FINANCIAL PROTECTION OUTCOMES

IN FOUR EAST ASIAN COUNTRIES DURING COVID-19:

CAMBODIA, VIETNAM, THAILAND AND INDONESIA

Katelyn J. Yoo, Jayendra Sharma, Patrick Hoang-Vu Eozenou, and Christophe Lemiere

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Health, Nutrition and Population (HNP) Discussion Paper

FINANCIAL PROTECTION OUTCOMES IN FOUR EAST ASIAN COUNTRIES DURING COVID-19:
Cambodia, Vietnam, Thailand and Indonesia

Katelyn J. Yoo[a], Jayendra Sharma[a], Patrick Hoang-Vu Eozenou[a], and Christophe Lemiere[a]

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Abstract: This paper examines the impact of the COVID-19 pandemic on Universal Health Coverage (UHC) and financial protection in four East Asia and Pacific (EAP) countries, focusing on the dynamics of healthcare access and out-of-pocket (OOP) expenditures. From 2000 to 2021, while countries in East Asia have generally seen a convergence in service coverage improvement, those in the Pacific exhibited slower progress. The pandemic has significantly stalled global health service coverage and exacerbated financial vulnerabilities due to increased OOP spending, pushing more people into financial hardship.

In 2021, approximately half of the global population lacked access to essential health services, with the EAP region home to a disproportionate share of individuals burdened by high OOP costs. The analysis reveals that 38% of the EAP population spent more than 10% of their budget on health expenses, and 43% were pushed below the poverty line by medical expenses, highlighting the region's exposure to financial hardship. Data from Indonesia, Cambodia, Vietnam, and Thailand during the COVID-19 years indicate growing disparities in healthcare access and financial protection, especially among vulnerable populations without insurance, who are often most affected by foregone care and catastrophic expenditures.

Healthcare financing trends suggest that public health expenditure (PHE) needs strengthening against the backdrop of rising OOP payments, which have increased faster than public health financing and faster than final consumption expenditure between 2015 and 2020. The findings of this paper advocate for enhanced government interventions to extend health service subsidies targeted to the poorest and to expand population coverage of pre-payment schemes for health, to improve financial protection and reducing inequities in healthcare access.

Keywords: Universal health coverage, Out-of-pocket spending, health financing, health expenditure, East Asia and Pacific, COVID-19, healthcare access, financial protection, insurance, service coverage, healthcare utilization, demographics, socio-economic disparities, foregone care

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ABBREVIATIONS

CATA	Catastrophic Health Expenditure
CHE	Current Health Expenditure
COVID-19	Coronavirus disease 2019
CSES	Cambodia Socio-Economic Survey
DALY	Disability Adjusted Life Years
EAP	East Asia and Pacific
FH	Financial Hardship
GHED	Global Health Expenditure Database
HEF	Health Equity Fund
IMPOV	Impoverishing Health Expenditure
JKN	Jaminan Kesehatan Nasional
LMIC	Lower Middle-Income Country
NCDs	Noncommunicable Diseases
NSO	National Statistical Office
OADR	Old Age Dependency Ratio
OOP	Out-of-pocket
PHC	Primary Health Care
PHE	Public Health Expenditure
PPP	Purchasing Power Parity
PPPs	Public Private Partnerships
SCI	Service Coverage Index
SDG	Sustainable Development Goals
SES	Socio-Economic Survey
SHI	Social Health Insurance
SUSENAS	Indonesian National Socioeconomic Survey
UHC	Universal Health Coverage
VHLSS	Vietnam Household Living Standards Survey
WDI	World Development Indicators
WHO	World Health Organization

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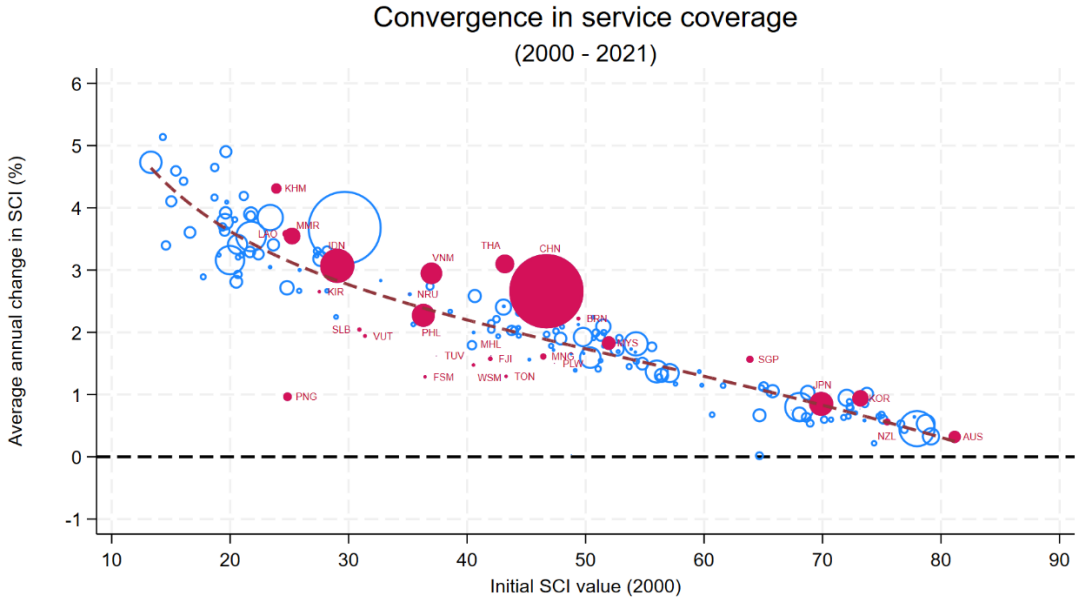
PART I – INTRODUCTION

‘Leaving no one behind’ is a central promise of the 2030 Agenda for Sustainable Development, which recognizes health as a fundamental human right. The best way to fulfil this promise is through universal health coverage (UHC), which means that all people – no matter who they are or where they live – can receive quality health services, when and where they are needed, without incurring financial hardship.

To monitor progress toward UHC, the World Bank and WHO recommend measuring it through two critical dimensions: the Service Coverage Index (SCI) and Financial Hardship (FH). This dual approach not only emphasizes the importance of making essential health services widely accessible but also ensures that individuals are not pushed into financial distress by healthcare costs. By using tracer indicators to assess these dimensions, we gain clearer insight into how well countries are balancing service access with financial protection.

In East Asia and Pacific (EAP), countries such as Indonesia, Cambodia, Vietnam, and Thailand have made substantial progress in terms of expanding coverage for essential health services between 2000 and 2021. Globally, there has been a convergence trend in service coverage between countries in the sense that countries which started with the lowest values for the UHC SCI in 2000 have also been the countries which expanded their coverage level the fastest between 2000 and 2021. Among the four countries, Thailand has been particularly notable for its rapid improvements in UHC having met the SDG target of >80, while others like Cambodia and Indonesia have made steady progress, albeit with more gradual improvements in service coverage (Figure 1). The most recent SCI values for Cambodia, Indonesia and Vietnam are 58, 55 and 68 respectively.

Figure 1 Convergence in service coverage between countries (2000-2021)



Source: WHO-WB 2023 UHC Global Monitoring Report.
Note: Circle size is proportional to population size in 2021.

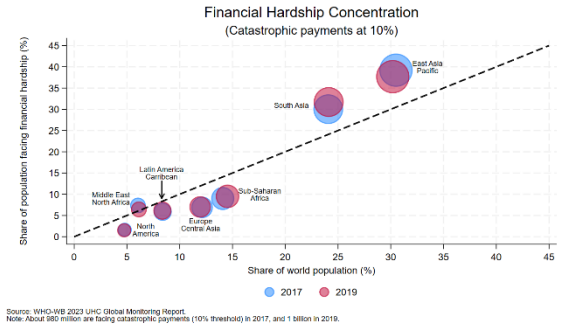
Source: WHO and World Bank 2023

Despite these advancements, the global state of UHC, as detailed in the latest UHC Global Monitoring Report (WHO and World Bank, 2023), remains concerning. Even before the COVID-19 pandemic, progress in expanding health service coverage had largely stalled, and financial protection had deteriorated. By 2021, around half of the world's population—approximately 4.5 billion people—still lacked coverage for essential health services, and in 2019, two billion people faced financial hardship due to out-of-pocket (OOP) health spending, including 344 million living in extreme poverty.

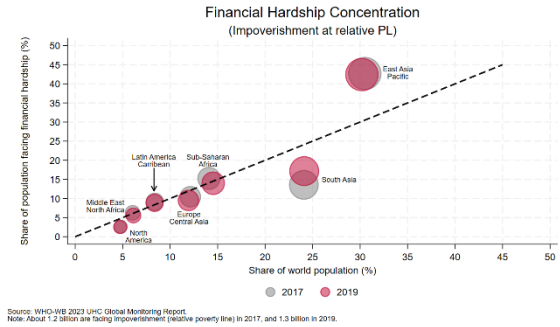
Against this global backdrop, the EAP region is the region where the population is the most exposed to financial hardship due to OOP health expenditure. This is true whether we focus on the share of the population spending a large proportion of their budget on health OOP (catastrophic payments), or whether we focus on the share of the population pushed below the poverty line because of health OOP expenditure. In 2019, EAP is home of 30% of the world population, but it represents 38% of the population spending more than 10% of their budget on OOP expenditure, and 43% of the population impoverished by OOP spending at the relative poverty line threshold (Figure 2).

