schemes into the NHI scheme in July 2019 (excluding Vientiane Capital). The aim of this policy initiative was to contribute to improving financial protection and access to care. This analysis monitors progress made toward financial protection in the Lao People's Democratic Republic using data from the three most recent cycles of the Lao Expenditure and Consumption Survey (2007/2008, 2012/2013 and 2018/2019), both before and after the introduction of the NHI scheme.

The findings of the study indicate that the share of the population that used outpatient and inpatient care declined over the survey period 2012/2013–2018/2019. However, among the population that fell ill, the share of those who sought care increased over the survey period 2007/2008–2018/2019, especially for outpatient care. Access to care improved marginally over the period but remained limited, especially for the poor and people living in rural areas. One in 10 households in the poorest and near-poorest quintiles reported difficulty in accessing health services. These vulnerable populations used health services more frequently at the lower levels of care (for example, district hospitals and health centres) while the richest quintiles and people living in Vientiane Capital and urban areas used health services more frequently at higher levels of care (for example, central and provincial hospitals).

OOP payments per capita per month decreased between the last two survey cycles, which was found across all consumption quintiles. People living in Vientiane Capital had to pay more than double OOP compared to other regions. Medicines were the predominant driver, comprising over 50% of OOP payments.

The degree of financial protection in the Lao People's Democratic Republic fluctuated over the period 2007/2008-2018/2019. This report finds that 4.1% of the population of the Lao People's Democratic Republic incurred catastrophic spending due to OOP payments in 2018/2019 as they spent more than 10% of their household budget on OOP payments (at

the 10% threshold used by SDG indicator 3.8.2 to define catastrophic spending). The Lao People's Democratic Republic has a higher incidence of catastrophic spending relative to other low- and middle-income countries in the Region, such as Malaysia, Mongolia, and the Philippines, which suggests that there is scope to improve the degree of financial protection in the Lao People's Democratic Republic. The incidence of catastrophic spending was concentrated in the richest quintiles; however, the gradient was much stronger with the budget-share approach than with the capacity-to-pay approach. People in Vientiane Capital and the Southern region experienced more catastrophic health expenditure compared to other regions. The incidence of catastrophic health expenditure was driven by OOP payments on outpatient care and medicines. Impoverishment due to health spending decreased over the last two survey cycles at all poverty lines.

Overall, the trend of the incidence of catastrophic health expenditure and impoverishment due to OOP expenditure over time suggests that the introduction of the NHI scheme had a positive impact on financial protection and, to a lesser extent, access to care in the Lao People's Democratic Republic. An impact evaluation should be conducted to corroborate this preliminary finding. In any case, greater attention should be paid to financial protection and access to care for the poor and people living in rural areas to address geographical and financial barriers to access to health services. In particular, these vulnerable populations were shown to use health services at the primary health-care level; investment in strengthening primary health care, in terms of accessibility, availability and quality, is therefore more important than ever.

Given that the largest share of OOP expenditure was on medicines and its impact on catastrophic health expenditure and impoverishment, there is a need for policies relating to access to affordable and quality essential medicine for all. There was a high rate of catastrophic health expenditure in Vientiane Capital; as such, the expansion of the NHI scheme to Vientiane Capital should be considered, at least for the poorest population, as a long-term goal for the future. Moreover, there was low awareness of the NHI scheme, likely impacting care seeking; greater efforts should be made to increase awareness of the scheme. Finally, continuous monitoring of progress on financial protection into the future is required.

# I. Introduction

Universal health coverage (UHC) ensures that all people can access quality health services across the continuum of care, from preventive and curative care to rehabilitative and palliative care, without suffering financial hardships coming from out-of-pocket (OOP) payments for health services. UHC is the foundation for a resilient health system, helping to ensure that all health services in the continuum of care are designed to contribute to strengthening the health system *(1)*.

Notably, UHC was included as one of the targets under Sustainable Development Goal (SDG) 3 *(2)*. UHC serves as one of the key factors for achieving an improved level and distribution of health; it contributes to social well-being as well as the achievement of the other SDG 3 health targets that aim to ensure health and well-being for all *(3)*. Moreover, UHC contributes to other SDGs including poverty reduction and economic growth as a pathway to equitable, sustainable and resilient health systems *(2)*.

Financial protection is one of the key objectives of the health system and an important component of UHC. Ensuring financial protection is integral to achieving UHC, which requires that services are available at affordable costs so that everyone can access care based on their health needs *(4)*. As noted in the World Health Organization (WHO) and World Bank UHC 2021 global monitoring report, countries in the WHO Western Pacific Region have made progress in increasing health service coverage, but catastrophic health expenditure and impoverishment due to OOP expenditure in this Region are high compared to other WHO regions *(5)*.

According to the UHC 2021 global monitoring report *(5)*, globally, the incidence of catastrophic health expenditure increased over the period 2000 to 2017; catastrophic health expenditure is defined by SDG indicator 3.8.2 as OOP expenditure as a share of household consumption or income that exceeds a certain threshold (10% or 25%). In 2017, globally, approximately 996 million people experienced catastrophic health expenditure

Financial protection is one of the key objectives of the health system and an important component of UHC.

at the 10% threshold of their household income on health; 290 million people at the 25% threshold. At the relative poverty line of 60% of median daily per capita consumption or income, 172 million people (2.3% of the world's population) were impoverished due to OOP expenditure in 2017, which increased from 91 million people (1.5%) in 2000. In the Western Pacific Region, 385 million people experienced catastrophic health expenditure at the 10% threshold, accounting for 38.7% of the global incidence in 2017; 65 million people were pushed into poverty due to OOP expenditure at the relative poverty line of 60%, accounting for 37.8% of global incidence of impoverishment *(5)*.

To make progress towards UHC, examining health expenditure and sources of funding is critical. In particular, the share of public spending for health (prepaid and pooled funding), especially domestic government health spending, is key to ensuring access to services and financial protection, reducing OOP expenditure. From 2009 to 2018, current health expenditure (CHE) per capita was primarily funded by government and social health insurance (SHI) schemes, especially in middle- and high-income countries in the WHO Western Pacific Region. The share of government schemes in CHE was around 60% between 2009 and 2018, while the share of SHI schemes in CHE gradually increased from 8.8% in 2009 to 11.1% in 2018 on average in the Region *(6)*.

The Lao People's Democratic Republic has committed to achieving the UHC goal by 2025. Under the *Health Sector Reform Strategy* and the *Health Sector Development Plan*, the Government has made efforts to expand the population coverage of social health protection schemes by introducing the National Health Insurance (NHI) scheme in 2016 with substantial government subsidies for the informal sector — including the poor, pregnant women and children under 5 — which was expanded to

Monitoring financial protection and understanding the barriers to access to care are essential to ensure equitable and affordable access to health services.

all provinces excluding Vientiane Capital by 2018. Moreover, the existing health protection schemes, such as the State Authority for Social Security (SASS) and the Social Security Organization (SSO) for the formal sector, Health Equity Funds (HEF) for the poor, Community-based Health Insurance (CBHI), and free maternal, newborn and child health services (Free MNCH), have been integrated into the NHI scheme in all provinces excluding Vientiane Capital since July 2019 *(7)*. In 2020, around 94% of the total population were covered by social health protection schemes, a significant increase from 45% in 2016 *(8)*. These health financing policy changes are expected to have contributed to progress towards UHC in the Lao People's Democratic Republic, improving access to care and financial protection.

Monitoring financial protection and understanding the barriers to access to care are essential to ensure equitable and affordable access to health services. By doing so, policy-makers can better utilize limited resources and develop evidence-based policies to advance towards UHC.

The objective of this report is to analyse the progress of financial protection over time in the Lao People's Democratic Republic, before and after introduction of the NHI scheme, in order to understand the trajectory of the Lao People's Democratic Republic in its pursuit of UHC and explore health-care utilization as it relates to catastrophic health expenditure. To this end, data from three cycles of the Lao Expenditure and Consumption Survey (LECS), a nationally representative household survey, are analysed: 2007/2008 (LECS4), 2012/2013 (LECS5) and 2018/2019 (LECS6). Based on this analysis, policy options and ways forward are suggested.

# II. Background

## Overview of the health financing system

To make progress towards UHC, the NHI scheme for the informal sector was introduced in 2016, heavily funded by the government budget. To reduce fragmentation, all existing social health protection schemes were integrated into the NHI scheme in all provinces except Vientiane Capital in July 2019. The National Health Insurance Bureau (NHIB) is the main purchaser of health services for the Lao population. NHI covers the informal sector (about 80% of the total population) and manages the health benefits of the beneficiaries and their family dependents in the National Social Security Fund (NSSF) for the formal sector (SASS and SSO) *(7)*. In Vientiane Capital, NSSF covers the formal sector and CBHI is operating for about 37 000 members in the informal sector. As noted, in 2020, the total population coverage of all social health protection schemes reached about 94% of the total population, a significant increase from 45% in 2016 *(8)*.

NHI covers the informal sector (about 80% of the total population) and manages the health benefits of the beneficiaries and their family dependents in the National Social Security Fund (NSSF) for the formal sector (SASS and SSO).

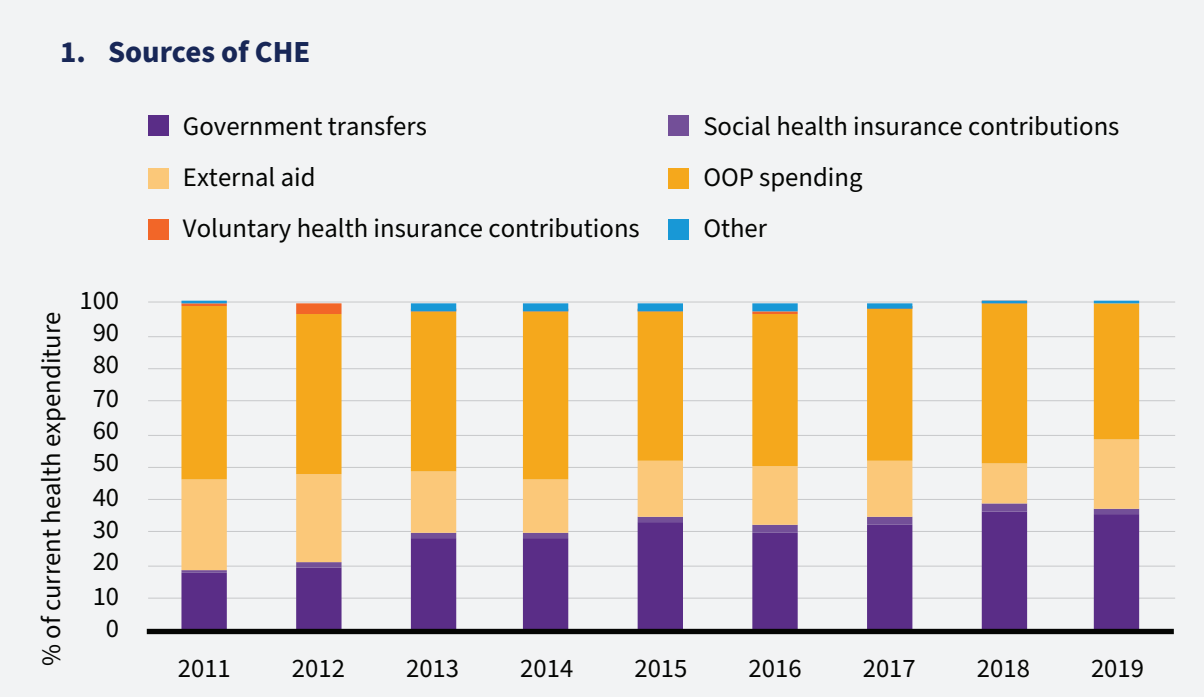
NSSF beneficiaries in the formal sector pay health insurance contributions but do not pay any co-payment at the point of care. NHI beneficiaries in the informal sector do not pay health insurance contributions but can use health services with a very minimal co-payment of 5000 Lao kip (LAK) to 30 000 LAK paid at the point of service, with a co-payment exemption for the poor, monks, pregnant women and children under 5 years old. The current co-payment rates are as follows *(9)*:

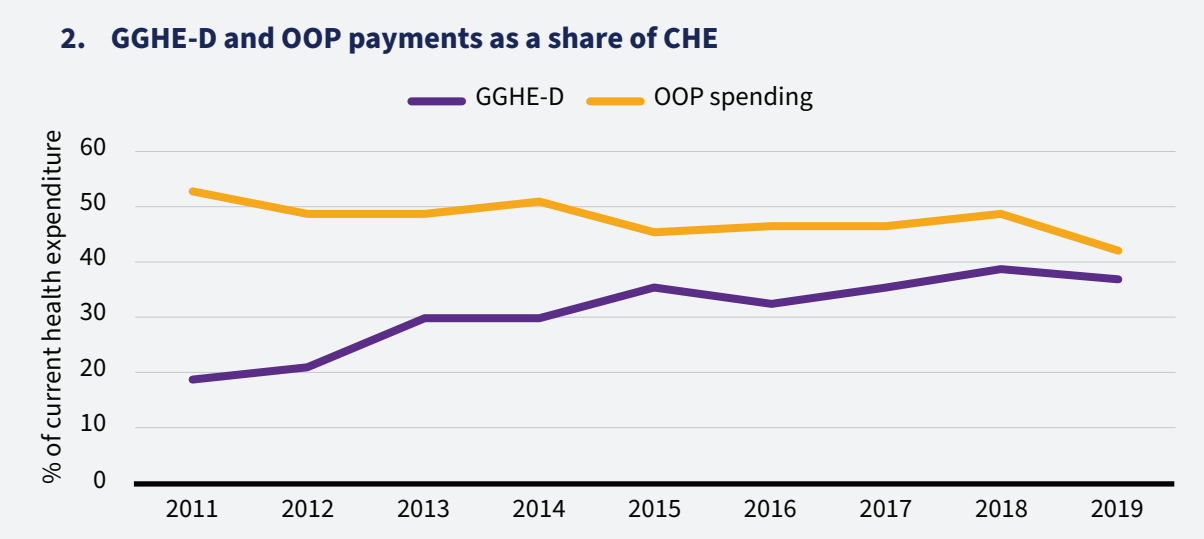
- 5000 LAK for outpatient department (OPD) care and inpatient department (IPD) care in a health centre;
- 10 000 LAK for OPD care and 30 000 LAK for IPD care at a district hospital;
- 15 000 LAK for OPD care and 30 000 LAK for IPD care at a provincial hospital; and
- 20 000 LAK for OPD care and 30 000 LAK for IPD care at a regional or central hospital.

Health services are provided primarily through a network of public health facilities including health centres and district, provincial, central and specialized hospitals. The military and police sectors also provide health services for their own cadres, their families and their communities. The share of the private sector providing health services is small but has been growing. Essential health services, including maternal and child health, family planning, immunization, nutrition, and water, sanitation and hygiene, are funded by the government budget and external funding *(10)*. In 2019, primary health-care services were funded mostly by OOP payments (accounting for 50% of primary care spending), domestic general government health expenditure (GGHE-D) (23.3%) and external funding (26.7%) *(11)*.

Overall, health financing in the Lao People's Democratic Republic is characterized by low levels of government spending and a high reliance on OOP expenditure and external funding. According to the WHO Global Health Expenditure Database, CHE was estimated at 2.6% of gross domestic product (GDP) in 2019 (US$ 68 per capita) *(6)*. GGHE-D as a share of CHE and of general government expenditure (GGE) increased significantly since 2011 when the National Health Account first started to collect data in the Lao People's Democratic Republic; in 2019, GGHE-D accounted for 36.9% of CHE (from 18.9% in 2011) and 4.7% of GGE (from 1.8% in 2011). However, GGHE-D was still only US$ 25.20 per capita in 2019 compared to US$ 6.36 in 2011. OOP expenditure decreased slightly over the years but remained the predominant source of health spending, accounting for 41.8% of CHE in 2019. External funding as a share of CHE was 21.3% in 2019 (Fig. 1) *(6)*.

**FIG. 1.** Sources of CHE, and GGHE-D and OOP payments as a share of CHE, 2011–2019



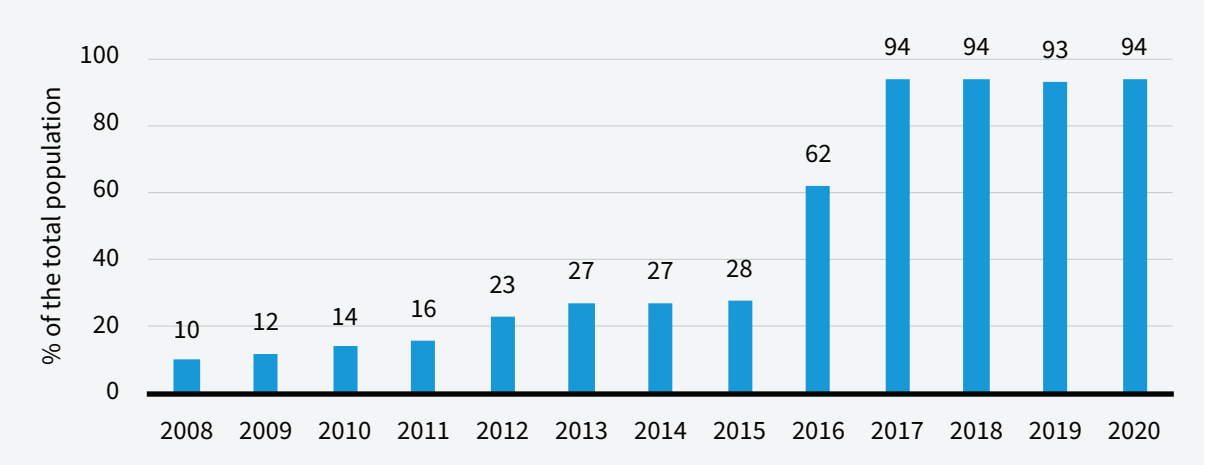



*Source*: WHO Global Health Expenditure Database *(6)*.

## Health financing policies over the years

The Lao People's Democratic Republic operates under a complex mixed health financing system comprising a tax-based social health insurance system (the NHI scheme) that was introduced in 2016. Before the introduction of the NHI scheme in 2016, the Lao People's Democratic Republic applied a targeted approach to health financing by implementing five social protection schemes for different population groups across the country: 1) SASS for civil servants; 2) SSO for private formal sector employees; 3) HEF for the poor; 4) CBHI; and 5) Free MNCH. The share of private voluntary health insurance schemes is negligible in the Lao People's Democratic Republic *(12)*. Population coverage by all existing social health protection schemes was very low in 2015, at less than 30%, which increased to 94% in 2020 (Fig. 2) *(7)*.

**FIG. 2.** Coverage of social health protection schemes in the Lao People's Democratic Republic, 2008–2020




*Source*: National Health Insurance Bureau of the Lao People's Democratic Republic *(8)*.


AEROBIC FLUID 20 ML
BLOOD CULTURE MEDIUM
Test number
Inoculated date
Manufactured by
PHARMA 2 VIENTIANE
Rep. No. 150826
B&C. No. 270815
Mfg. Date 260216
Exp. Date

Table 1 provides an overview of social health protection schemes in the Lao People's Democratic Republic *(10,13,14)*. A social health insurance scheme for civil servants was introduced in 1995, and a scheme for private formal sector employees was introduced in 2001, under the Ministry of Labour and Social Welfare (MOLSW). The Ministry of Health (MOH) manages schemes for the informal sector. CBHI on a voluntary basis was introduced in 2002 and extended in 2006. HEF started in 2004 and Free MNCH in 2010; these two schemes were fragmented in terms of coverage and funding sources with their implementation highly dependent on donors *(10)*.

In 2012, the Prime Minister's Decree 470 announced the harmonization of the schemes under management of NHIB at MOH. In the last quarter of 2016, the NHI scheme covering the informal sector was introduced in four provinces and gradually rolled out nationwide over two years to cover all provinces, excluding Vientiane Capital, by 2018. All existing social health protection schemes were integrated into the NHI scheme in all provinces, excluding Vientiane Capital, in July 2019 (this did not overlap with the data collection period for LECS6; therefore, in this analysis, any effects of the integration of existing social health protection schemes into the NHI scheme are not examined). Benefit packages provided by these social health protection schemes cover both OPD and IPD care but are limited by the low capitation fees per member *(10)*.

The NHI scheme provides a comprehensive benefit package covering all consultation and IPD care including prescription drugs, tests and surgeries. Medicines at public health facilities that are included in the essential medicines list are covered by the NHI scheme. Elective procedures, private facilities, brand name drug requests and services already paid under vertical programmes are not covered by the NHI scheme. Food and transportation allowances are provided to the poor.

The NHI scheme provides a comprehensive benefit package covering all consultation and IPD care including prescription drugs, tests and surgeries.

Benefit packages are comparable between NSSF and the NHI scheme (except reimbursement for treatment abroad and haemodialysis). After NSSF was integrated into the NHI scheme in 17 provinces, its benefit package became the same as that of the NHI scheme (following the NHI benefit package). Thus, NSSF beneficiaries in the 17 provinces now receive benefits expanding the services down to the health centre level and receive unlimited haemodialysis treatments, as in the NHI scheme (before the integration, the haemodialysis benefit was limited to four times); treatment abroad was covered by NSSF with a ceiling but is no longer covered in the NHI scheme in 17 provinces. Meanwhile, the benefit package for the NSSF beneficiaries in Vientiane Capital remains the same as before (following the NSSF benefit package). Health benefits for NSSF beneficiaries in all provinces are managed by NHIB.

**TABLE 1.** Overview of social health protection schemes in the Lao People's Democratic Republic

| | NSSF-SASS | NSSF-SSO | CBHI | HEF | Free MNCH | NHI |
|---|---|---|---|---|---|---|
| Starting year | 1995 (revised 2006) | 2001 | 2002 (pilot) 2006 (extension) | 2004 | 2010 | 2016 |
| Year of integration into NHI | 2019 | 2019 | 2016 | 2016 | 2016 | NA |
| Legislation | Prime Minister decree | Prime Minister decree | MOH national regulations | MOH guidelines & regulations | MOH guidelines | MOH guidelines; Prime Minister Decree 470 |
| Source of funding | Government and government employees; Prepaid contributions: employee 8.0% and employer 8.5% (1.5% of total contribution is for health benefit, of which 1.25% will go to NHIB after merger) | Prepaid contributions: employee 5.5% and employer 6.0% (1.5% of total contribution is for health benefit, of which 1.25% will go to NHIB after merger) | Household (government subsidies for 50% since 2016); Prepaid contributions: 300 000–630 000 LAK/ year depending on: 1) size of the family and 2) direct access to central hospital or referral system; budget allocations: Decree 470 suggests that Government doubles contribution of members, but in practice Government tops up payments to facilities | Donor and government | Donor and government | Government budget (mostly) and co-payments from households |
| Target population | All civil servants and their dependents | Formal private sector workers and their dependents (salaried workers of both state and private enterprises with at least 10 salaried workers and tax registration) | Vientiane Capital only; People employed in the informal sector or in households, and their dependents | The poor | Pregnant women and children under 5 | All Lao citizens in the informal sector or not covered by other schemes, excluding Vientiane Capital |
| Enrolment | Mandatory | Mandatory | Voluntary | Automatic | Automatic | Automatic |
| Supervising authority | MOLSW | MOLSW | Single fund pooled at CBHI Fund, Vientiane Health Office, MOH | MOH | MOH | NHIB, MOH |

| | NSSF-SASS | NSSF-SSO | CBHI | HEF | Free MNCH | NHI |
|---|---|---|---|---|---|---|
| Benefit package | • All consultations & admissions including drugs, tests and surgeries<br>• Excluding: elective procedures, private facilities, and services already paid under vertical programmes | • All consultations & admissions including drugs, tests and surgeries<br>• Excluding: elective procedures, private facilities, and services already paid under vertical programmes | • All consultations & admissions including drugs, tests and surgeries<br>• Excluding: elective procedures, private facilities, and services already paid under vertical programmes | • All consultations & admissions including surgeries<br>• Food<br>• Transport for admissions<br>• Referrals | • Delivery and other related OPD and IPD services for children under 5<br>• Food<br>• Transport for services mentioned above<br>• Incentives | • All consultations & admissions including drugs, tests and surgeries<br>• Excluding: elective procedures, private facilities, brand name drug requests, and services already paid under vertical programmes<br>• Food/transport allowances are provided to the poor<br>• Small co-payments of 5000–20 000 LAK for OPD, depending on facility level; 5000–30 000 LAK for IPD, depending on facility level; with exemption for the poor, pregnant women, and children under 5 |
| Health facilities | Public health facilities: health centres, district hospitals, provincial hospitals, central hospitals | Public health facilities: health centres, district hospitals, provincial hospitals, central hospitals | Public health facilities: health centres, district hospitals, provincial hospitals, central hospitals | Public health facilities: health centres, district hospitals, provincial hospitals, central hospitals | Public health facilities: health centres, district hospitals, provincial hospitals, central hospitals | Public health facilities: health centres, district hospitals, provincial hospitals; referrals for central hospitals |
| Provider payment methods | • Capitation: central hospitals 130 000 LAK/member/year, provincial hospitals 110 000 LAK/member/year<br>• Fee-for-service: district hospitals user fee charges + 10% administration<br>• Risk adjusted capitation for chronic disease: 5000 LAK at central/referral hospitals<br>• Cost sharing for high cost: 50% cost sharing with hospital and NSSF (not patient)<br>• Referrals (ambulance: 50–50%, flight: 70–30% co-insurance) | • Capitation: central hospitals 130 000 LAK/member/year, provincial hospitals 110 000 LAK/member/year<br>• Fee-for-service: district hospitals user fee charges + 10% administration<br>• Risk adjusted capitation for chronic disease: 5000 LAK at central/referral hospitals<br>• Cost sharing for high cost: 50% cost sharing with hospital and NSSF (not patient)<br>• Referrals (ambulance: 50-50%, flight: 70-30% co-insurance) | • Only capitation for OPD/IPD<br>• High cost: Brain surgeries additional 1 000 000 LAK from insurance<br>• Bone surgery: additional 30% (for metallic only) | • Capitation for OPD<br>• Case-based for IPD | • Commodities are supplied to facilities<br>• Programme activities are funded through budget line items | • Capitation at health centres level and for OPD at any level of facility<br>• Case-based for IPD, except at health centre level<br>• Capitation is paid in advance; case-based payment released 80% upon receipt of quarterly report and 20% upon verification<br>• Payments include food/transport for IPD at hospitals to the poor |

*Sources:* Data from National Health Insurance Bureau of the Lao People's Democratic Republic *(14)*; WHO *(10)*; and World Bank *(13)*.

# III. Methods

## Data source

This study uses data from three cycles of LECS (LECS4: 2007/2008 LECS5: 2012/2013 and LECS6: 2018/2019) conducted by the Lao Statistics Bureau. LECS is a nationally representative survey usually undertaken at five-year intervals since 1992/1993, which aims to evaluate and monitor the living standards of the population and progress on poverty reduction. The survey is a cross-sectional household survey with a two-stage sampling method. Firstly, villages (clusters) are selected with probability proportional to size. Secondly, a sample number of households is chosen using systematic random sampling techniques. Data collection is conducted for a period of 12 months; for example, LECS6 was implemented from June 2018 to June 2019 (Table 2).

Interviewers spend one month in a village conducting interviews and collecting household information. Further, households are expected to record their expenditures daily in a diary. The survey data include information on a wide range of sociodemographic variables such as household social status, education level, health-care utilization and expenditure, and household daily expenditure and consumption, along with other information. The sample size of LECS is 8000–10 000 households in 500–600 villages (approximately 48 000 individuals) (Table 2). The primary dataset of 100% of the households in each survey was used for this study. Population weight was applied to make the estimates nationally representative. The survey questionnaire has changed considerably over time, but all efforts were undertaken to construct the variables in the most comparable way. Nevertheless, it is important to keep in mind that some changes to data over time are driven by modifications to the survey questionnaire, which are explained in the relevant sections.

**TABLE 2.** Sample sizes of LECS4, 5 and 6

| | Year | Villages | Households | Individuals |
|---|---|---|---|---|
| LECS4 | 2007/2008 | 518 | 8 296 | 48 025 |
| LECS5 | 2012/2013 | 515 | 8 226 | 43 641 |
| LECS6 | 2018/2019 | 636 | 10 167 | 48 910 |

## Construction of the key variables

### Health-care utilization

Data on health-care utilization were from the individual-level health module in the LECS dataset. Variables for the health-care utilization analysis include the share of people who reported a health problem in the past month, the share of people who sought treatment at a health facility or health provider for a health problem in the past month, OPD care utilization in the past month, IPD care utilization in the past 12 months and health-care provider.

**TABLE 3.** Health-care utilization variables

| Variable name | Variable description |
|---|---|
| Illness | Reported a health problem in the past month |
| Seeking care | Sought treatment at a health facility or health provider (including consultation at pharmacy) for the health problem in the past month |
| OPD care utilization | Used OPD care in the past month |
| IPD care utilization | Admitted to a hospital in the past 12 months |
| Health-care provider | Health facility where OPD care was sought in the past month |

## OOP expenditures

OOP payment can be defined as direct payment for services from household primary income or savings at the point of care and can be in the form of co-payments and informal payments or under-the-table payments. Data on OOP payments were from the diary and health modules. OOP payments include expenditure on OPD care, IPD care, health products (therapeutic appliances and equipment), medicines and other variables (Table 4). The diary module dataset includes information on hospital medical expenditure, medicines, health products and other variables; it does not, however, include information on OOP payments for OPD care. Meanwhile, the health module collects data on both OPD and IPD care separately. Therefore, the health module was used to collect data on OPD spending for health services.

Transportation and insurance fees data from the diary and health modules were excluded to ensure cross-country comparability. Insurance fees were excluded because insurance premiums are in the prepayment form and not paid at the point of care; therefore, there is a potential for double counting when insurance schemes reimburse patients for medical expenses rather than paying the provider directly. The non-hospital/paramedical expenditure category in the diary module was excluded because this category refers to transportation and food in LECS.

Daily expenditure and household consumption data from the diary module in LECS4 and LECS5 were collected using a 30-day diary, whereas in LECS6 a 14-day diary was used. This change was made to improve data reliability; however, it also affects the comparability of OOP expenditure estimates between LECS6 and previous cycles. There is evidence that OOP payments on medicines and hospitalizations are sensitive to changes in reference periods *(15)*. Since this change may impact different estimates, the Lao Statistics Bureau collected a subsample using a 30-day diary to reconcile the estimates. This allowed for preliminary sensitivity analysis to be conducted in this analysis and clarify the impact of the change in the reference period. To mitigate the potential impact of the reference period in LECS6, adjustment was made for a 30-day reference period applying a scaling factor by geographical region using the 30-day subsample and the 14-day sample in LECS6 and constructed OOP payment estimates for medicines (see Fig. A3 in the Annex for more information).

**TABLE 4.** OOP payment components

| Variable name | Variable description |
|---|---|
| OPD care | • OOP payments on consultations and dental care from the health module with a 30-day reference period.<br>o For LECS6, OOP payments were calculated by the sum of total spending on OPD care and OPD care informal payments or gifts with a 30-day reference period.<br>o For LECS5, OOP payments were calculated by the sum of total payment for OPD care at the last visit; informal payment was not included due to lack of the survey item with a 30-day reference period.<br>o For LECS4, OOP payments were calculated by the sum of total payment for OPD care from the diary module with a 30-day reference period. |
| IPD care | • OOP payments on IPD care from the diary module.<br>• For LECS4 and 5, the reference period was 30 days.<br>• For LECS6, the reference period was 14 days which was estimated to 30 days. |
| Health products (therapeutic appliances and equipment) | • OOP payments on health products (optic glass, lens, hearing aid, etc.) from the diary module.<br>• For LECS4 and 5, the reference period was 30 days.<br>• For LECS6, the reference period was 14 days which was estimated to 30 days. |
| Medicines | • OOP payments on medicines from the diary module.<br>• For LECS4 and 5, the reference period was 30 days.<br>• For LECS6, adjustment for a 30-day reference period was made using scaling factors specific to each region based on average differences between the 14-day samples and 30-day subsamples (see Fig. A3 in the Annex). |
| Others | • OOP payments on other variables from the diary module.<br>• For LECS4 and 5, the reference period was 30 days.<br>• For LECS6, the reference period was 14 days which was estimated to 30 days. |

### Household total consumption expenditure

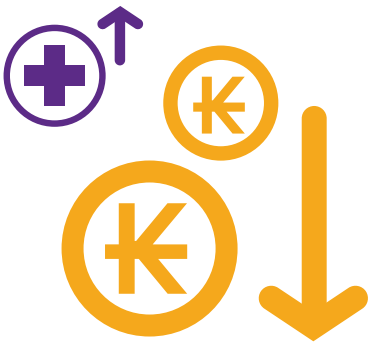
Data on household total consumption expenditure were from the diary module and includes expenditure in the household on food, own-produced food, clothing and footwear, housing (imputed rents), household appliances and maintenance, health (adding expenses on OPD care from the health module), transportation and communication, education, personal care, drinking, alcohol and tobacco, and other variables. A 14-day reference period for each item was estimated to 30 days for LECS6 data.

### Awareness of health insurance coverage

A variable for people who reported having health insurance was included from the health module: "Are you a member of any public health insurance/social health protection schemes?" In this item, the respondent can choose the type of scheme: SASS, SSO, NHI, CBHI/public voluntary scheme, co-payment exemption for the poor, Free MNCH and others.

## Financial protection indicators

In this report, two approaches to estimate catastrophic health expenditure are used: a budget-share approach and a capacity-to-pay approach. The budget-share approach is used for the SDG 3.8.2 monitoring framework where the incidence of catastrophic health

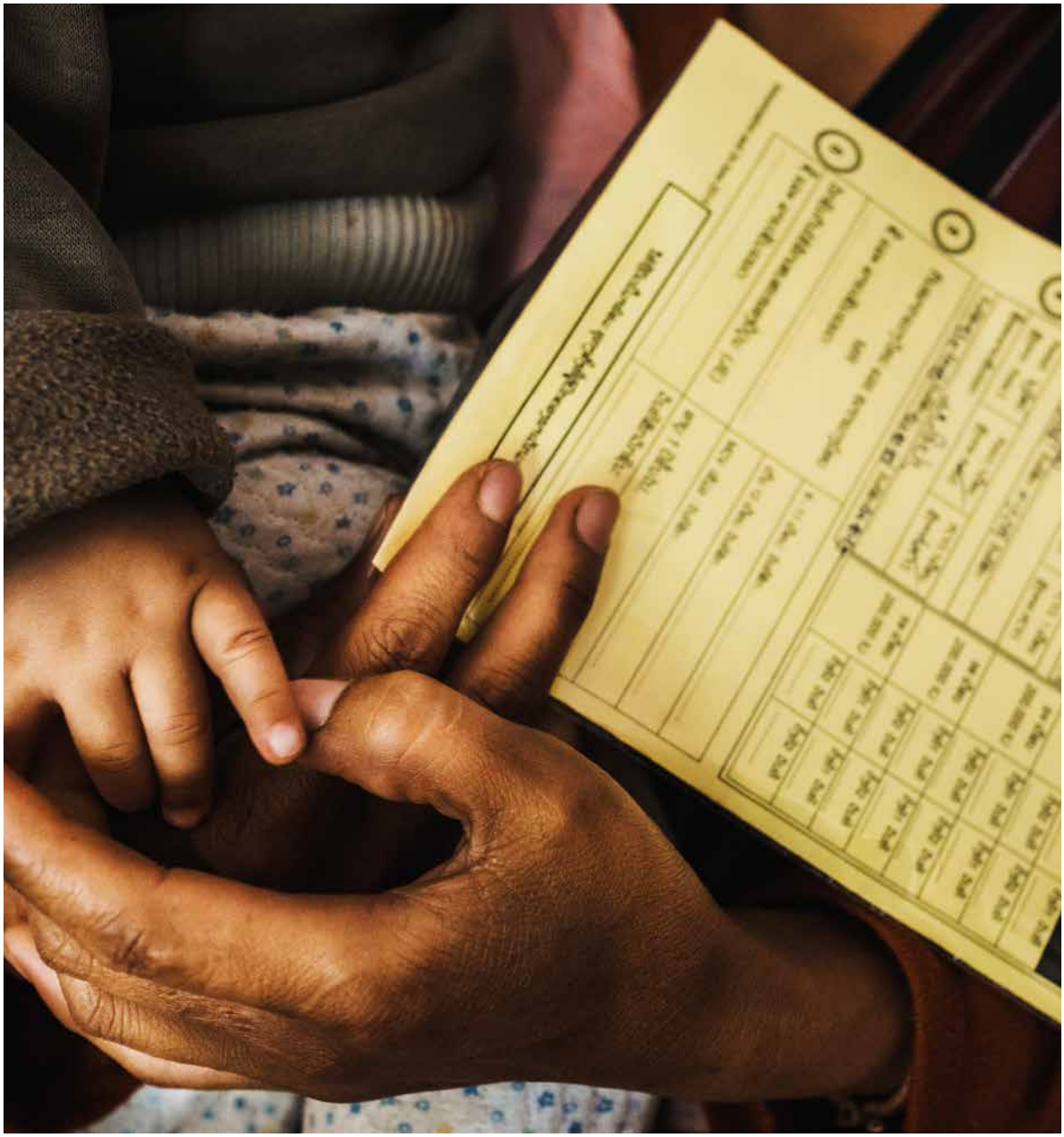


Indebtedness coming from health expenditure has been found to be one of the major factors driving people into poverty and remaining in poverty.

expenditure is defined as the share of the population with OOP expenditure that exceeds 10% and 25% of the household total consumption or income. This approach is referred to as the *SDG 3.8.2 indicator*. With the budget-share approach, catastrophic health expenditure is generally less concentrated among the poor and more concentrated among the rich. The capacity-to-pay approach is used to estimate the incidence of catastrophic health expenditure defined as the proportion of households with OOP expenditure greater than 40% of total household expenditure or income net of spending on necessities. This approach is referred to as *capacity-to-pay indicator*. Spending on necessities corresponds to a standard food spending amount incurred by households between the 45th and 55th percentiles of the food budget-share distribution. When this standard amount is lower than household total consumption then it is subtracted from it. When the standard amount is greater than household total consumption then the actual food spending of the household is subtracted from household total consumption. In both cases, household capacity-to-pay corresponds to household resources available after basic food spending needs have been covered. With the capacity-to-pay approach, the incidence of catastrophic health expenditure may be less concentrated among the higher quintiles as it recognizes that everyone needs to spend a minimum amount on food *(16,17)*.

Households with a high level of OOP expenditure and having catastrophic health expenditure may face economic risks diminishing a household's capacity-to-pay for other necessities. To deal with the economic risks, households may use coping strategies (savings, depletion of assets, borrowing and transfers), leading to consequences for consumption and poverty *(18,19)*. Although financial coping strategies may protect consumption from health shocks in the short-term, the long-term impact of financial coping strategies can be huge. Depletion of assets could have negative impacts on future earnings, and indebtedness coming from health expenditure has been found to be one of the major factors driving people into poverty and remaining in poverty *(20)*.

Impoverishment is not an official SDG UHC monitoring indicator but is included in the WHO and World Bank UHC global monitoring reports. This SDG-related indicator of impoverishment links UHC directly to SDG 1 that aims to end poverty in all its forms everywhere. The share of the population impoverished due to OOP expenditure can be measured as the change in poverty headcount



with and without OOP payments. Impoverishing health expenditure is defined as when a household's consumption expenditure including OOP expenditure on health is greater than the poverty line but household consumption expenditure excluding OOP expenditure is less than the poverty line. It is assumed that households facing impoverishment due to OOP expenditure were forced by ill health events to divert spending from other budget items, such as food, housing and clothing, to health expenditure, leading to poverty. The share of the poor spending on health OOP who were further pushed into poverty by health spending OOP is also included. Three poverty lines are used to monitor impoverishment due to OOP expenditure: 1) absolute poverty line defined as living on US$ 1.90 a day (the median national poverty line of low-income countries); 2) higher poverty line of US$ 3.20 a day (the typical standard used to assess national poverty levels by lower-middle-income countries); and 3) relative poverty line of 60% of median daily per capita consumption or income *(17,21)*.

# IV. Analysis

## Health-care utilization and access to care in the Lao People's Democratic Republic

The results of the survey show that the share of people who reported illness decreased from 10.1% of the population in LECS4 to 8.1% in LECS6 (Fig. 3); the better-off were more likely to report a health problem. Of the individuals who fell ill, 36.1% sought care; there was variation among the consumption quintiles with the richest quintile being most likely to seek care (Fig. 4 and Table 5). Notably, people in the Southern region were less likely to seek care although they reported more frequent illness; people in Vientiane Capital were less likely to report illness but more likely to seek care. The difference between rural and urban areas in the share of people who sought care when they fell ill decreased from 8.2 percentage points in 2012/2013 to 1.5 percentage points in 2018/2019 (Table 5).

The population using OPD care as a share of the total population increased over the three survey cycles, although OPD care and IPD care slightly decreased over the last two survey cycles (Fig. 3). However, among the people who fell ill, the share of those seeking care increased over the three survey cycles (20.6% in 2007/2008, 31.8% in 2012/2013, and 36.1% in 2018/2019), especially for OPD care (19.7% in 2007/2008, 31% in 2012/2013, and 35.7% in 2018/2019) (Table 5). The difference between the poorest and richest quintiles in OPD care utilization reduced from 15.9 percentage points in 2007/2008 and 13.2 percentage points in 2012/2013 to 10.9 percentage points in 2018/2019, while that of IPD care fluctuated slightly (2.9 percentage points in 2007/2008, 1.7 in 2012/2013 and 3.3 in 2018/2019).

**FIG. 3.** Prevalence of illness and health-care utilization, 2007/2008–2018/2019

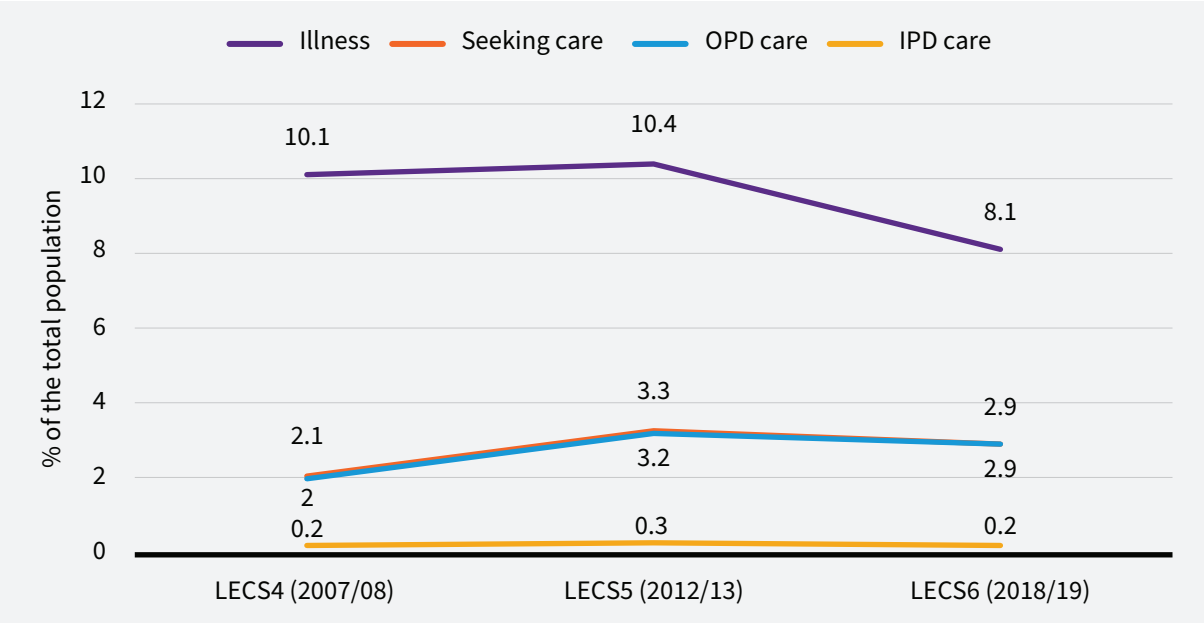


**FIG. 4.** Share of the people who sought care when they fell ill by quintile and region in the latest survey, 2018/2019

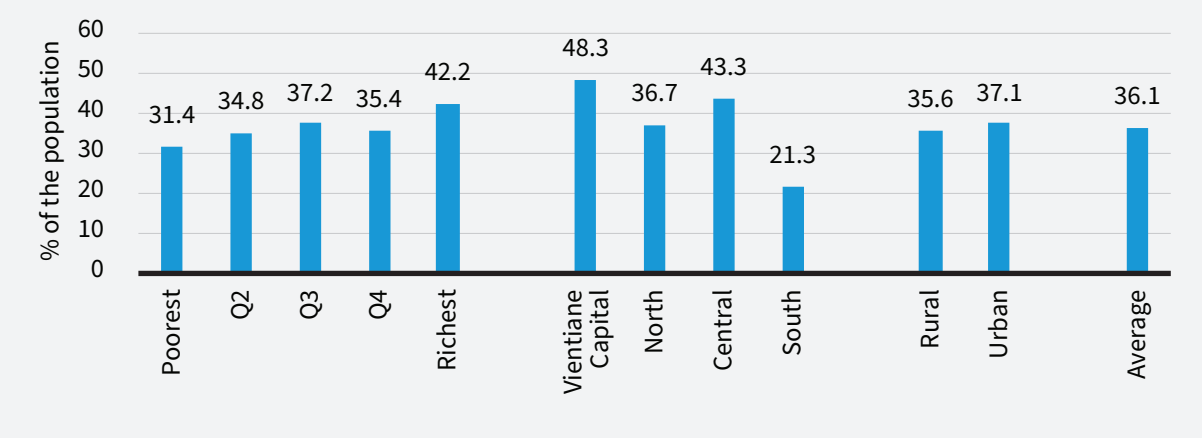
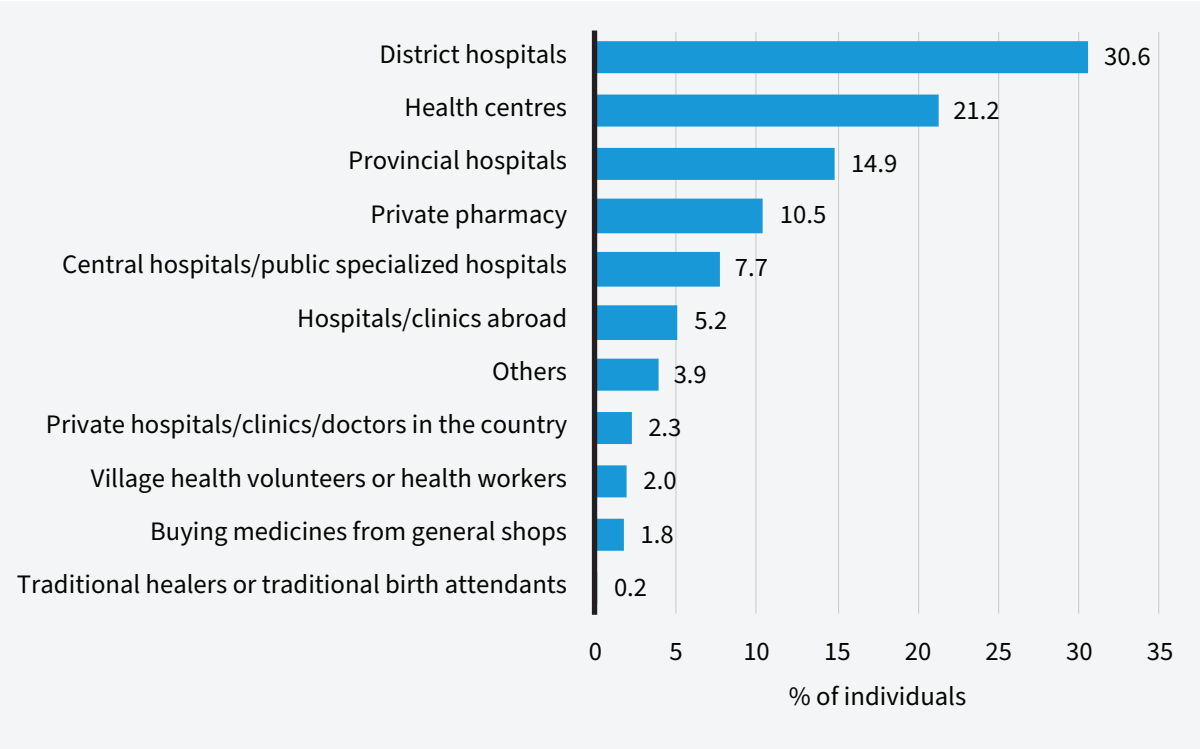



**TABLE 5.** Seeking care and health-care utilization as a share of the population who fell ill by quintile and region (%), 2007/2008–2018/2019

| | LECS4 (2007/08) | | | | LECS5 (2012/13) | | | | LECS6 (2018/19) | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Illness | Seeking care | OPD | IPD | Illness | Seeking care | OPD | IPD | Illness | Seeking Care | OPD | IPD |
| Poorest | 100 | 13.5 | 13.1 | 0.8 | 100 | 25.8 | 25.2 | 2.2 | 100 | 31.4 | 31 | 1.4 |
| Q2 | 100 | 17.9 | 16.9 | 1.3 | 100 | 27.2 | 26.2 | 2.2 | 100 | 34.8 | 34.6 | 3 |
| Q3 | 100 | 20.4 | 19.7 | 1.8 | 100 | 31.4 | 30.9 | 2.7 | 100 | 37.2 | 36.6 | 3.4 |
| Q4 | 100 | 22.6 | 21.4 | 2 | 100 | 36 | 35.3 | 3.6 | 100 | 35.4 | 35.1 | 2.8 |
| Richest | 100 | 30.5 | 29 | 3.7 | 100 | 39.5 | 38.4 | 3.9 | 100 | 42.2 | 41.9 | 4.7 |
| Vientiane Capital | 100 | 36.6 | 34.5 | 4.7 | 100 | 40.9 | 39.4 | 2.6 | 100 | 48.3 | 48.3 | 7.6 |
| North | 100 | 17.2 | 16.5 | 1.4 | 100 | 28.7 | 28.2 | 2.9 | 100 | 36.7 | 36.1 | 3 |
| Central | 100 | 24.2 | 22.7 | 2 | 100 | 31.3 | 30.3 | 2.8 | 100 | 43.3 | 42.7 | 4.2 |
| South | 100 | 16.1 | 15.6 | 1.2 | 100 | 32.6 | 31.8 | 2.9 | 100 | 21.3 | 21.2 | 0.6 |
| Rural | 100 | 19.2 | 18.4 | 1.6 | 100 | 29.4 | 28.7 | 2.4 | 100 | 35.6 | 35.2 | 2.5 |
| Urban | 100 | 24.2 | 22.7 | 2.2 | 100 | 37.8 | 36.9 | 4.2 | 100 | 37.1 | 36.7 | 3.8 |
| Average | 100 | 20.6 | 19.7 | 1.7 | 100 | 31.8 | 31 | 2.9 | 100 | 36.1 | 35.7 | 2.9 |

Fig. 5 shows health-care utilization by health-care provider in the latest survey (LECS6, 2018/2019). Approximately 75% of the people who sought care when they fell ill used public providers for treatments (the public sector providers include health centres, district hospitals, provincial hospitals and central/public specialized hospitals); health-care utilization in the private sector accounted for approximately 25%. Around 10% of the people seeking care used private pharmacies. Utilization of private hospitals and facilities in the country was low (2.3%); utilization of hospitals and clinics abroad was also low (only 5.2%). Further, only a small percentage of people used village health volunteers or health workers and traditional healers (outside of health facilities).