Figure 2 Concentration of financial hardship in the EAP region

(1a) Catastrophic payments at 10% threshold



(1b) Impoverishment at the relative poverty line threshold



Source: WHO and World Bank 2023

Health financing trends in the EAP region are important factors accounting for these concerning outcomes in terms of financial hardship. The share of OOP spending over current health expenditures (CHE) remains relatively large on average in EAP (34%). Between 2015 and 2020, EAP is the region where OOP expenditure has been increasing the fastest in real per capita terms (+5.3% annually). While public health financing has been increasing at a faster pace (+6.2% annually), OOP expenditure has been increasing faster than final consumption expenditure on average (Table 1).

Table 1: Average annual change in health OOP, public health expenditure (PHE) and consumption across regions (2015 – 2020)

Regions	Average share of OOP over CHE in 2020 (%)	Average share of PHE over CHE in 2020 (%)	Average annual change in OOP (%)	Average annual change in PHE (%)	Average annual change in consumption (%)
East Asia & Pacific	***33.9***	***55.4***	***5.3***	***6.2***	***4.5***
Europe & Central Asia	23.4	70.9	1.2	5.0	0.8
Latin America & Caribbean	27.8	53.7	-1.0	1.8	-1.4
Middle East & North Africa	40.9	50.3	-0.6	5.3	0.4
North America	10.3	58.7	0.0	5.2	0.8
South Asia	52.9	34.7	-2.1	8.5	3.4
Sub-Saharan Africa	40.3	39.0	-0.4	1.5	-0.6

Note: Averages are population weighted. Annual changes are constructed in real per capita terms over the period 2015 - 2020.

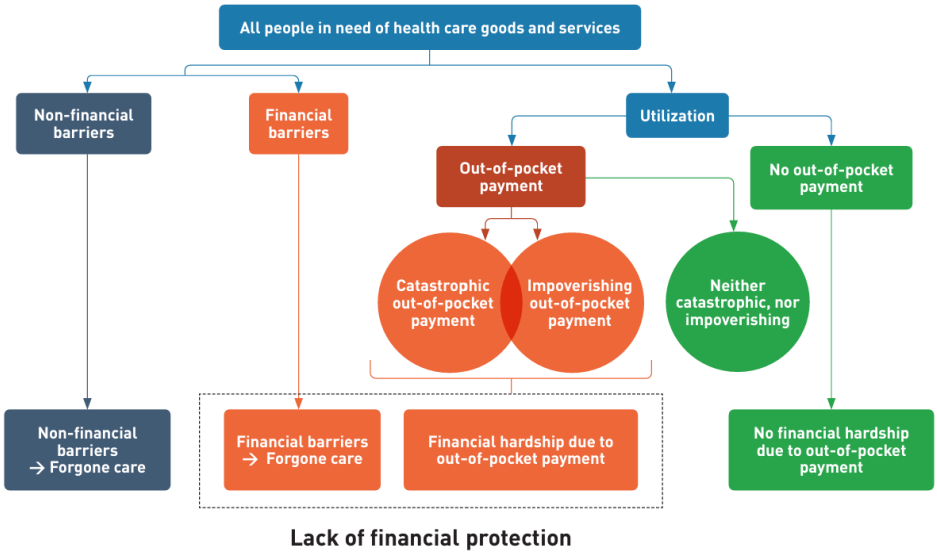
Source: World Bank 2024

While regional and global estimates of progress towards UHC are available until 2021, it is still not possible to draw these aggregate trends for later years because of population survey data lags. It remains therefore difficult to assess the effect of the COVID-19 crisis on financial protection outcomes at the aggregate level.

This paper focuses on an analysis of financial protection outcomes in four East-Asian countries during the COVID-19 pandemic, using available data from population surveys on consumption expenditure. Together, these 4 countries (Cambodia, Indonesia, Thailand, and Vietnam) represent about 19% of the EAP's

population, and 23% of its burden of disease (DALYs). We explore two critical dimensions of financial protection: foregone care (the extent to which people delay or forgo necessary healthcare due to cost or access issues) and financial hardship (the financial strain caused by out-of-pocket spending). Both factors are essential for assessing the state of UHC in these countries during a time of unprecedented global health challenges (Figure 3).

Figure 3 Financial protection, financial hardship, and foregone care



The structure of the paper is as follows: Section II outlines the data sources and methodology employed. Section III presents the main findings from Indonesia, Cambodia, Vietnam, and Thailand. In Section IV, we discuss these results in the broader context of health economics and policy, particularly in light of the ongoing challenges posed by the COVID-19 pandemic.

PART II – DATA AND METHODOLOGY

DATA

We used secondary data from the nationally representative household socio-economic or living standard surveys carefully selecting the waves that would represent the period immediately prior to the COVID-19 pandemic and the most recent and available data after the onslaught of the pandemic. Consequently, the following survey years were selected for the four countries: (1) Cambodia Socio-Economic Survey (CSES), 2019 & 2021; (2) Indonesian National Socioeconomic Survey (SUSENAS), 2019 & 2021; (3) Thailand Household Socio-Economic Survey (SES), 2019 & 2021; and (4) Vietnam Household Living Standards Survey (VHLSS), 2018 & 2020. The sample sizes of these surveys are summarized in Table 1.

Table 1 Sample size of the surveys included

Sample	Cambodia		Indonesia		Thailand		Vietnam	
	2019	2021	2019	2021	2019	2021	2018	2020
Households	10,075	10,080	315,673	340,032	45,586	46,840	9,396	9,396
Individuals	44,549	43,695	1,204,467	1,278,316	124,874	130,670	35,076	34,717

Considering that the selected surveys are multipurpose consumption/expenditure surveys, there are several highlights and variations in the survey instruments used:

- Health care needs were reported by the household respondent (usually the household head) for all individual members of the household. Recall period for expressing health care need were 30 days for Cambodia and Indonesia, while the recall period for health care needs was 12 months for Vietnam. For Vietnam, the questionnaire captured health care needs for 'serious illnesses/injuries' only.

- Health service utilization was captured through similar household respondents reports for all individual household members. Providers profile was established through this information.

- Similarly, health expenditures were reported by the household respondent (usually the household head) for all individual members of the household. Recall periods for health expenditure reporting were 30 days in Cambodia for all health expenditure components, 30 days for outpatient care component and 12 months for inpatient care component in Indonesia and Thailand, and 12 months for all health expenditure components in Vietnam.

- There were significant variations in the availability of disaggregated information on the components of health expenditure across the survey

countries. Cambodia treatment and transport; Vietnam Outpatient care and inpatient care; Indonesia and Thailand had much extensive levels of disaggregated information collected through their survey instruments encompassing drug costs, preventive care costs, traditional medicine and others.

- Demographic information (notably age, gender and old age dependencies) was derived from respective surveys' household rosters.

To elucidate the reasons for foregone care, we used the World Bank's High Frequency COVID-19 Surveys (World Bank 2023), which are short phone-based surveys implemented to monitor the impact of COVID-19 on households around the world. The surveys began as early as March 2020 in some countries and are collected at regular intervals of one to four months depending on the country context. Considering that the sampling frame of these surveys were not identical to the household surveys, we ran the analyses in parallel, with the objective of extracting additional and complementary information.

METHODOLOGY

Health financing landscape

We extracted secondary data from the WHO Global Health Expenditure Database (GHED), with the more recent available update for 2021, to profile health financing landscape of respective countries. All indicators with constant values were based on 2021.

Analysis of health service need, utilization and foregone care

We derived health services utilization data (need, use and foregone) from the respective survey countries and years, reported individually and aggregated at the household level. Considering the variations in the survey instruments, need was generally considered as any individuals reporting illness, injuries or any health complaint while use was estimated from reported usage of health services or reports of out-patient visits or hospitalizations. Prevalence of forgone care was estimated as percentage of households that did not access needed care by share of all households that needed care (WHO and World Bank 2023). While a dimension of unmet health care need, forgone care is different than unmet need as the latter can also occur without someone realizing that they need services (WHO & World Bank 2023). For Vietnam, considering data limitations, all estimates on health services utilization are derived for serious illnesses only. Table 2 provides a summary of data availability and usage in our variables' construction from the respective countries' household surveys and World Bank's High Frequency COVID-19 Surveys.

Table 2 Data availability

	Health Financing	Reported Need	Conditional use	Foregone care	Reasons of foregone care	Share of OOP spenders	OOP average per capita	OOP budget share	OOP composition by provider	OOP composition by type of health services	OOP composition by expenditure categories	Financial hardship	Inequality and concentration
Cambodia	x	x	x		x	x	x	x	x	x	x	x	x
Indonesia	x	x	x	x	x	x	x	x	x	x	x	x	x
Thailand	x					x	x	x			x	x	x
Vietnam	x	x	x	x	x	x	x	x	x	x	x	x	x

Analysis of OOP payments and financial protection

OOP payments are any direct financial outlays by households for health service providers and medical products. These expenditures are considered catastrophic if they exceed a certain fraction of the total household resources (O'Donnell et al. 2007; WHO and World Bank 2023). Among the several methods and thresholds to estimate catastrophic health expenditures, we adopted the popular approach used in the Global Monitoring Reports income (WHO and World Bank 2023), which is aligned to the SDG indicator 3.8.2, and defines the incidence of catastrophic health spending as the proportion of the population with large OOP health spending defined as those exceeding 10% and 25% of the household's total consumption or income. OOP expenditures are considered to be impoverishing when it pushes households below a pre-defined poverty line or further into poverty if they are already poor as per the adopted poverty line. In order to standardize and make the estimates comparable between countries, impoverishment estimates are derived using poverty lines of 2.15$, 3.65$ & 5.5$ applying the 2017 purchasing power parity conversion factor. All OOP reporting periods in the surveys (30 days in Cambodia, 30 days for outpatient and 12 months for inpatient in Indonesia and Thailand, 12 months in Vietnam) were standardized to twelve months. Inflation adjustments for temporal trends in OOPs were carried out using the respective countries' consumer price indices. We estimated concentration indices to examine inequality trends in household total consumption and OOP health expenditure.