**FIG. 5.** Health-care utilization by health-care provider in the latest survey, 2018/2019

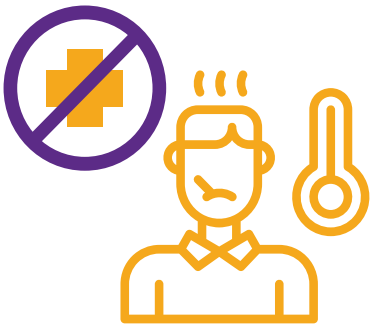



## People living in urban areas had significantly higher utilization rates of central and provincial hospitals than rural areas.

As seen in Table 6, the distribution of OPD care utilization by type of health-care provider was different among quintiles and regions. The poorer quintiles had lower utilization rates of central and provincial hospitals compared to the richer quintiles. The poorer quintiles mostly use district hospitals and health centres for OPD care. Meanwhile, people living in Vientiane Capital had a high utilization rate of central hospitals compared to other regions. People living in urban areas had significantly higher utilization rates of central and provincial hospitals than rural areas.

**TABLE 6.** Distribution of OPD care utilization by quintile and region among individuals utilizing OPD care in the latest survey (%), 2018/2019

| | Central hospitals | Provincial hospitals | District hospitals | Health centres | Private hospitals/ clinics/doctors in the Lao People's Democratic Republic | Hospitals/ clinics abroad | Total |
|---|---|---|---|---|---|---|---|
| Poorest | 2.3 | 10.1 | 42.0 | 39.7 | 3.7 | 2.2 | 100 |
| Q2 | 2.8 | 17.7 | 43.7 | 29.7 | 3.7 | 2.4 | 100 |
| Q3 | 8.3 | 16.7 | 46.1 | 23.1 | 1.9 | 3.8 | 100 |
| Q4 | 17.9 | 19.5 | 31.9 | 19.8 | 1.9 | 9.1 | 100 |
| Richest | 15.8 | 26.7 | 22.9 | 17.7 | 2.8 | 14.1 | 100 |
| Vientiane Capital | 63.0 | 7.4 | 11.8 | 9.3 | 1.9 | 6.7 | 100 |
| North | 2.7 | 22.6 | 37.3 | 28.0 | 0.5 | 8.9 | 100 |
| Central | 3.0 | 14.4 | 42.1 | 28.9 | 5.5 | 6.1 | 100 |
| South | 1.0 | 27.4 | 43.2 | 25.9 | 0.8 | 1.7 | 100 |
| Rural | 3.8 | 15.8 | 39.3 | 33.4 | 3.7 | 4.0 | 100 |
| Urban | 20.8 | 23.0 | 33.6 | 10.8 | 0.9 | 10.9 | 100 |
| Average | 9.4 | 18.2 | 37.4 | 25.9 | 2.8 | 6.3 | 100 |



More than 84% of people did not seek care because the illness was "not serious enough" for seeking care.

Fig. 6 shows the reasons for not seeking care among the individuals who did not seek care over time. More than 84% of people did not seek care because the illness was "not serious enough" for seeking care. The second-highest reason for not seeking care was "difficult to get there", which decreased over time (8.6%, 7.6% and 6.4% in LECS4, LECS5 and LECS6, respectively). Services being "not good quality" was the third highest reason (2.8%) in 2018/2019; this increased between the last two survey cycles. The share of people who did not seek care due to financial reasons ("too expensive") decreased from 3.3% in 2007/2008 to 1.5% in 2018/2019. The distribution of the reasons for not seeking care in the latest survey, 2018/2019, shows that the poorer quintiles had barriers to care related to geographical and financial accessibility, while the barriers for the richer quintiles were related to the quality of services (Table 7).

**FIG. 6.** Reasons for not seeking care among individuals who did not seek care, 2007/2008–2018/2019

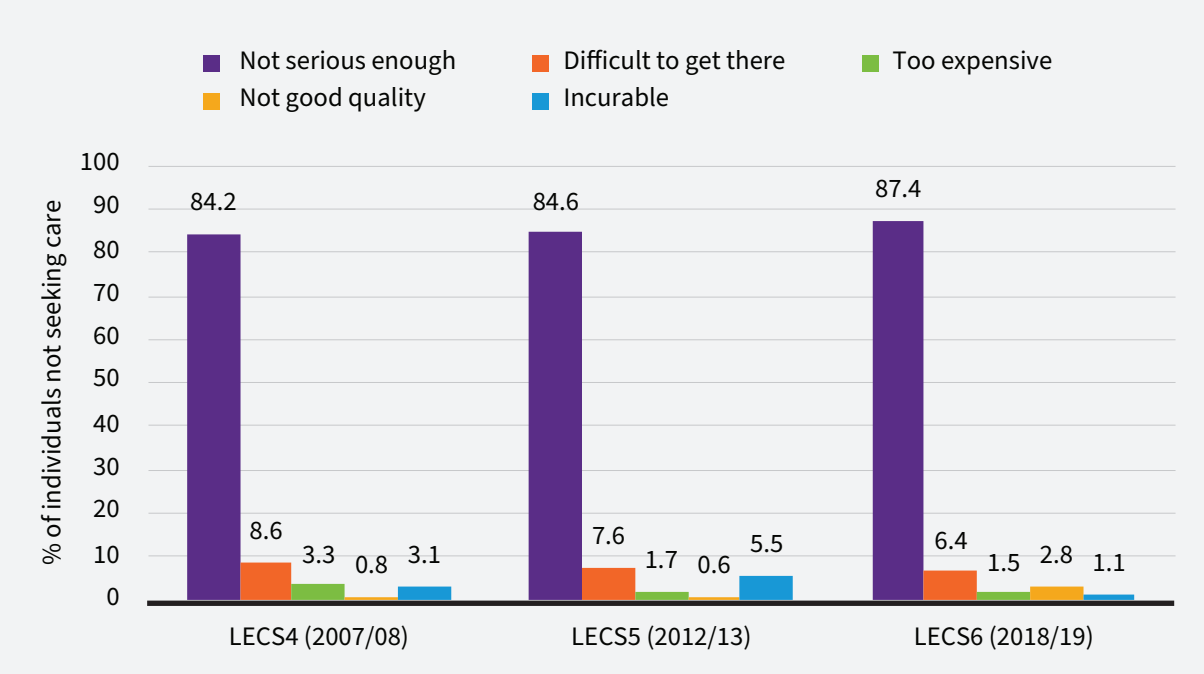



**TABLE 7.** Reasons for not seeking care by quintile in the latest survey among those not seeking care (%), 2018/2019

| | Not serious enough | Difficult to get there | Too expensive | Not good quality | No cure possible | Others |
|---|---|---|---|---|---|---|
| Poorest | 85.2 | 10.7 | 2.8 | 0.5 | 0.4 | 0.4 |
| Q2 | 84.5 | 11.5 | 3.1 | 0.1 | 0.3 | 0.5 |
| Q3 | 86.1 | 5.9 | 0.3 | 0.3 | 4.9 | 2.5 |
| Q4 | 90.5 | 0.0 | 0.2 | 9.1 | 0.0 | 0.2 |
| Richest | 93.2 | 0.0 | 0.0 | 6.6 | 0.0 | 0.2 |
| Average | 87.4 | 6.4 | 1.5 | 2.8 | 1.1 | 0.7 |

Fig. 7 shows the awareness of health insurance coverage in 2018/2019. The share of the population that reported having health insurance was low, only 16.1%. Members of the formal schemes (SASS and SSO) and CBHI/public voluntary schemes who pay health insurance contributions reported higher rates of awareness of health insurance. The share of the population reporting having the NHI scheme was low at 1.5% of total population. Awareness of health insurance coverage was significantly different from coverage rates reported by the respective schemes. The poorer quintiles and people living in rural areas had the lowest awareness of health insurance coverage (Fig. 8).

**FIG. 7.** Awareness of health insurance coverage, 2018/2019

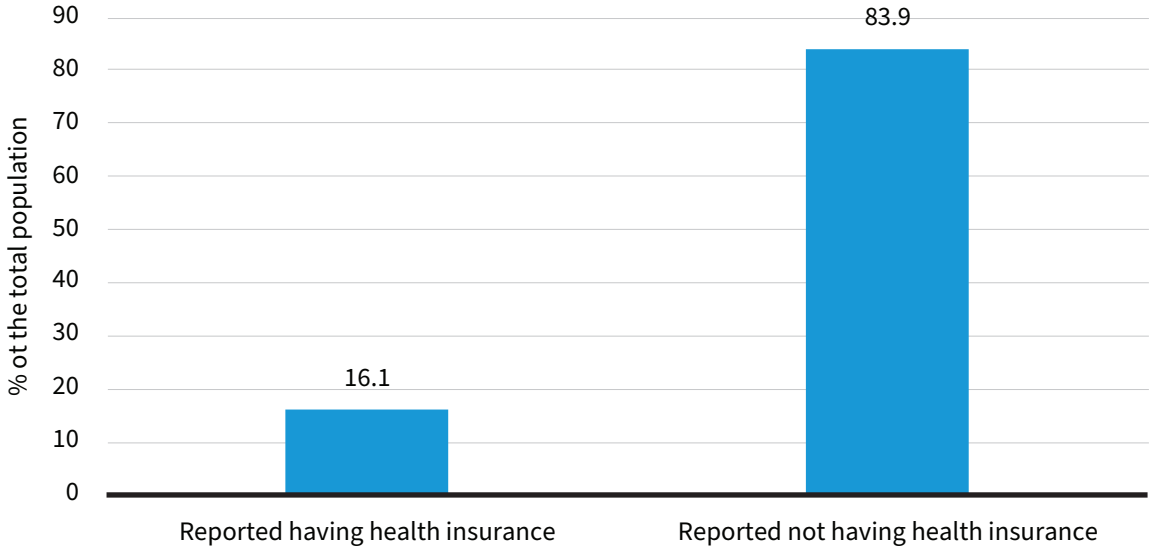
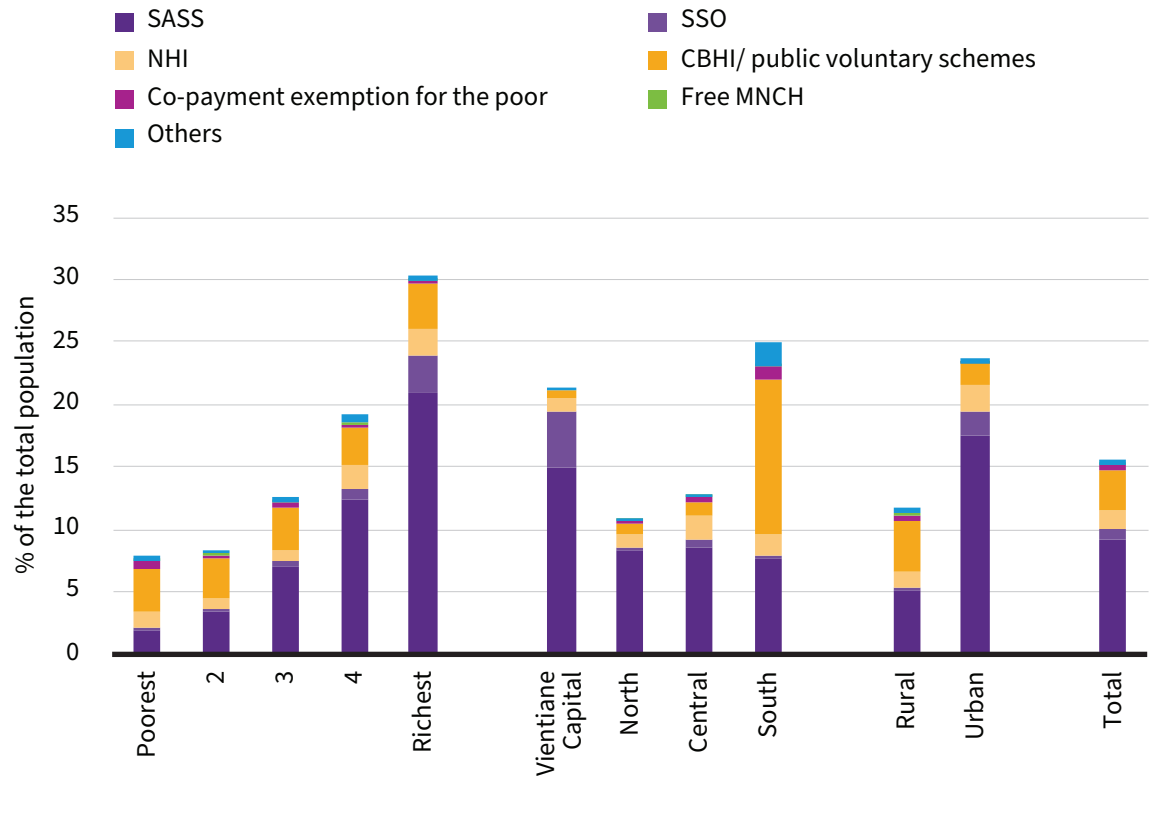



**FIG. 8.** Awareness of health insurance coverage by quintile and region in the latest survey, 2018/2019



## How the share of population spending on health OOP evolved over time

The share of the population that spent on health OOP decreased over time. About one in four people were spending on health OOP in 2018/2019, significantly less than in 2007/2008. The richer quintiles were more likely to spend on health, but the difference between the poorest and richest quintiles reduced over time (Fig. 9). People living in Vientiane Capital and people living in urban areas were more likely to spend on health (Fig. 10).

**FIG. 9.** Share of population spending on health by quintile, 2007/2008–2018/2019

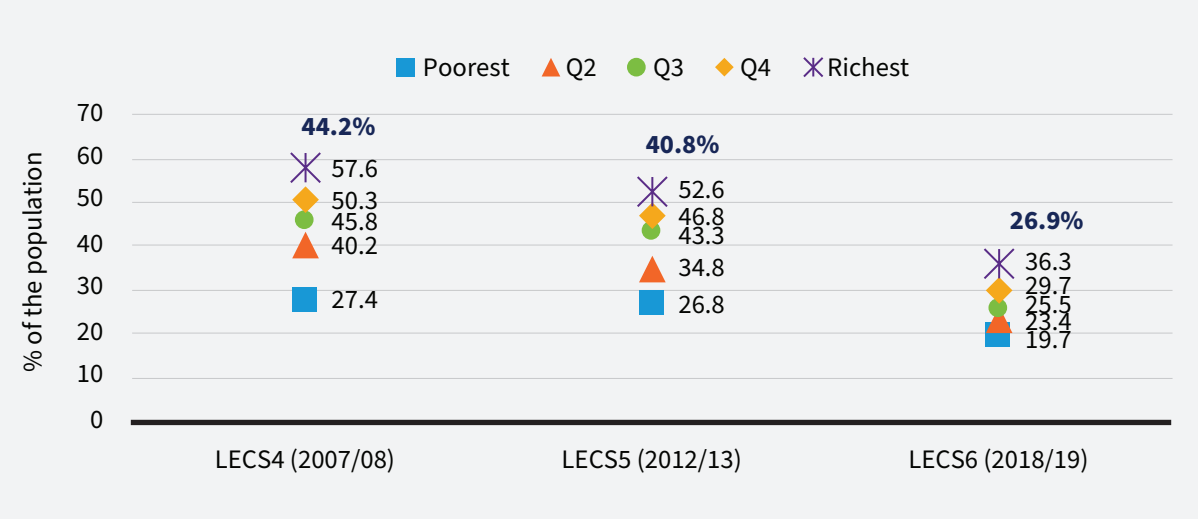
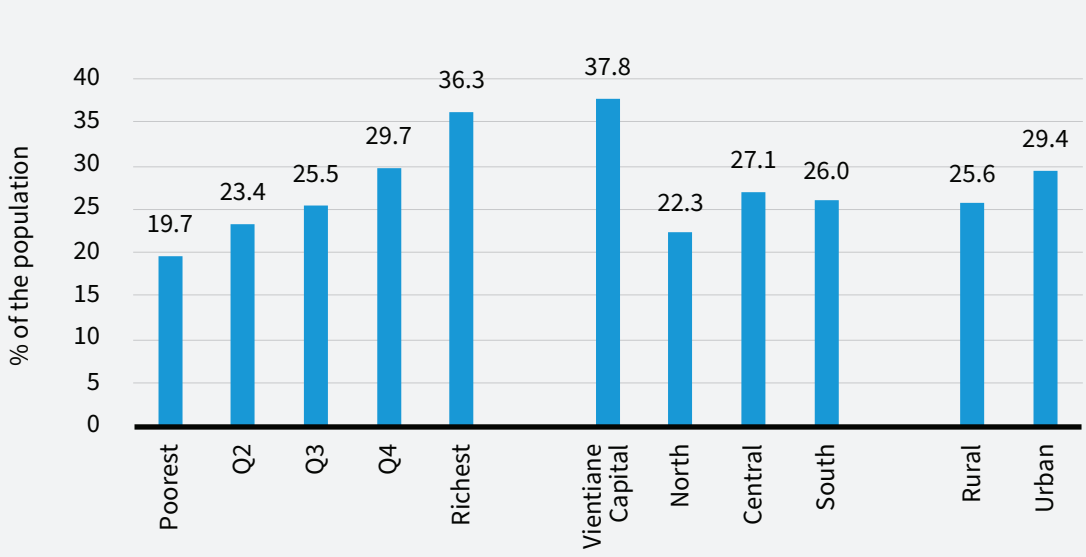



**FIG. 10.** Share of population spending on health by quintile and region in the latest survey, 2018/2019



OOP payments on health per capita per month (in constant 2018 LAK) increased from 46 594 LAK in 2007/2008 to 47 953 LAK in 2018/2019, a decrease from 69 677 LAK in 2012/2013, while the average consumption expenditure per capita per month increased significantly (Fig. 11). The richest quintile spent over 15 times more on health than the poorest quintile, with 144 943 LAK in 2018/2019; the poorest spent only 9383 LAK on OOP payments on health in 2018/2019. People living in Vientiane Capital spent more than double on health, with a high growth rate, compared to other regions over time. People living in urban areas spent more on OOP payments than those in rural areas (Fig. 12). OOP payments on health per capita per month in constant 2018 LAK decreased across the quintiles and regions from 2012/2013 to 2018/2019 (Fig. 12 and Fig. A5 in the Annex).

**FIG. 11.** Average consumption expenditure, food expenditure and OOP health expenditure per capita per month, 2007/2008–2018/2019

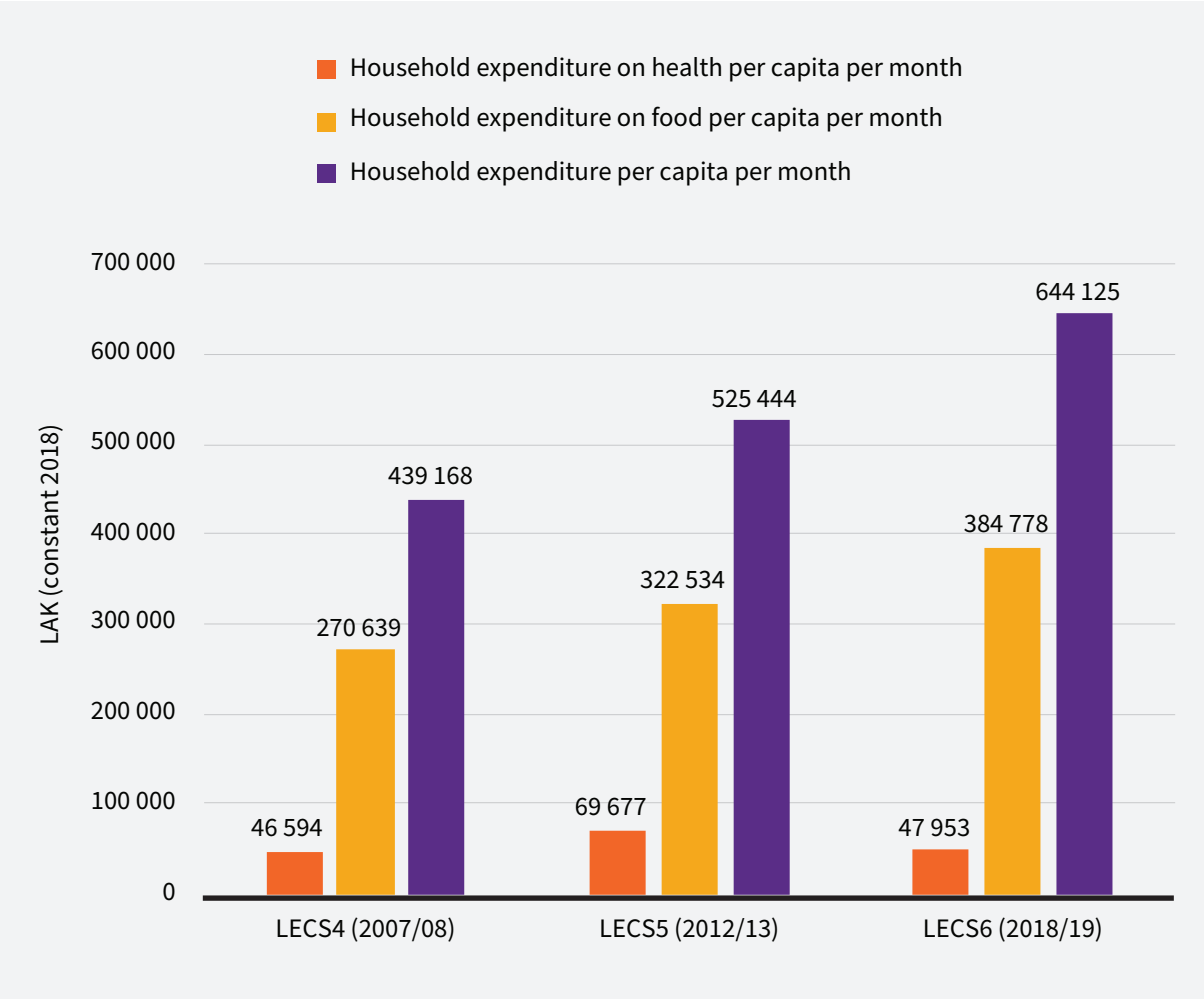


**FIG. 12.** Average OOP payment per capita per month by quintile and region in the latest survey, 2018/2019

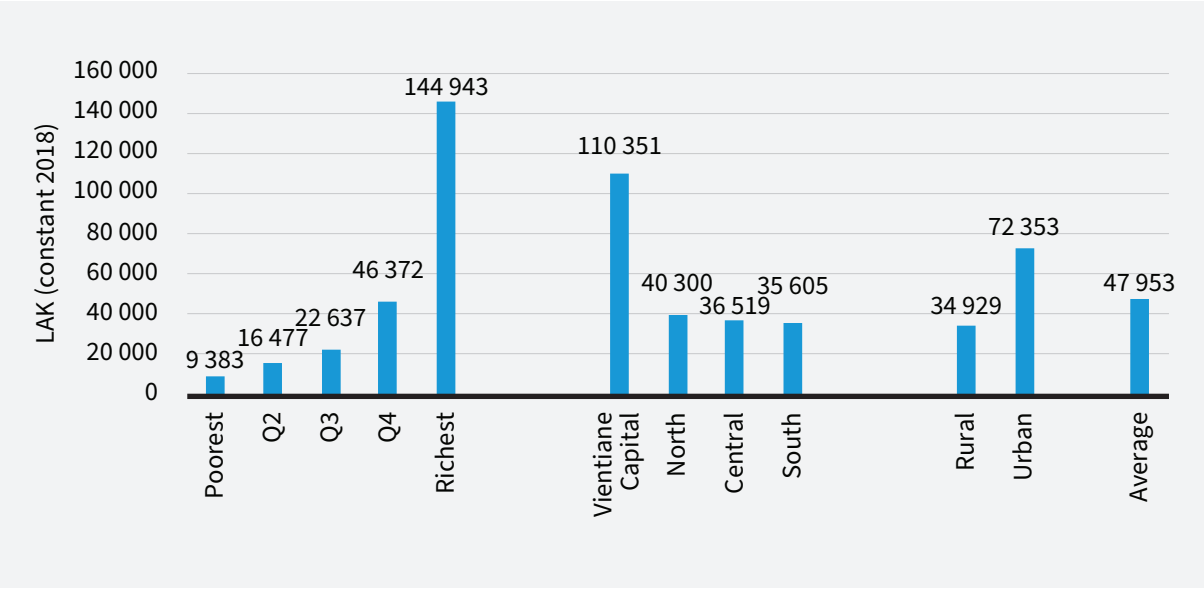



Fig. 13 presents household expenditure on health as a share of total household consumption expenditure over time. Household expenditure on health as a share of total household consumption decreased from 3.9% in 2007/2008 to 3.3% in 2018/2019. Household OOP payments as a share of household consumption were higher in the richer quintiles. People living in Vientiane Capital had higher OOP payments as a share of household consumption (5%) compared to other regions. OOP payments as a share of household consumption were similar between rural and urban areas (Fig. 14).

**FIG. 13.** Average household expenditure on health as a share of household consumption, 2007/2008–2018/2019

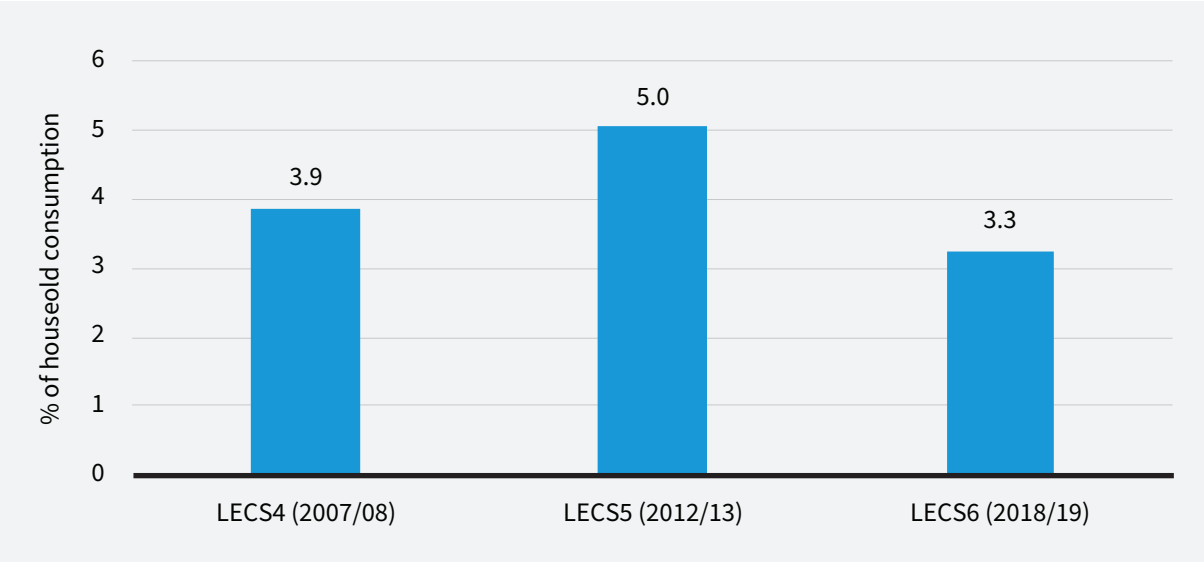
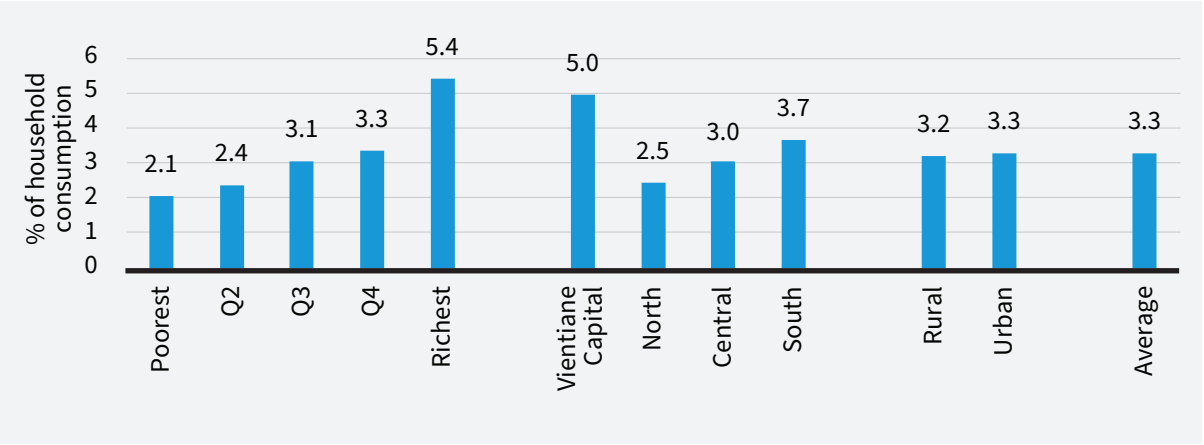
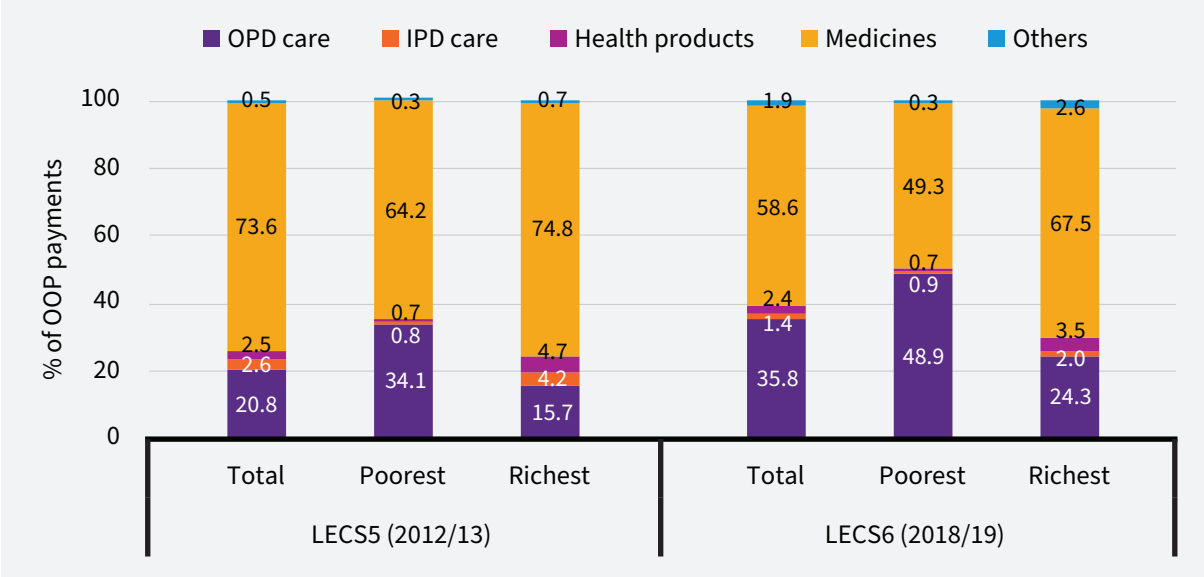


**FIG. 14.** Average household expenditure on health as a share of household consumption by quintile and region in the latest survey, 2018/2019




The composition of OOP payments over time changed significantly (Fig. 15 and Table A2 in the Annex). A decrease in OOP payments on health per capita per month in constant 2018 LAK was driven by the reduced OOP payments on medicines over the years. OOP payments on OPD care per capita per month increased significantly (Table A2 in the Annex). Medicines were the primary driver of changes for the composition of OOP payments over time, which is consistent with other low- and middle-income countries. However, the share of medicines in the composition of OOP payments decreased considerably over time, from 73.6% in 2012/2013 to 58.6% in 2018/2019, and the share of OPD care increased considerably, from 20.8% in 2012/2013 to 35.8% in 2018/2019 (in both cases, especially among the poorest) (Fig. 15). It should be noted that part of such changes could be driven by the survey design.

**FIG. 15.** Composition of OOP payments on health by the poorest and richest quintiles, 2012/2013 and 2018/2019




*Note:* LECS5 does not include informal payment for OPD care.

## Catastrophic spending due to health payments

Between 2012/2013 and 2018/2019, the incidence of catastrophic health expenditure at the 10% and 25% thresholds (SDG 3.8.2 indicator) and at the 40% threshold (capacity-to-pay indicator) reduced significantly. In 2018/2019, catastrophic health expenditure at the 10% threshold was 8.4% (589 043 population), at the 25% threshold it was 4.1% (289 241 population), and at the 40% threshold it was 4.8% (333 351 population) (Fig. 16 and 17).

**FIG. 16.** Share and number of the population with catastrophic health spending at the 10% and 25% thresholds (SDG 3.8.2 indicator), 2007/2008–2018/2019

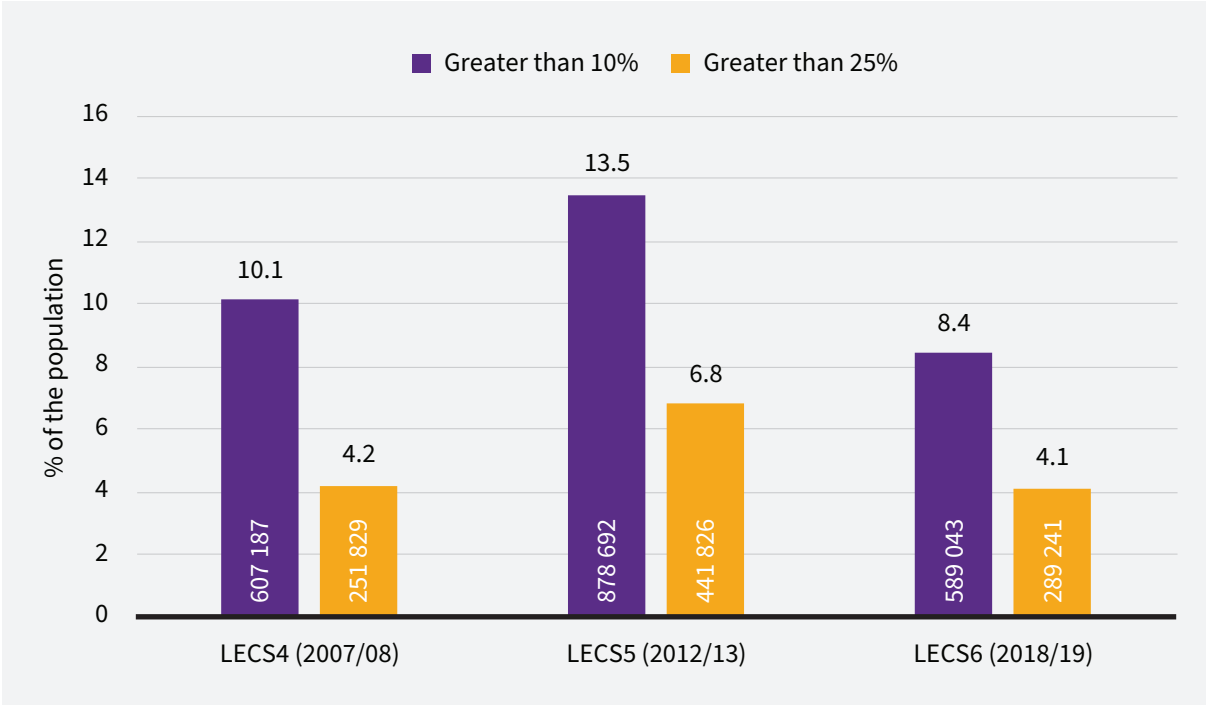
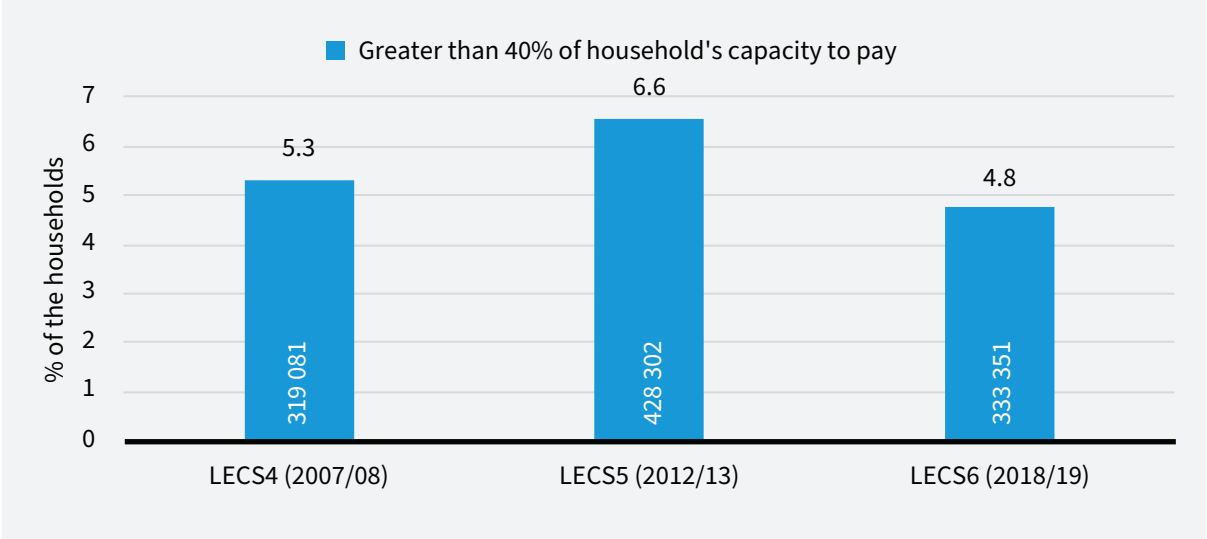


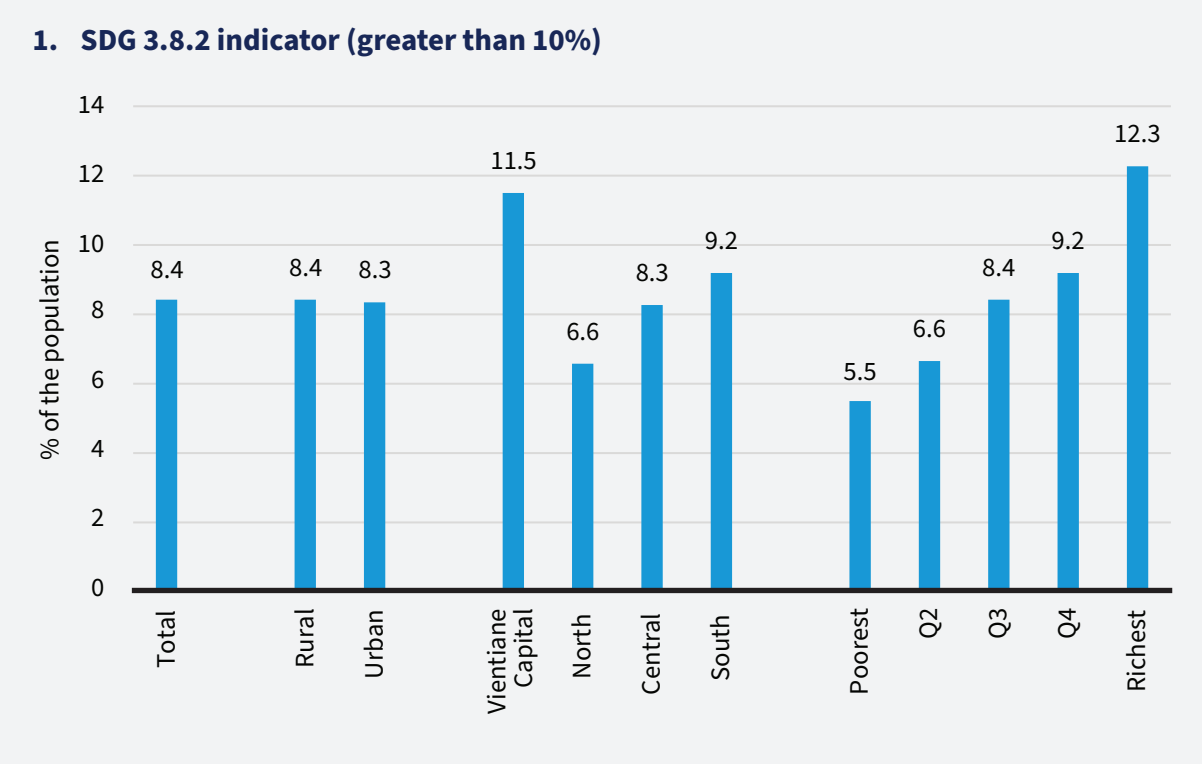

**FIG. 17.** Share of households and number of the population with catastrophic health spending at the 40% threshold (capacity-to-pay indicator), 2007/2008–2018/2019



## Catastrophic health spending by quintile and region

Fig. 18 shows SDG financial protection indicators at the 10% and 25% thresholds by quintile and region in 2018/2019. The better-off tended to be at higher risk of suffering catastrophic health expenditure but with lower rates of individuals reporting a barrier to access among those not seeking care (Fig. 19). The incidence of catastrophic health expenditure in urban areas reduced significantly with 8.3% at the 10% threshold and 3.9% at the 25% threshold. People living in rural areas were slightly more likely to have catastrophic health expenditure than those in urban areas; the difference by region was small and decreased over time (Fig. A6 in the Annex). People living in Vientiane Capital experienced more catastrophic health expenditure compared to other regions. The incidence of catastrophic health expenditure decreased across regions over the last two surveys, but the difference was lower in Vientiane Capital compared to other regions (Fig. A6 in the Annex).

**FIG. 18.** Share of the population with catastrophic health spending at the 10% and 25% thresholds (SDG 3.8.2 indicator) by quintile and region in the latest survey, 2018/2019



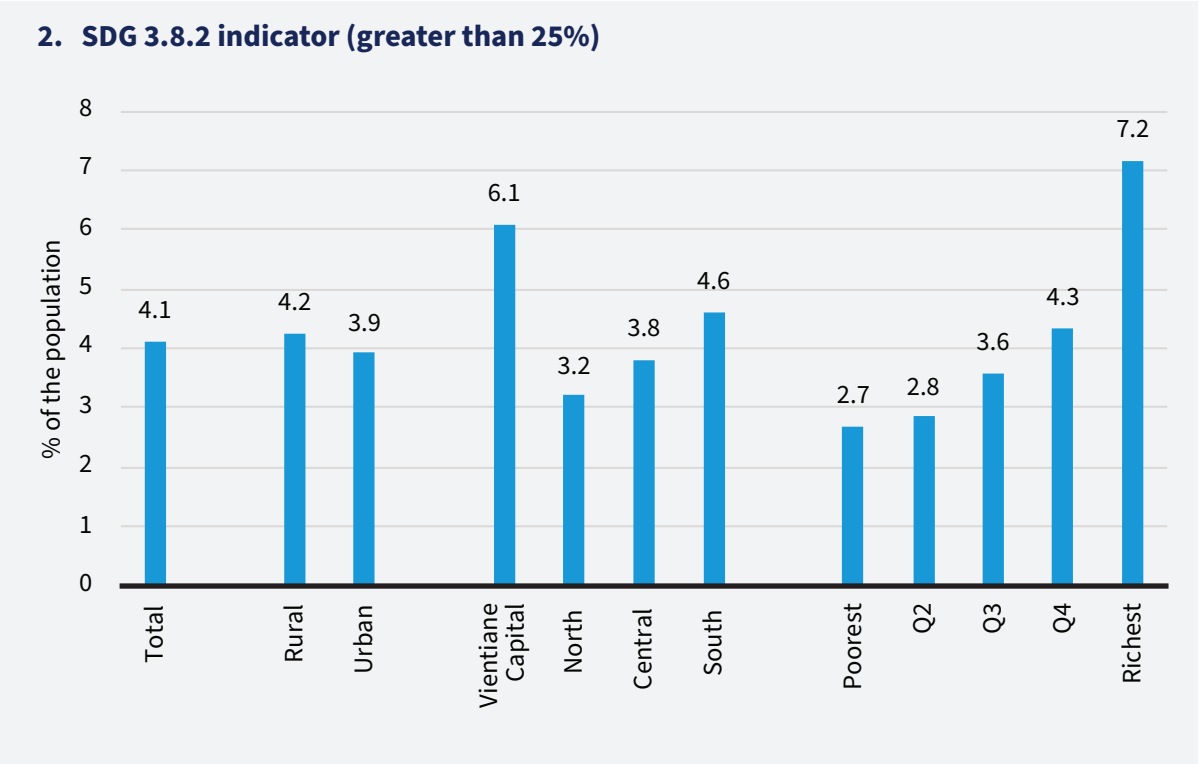
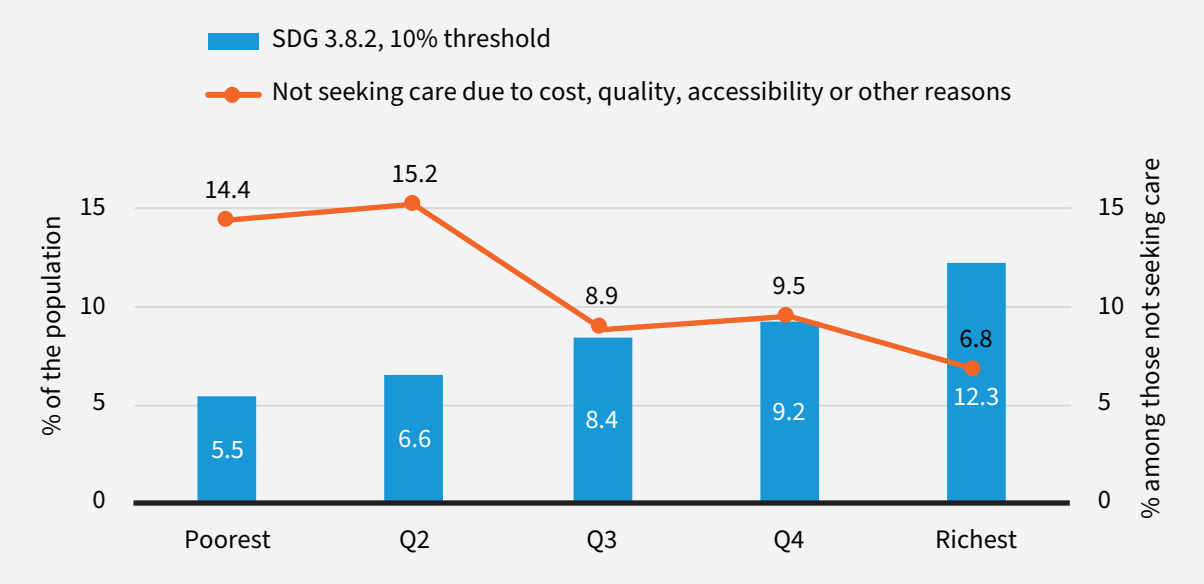
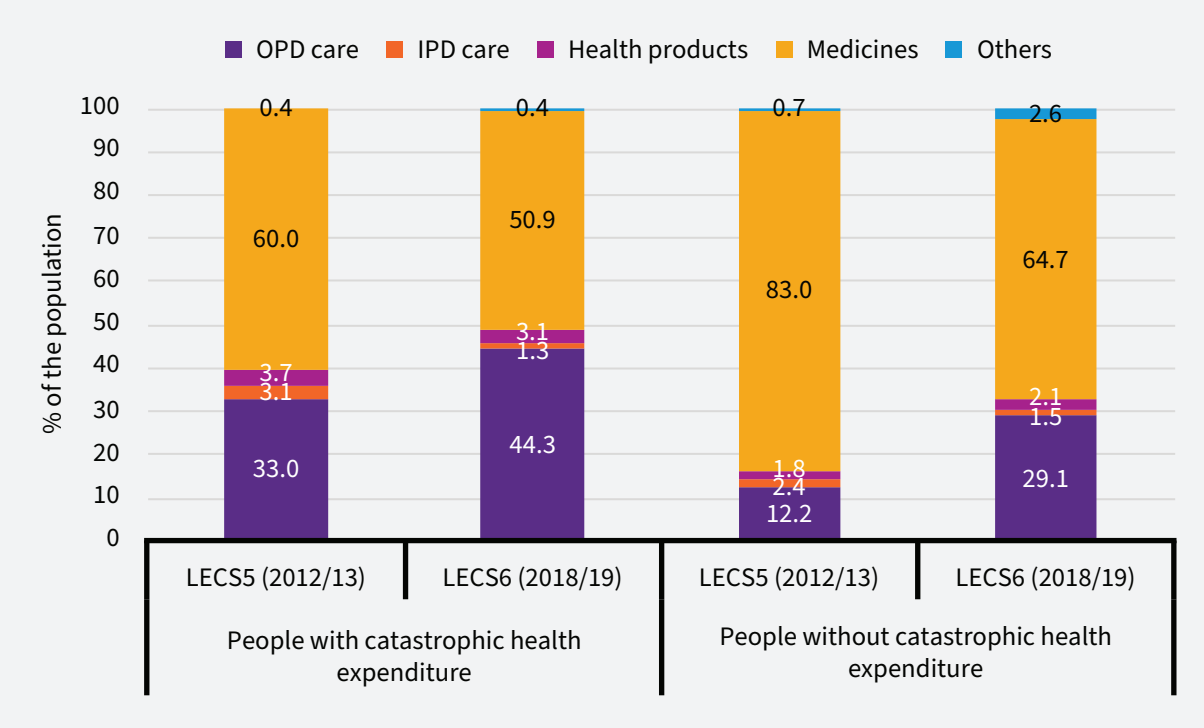



**FIG. 19.** Share of the population with catastrophic health spending at the 10% threshold (SDG 3.8.2 indicator) and share of individuals reporting a barrier to access among those not seeking care, 2018/2019




The incidence of catastrophic health expenditure at the 10% threshold were mainly driven by expenditure on medicines (50.9%) and OPD care (44.3%). Those without catastrophic health spending were predominantly paying for medicines (Fig. 20).