Disaggregating variables

Our first level analysis considered the four key disaggregating variables for health services utilization, OOP and financial protection. Total consumption per capita was used to classify households into income quintiles. Household insurance status was determined by any member of the household covered by a health insurance program or scheme. Households' geographical area of residence (rural and urban)

were extracted directly from the respective surveys. Analysis on top 20 percent OOP spenders is discussed below.

Analysis on characteristics of top 20 percent OOP spenders

In analyzing the distribution of OOP healthcare spending, households were classified based on their spending levels at the 80th percentile. Those households with expenditures falling above this threshold were categorized as the top 20% of OOP spenders. This analysis involved a detailed assessment of various spending parameters, including OOP and total household expenditures, disaggregated by specific categories. These categories encompassed per capita spending by gender, the proportion of the household budget allocated to health spending, and the distribution of expenditures across public versus private healthcare facilities. Additionally, the analysis explored spending differences across various levels of health services and various components of expenditure. This approach highlights the characteristics and behaviors of the highest spending households in contrast to the larger, lower-spending cohort. By focusing on the top 20% of spenders, the study aims to illuminate the disparities in health access and financial burdens between more and less affluent groups, shedding light on the financial dynamics that influence healthcare consumption patterns within these populations. This segmented analysis is crucial for developing targeted interventions that address the specific needs of both high and low spenders, ensuring equitable health access across the socio-economic spectrum.

We also incorporated several explanatory variables into the analysis to determine household characteristics among these two groups (household size, age and gender of household head, urban/rural residence, old age dependency ratio, household poverty and insurance status). These variables are selected among those most commonly used in analyzing linkages between household socio-economic status with health expenditure. Empirically, evidence on association between population ageing and health expenditure is limited, and results are mixed (Eozenou, Neelsen, and Smitz 2021). With individual age values extracted from the household rosters of the respective surveys and following previously applied method to derive household level measure of aging (Eozenou, Neelsen, and Smitz 2021), we estimated the household old age dependency ratio (OADR) as the number of household members aged over 60, considered old-age dependent, divided by the number of household members of working age, subsequently classified into three categories; households without old-age dependents (OADR=0); households with two or more working age members per old-age dependent member (0<OADR<=0.5); households with less than two working age members per one old-age dependent member (OADR> 0.5). In order to enable cross-country comparison, we adopted the poverty status of households as those whose total consumption falls below the international poverty line of 3.65$ per person per day using 2017 purchasing power parity (PPP). Household insurance status was determined by any member of the household covered by a health insurance program or scheme.

PART III– RESULTS

KEY SUMMARY

1. **Variation in Health Insurance Coverage**: Cambodia, Vietnam, Indonesia, and Thailand show significant variation in health insurance schemes, reflecting differing levels of success in achieving coverage. Thailand has achieved the highest coverage, with 99.5% of the population insured, whereas Cambodia lags behind with 41%.
2. **Public Health Expenditure and Financial Protection**: Thailand leads in public health expenditure (PHE) relative to current health expenditure (CHE), with about 70% funded through general taxation, which helps minimize OOP expenses. Cambodia and Vietnam show lower PHE to CHE ratios, relying more on OOP. Moving from a high reliance on OOP to a financing model giving more importance to pre-payments (in the form of social contributions or in the form of general revenue taxation) would be key for Cambodia and Vietnam in their health financing transition.
3. **OOP Payments**: Cambodia and Vietnam report high OOP spending on health services (55% and 40%, respectively). In contrast, Thailand's redistributive health financing model reduces OOP to 9%, demonstrating the potential of well-structured health policies to alleviate financial burdens.
4. **Governmental Interventions as a Key Success Factor**: Thailand's government-financed model through taxation serves as a leading example of minimizing OOP expenses, significantly outperforming the regional (19.1%) and global averages (28.4%) for OOP spending.
5.
6. **Factors Limiting Healthcare Access During COVID-19**: Financial constraints were a primary barrier to healthcare access in Indonesia, while movement restrictions posed the biggest challenge in Vietnam. These differences call for tailored policy interventions to address the specific barriers faced by each country.
7. **Economic Burden of Healthcare and Top Spenders**: The top 20% of OOP spenders account for around three-fourths of the total OOP expenditure, emphasizing a significant concentration of healthcare costs among a small proportion of the population. This group predominantly utilizes private hospitals.
8. **Impact of Insurance on Financial Protection**: Uninsured individuals in Cambodia, Indonesia, and Vietnam saw a significant reduction in the proportion of income spent on healthcare, highlighting the importance of insurance coverage in mitigating foregone care and in preserving financial protection in periods of economic crisis..
9. **Mixed Financial Hardship Indicators**: While Vietnam showed improved financial protection during the pandemic, financial hardship indicators (Catastrophic Health Expenditure and Impoverishing Health Expenditure) increased for Cambodia, Indonesia, and Thailand, particularly affecting lower-income groups.
10. **Disparities in Health Expenditure During COVID-19**: Inequalities in health expenditure across income groups were exacerbated during the pandemic, except in Vietnam, which achieved a more equitable distribution of health expenses. In Thailand, the observed increase in health spending was borne mostly by the wealthier segments of the population**.**

11. **Gaps in Financial Protection Mechanisms**: The findings illustrate significant vulnerabilities in financial protection across the four countries, albeit for different reasons. While the financial protection gap in Cambodia was driven by gaps in both the extensive (population insurance coverage) and the intensive margin (depth and breadth of the subsidized benefit package), the gaps in Indonesia, Vietnam and in Thailand were mostly driven by the intensive margin of existing insurance schemes and in their effectiveness to provide financial protection.

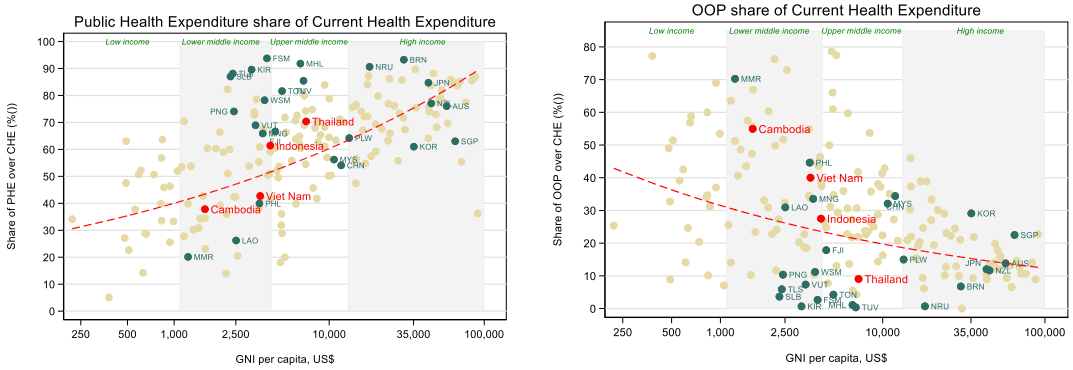
HEALTH FINANCING LANDSCAPE

The landscape of health insurance coverage exhibits profound variation across Cambodia, Vietnam, Indonesia, and Thailand, with each country deploying unique schemes that reflect differing levels of success and coverage inclusivity. In Cambodia, the National Social Security Fund alongside the Health Equity Fund (HEF) provides coverage for roughly 41% of the population. This initiative primarily serves formal sector workers and the economically disadvantaged, . Conversely, Indonesia has embraced a universal approach with its Jaminan Kesehatan Nasional (JKN) program. This compulsory health plan aims for comprehensive coverage, targeting near-universal participation by 2024—a testament to the country's steadfast commitment to broadening health insurance inclusivity. Vietnam's implementation of its mandatory Social Health Insurance (SHI) illustrates a notable success story, covering 91% of the populace as of 2021. This high coverage rate signifies a well-executed public health financing strategy that supports extensive access to healthcare services. Thailand, meanwhile, sets a benchmark with a 99.5% coverage rate under its Universal Coverage Scheme, augmented by additional targeted insurance programs.

The financial burden of OOP payments for health services also varies significantly across these nations. Cambodia and Vietnam report relatively high OOP expenditures, accounting for more than 55% and 40% of total health spending respectively. OOP expenditure in Cambodia is largely attributed to the significant volume of health spending in the largely unregulated private sector. With the gradual expansion of insurance coverage in Vietnam, OOP expenditure have decreased but remains high. Indonesia finds itself in an intermediate position with an OOP expenditure constituting 27% of its total health costs as shown in Figure 4. While the coverage is comprehensive with no co-payments, the package only includes generic medications so a significant composition of OOP is attributed to preferences for branded medications. Thailand, on the other hand, showcases a remarkably low rate of OOP payments at 9%, driven by a robust, redistributive health financing model underpinned by general taxation. Importantly, Thailand's approach to funding its healthcare system through general taxation is also mirrored to varying extents by Indonesia and Vietnam, where public financing plays a crucial role in providing health coverage.