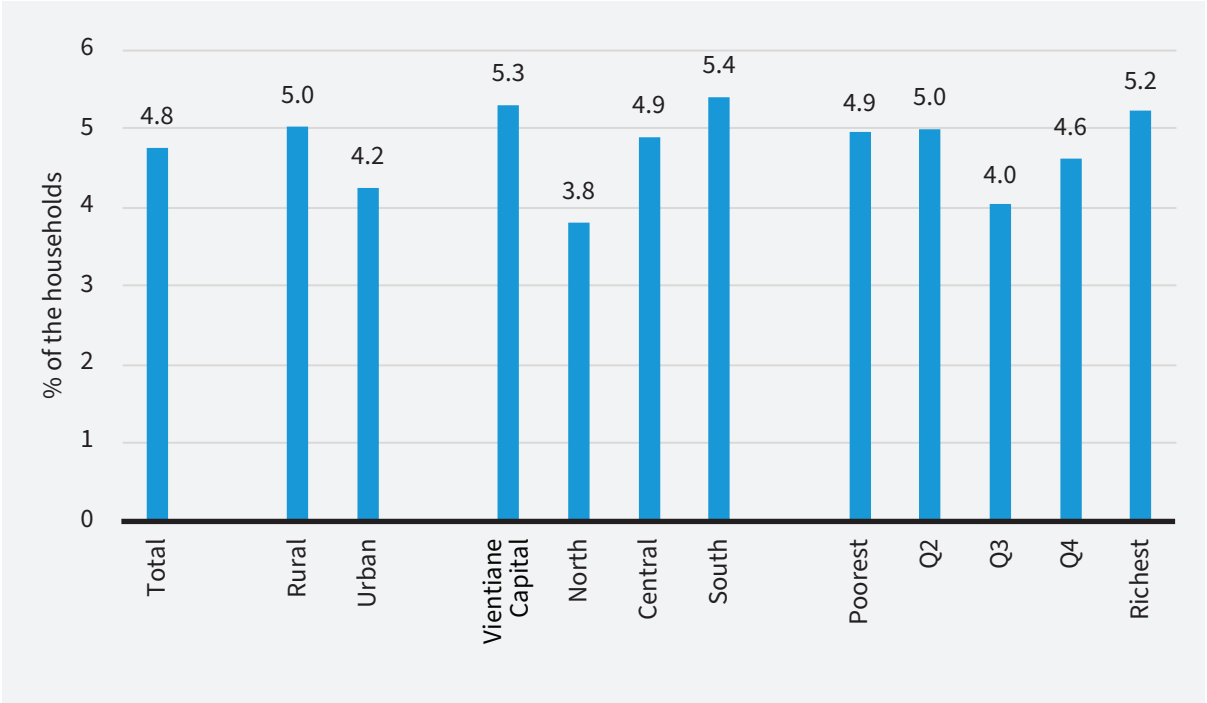
**FIG. 20.** OOP components among those incurring and not incurring catastrophic health spending at the 10% threshold (SDG 3.8.2 indicator), 2012/2013 and 2018/2019




*Note:* LECS5 does not include informal payment for OPD care.

Fig. 21 presents the capacity-to-pay indicator where normative food cost was subtracted from household consumption expenditure by region and quintile in 2018/2019. At the national average, 4.8% of the population faced catastrophic spending, a decrease of 1.8 percentage points since 2012/2013. Incidence rates show similar distributions across regions and quintiles, with the exception of the Northern region. Vientiane Capital and the Southern region show the highest incidence rates. Between 2012/2013 and 2018/2019, the incidence of catastrophic health expenditure decreased across regions, but the decrease was the lowest in Vientiane Capital (Fig. A7 in the Annex). All the income quintiles except the third had similar distributions of the incidence of catastrophic health expenditure. Between 2012/2013 and 2018/2019, the only quintile with increased incidence of catastrophic health expenditure was the poorest quintile (Fig. A7 in the Annex).

**FIG. 21.** Share of households with catastrophic health spending at the 40% threshold (capacity-to-pay indicator) by region and quintile in the latest survey, 2018/2019



## Impoverishment due to OOP health spending

Fig. 22 shows the share of the population with impoverishing health expenditure at the different poverty lines over time. The incidence of impoverishment due to health spending increased from 2007/2008 to 2012/2013 but decreased from 2012/2013 to 2018/2019. In 2018/2019, 1.78% of the population had impoverishing health expenditures at the US$ 1.90 per person per day poverty line (124 685 people), 2.71% at the US$ 3.20 per person per day poverty (190 134 people), and 1.8% at the relative poverty line of 60% of median daily per capita total household consumption (125 897 people). In 2018/2019, the incidence of impoverishment in rural areas was higher than that of urban areas; in urban areas, the incidence decreased from 2.7% in 2012/2013 to 1.3% in 2018/2019 at the US$ 1.90 a day poverty line, while that in rural areas decreased from 3.7% in 2012/2013 to 2.0% in 2018/2019 at the US$ 1.90 a day poverty line (Table A5 in the Annex). People living in the Southern region and Vientiane Capital were more likely to be pushed into impoverishment due to OOP payments (Fig. 23). The share of the poor spending on health OOP who were further pushed into poverty also decreased over time (Fig. A9 in the Annex).

**FIG. 22.** Share and number of the population with impoverishing health expenditures at different poverty lines, 2007/2008–2018/2019

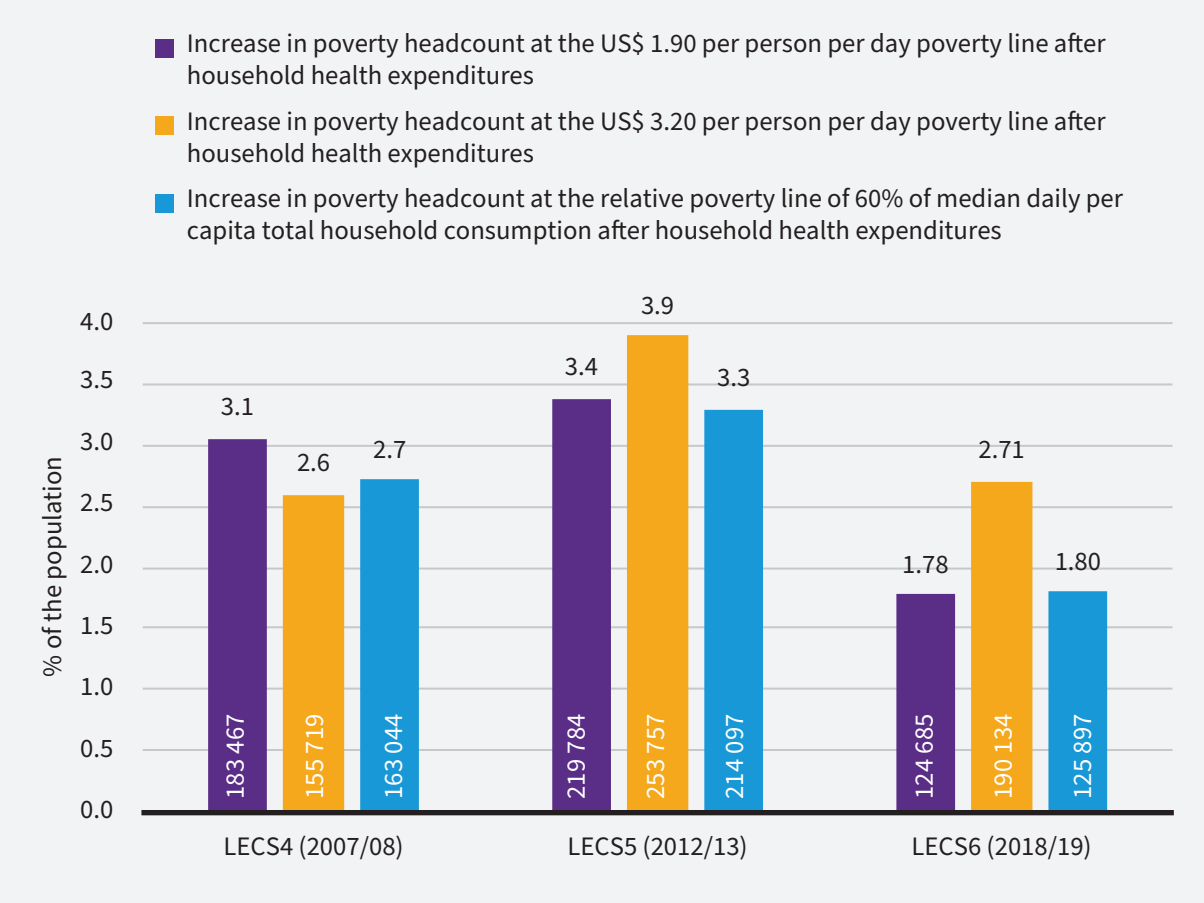
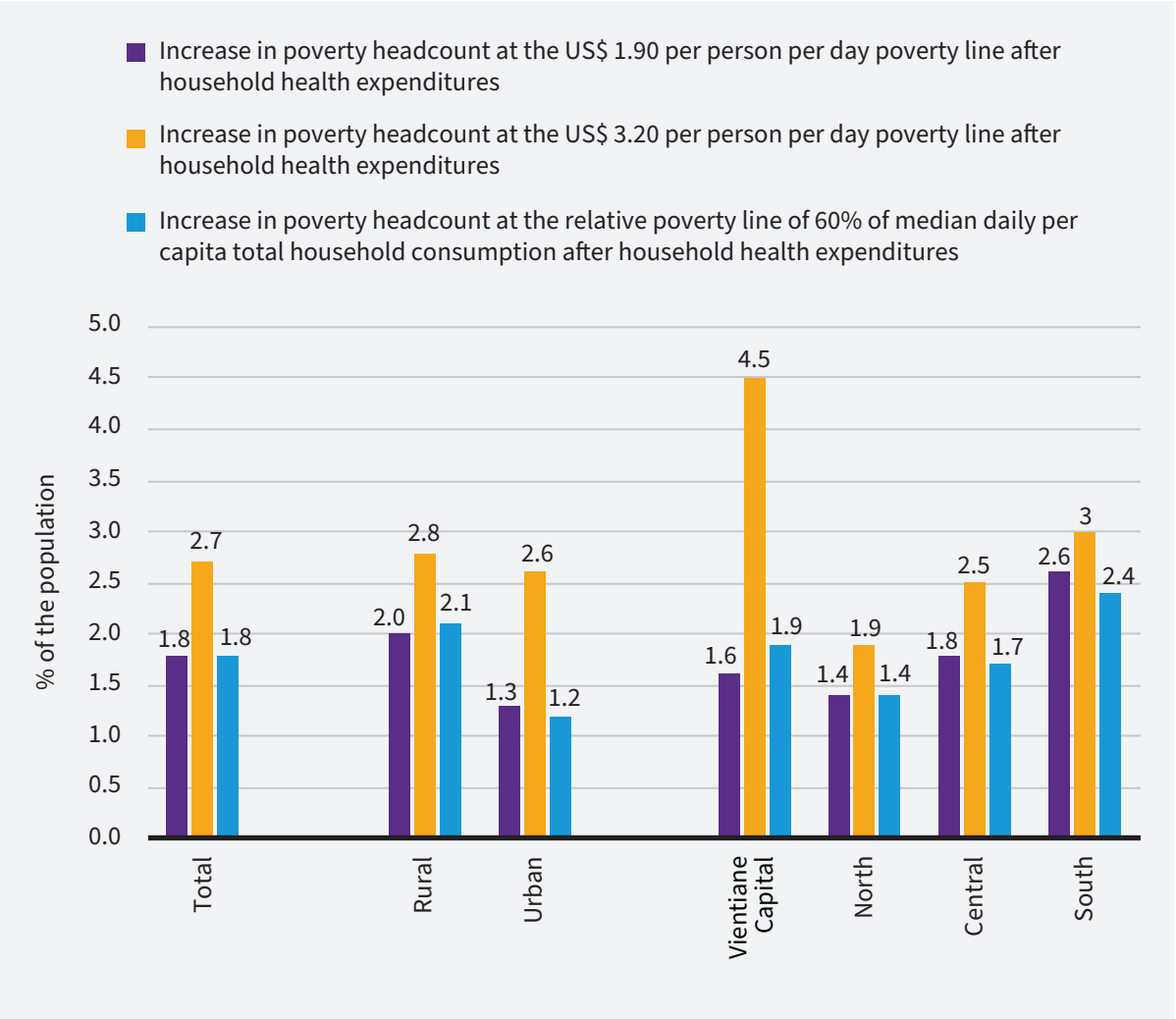
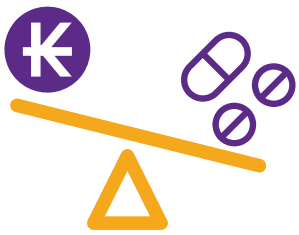


**FIG. 23.** Share of the population with impoverishing health expenditures by region in the latest survey, 2018/2019

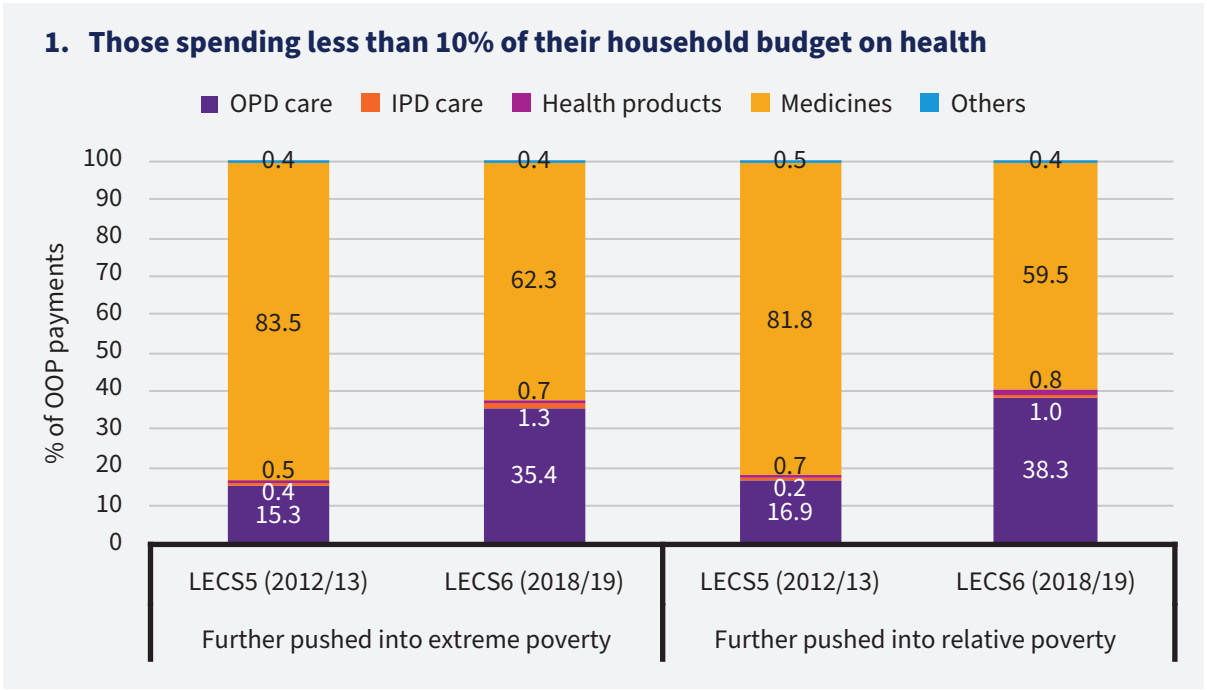


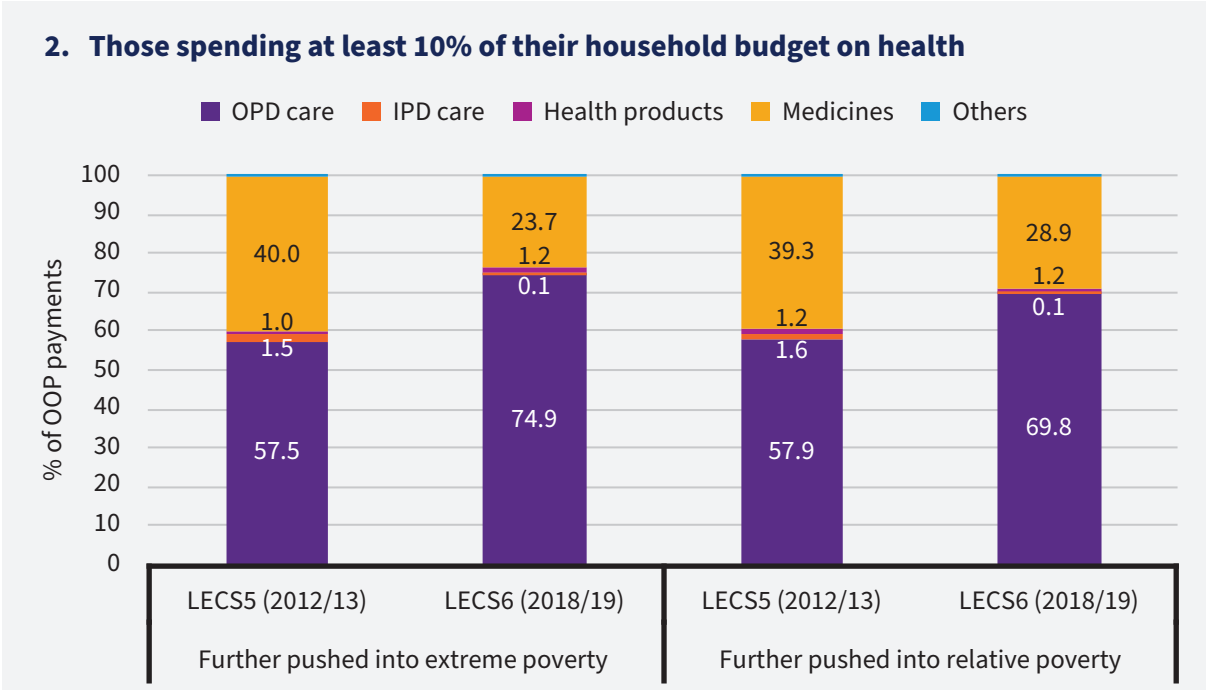



Among the poor, those spending less than 10% of their household budget on health spent mostly on medicines.

Fig. 24 shows the composition of OOP payments among people living in extreme (US$ 1.90 a day poverty line) and relative poverty. Among the poor, those spending less than 10% of their household budget on health spent mostly on medicines (62.3% for people living in extreme poverty and 59.5% for people living in relative poverty). However, those spending at least 10% of their household budget on health (experiencing catastrophic health expenditure at the 10% threshold) spent mostly on OPD care (74.9% for people living in extreme poverty and 69.8% for people living in relative poverty).

**FIG. 24.** Composition of OOP payments among the people living in extreme and relative poverty, 2012/2013 and 2018/2019




*Note:* LECS5 does not include informal payment for OPD care.

## Determinants of catastrophic spending and OPD and IPD care utilization

To analyse the determinants of catastrophic spending and OPD and IPD care utilization, multivariate logistic regression analysis for 10 028 households from the latest survey, 2018/2019, was conducted. The general characteristics of the study sample used in the analysis are given in Table 8. Of the total households, 3.6% (359 households) experienced catastrophic health expenditure at the 25% threshold. Of the total households, 11.2% used OPD care and 0.8% used IPD care in 2018/2019.

The share of any household members who reported having health insurance (awareness of health insurance) was 23.2%. The share of households with any visit to a private facility was 3% (297 households). Of the total households, 31.9% had family members aged under 5 and 27.6% had family members aged 60 and above. Average household size was 4.9 people. The share of households with a female household head was 11.5%. The share of households across regions was lowest in Vientiane Capital (6.8%) and highest in the Northern region (37.8%), followed by the Central region (34.3%), and the Southern region (21.1%). Average consumption expenditure per month was 2 528 133 LAK. Average consumption expenditure per month for the poorest quintile was 1 261 398 LAK and for the richest quintile was 5 818 515 LAK. Average age of the household head was 47.1 years old; females had a higher average age (53.1 years old) than males (46.2 years old). The majority of household heads were married (88.2%); the Lao-Tai ethnic group accounted for the largest share (58.8%), followed by Mon-Khmer (24.9%) and Hmong-Lu Mien (10.5%). The majority of household heads were educated at the primary school level (54.4%), and 24.3% of the household heads did not receive any formal education.