These strategic approaches not only alleviate the financial strain on individuals but also reflect the profound impact of governmental interventions in health finance. With the EAP regional average for OOP expenditures at 19.1% of total health expenditure and the global average at 28.4% as of 2021, Thailand stands out as a leading example of public funding crowding out private OOP expenses, both within the region and globally. This comparative analysis not only highlights the diverse health financing environments across these countries but also underscores the significant potential for health financing reforms to mitigate the economic burden of healthcare on the population.

Figure 4 PHE and OOP as share of CHE



Source: WHO and WDI 2021

The proportion of public health expenditure (PHE) relative to current health expenditure (CHE) varies considerably among Cambodia, Vietnam, Indonesia, and Thailand, reflecting each nation's distinct approach to health financing as shown in Figure 4. Thailand stands at the forefront with the highest PHE to CHE ratio, approximately 70%, signaling robust government investment in public health largely supported through taxation. This high level of tax-based pooling is crucial in keeping OOP expenses low for its citizens and serves as an illustration of Thailand's commitment to equitable healthcare. Vietnam and Indonesia also employ general taxation for healthcare funding, reflecting progress toward increased public financing, though to a lesser extent than Thailand.

Indonesia's lower PHE to CHE ratio reflects challenges stemming from limited government revenues. Although JKN was designed with a strong emphasis on public financing, actual government contributions have fallen short, necessitating reliance on other financing mechanisms rather than substantial private sector engagement. Similarly, Vietnam and Cambodia show lower PHE to CHE ratios, indicating a reliance on alternative financing methods and resulting in higher OOP expenses for individuals. Despite positive correlations between economic growth and increased public health spending across these countries, both Vietnam and

Cambodia still demonstrate lower public health expenditure compared to Thailand, highlighting the ongoing struggle to secure adequate public funding for healthcare.

These disparities underscore diverse fiscal strategies within the region and highlight the impact that government financing has on the overall health expenditure landscape. The data suggest a clear pattern: nations with higher rates of tax-based pooling tend to invest more in public health, which fosters greater equity and sustainability in their health financing models. This analysis not only sheds light on the varying health finance approaches in Southeast Asia but also emphasizes the critical role of government intervention in achieving comprehensive health coverage.

HEALTH CARE NEEDS AND FORGONE CARE

During COVID-19, reported need and use of health services has declined across Cambodia, Indonesia, and Vietnam, with a disproportionately greater drop among the poorest and those lacking insurance coverage (Figure 5). In Cambodia, healthcare needs substantially fell from 9.6% to 6.5% between 2019 and 2021, emphasizing the impact of the pandemic on the demand for health services among the most vulnerable groups. Similarly, in Indonesia and Vietnam, a downward trend was observed, notably more marked among those without insurance. This trend could imply that while the perceived need for healthcare has diminished, possibly influenced by social distancing measures or fears of infection, service utilization has also declined, particularly for those at the lower end of the socio-economic spectrum or without the safety net of insurance. The data underscore the importance of bolstering healthcare systems to address not only the financial but also the infrastructural and perceptual barriers to healthcare access exacerbated by the pandemic.

Figure 5 Reported needs for health care by income and by insurance status

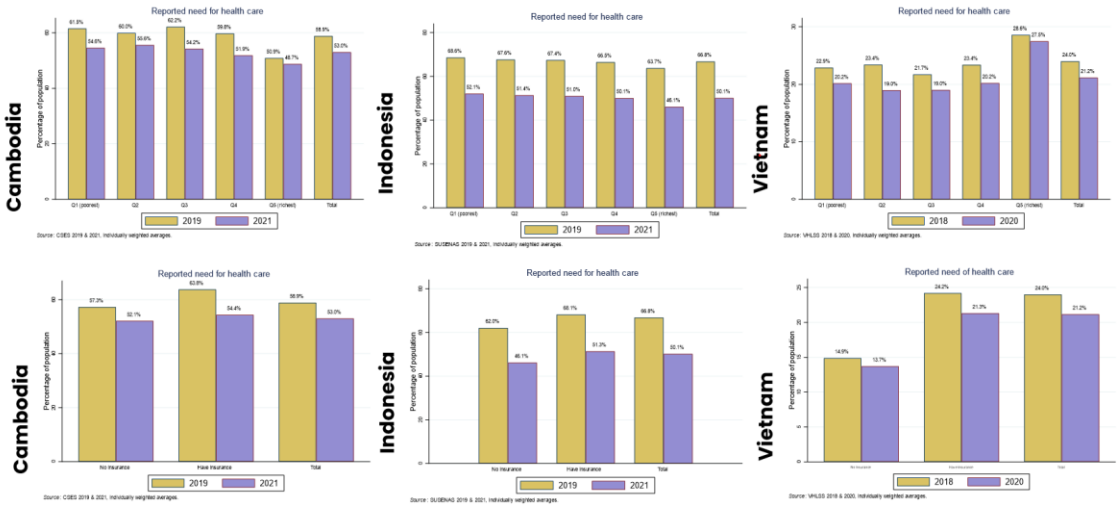
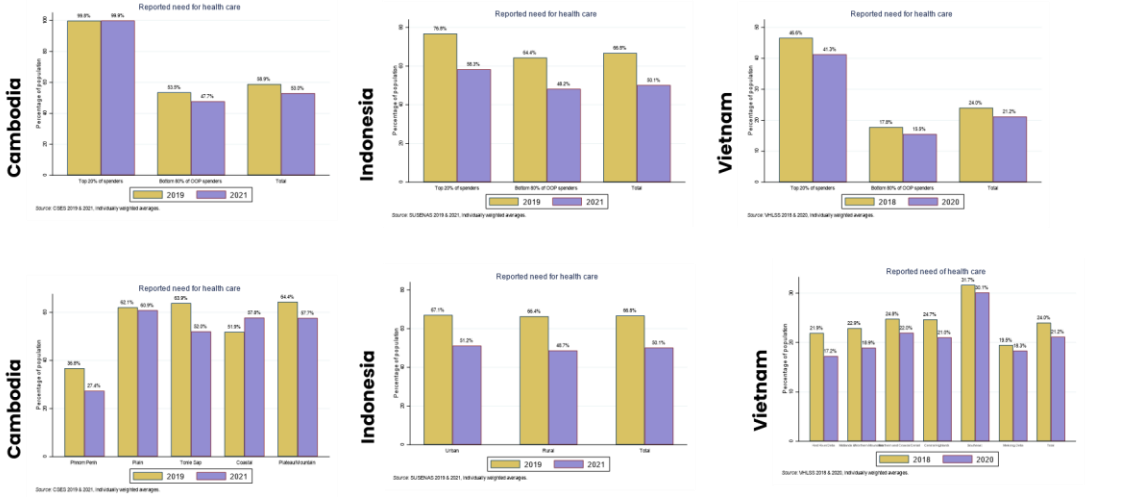


Figure 6 **A significant disparity in reported healthcare needs during the COVID-19 pandemic was recorded between higher-income spenders and the**

majority who spend less as revealed by Figure 6. Notably, the top 20% of OOP spenders maintained or increased their healthcare service usage, whereas there was a substantial decline among those in the lower spending brackets across Cambodia, Indonesia, and Vietnam. In Cambodia, the drop in reported healthcare needs was most pronounced, particularly in less affluent communities from 2019 to 2021. Meanwhile, both Indonesia and Vietnam saw similar declines, with Vietnam showing signs that might suggest either an improvement in healthcare access for the less affluent or a significant under-reporting of healthcare needs within this group.

This pattern underscores a broader socio-economic rift: those with greater financial resources continue to access healthcare services at stable or increasing rates, while the less wealthy—constrained by financial barriers and the broader impacts of the pandemic—face diminishing healthcare options. This stark inequality highlights the critical need for targeted policy interventions designed to improve healthcare access and affordability, ensuring that economic status does not impede the ability to obtain necessary health services. Such measures are essential to closing the health equity gap exacerbated by the pandemic, particularly for those at the lower end of the economic spectrum.

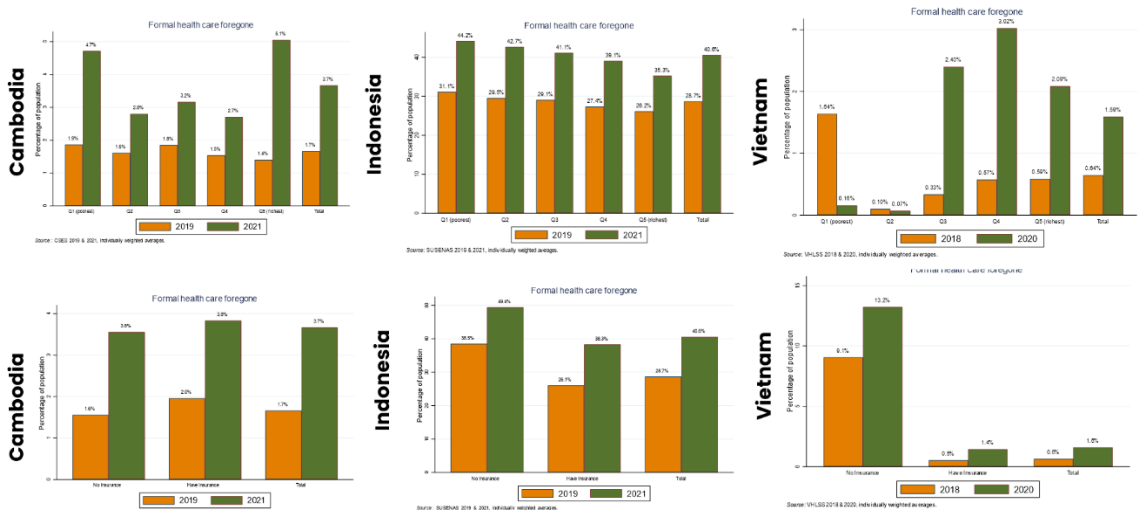
Figure 6 Reported need for health care by income and by insurance status