**TABLE 8.** General characteristics of the sample, 2018/2019

| Variable | Total | | Male | | Female | |
|---|---|---|---|---|---|---|
| | Number or mean | % | Number or mean | % | Number or mean | % |
| No. of the sample (households) | 10 028 | 100 | 8 878 | 88.5 | 1 150 | 11.5 |
| Catastrophic health expenditure (greater than 25%) | 359 | 3.6 | 302 | 84.1 | 57 | 15.9 |
| IPD utilization | 81 | 0.8 | 72 | 88.9 | 9 | 11.1 |
| OPD utilization | 1 122 | 11.2 | 974 | 86.8 | 148 | 13.2 |
| Any member who reported having health insurance | 2 327 | 23.2 | 2 067 | 88.9 | 259 | 11.1 |
| Any visit to a private health facility | 297 | 3.0 | 241 | 81.1 | 56 | 18.9 |
| Any member aged under 5 | 3 194 | 31.9 | 2 935 | 91.9 | 259 | 8.1 |
| Any member aged 60 above | 2 768 | 27.6 | 2 322 | 83.9 | 446 | 16.1 |
| Household size | 4.9 | NA | 5 | NA | 3.9 | NA |
| Region | 10 028 | 100 | 8 877 | 88.5 | 1 150 | 11.5 |
| Vientiane Capital | 683 | 6.8 | 531 | 77.8 | 152 | 22.3 |
| North | 3 790 | 37.8 | 3 505 | 92.5 | 285 | 7.5 |
| Central | 3 443 | 34.3 | 3 020 | 87.7 | 423 | 12.3 |
| South | 2 112 | 21.1 | 1 821 | 86.3 | 290 | 13.7 |

| Variable | Total | | Male | | Female | |
|---|---|---|---|---|---|---|
| | Number or mean | % | Number or mean | % | Number or mean | % |
| Average consumption expenditure per month (LAK) | 2 528 133 | NA | 2 563 218 | NA | 2 257 283 | NA |
| Poorest | 1 261 398 | NA | 1 285 221 | NA | 1 029 918 | NA |
| Q2 | 1 643 953 | NA | 1 668 189 | NA | 1 426 267 | NA |
| Q3 | 2 031 044 | NA | 2 085 087 | NA | 1 582 507 | NA |
| Q4 | 2 597 738 | NA | 2 673 903 | NA | 2 094 620 | NA |
| Richest | 5 818 515 | NA | 6 020 421 | NA | 4 680 928 | NA |
| Age of household head | 47.1 | NA | 46.2 | NA | 53.1 | NA |
| Household head's marital status | 10 028 | 100 | 8 878 | 88.5 | 1 150 | 11.5 |
| Single | 132 | 1.3 | 74 | 56.1 | 58 | 43.9 |
| Married | 8 843 | 88.2 | 8,561 | 96.8 | 282 | 3.2 |
| Divorced | 217 | 2.2 | 65 | 30.0 | 152 | 70.1 |
| Separated | 28 | 0.3 | 10 | 35.7 | 18 | 64.3 |
| Widowed | 808 | 8.1 | 168 | 20.8 | 640 | 79.2 |
| Ethnic group | 10 028 | 100 | 8 878 | 88.5 | 1 150 | 11.5 |
| Lao-Tai | 5 891 | 58.8 | 5 051 | 85.7 | 840 | 14.3 |
| Mon-Khmer | 2 492 | 24.9 | 2 273 | 91.2 | 219 | 8.8 |
| Chine-Tibet | 527 | 5.3 | 498 | 94.5 | 29 | 5.5 |
| Hmong-Lu Mien | 1 052 | 10.5 | 1 000 | 95.1 | 52 | 4.9 |
| Others | 66 | 0.7 | 56 | 84.9 | 10 | 15.2 |
| Household head's education | 10 023 | 100 | 8 874 | 88.5 | 1 149 | 11.5 |
| No education | 2 433 | 24.3 | 1 955 | 80.4 | 478 | 19.7 |
| Primary | 1 731 | 17.3 | 1 495 | 86.4 | 236 | 13.6 |
| Completed primary | 3 714 | 37.1 | 3 414 | 91.9 | 300 | 8.1 |
| Completed lower secondary | 1 089 | 10.9 | 1 018 | 93.5 | 71 | 6.5 |
| Completed upper secondary | 379 | 3.8 | 355 | 93.7 | 24 | 6.3 |
| Completed vocational training | 304 | 3.0 | 281 | 92.4 | 23 | 7.6 |
| University degree | 373 | 3.7 | 356 | 95.4 | 17 | 4.6 |

*NA*: not applicable.

Table 9 shows factors associated with facing catastrophic health expenditure at the 25% threshold. Households with an elderly person or children under 5 faced catastrophic health expenditure 1.3 and 1.6 times higher, respectively, than households without those family members, which were statistically significant. For a household with a person who visited a private health facility, the probability of incurring catastrophic health expenditure was 8.0 times higher than households without any visit to a private health facility. The third, fourth and the richest consumption quintiles faced catastrophic health expenditure 2.0, 2.7 and 5.1 times higher, respectively, than the poorest, with statistical significance. Those who were divorced and widowed were less likely to face catastrophic health expenditure. Mon-Khmer and other ethnic groups had catastrophic health expenditure 1.7 and 3.3 times higher, respectively, than Lao-Tai ethnic group, which were statistically significant. Households with higher education levels were less likely to experience catastrophic health expenditure, with statistical significance.

**TABLE 9.** Factors associated with facing catastrophic health spending at the 25% threshold, 2018/2019

| | Odds ratio | 95% confidence interval |
|---|---|---|
| Any member aged under 5 | 1.29* | 0.99–1.68 |
| Any member aged 60 above | 1.62*** | 1.22–2.14 |
| Household size | 1.03 | 0.97–1.10 |
| Any member who reported having health insurance | 1.21 | 0.92–1.59 |
| Any visit to a private health facility | 8.63*** | 6.28–11.88 |
| Age of household head | 1.01 | 0.99–1.02 |
| Female (Household head) | 1.26 | 0.81–1.96 |
| Region (Reference: Vientiane Capital) | | |
| North | 0.75 | 0.49–1.14 |
| Central | 0.8 | 0.53–1.22 |
| South | 1.01 | 0.65–1.56 |
| Quintile (Reference: Poorest) | | |
| Q2 | 1.38 | 0.92–2.09 |
| Q3 | 2.02*** | 1.34–3.05 |
| Q4 | 2.73*** | 1.80–4.16 |
| Richest | 5.12*** | 3.38–7.74 |
| Household head's marital status (Reference: Single) | | |
| Married | 0.68 | 0.30–1.58 |
| Divorced | 0.27** | 0.08–0.99 |
| Separated | 1.62 | 0.31–8.55 |
| Widowed | 0.52 | 0.21–1.27 |
| Ethnic group (Reference: Lao-Tai) | | |
| Mon-Khmer | 1.66*** | 1.25–2.20 |
| Chine-Tibet | 1.14 | 0.64–2.02 |
| Hmong-Lu Mien | 0.88 | 0.53–1.48 |
| Others | 3.25** | 1.29–8.14 |
| Household head's education (Reference: No education) | | |
| Primary | 1.16 | 0.83–1.62 |
| Completed primary | 0.91 | 0.66–1.25 |
| Completed lower secondary | 0.72 | 0.45–1.15 |
| Completed upper secondary | 0.73 | 0.40–1.33 |
| Completed vocational training | 0.43** | 0.19–0.98 |
| University degree | 0.41** | 0.20–0.83 |
| *Sample size* | *9 921* | |
| *Pseudo R2/Prob>chi2* | *0.1019/0.0000* | |

*:P<0.1; **:P<0.05; ***:P<0.01.

Table 10 shows factors associated with OPD care utilization and IPD care utilization. Households with children under 5 and adults aged 60 and above were 1.1 times more likely to use OPD and IPD, which were statically significant. Households with female household heads were more likely to use OPD. For regions, households living in the Southern region were less likely to use OPD; households living in the Northern region were less likely to use IPD than those living in Vientiane Capital. The richer quintiles were more likely to use OPD and IPD, particularly for IPD with higher

effect sizes; they used IPD 18 times more than utilization by the poorest quintile. Mon-Khmer people were more likely to use OPD, 1.2 times higher than Lao-Tai people. Chine-Tibet and Hmong-Lu Mien people were less likely to use IPD than Lao-Tai people. Household heads with primary school education level were more likely to use OPD, 1.4 times higher than those with no education. Household heads who completed vocational training were less likely to use OPD.

**TABLE 10.** Factors associated with OPD and IPD care utilization, 2018/2019

| | OPD care utilization | | IPD care utilization | |
|---|---|---|---|---|
| | Odds ratio | 95% confidence interval | Odds ratio | 95% confidence interval |
| Any member aged under 5 | 1.61*** | 1.40–1.86 | 2.13*** | 1.30–3.48 |
| Any member aged 60 above | 1.34*** | 1.14–1.58 | 1.96** | 1.12–3.42 |
| Household size | 1.11*** | 1.08–1.15 | 1.22*** | 1.09–1.37 |
| Any member who reported having health insurance | 0.86 | 0.73–1.03 | 0.66 | 0.37–1.17 |
| Age of household head | 1.00 | 0.99–1.01 | 0.99 | 0.97–1.01 |
| Female (Household head) | 1.29* | 0.97–1.70 | 0.53 | 0.20–1.44 |
| Region (Reference: Vientiane Capital) | | | | |
| North | 0.88 | 0.67–1.15 | 0.51* | 0.25–1.08 |
| Central | 0.96 | 0.74–1.26 | 0.49 | 0.24–1.01 |
| South | 0.73** | 0.54–0.97 | 0.77 | 0.36–1.66 |
| Quintile (Reference: Poorest) | | | | |
| Q2 | 1.42*** | 1.16–1.73 | 2.42 | 0.77–7.59 |
| Q3 | 1.51*** | 1.22–1.86 | 6.11** | 2.12–17.66 |
| Q4 | 1.60*** | 1.27–1.99 | 10.76*** | 3.77–30.69 |
| Richest | 2.15*** | 1.70–2.72 | 18.31*** | 6.41–52.28 |
| Household head's marital status (Reference: Single) | | | | |
| Married | 0.7 | 0.40–1.20 | 0.81 | 0.10–6.42 |
| Divorced | 0.62 | 0.31–1.25 | *(dropped)* | |
| Separated | 0.67 | 0.18–2.52 | *(dropped)* | |
| Widowed | 0.66 | 0.37–1.17 | 1.90 | 0.22–16.39 |
| Ethnic group (Reference: Lao-Tai) | | | | |
| Mon-Khmer | 1.24** | 1.05–1.46 | 0.93 | 0.51–1.72 |
| Chine-Tibet | 0.76 | 0.54–1.08 | 0.17* | 0.02–1.34 |
| Hmong-Lu Mien | 0.83 | 0.65–1.06 | 0.20** | 0.05–0.89 |
| Others | 1.07 | 0.50–2.29 | *(dropped)* | |
| Household head's education (Reference: No education) | | | | |
| Primary | 1.39*** | 1.15–1.69 | 0.78 | 0.37–1.65 |
| Completed primary | 1.1 | 0.91–1.32 | 0.66 | 0.33–1.30 |
| Completed lower secondary | 0.89 | 0.68–1.17 | 1.01 | 0.44–2.32 |
| Completed upper secondary | 1.06 | 0.72–1.56 | 0.33 | 0.07–1.58 |
| Completed vocational training | 0.63* | 0.39–1.03 | 0.22 | 0.03–1.72 |
| University degree | 0.95 | 0.64–1.43 | 1.02 | 0.34–3.02 |
| *Sample size* | *10 020* | | *9 712* | |
| *Pseudo R2/ Prob>chi2* | *0.0312/0.0000* | | *0.1119/0.0000* | |

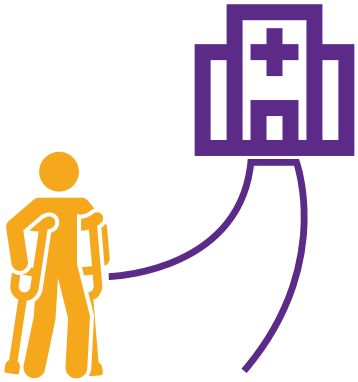
*Note*: "dropped" cells occurred due to a very small number of cases and multicollinearity issues.

*:P<0.1; **:P<0.05; ***:P<0.01.

# V. Summary of findings and discussion

## Health-care utilization and access to care

Among those who fell ill, the share of people seeking care increased over the survey periods (2007/2008–2018/2019), especially for OPD care. Access to care improved over time but remained limited. The poor forgo health-care utilization because of low accessibility and affordability as seen in the relatively larger shares of "difficult to get there" and "too expensive" responses among reasons for not seeking care. Perceived low quality of care also deterred people from seeking care as the share of "not good quality" among reasons for not seeking care increased over time.



Access to care improved but remained limited. Accessibility, availability, affordability and quality deterred the poorer quintiles from seeking care.

Accessibility, availability, affordability and quality deterred the poorer quintiles from seeking care. The inequity in access to care and health-care utilization could be a result of income levels, distance to the nearest health facilities, and availability of health workers in primary health-care facilities *(10,22)*.

Around 88% of the population lived in villages within 10 km of a health centre in 2018/2019, an increase from 63% in 2012/2013. However, access to higher levels of care remained limited; 60% of the population lived in villages within 10 km of a hospital in 2018/2019, an increase from 52% in 2012/2013 *(23)*. The urbanization rate was also low at 35% in 2018, although it increased from 28% in 2007 and 31% in 2012 *(24)*; this may affect the accessibility of health services and increased transportation costs. About 30% of the population in rural areas did not have road access, and about 25% of the poor lived further than 30 km from a hospital in 2018/2019 *(23)*.

Quality of care has remained substandard in the country. Perceived low quality in primary health-care facilities leads to low demand for primary health-care facilities, leading to overloading of tertiary hospitals. There is an issue regarding lack of competent and motivated human resources for health and financing levers. The number of physicians, nurses and midwives per 1000 population increased from 1.8 in 2013 to 1.88 in 2018 *(25)*. However, there is room for improvement as the number of physicians, nurses and midwives per 1000 population was much lower than that of other

countries. Along with low availability of human resources for health in terms of quantity and quality, availability of medicines is also leading to quality and safety issues and low trust in the health system.

Although co-payment exemption policies for the poor are in place, the survey results show affordability issues among the poor. The accessibility of health services by the poorer quintiles for OPD and IPD care and rural populations for IPD care was lower than that of the richer quintiles and urban populations. These populations tended to seek care at primary health-care facilities such as district hospitals and health centres, while the richer quintiles and urban populations were likely to seek care at tertiary care facilities (central and provincial hospitals) and health facilities abroad. Given that the poor population were more likely to use primary health-care level facilities (for example, health centres and district hospitals), strengthening primary health care is critical as a key foundation to achieve UHC for all.

Given that the poor population were more likely to use primary health-care level facilities (health centres and district hospitals), strengthening primary health care is critical as a key foundation to achieve UHC for all.

In terms of awareness of health insurance coverage, less than two of 10 people of the Lao People's Democratic Republic reported they had health insurance, compared to the more than nine out of 10 who actually had health insurance. This suggests there is a need to increase awareness of the NHI scheme to make the beneficiaries' entitlement clear to the public, particularly for the poor and those living in rural areas.

## OOP payments

As the share of the population using OPD and IPD care decreased over time, the share of the population that spent on health also decreased. The better-off were more likely to spend on health, but the difference across quintiles reduced over time. OOP payments per capita per month in constant 2018 LAK increased from 2007/2008 to 2018/2019, which can be seen across all consumption quintiles and regions with the richer quintiles spending higher OOP. However, OOP payments per capita per month decreased from 2012/2013 to 2018/2019, to which the introduction of the NHI scheme is likely to have contributed; the reduction of OOP payments was found across all consumption quintiles. People living in Vientiane Capital paid more OOP for health services compared to other regions, which may be because relatively smaller shares of the population were covered by social health protection schemes or because of high capacity-to-pay and income levels.

The composition of OOP payments changed over time. Medicines accounted for the major share in OOP payments, which is consistent with other low- and middle-income countries *(26,27)*, but its share reduced significantly over time. The share of IPD care also decreased over time and was small as a share of OOP payments in 2018/2019, which would imply that financial protection for IPD care utilization improved. This may be a result of small co-payment rates for IPD in the NHI scheme, meaning improved financial access to IPD care. The share of OPD care increased significantly; this may be because access to OPD care improved but financial protection for those services was still limited. These trends can be seen across the consumption quintiles. The share of OOP payments on medicines decreased and increased on OPD care dramatically among the poorest quintile, which would imply that access to OPD care improved for the poorest quintile over time.

## Catastrophic spending and impoverishment due to health spending

Over the three survey cycles, catastrophic health expenditure at the 10% and 25% thresholds (SDG 3.8.2 indicator) and at the 40% threshold (capacity-to-pay indicator) decreased significantly, particularly over the last two surveys. In 2018/2019, catastrophic health expenditure was 8.4% at the 10% threshold, 4.1% at the 25% threshold, and 4.8% at the 40% threshold. This trend remained the same across the different definitions of OOP payments (Fig. A3 in the Annex). Compared to the average incidence of catastrophic health expenditure in the Western Pacific Region of 20.2% at the 10% threshold and 6.4% at the 25% threshold, in 2017, the incidence of catastrophic health expenditure in the Lao People's Democratic Republic is lower than the regional incidence *(5)*.

However, for the SDG 3.8.2 indicator, the rich were at higher risk of facing catastrophic health expenditure, mainly driven by spending on OPD care and medicine. In some low- and middle-income countries, the better-off tend to use more health services, leading to progressive values of OOP expenditure and incidence of catastrophic health expenditure (where OOP expenditure and incidence of catastrophic health expenditure increase as income increases)

*(28,29)*; it is possible that households with more resources and capacity-to-pay use more health care at higher levels of care, thus having higher health expenditure. The worse-off forgo health care or utilize health care at lower levels of care, leading to lower risk of experiencing catastrophic health expenditure. Those in the poorest quintile reported geographical and financial reasons for not seeking care more frequently than other consumption quintiles (Table 7). Notably, the incidence of catastrophic health expenditure increased over time only among the poorest quintile at the 10% and 25% thresholds of the SDG 3.8.2 indicator, while the incidence for most other quintiles decreased. This suggests that greater attention should be paid to financial protection for the poorest quintile. People in Vientiane Capital were also more likely to experience catastrophic health expenditure. This implies the need to expand the NHI scheme to Vientiane Capital in order to improve financial protection.

For the capacity-to-pay indicator, all consumption quintiles except the third quintile had similar incidence rates of catastrophic health expenditure; however, as with the SDG 3.8.2 indicator, the incidence of catastrophic health expenditure increased in the poorest quintile over the survey years. Using the budget-share method to review data from 14 European countries, Cylus et al. *(30)* found that catastrophic health expenditure was largely experienced by richer households. The budget-share method (used for SDG 3.8.2 indicator) does not acknowledge that the poor commit relatively larger shares of resources to meet their basic needs including food; thus, this method may lead to underestimating financial hardships among the worse-off and overestimating financial hardships among the better-off *(30)*. Therefore, in the context of the Lao People's Democratic Republic where food spending accounts for the largest share of household consumption (60% on average in 2018/2019), the distribution of the consumption quintiles in the capacity-to-pay indicator may be more relevant.

Impoverishment due to health spending decreased over the survey years at all poverty lines. Rural populations tend to be pushed further into poverty due to OOP expenditure compared to urban populations. People in the Southern region and Vientiane Capital were more likely to be pushed into poverty due to OOP expenditure compared to other regions. Among the poor, medicines and OPD care were the main drivers of being further pushed into poverty among those spending less than 10% and at least 10% of their household budget on health, respectively. Overall, the trend of impoverishment due to OOP expenditure along with catastrophic health expenditure implies that the introduction of the NHI scheme likely had a positive impact on financial protection in the Lao People's Democratic Republic.

## Determinants of catastrophic health expenditure and health-care utilization

Households with more health needs (those with members who are elderly or children under 5) were more likely to face catastrophic health expenditure. The richer quintiles were more likely to face catastrophic health expenditure. Inequity across ethnic groups was also found; Mon-Khmer and other ethnic groups were more vulnerable to suffering catastrophic health expenditure.

In terms of health-care utilization, households with higher health needs (those with members who are elderly or children under 5) were more likely to use OPD and IPD. People living in the Southern region were less likely to use OPD. People living the Northern region were less likely to use IPD than those living in Vientiane Capital. The richer quintiles were more likely to use OPD

and IPD, particularly for IPD. Mon-Khmer people were more likely to use OPD than Lao-Tai people, while Chine-Tibet and Hmong-Lu Mien people were less likely to use IPD. Household heads with primary school education level were more likely to use OPD than those with no education, while household heads with completed vocational training were less likely to use OPD.

## Limitations of the study

Comparability with the previous survey cycles was limited by the changes in the LECS questionnaires over time. For example, LECS4 does not include OPD care in the health module questionnaire and LECS5 does not include informal payment for OPD care. However, OOP payments were defined in this analysis based on the Systems of Health Account 2011 with support from teams at WHO HQ and the Regional Office for the Western Pacific to make the estimates comparable with other countries. The sensitivity analysis based on the different definitions of OOP payments is provided in Fig. A3 in the Annex.

This study mainly focused on the financial protection dimension of UHC. Three components must be present for catastrophic health expenditure to occur: health services requiring OOP payments; low household capacity-to-pay; and lack of prepayment systems for risk pooling *(31)*. Catastrophic health expenditure is conditional on health-care utilization, showing the financial risk related to access to care. This would imply that the measurement of catastrophic health expenditure captures only financial risks for people who seek health services, but it fails to capture people not seeking health care when needed due to limited capacity-to-pay *(32-34)*.

Moreover, although LECS is a nationally representative survey in the Lao People's Democratic Republic, given the low percentage of the respondents who accessed health services,

it is possible that the sample size for certain population groups, such as users of certain levels of health facilities, is too small to make robust conclusions. In addition, understanding of the survey items in the health module (for example, types of social protection schemes) among the interviewers for households may have varied, leading to some measurement errors. As LECS is based on the self-reported data by households, information on health-care utilization and expenditures may be affected by recall bias. However, LECS is the only nationally representative survey data available for analysing health-care utilization and expenditure, and this study is the first attempt to analyse progress of financial protection in the Lao People's Democratic Republic with 100% of the LECS data (in the previous study, only 60% of LECS3, 4 and 5 data were used).

This study used a cross-sectional analysis, limiting the causal inference on health-care utilization and expenditures. For this, further analysis will be called for in the future.

# VI. Policy options and way forward

## Impact of the introduction of the NHI scheme in the Lao People's Democratic Republic

**The introduction of the NHI scheme in the Lao People's Democratic Republic appeared to have a positive impact on financial protection and, partly, access to care.** The incidence of catastrophic health expenditure and impoverishment due to OOP expenditure increased from 2007/2008 to 2012/2013 but decreased from 2012/2013 to 2018/2019. Moreover, OOP payments per capita per month reduced from 2012/2013 to 2018/2019 across all quintiles. The introduction of the NHI scheme appeared to enable people to use formal health services more frequently, considering the share of OOP payments on OPD care increased and the share of OOP payments on medicines decreased. This is consistent with the increases in GGHE-D and decreases in OOP payments over the last decade based on the Lao *National Health Account Report* for 2019 *(11)*.

However, as seen in the low share of the population that reported having health insurance in 2018/2019, **there should be greater efforts made to increase awareness of the NHI scheme to make the entitlement clear to the public**.

## Access to care

Access to care improved over time as the financial and geographical accessibility of health care improved. However, there is a room for improvement in terms of accessibility, availability, affordability and quality. Reducing barriers to health care for the poor is needed. The poorest and the near-poor households sought care at a lower rate compared to the richest households. One in 10 of the poorest households did not seek care because of geographical barriers. Although the number of households reporting geographical barriers reduced over time, **policies are needed to further reduce geographical barriers especially for the poor and near-poor households**.

Policies are needed to further reduce geographical barriers especially for the poor and near-poor households.

The perceived low quality of health services deterred people from using health services. This suggests that without increasing the quality of services, the introduction of the NHI scheme may have improved financial protection and financial accessibility of health services but not significantly enough to improve access to care.

**Policies for improving the quality and availability of services** are critical to increase access to care, particularly for those in the poorer quintiles and people living in rural areas. In particular, **the national policy on quality and safety, Dok Champa (5 Goods 1 Satisfaction), needs to be well implemented** in close coordination with relevant departments within MOH and various development partners under the Government's strong leadership. Dok Champa focuses on a warm welcome, cleanliness, convenience, an accurate diagnosis, good and quick treatment, and satisfaction by the patient.

## Financial protection

The results of the study show that financial protection improved overall in the Lao People's Democratic Republic. Although the incidence of catastrophic health expenditure in the Lao People's Democratic Republic was lower than that of the regional average in the Western Pacific, it was relatively high compared to other countries in the region, like Malaysia, Mongolia and the Philippines (Fig. A1 in the Annex).

Moreover, there are no health policies supporting the poor and vulnerable people who experienced catastrophic health expenditure in the Lao People's Democratic Republic. **Policies for financial support for the poor and vulnerable suffering from catastrophic health expenditure and the ceiling on cumulative OOP payments** should be considered.

**Strengthening primary health care and referral systems with appropriate financial protection mechanisms** is needed to ensure equitable access to quality health services across all quintiles. This will contribute to improving access to quality health services at the primary health-care level for the poor, reduce the higher risk of incidence of catastrophic health expenditure for the rich and improve efficiency in the provision of health services.

**Strengthening co-payment exemption policies for the poor and the identification of the poor so that resources can be better targeted** is required. The capacity-to-pay indicator revealed that the poorest quintile experienced the highest increase in the incidence of catastrophic health expenditure over time. Co-payment exemption policies for the poor have been in place but, in many cases, it is at the discretion of each health facility to decide to implement co-payment exemptions, leading to a wide variation among health facilities *(35)*.

People with catastrophic health expenditure spent more on OPD care in 2018/2019. Although this may be the result of improved access to OPD care, it is also an indicator that financial protection for those services remained limited.

**Developing policies for prices of medicines (regulations and mark-ups) and strengthening the usage of generic medicines** are needed. Medicines were the main driver of financial catastrophe due to OOP expenditure. Access to quality and affordable essential medicine for all is still a major challenge, particularly for the poor and people living in rural areas *(10,35)*. Over the survey period, 2007/2008–2018/2019, the availability and accessibility of quality essential medicines

improved, but access remained a challenge. Medicines are often only available at private pharmacies at a higher cost than public health facilities *(36)*. Mark-ups and price-setting of medicines have not been adequately regulated by the Government; the price of medicines is high with a mean mark-up of 44% in the public sector (based on the unpublished medicine price survey conducted by WHO in 2013). Unregulated purchasing of the same medicines at varying prices and conflicts of interest related to pharmaceutical companies and prescribers have been challenges *(10,35)*. In the longer term, strengthening generic medicines with improved quality and safety should be considered as a key strategy to address this issue.