The panorama of foregone carein the wake of the COVID-19 pandemic reveals a nuanced landscape that is intricately shaped by income levels and insurance coverage, as illustrated in Figure 7. Foregone care has generally increased across Cambodia, Indonesia, and Vietnam during COVID-19. Notably, this increase in foregone care was more pronounced among those without insurance, indicating a significant barrier to healthcare access that the pandemic may have intensified. Cambodia and Indonesia saw notable rises, yet it was in Vietnam where a distinct pattern emerged; the bottom 40% showed a reduction in foregone care, suggesting an anomalous trend of improved access or reporting

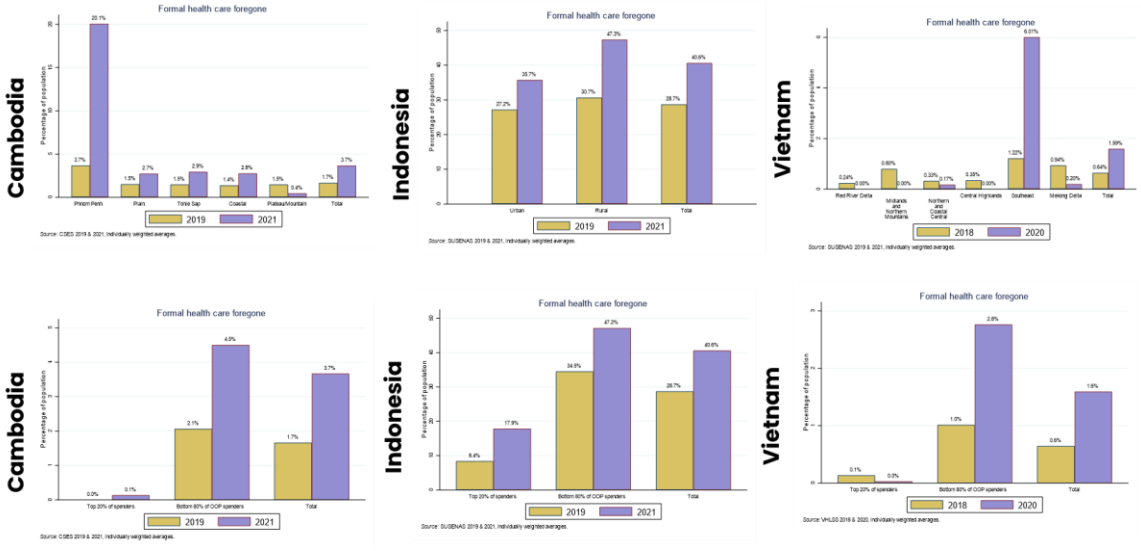
within this demographic. This outlier within the data points to the complex effects of the pandemic on health service utilization and could reflect either successful policy interventions targeted at the poorest or a shift in healthcare-seeking behavior. These trends reveal the critical challenges in bridging the gap between healthcare needs and service utilization, especially among the poor and uninsured, and call attention to the urgent need for tailored policies that enhance healthcare accessibility and affordability during pandemic recovery phase.

Figure 7 Formal health care forgone by income and by insurance status; (b) top 20% of spenders and by region



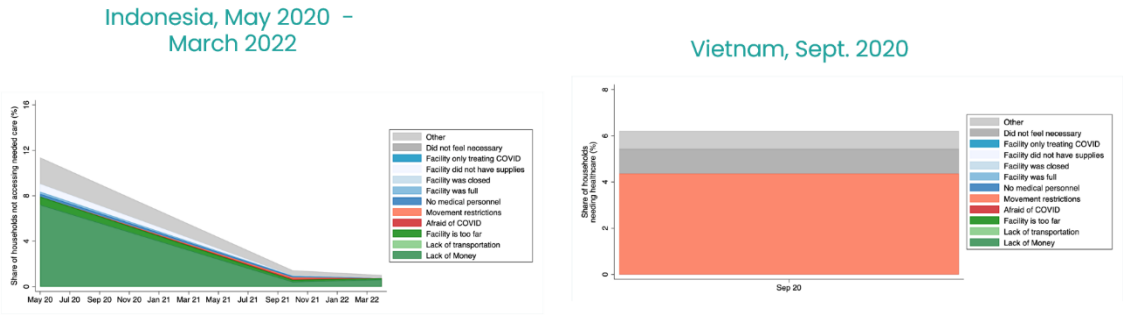
Regional disparities in healthcare expenditure are evident across various areas, with a concerning increase in unmet healthcare needs as particularly highlighted in Figure 8. In regions such as Phnom Penh in Cambodia, Southeast Vietnam, and rural Indonesia, there has been a significant rise in individuals forgoing necessary healthcare. This trend is notably pronounced within communities that fall within the top 20% of spenders, where even those with greater financial means are encountering barriers to healthcare access. These patterns not only highlight stark regional differences but also underscore a growing divide in healthcare equity. Particularly in rural areas and lower-income regions, even relatively affluent groups are struggling to access essential services, illustrating the pervasive challenges that cut across economic strata.

Figure 8 Formal health care forgone by region and top 20% OOP spenders



High-frequency phone survey data from the during COVID-19 period (2020–2021) further demonstrates key barriers to healthcare access in Indonesia and Vietnam (Figure 9). In Indonesia, a pronounced trend shows a financial deficit as the chief barrier, indicating the pandemic's dire economic impact has significantly hindered the capability of individuals to afford healthcare, thereby intensifying health inequities. Conversely, Vietnam's primary obstacle is the movement restrictions implemented due to COVID-19.

Figure 9 Reasons for forgone health care



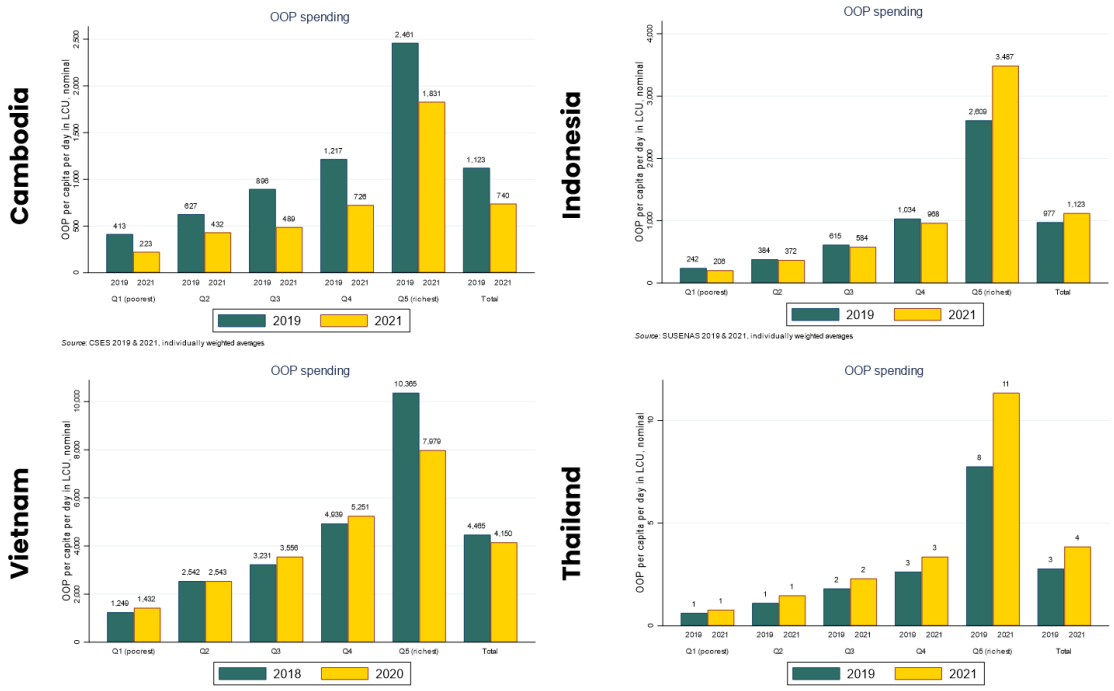
Source: World Bank High-frequency phone survey data 2023

OOP EXPENDITURE

OOP spending on healthcare presents a varying picture of trends in OOP spending and service utilization across countries in Southeast Asia (Figure 10). For Cambodia and Vietnam, health OOP per capita decreased between 2019 and 2021, which could suggest shifts in healthcare utilization patterns. However, in the same period, both Indonesia and Thailand experienced increases in OOP spending, with the wealthier segments showing the most significant rise. This

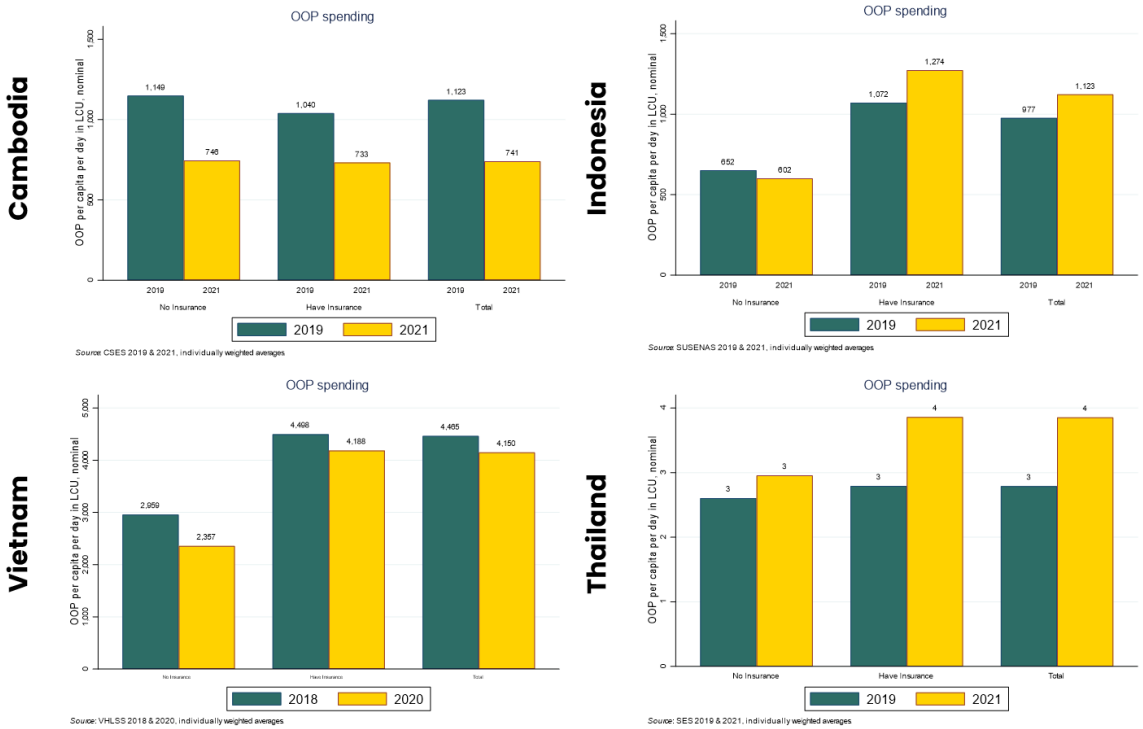
indicates a potential increase in the utilization of services that are not fully covered by insurance schemes, or possibly, a rise in the cost of services.

Figure 10 Trends in OOP expenditure by income



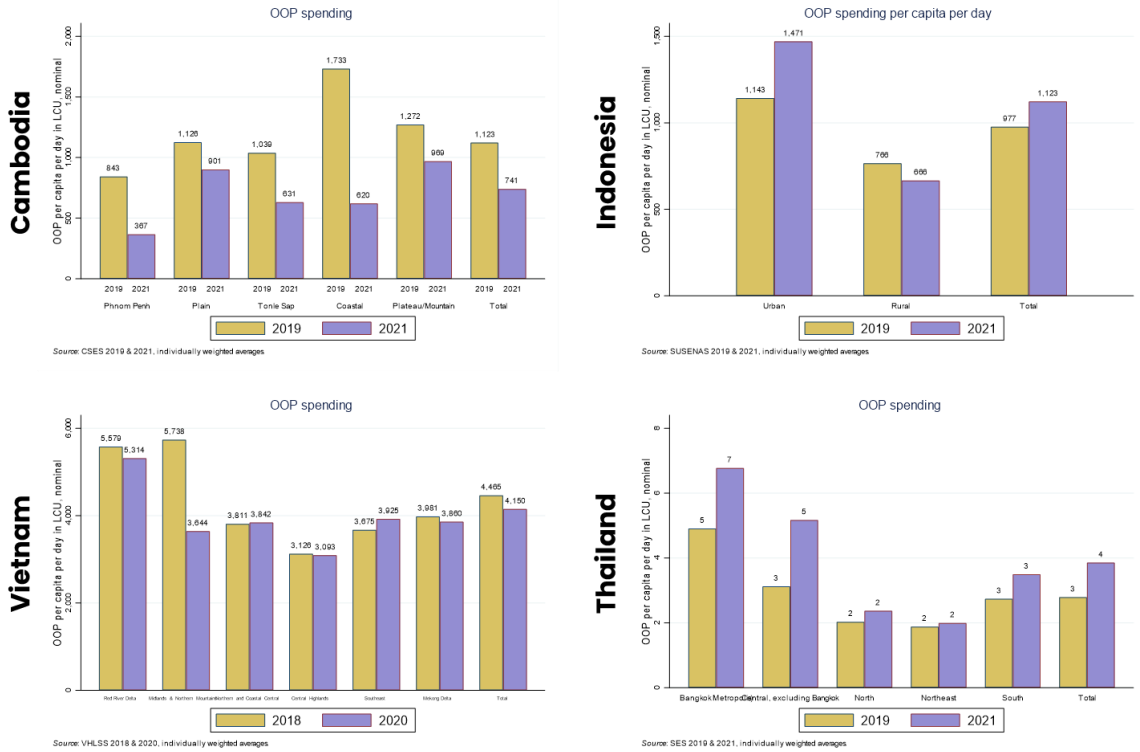
The trend remains consistent irrespective of the health insurance status of households in each of these countries (Figure 11). In Cambodia and Vietnam, a decrease in per capita OOP spending is suggestive of changesin health service usage, particularly among those without insurance.. Conversely, Indonesia and Thailand have seen OOP expenditures rise, with a steeper increase observed among insured individuals, hinting at a growing financial burden despite having insurance. This could be due to an increase in the utilization of services not comprehensively covered by existing insurance plans or an inflation in healthcare costs. Notably, the trend in Thailand challenges expectations given its robust health coverage system, raising critical questions about the reasons behind this upsurge in OOP spending among the insured, such as the adequacy of coverage and the potential for hidden costs within the system.

Figure 11 Trends in OOP expenditure by and insurance status



OOP spending per capita has shown a discernible decrease across regions within countries of Southeast Asia, signaling variances in financial protection and healthcare consumption trends (Figure 12). Cambodia's Phnom Penh and Coastal areas, along with Vietnam's Midlands and Northern mountainous regions, observed the most substantial reductions in OOP spending from 2019 to 2021. However, this decline should be interpreted with caution, as it coincided with an increase in foregone care, suggesting that reduced healthcare utilization rather than improved financial protection may have driven these trends. In contrast, Indonesia witnessed an OOP spending increment, particularly in rural areas, implying an increase in either the utilization of services not fully covered by insurance or an escalation in service costs. This uptick in OOP expenses may reflect disparities in financial protection or a possible lack of comprehensive insurance schemes that cover all healthcare needs.

Figure 12 Trends in OOP expenditure by geographical residence



Budget Share of OOP Spending

When examining OOP spending as a share of household budgets (Figure 13**), there is a marked decrease for all countries except Thailand, where the wealthiest quintile's budget share for OOP spending increased.** Interestingly, in Cambodia, Thailand, and Indonesia, the richest appeared to bear a higher burden in recent years. For the uninsured across Cambodia, Indonesia, and Vietnam, the budget share of OOP spending decreased(Figure 14). However, the reported decline in both healthcare need and service utilization suggests that this reduction may not fully indicate improved financial protection.