Considering that the incidence rate of catastrophic health expenditure was the highest among people living in Vientiane Capital, **policies for improving financial protection for people living in Vientiane Capital**, such as the expansion of the NHI scheme to Vientiane Capital, are needed, at least for the poorest populations. This may be a long-term goal given the limited government budget for the NHI scheme. The expansion of the NHI scheme to Vientiane Capital may require negotiations with the Ministry of Finance to increase the government budget on health. The introduction or increases of pro-health taxes on tobacco, alcohol and unhealthy products could be a potential option to increase government revenues for the health sector. Currently, there is the decree on tobacco control fund stating that tobacco tax revenue be used for priority health services and the NHI scheme, which has not been implemented for the past four to five years. In this regard, close collaboration with the Ministry of Finance is important to generate domestic government revenue for the NHI scheme and the health sector. Moreover, collecting health insurance contributions from the non-poor citizens in the NHI scheme could also be considered to generate resources to expand the NHI scheme to Vientiane Capital.

## Way forward

The study confirms that current health policies related to the introduction and development of the NHI scheme are on track to progress towards UHC, although there is much room for improvement.

This study was the first attempt to examine progress on financial protection after the introduction of the NHI scheme and analyse the impact of the introduction of the NHI scheme at the initial stage. More rigorous future studies are needed to show the full impact of the implementation of the NHI scheme on progress towards UHC.

Measuring financial protection and access to care is critical to monitor progress towards UHC and ensuring provision of equitably accessible and affordable care. Therefore, continuous monitoring of progress towards UHC and the impacts of health financing policies by examining health-care utilization and financial protection in systematic and rigorous ways is required. MOH, the Lao Statistics Bureau of the Ministry of Planning and Investment, and WHO will work together to ensure the accuracy of financial protection estimates, including the development of survey designs. Less variability in survey design in future LECS is recommended to allow for easier comparisons over time and more relevant and accurate categories for health expenditure.

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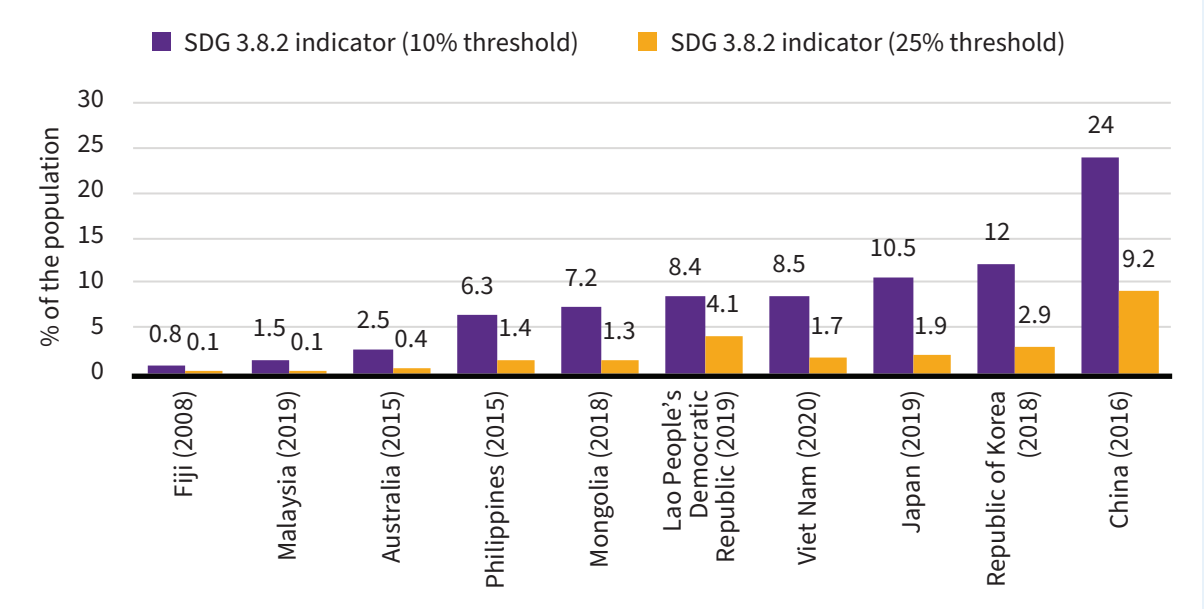
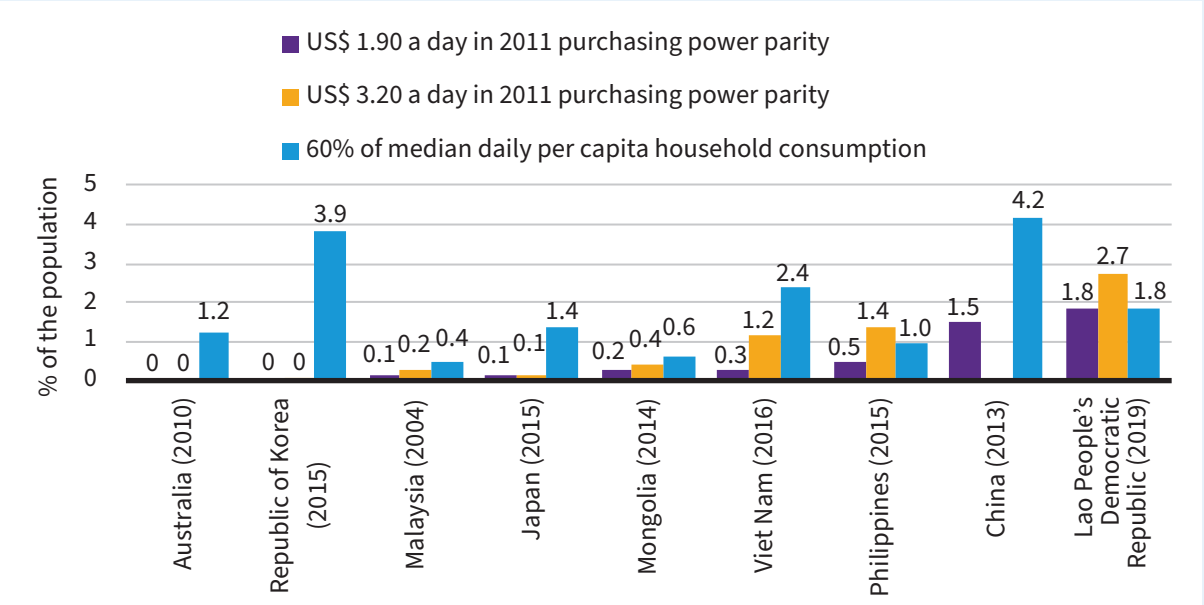
# Annex

**FIG. A1.** International comparison of the incidence of catastrophic health expenditure in selected countries in the WHO Western Pacific Region, most recent year




*Source*: WHO/World Bank UHC 2021 global monitoring report *(5)*.

**FIG. A2.** International comparison of the incidence of impoverishment due to OOP payments among the countries in the WHO Western Pacific Region, most recent year




*Source*: WHO UHC 2019 global monitoring report *(17)*.

**FIG. A3.** Sensitivity analysis on how OOP payment and catastrophic spending change over time with the different definitions of OOP payment

Two options of the definition of OOP expenditure were considered as below. Option 1 uses the diary module only for average OOP payments, excluding transportation and non-hospital expenditure. Option 2, used in the analysis, employs the diary and health modules for average OOP payments, excluding transportation and non-hospital expenditure.

### Option 1: Use the diary module only for average OOP payments (its components) excluding transportation and non-hospital expenditure

- oop_hosp: OOP on IPD care -> source: diary module
- oop_drug: OOP on medicines -> source: diary module
- oop_hlthp: OOP on health products -> source: diary module
- oop_other: OOP other -> source: diary module

### Option 2: Use the diary and health modules for average OOP (its components); excluding transportation and non-hospital expenditure

- oop_outp: OOP on OPD care -> source: health module *Question 19 (outpatient) + Question 22 (informal payment for OPD care)*
- oop_hosp: OOP on IPD care -> source: diary module
- oop_drug: OOP on medicines -> source: diary module (for LECS6, scaling factor applied for OOP on medicines)
- oop_hlthp: OOP on health products -> source: diary module
- oop_other: OOP other -> source: diary module

Option 1 using the diary module was only included to compare the estimates to the Poverty Analysis in the Lao People's Democratic Republic. For Option 2, an adjustment for OOP payments on medicines for LECS6 (2018/2019) was made. The reference period to collect data on OOP in the diary module changed from 30 days in LECS4 (2007/2008) and LECS5 (2012/2013) to 14 days in LECS6 (2018/2019). This change does not appear to have impacted OPD-care spending, but it could be a cause for the difference in spending on medicines and partly drive the difference seen on IPD care expenditure, which varied across regions. The number of IPD care cases in the 30-day sub-samples was so small, adjustments for IPD care could not be made. For adjustments for OOP payments on medicines for LECS6 (2018/2019), due to methodological challenges, instead of using a scaling factor of a ratio of the amounts on medicines between 30-day subsamples and 14-day samples for everyone, scaling factors specific to each region (Vientiane Capital, North, Central and South) were used, determined by the data that correspond to the average difference in the amounts reported between those in the 30-day reference period and others in the 14-day reference period (using a regression-based scaling method).

| | Category of expenditure on health in the health module (30-day reference period) | Variable name | Inclusion |
|---|---|---|---|
| 1 | **OPD-care expenditure**<br>(How much did you spend in total on **OPD care** during the past 4 weeks?)<br>(How much did you spend on **informal payments of gifts** during your most recent outpatient visit in the past 4 weeks?) | **OPD care** | 0 |
| 2 | **Medicines expenditure**<br>(How much did you spend on medicine bought on your own during the past 4 weeks?) | | X |
| 3 | **Hospital expenditure**<br>(How much did you pay for all cost of health care/ treatment for the most recent hospital stay?) | | X |

| | Category of expenditure on health in the health module (30-day reference period) | Variable name | Inclusion |
|---|---|---|---|
| 1 | **Medicines expenditure** | **Medicines** | 0 |
| 2 | **Therapeutic appliances and equipment** | **Health products** | 0 |
| 3 | **Hospital service medical expenditure** | **IPD care** | 0 |
| 4 | Non-hospital service | | X |
| 5 | Treat sickness and accident insurance service | | X |
| 6 | **Other expenditure** | | 0 |

**OOP used in the analysis**

**FIG. A3-1.** OOP payment as a share of household consumption with different OOP payment definitions, 2007/2008–2018/2019

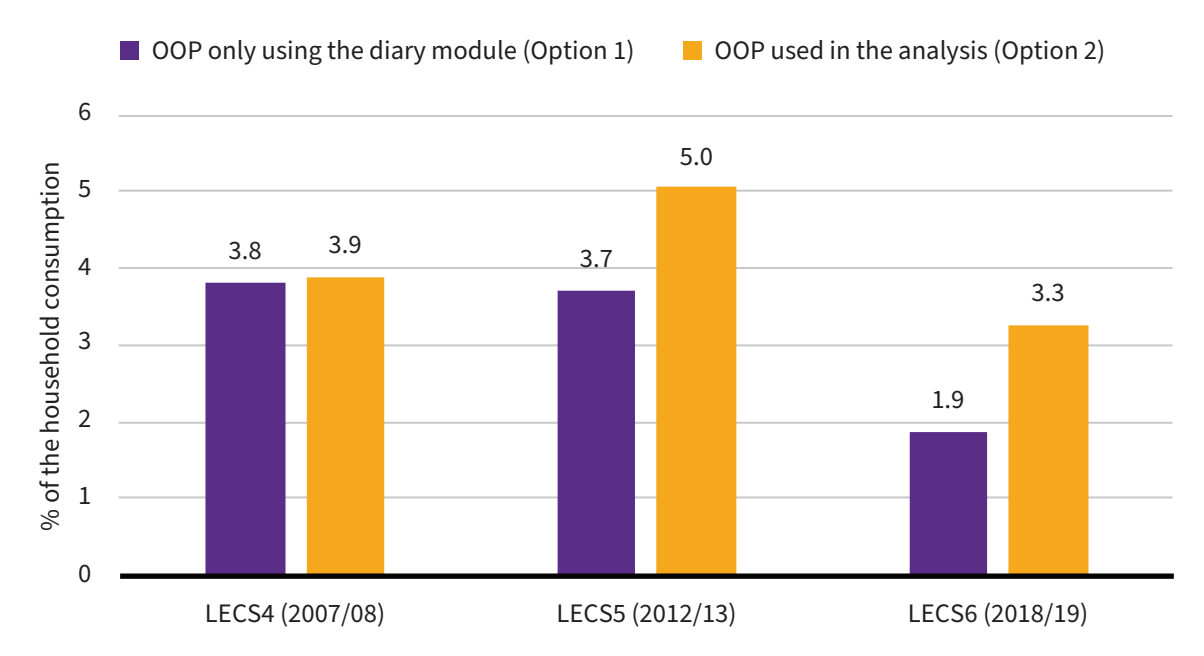


**FIG. A3-2.** Share of the population with catastrophic health spending (SDG indicator 3.8.2) with different OOP payment definitions, 2007/2008–2018/2019

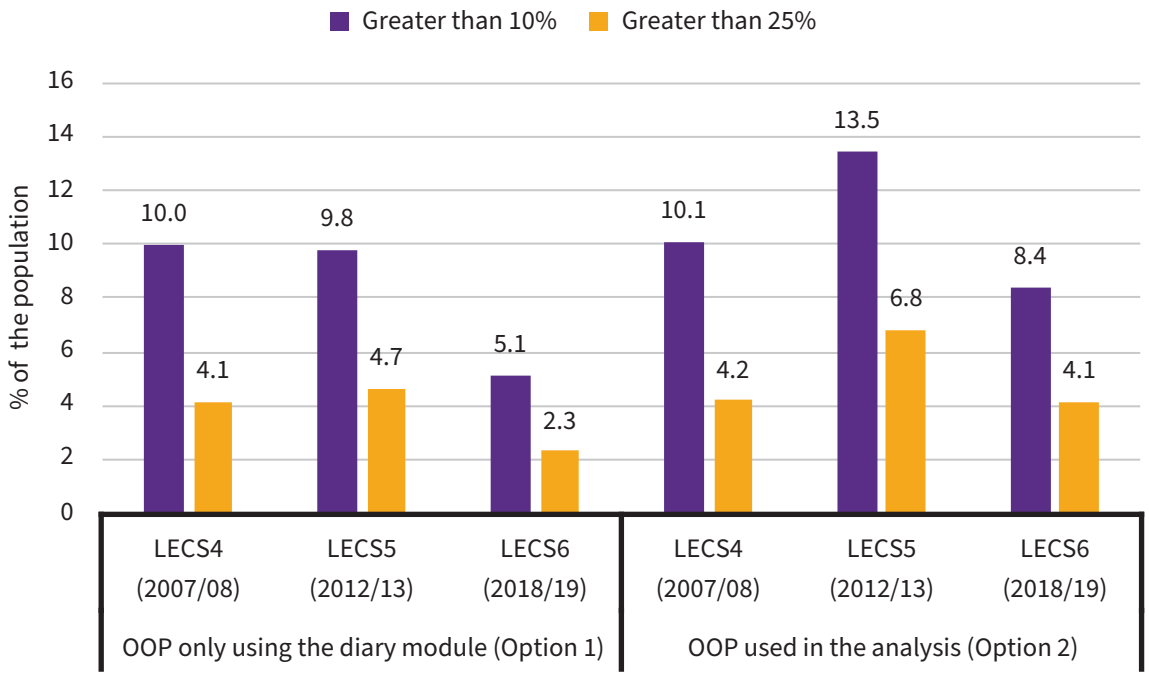



**FIG. A3-3.** Share of households with catastrophic health spending at the 40% threshold (capacity-to-pay indicator) by region and quintile in the latest survey with different OOP payment definitions, 2018/2019

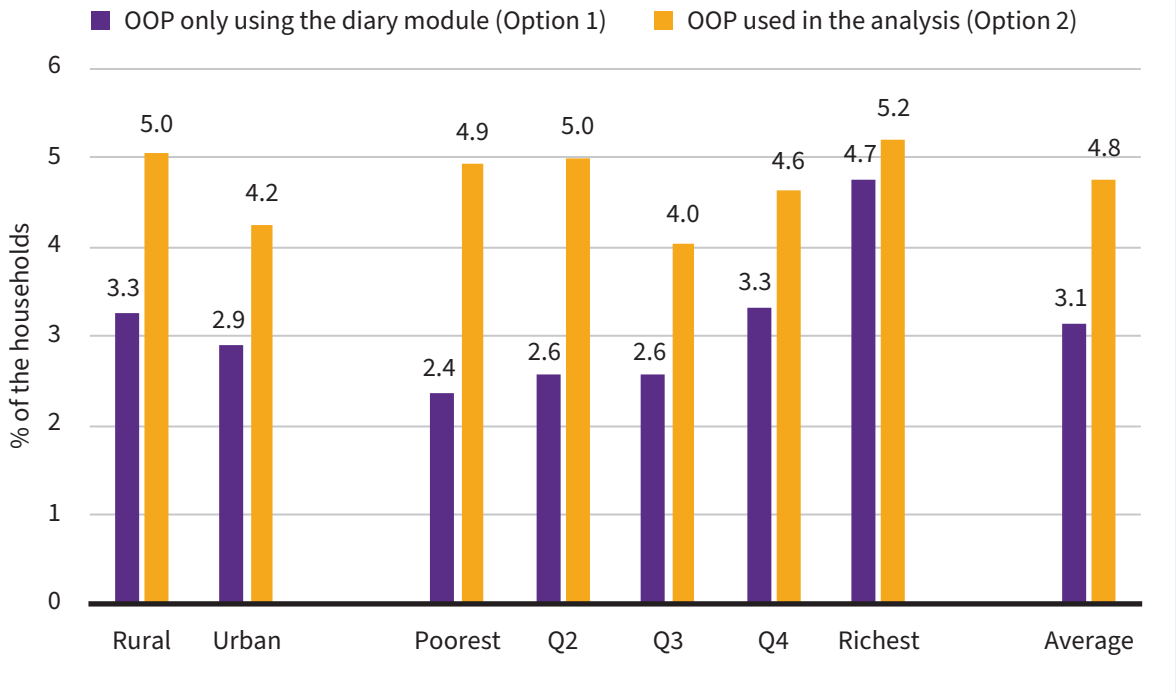


**FIG. A3-4.** Share of the population with impoverishing health expenditures at the different poverty lines with different OOP payment definitions, 2007/2008–2018/2019

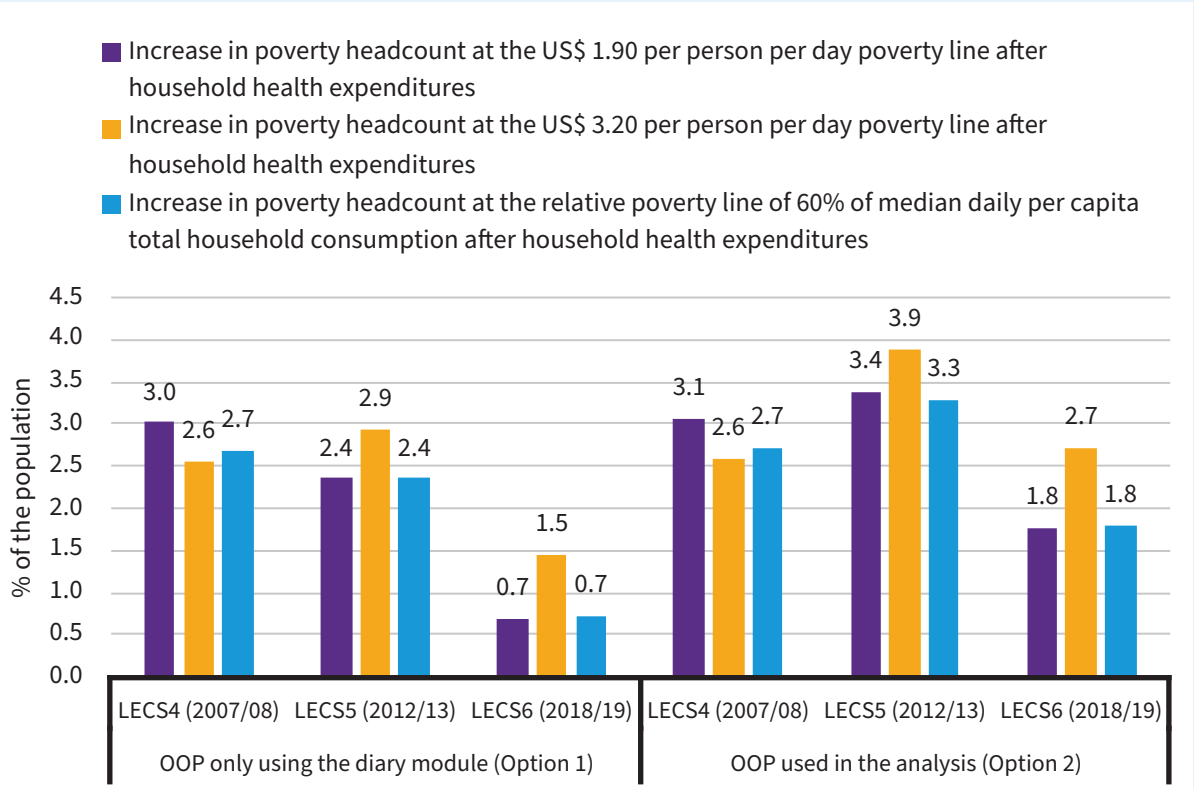



**TABLE A1.** Prevalence of illness, seeking care and health-care utilization as a share of the total population by quintile and region (%), 2007/2008–2018/2019

| | LECS4 (2007/08) | | | | LECS5 (2012/13) | | | | LECS6 (2018/19) | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Illness | Seeking care | OPD | IPD | Illness | Seeking care | OPD | IPD | Illness | Seeking care | OPD | IPD |
| Poorest | 9.8 | 1.3 | 1.3 | 0.1 | 9.3 | 2.4 | 2.3 | 0.2 | 6.6 | 2.1 | 2.1 | 0.1 |
| Q2 | 9.2 | 1.7 | 1.6 | 0.1 | 9.3 | 2.5 | 2.4 | 0.2 | 8.1 | 2.8 | 2.8 | 0.2 |
| Q3 | 9.6 | 2.0 | 1.9 | 0.2 | 10.6 | 3.3 | 3.3 | 0.3 | 8.5 | 3.2 | 3.1 | 0.3 |
| Q4 | 10.3 | 2.3 | 2.2 | 0.2 | 10.8 | 3.9 | 3.8 | 0.4 | 8.8 | 3.1 | 3.1 | 0.2 |
| Richest | 12.2 | 3.7 | 3.5 | 0.5 | 13.0 | 5.1 | 5.0 | 0.5 | 9.5 | 4.0 | 4.0 | 0.4 |
| Vientiane Capital | 8.3 | 3.0 | 2.9 | 0.4 | 9.9 | 4.0 | 3.9 | 0.3 | 7.4 | 3.6 | 3.6 | 0.6 |
| North | 11.3 | 1.9 | 1.9 | 0.2 | 11.3 | 3.2 | 3.2 | 0.3 | 7.5 | 2.7 | 2.7 | 0.2 |
| Central | 7.5 | 1.8 | 1.7 | 0.2 | 9.0 | 2.8 | 2.7 | 0.3 | 7.5 | 3.2 | 3.2 | 0.3 |
| South | 13.7 | 2.2 | 2.1 | 0.2 | 11.8 | 3.8 | 3.7 | 0.3 | 10.8 | 2.3 | 2.3 | 0.1 |
| Rural | 10.1 | 1.9 | 1.9 | 0.2 | 10.4 | 3.1 | 3.0 | 0.3 | 8.2 | 2.9 | 2.9 | 0.2 |
| Urban | 10.1 | 2.4 | 2.3 | 0.2 | 10.4 | 4.0 | 3.9 | 0.4 | 8.0 | 3.0 | 2.9 | 0.3 |
| Average | 10.1 | 2.1 | 2.0 | 0.2 | 10.4 | 3.3 | 3.2 | 0.3 | 8.1 | 2.9 | 2.9 | 0.2 |

**TABLE A2.** Average OOP payment per capita and per household per month (constant 2018 LAK), 2012/2013 and 2018/2019

### 1. Average OOP payment per capita per month

| | OPD care | IPD care | Health products | Medicines | Others | Total OOP |
|---|---|---|---|---|---|---|
| LECS5 (2012/13) | 19 688 | 3 736 | 3 406 | 42 758 | 134 | 69 677 |
| LECS6 (2018/19) | 21 731 | 942 | 2 275 | 22 809 | 229 | 47 953 |

### 2. Average OOP payment per household per month

| | OPD care | IPD care | Health products | Medicines | Others | Total OOP |
|---|---|---|---|---|---|---|
| LECS5 (2012/13) | 97 131 | 15 617 | 14 592 | 207 653 | 796 | 335 789 |
| LECS6 (2018/19) | 88 520 | 7 729 | 14 531 | 71 986 | 2 229 | 184 974 |

*Note:* LECS5 does not include informal payment for OPD care.

**TABLE A3.** Transportation costs for OPD-care utilization in the last visit by quintile and region (LAK), 2012/2013 and 2018/2019

| | LECS5 (2012/13) | LECS6 (2018/19) |
|---|---|---|
| **Quintile** | | |
| Poorest | 10 869 | 7 659 |
| Q2 | 25 090 | 8 587 |
| Q3 | 10 773 | 34 787 |
| Q4 | 19 952 | 16 358 |
| Richest | 34 540 | 35 793 |
| **Region** | | |
| Rural | 16 292 | 13 286 |
| Urban | 29 338 | 34 392 |
| **Total** | 20 240 | 20 632 |

**FIG. A4.** Share of population spending on health by components, 2007/2008–2018/2019

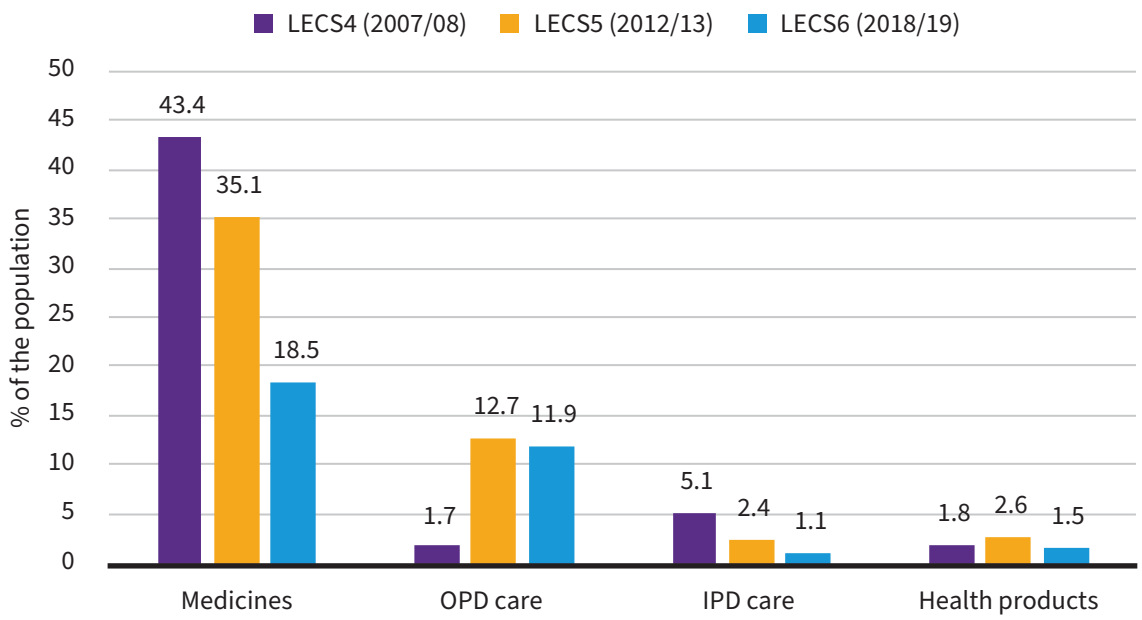
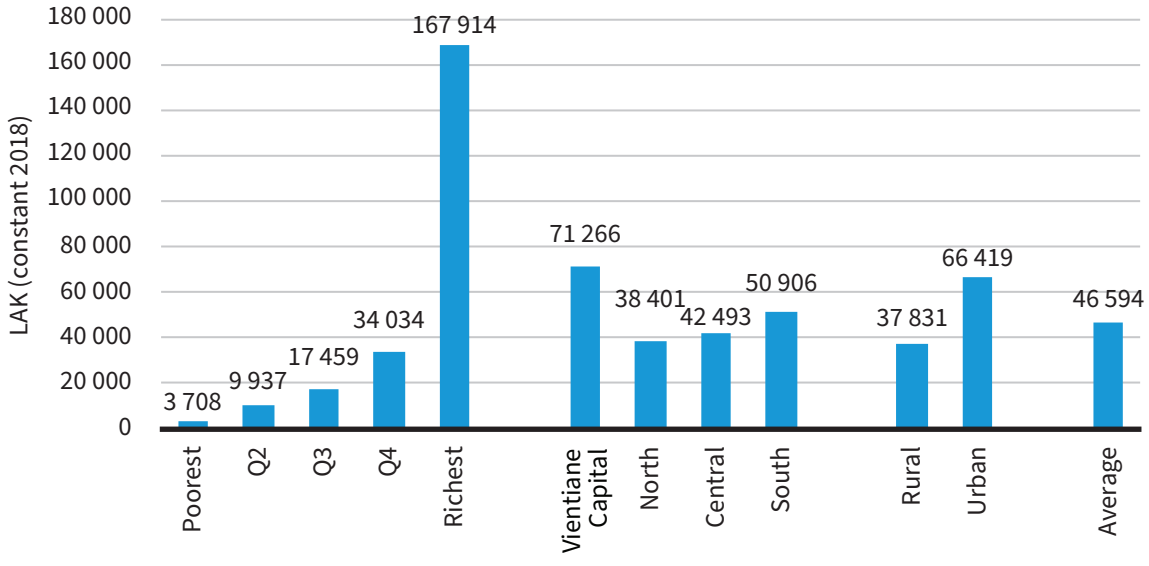



**FIG. A5.** OOP payments per capita per month by quintile and region (constant 2018 LAK), 2007/2008 and 2012/2013

**1. LECS4 (2007/08)**



## 2. LECS5 (2012/13)

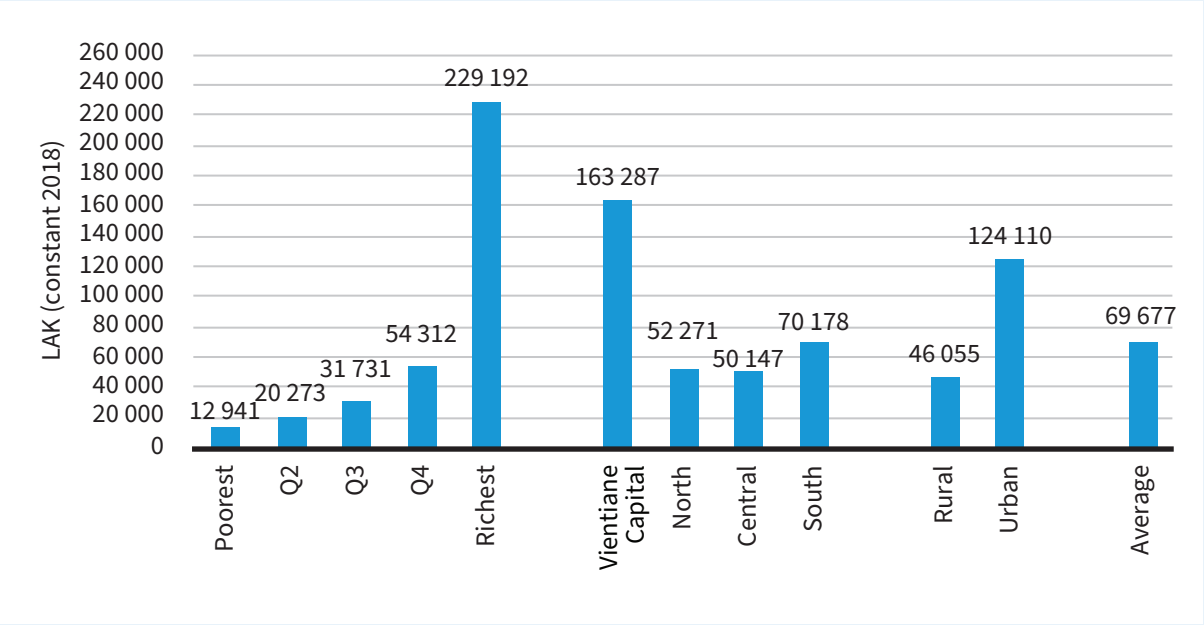
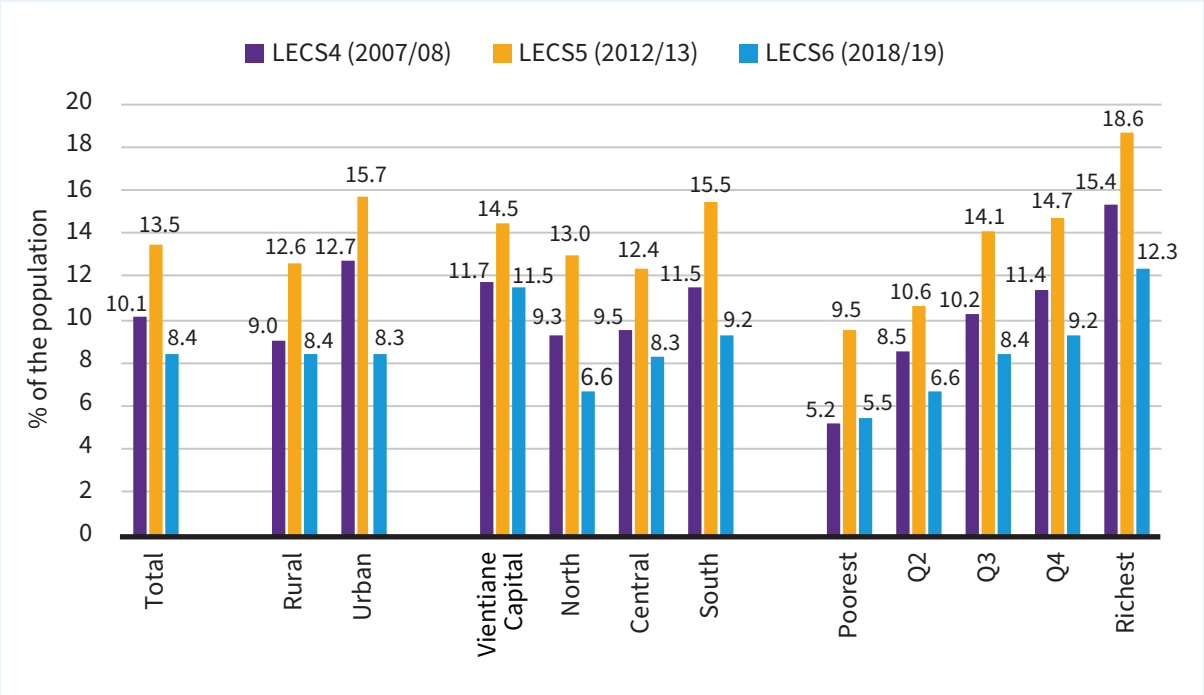



**FIG. A6.** Share of the population with catastrophic health spending at the 10% and 25% thresholds (SDG 3.8.2 indicator) by quintile and region, 2007/2008–2018/2019

## 1. SDG 3.8.2 indicator (greater than 10%)



## 2. SDG 3.8.2 indicator (greater than 25%)

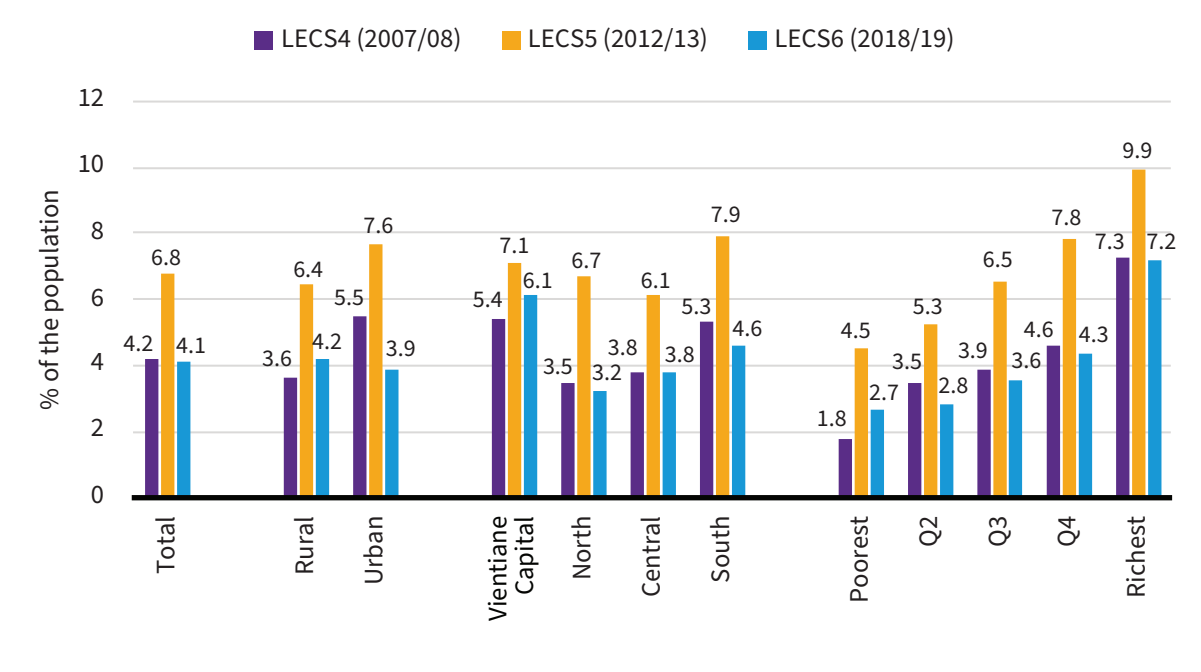



**FIG. A7.** Share of households with catastrophic health spending at the 40% threshold (capacity-to-pay indicator) by region and quintile, 2007/2008–2018/2019

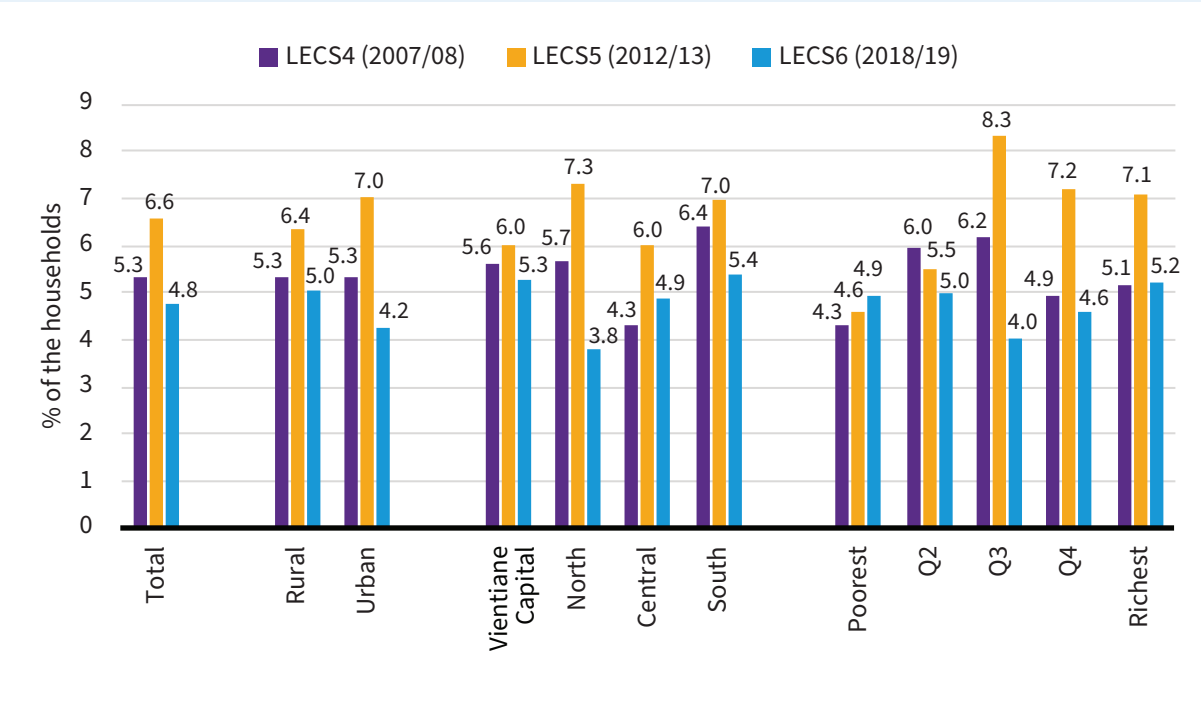


**FIG. A8.** Poverty headcounts with and without health expenditure and impoverishment due to health expenditure at different poverty lines, 2018/2019

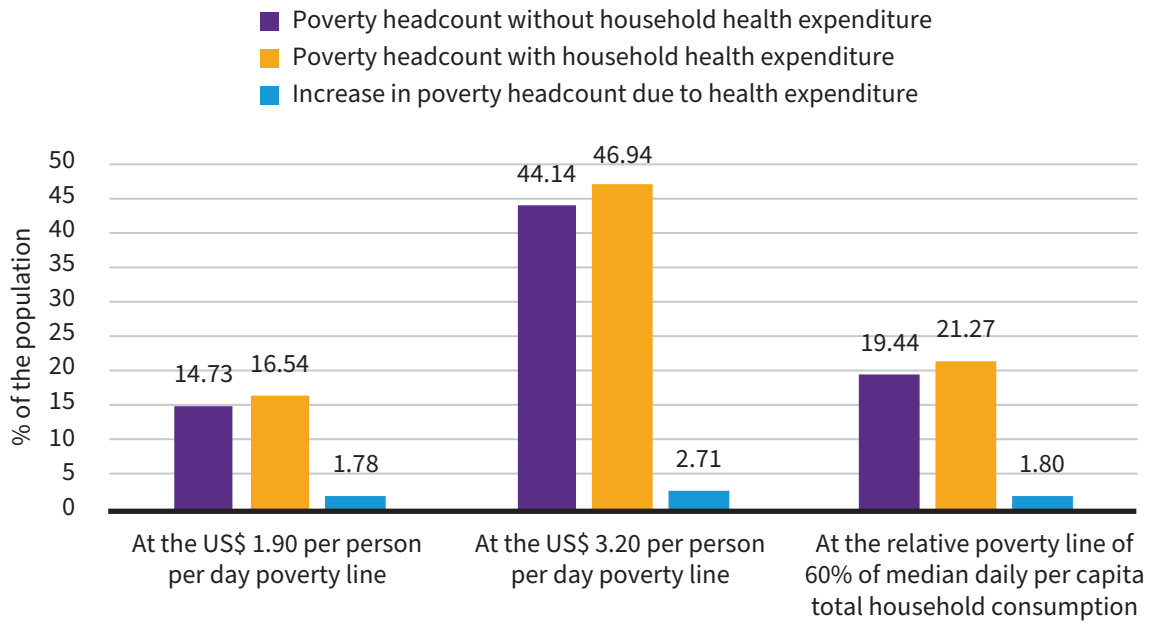



**FIG. A9.** Proportion of OOP spending on health by the poor, who were further pushed into poverty at the different poverty lines, 2007/2008–2018/2019

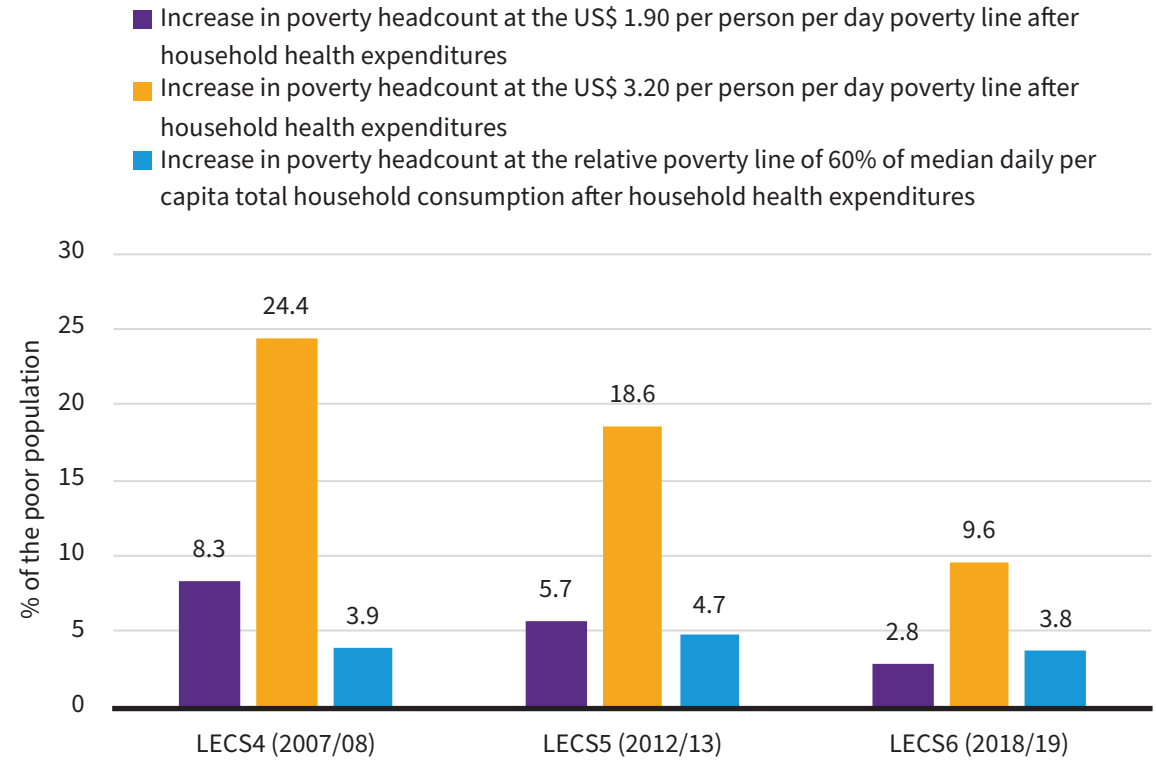


**TABLE A4.** Drivers of OOP payment by the poorest and the richest quintile (%), 2007/2008–2018/2019

| | LECS4 (2007/08) | LECS5 (2012/13) | LECS6 (2018/19) |
|---|---|---|---|
| **Catastrophic spending greater than 10% in the poorest quintile** | | | |
| OPD care | 0.5 | 57.5 | 68 |
| IPD care | 2 | 1.6 | 0.1 |
| Health products | 0.2 | 1.1 | 1.1 |
| Medicines | 97 | 39.9 | 30.8 |
| Others | 0.5 | 0 | 0.1 |
| **No catastrophic spending greater than 10% in the poorest quintile** | | | |
| OPD care | 0.5 | 15.5 | 38.3 |
| IPD care | 1.7 | 0.4 | 0.9 |
| Health products | 0.4 | 0.6 | 0.8 |
| Medicines | 95.5 | 83.2 | 59.6 |
| Others | 1.9 | 0.4 | 0.4 |
| **Catastrophic spending greater than 10% in the richest quintile** | | | |
| OPD care | 2.6 | 22.3 | 24.8 |
| IPD care | 8.9 | 3.6 | 2.8 |
| Health products | 2.4 | 7.1 | 5 |
| Medicines | 84.1 | 66.3 | 66.4 |
| Others | 2 | 0.8 | 1 |
| **No catastrophic spending greater than 10% in the richest quintile** | | | |
| OPD care | 0.8 | 10.9 | 22.6 |
| IPD care | 5.6 | 4.5 | 1.6 |
| Health products | 0.6 | 2.9 | 2.6 |
| Medicines | 90.1 | 81.1 | 69.6 |
| Others | 2.9 | 0.7 | 3.6 |

*Note:* LECS5 does not include informal payment for OPD care.

**TABLE A5.** Share of rural and urban population being driven into impoverishment due to health spending (%), 2007/2008–2018/2019

| | LECS4 (2007/08) | LECS5 (2012/13) | LECS6 (2018/19) |
|---|---|---|---|
| **Increase in poverty headcount at the US$ 1.90 per person per day poverty line after household health expenditures** | | | |
| Total | 3.1 | 3.4 | 1.8 |
| Rural | 3.0 | 3.7 | 2.0 |
| Urban | 3.3 | 2.7 | 1.3 |
| **Increase in poverty headcount at the US$ 3.20 per person per day poverty line after household health expenditures** | | | |
| Total | 2.6 | 3.9 | 2.7 |
| Rural | 2.4 | 3.5 | 2.8 |
| Urban | 3.1 | 4.8 | 2.6 |
| **Increase in poverty headcount at the relative poverty line of 60% of median daily per capita total household consumption after household health expenditures** | | | |
| Total | 2.7 | 3.3 | 1.8 |
| Rural | 2.7 | 3.5 | 2.1 |
| Urban | 2.7 | 2.8 | 1.2 |

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