Figure 13 Household budget share of OOP spending by income

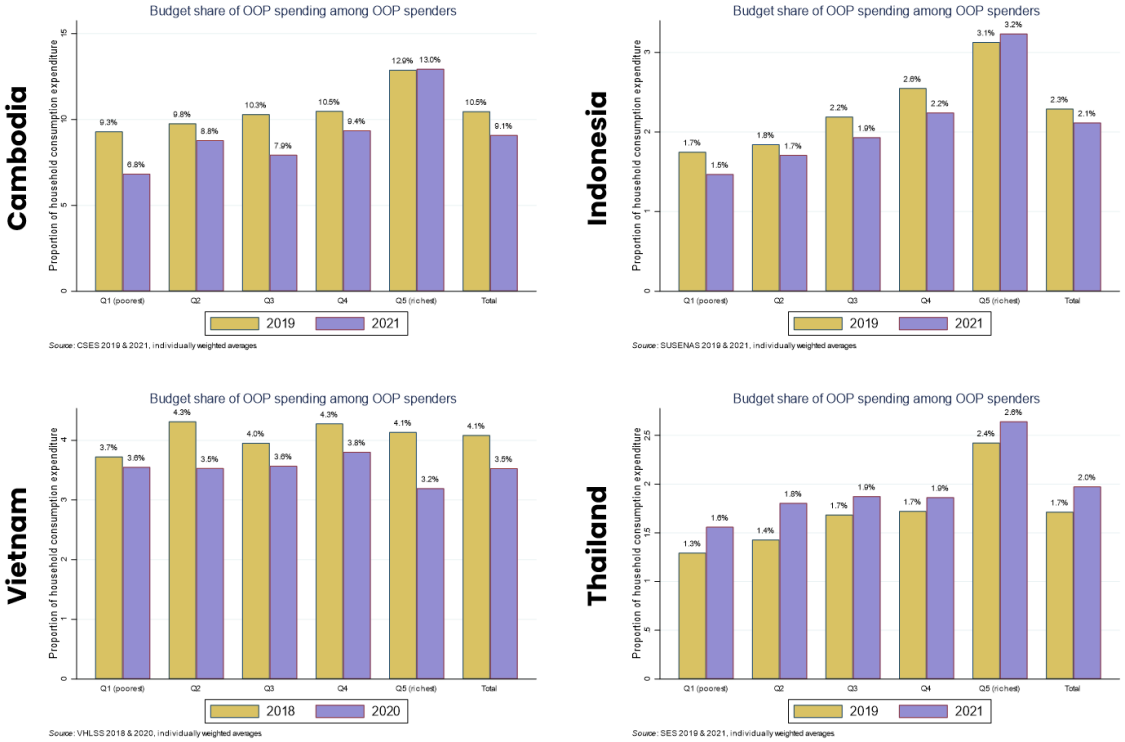
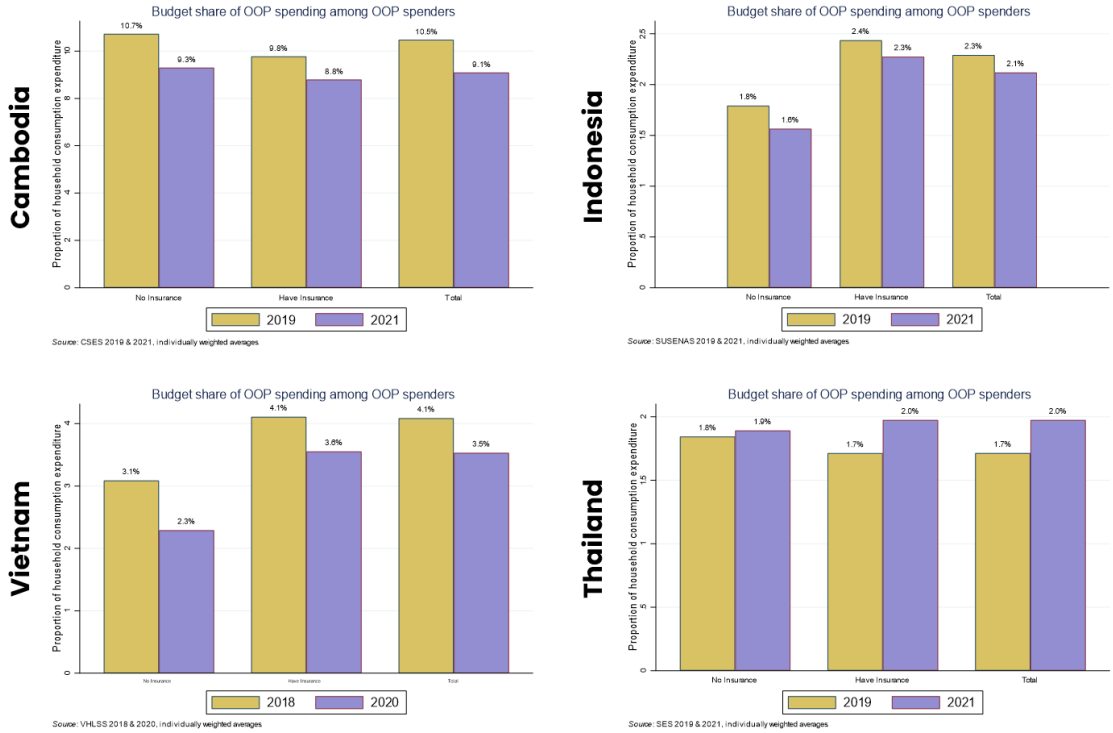


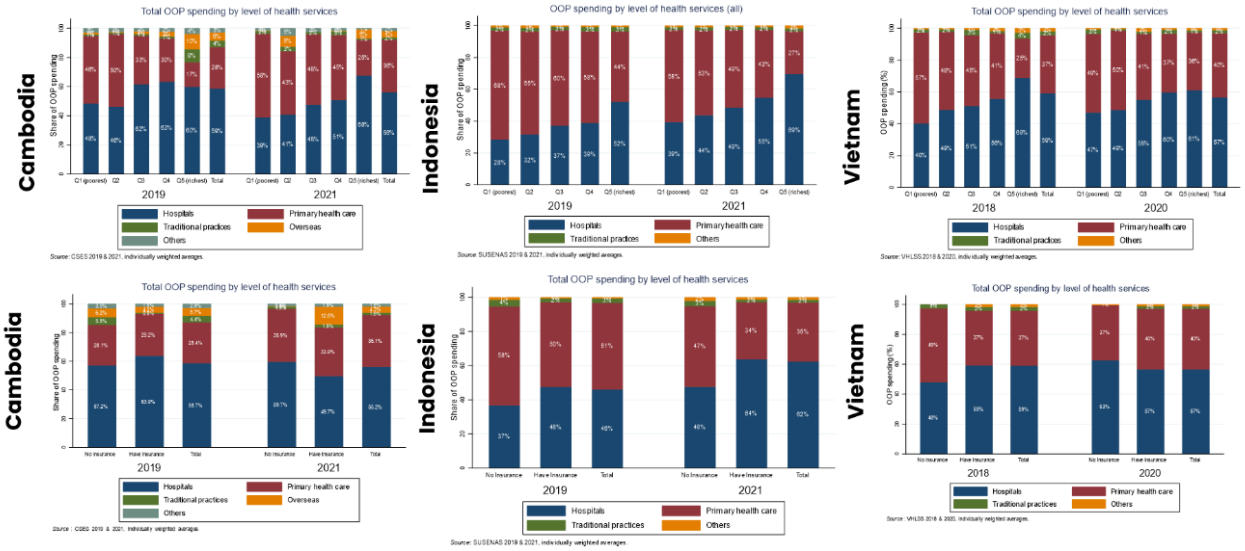
Figure 14 Household budget share of OOP spending by insurance status



OOP spending patterns

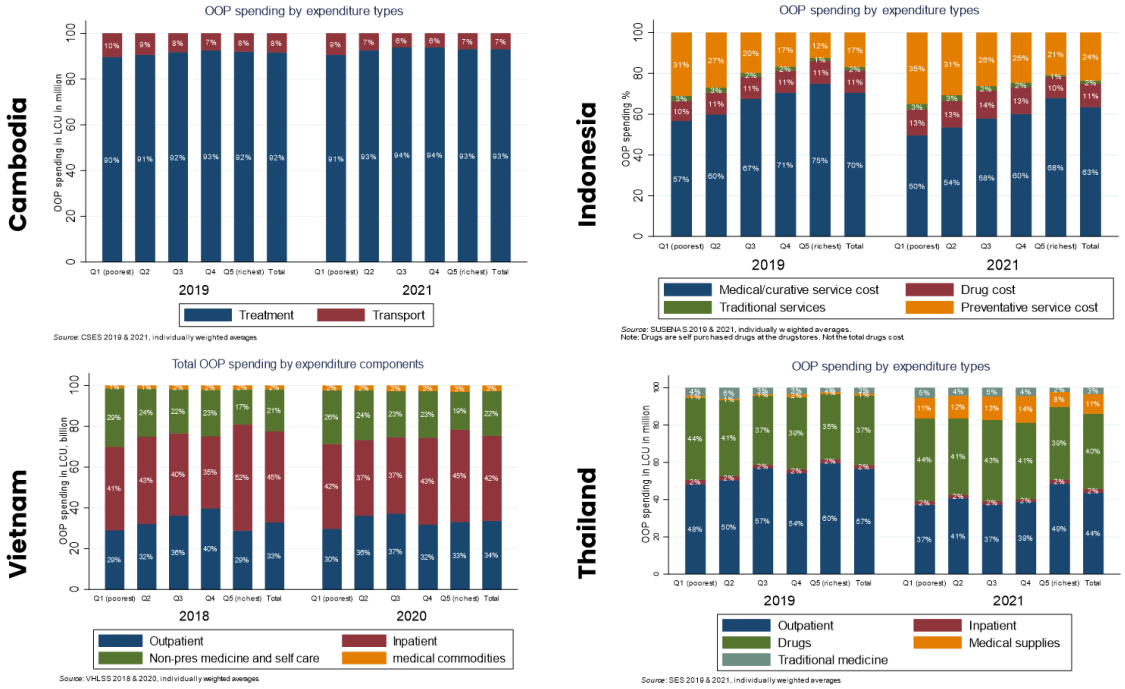
OOP spending patterns indicate variation in OOP spending across different income groups, with the richest quintile generally spending more on hospital services than on primary health care (PHC) Figure 15[OBJ]). Notably, insured groups in these countries tend to spend a higher percentage of their OOP on hospital services, suggesting that insurance coverage may be more oriented towards higher-level care or that there may be gaps in coverage for primary care services. The increasing OOP spending on drugs and medical supplies during COVID-19 suggests an upward pressure on healthcare costs, with the wealthier population incurring higher costs for curative/inpatient services. This could indicate both the pandemic's direct and indirect effects on healthcare utilization and the cost of medical goods.

Figure 15 Total OOP spending by levels of health services



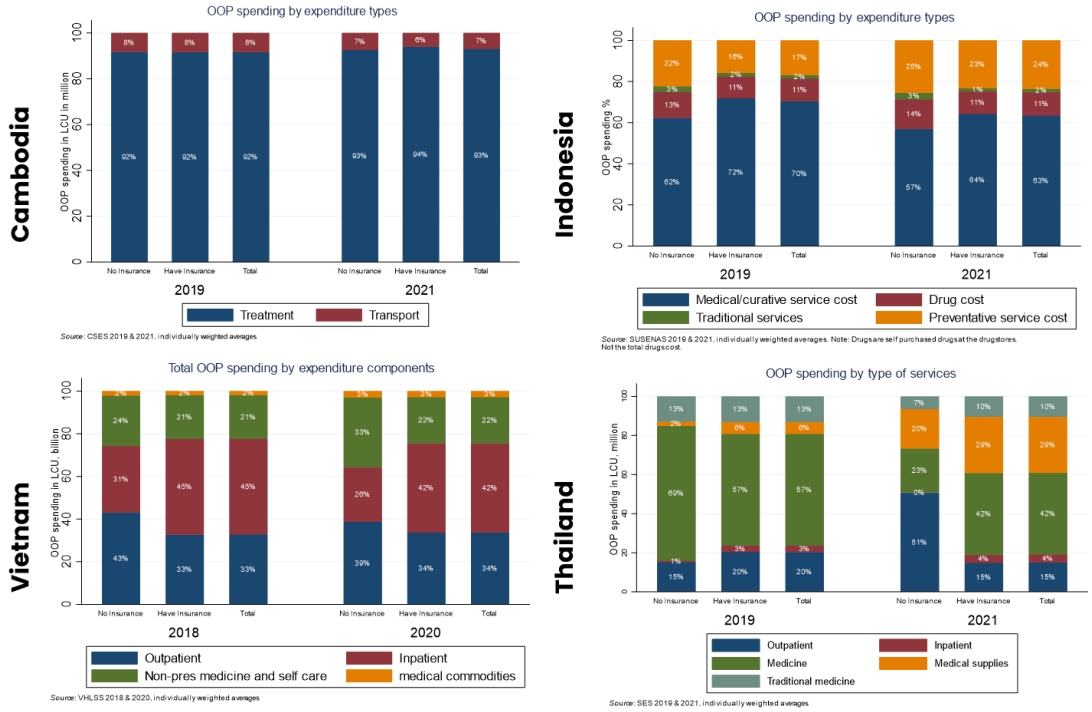
The OOP expenditure baskets in the respective countries widely vary not just because of the varying health system context but also because of the variations in the survey instruments used to capture OOP expenditure (Figure 16). Nevertheless, there are some patterns and common messages emerging; (1) the composition of the OOP expenditure basket remains generally consistent pre and during COVID-19 except for Indonesia increasing their composition of preventive health care cost and Thailand significantly increasing their consumption of medical supplies, and, (2) the richer segments of the population consume higher levels of care from formal healthcare institutions

Figure 16 Total OOP spending by expenditure component/type and income



Going by the households' insurance status, the OOP basket remains similar pre and during COVID-19 except for Thailand which registered more than three-fold increase in the composition of outpatient care in the OOP expenditure basket (Figure 17). Increase in consumption of drugs and medical commodities during COVID-19, irrespective of household insurance status, is consistent across the countries.

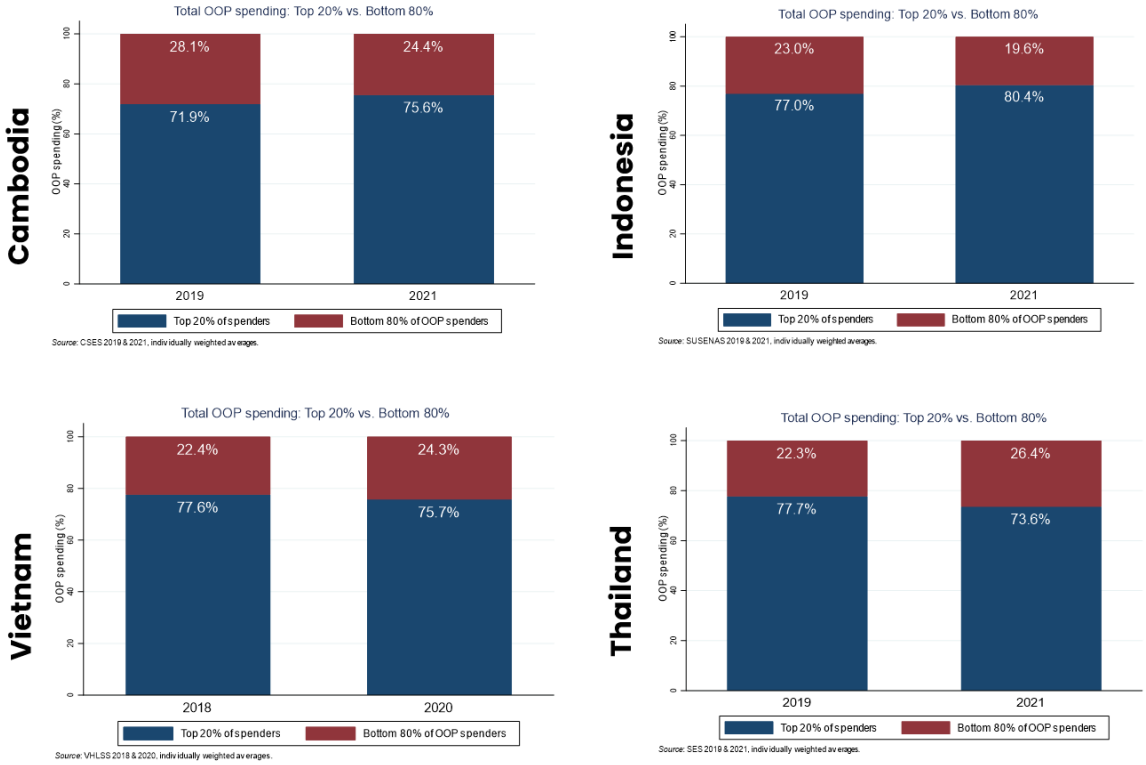
Figure 17 Total OOP spending by expenditure component/type and insurance status



Economic Burden of Healthcare and the Top Spenders

The top 20% of OOP spenders constitute account for three-fourths of total OOP expenditure, underscoring the concentration of healthcare spending among a small proportion of the population (Figure 18). This top spender group is predominantly urban, more likely to be insured, and utilizes private hospitals, which typically incur higher costs. Furthermore, there's a noticeable disparity in the burden of OOP expenses between those with and without insurance, with uninsured individuals in Cambodia, Indonesia, and Vietnam experiencing a significant drop in the budget share dedicated to OOP spending. This highlights the protective financial role of insurance against healthcare costs.

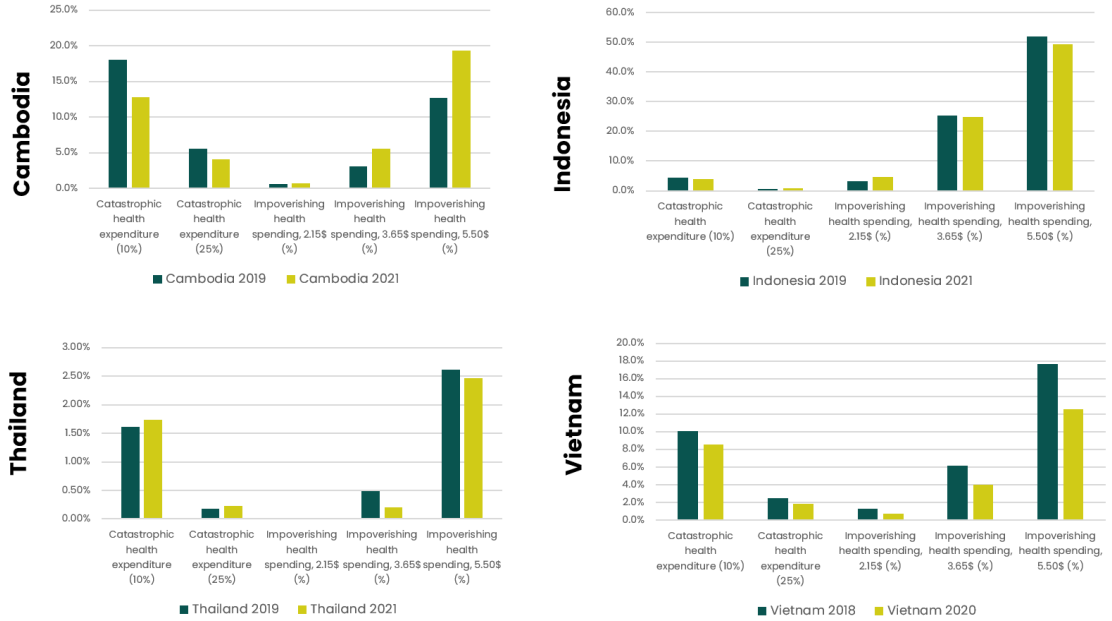
Figure 18 Total OOP spending by top 20% OOP spenders



FINANCIAL PROTECTION

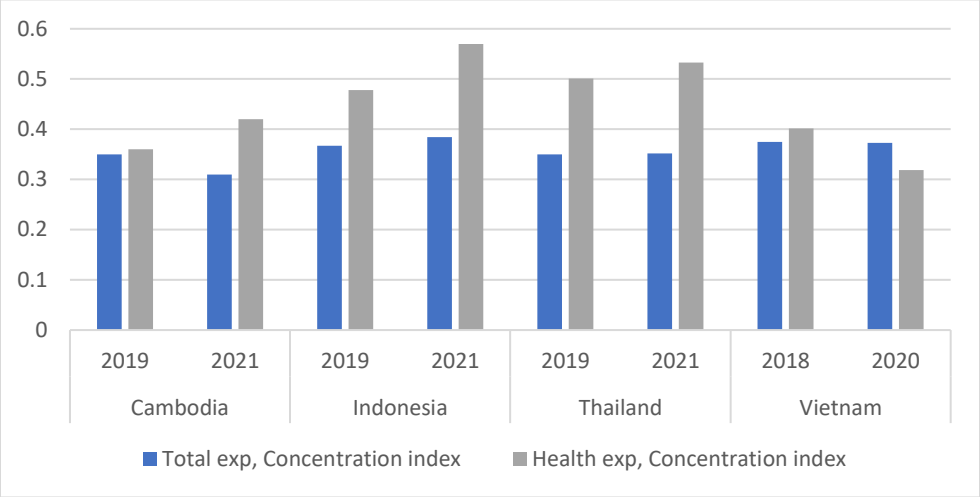
The indicators of financial hardship due to health spending, such as the Catastrophic Health Expenditure (CATA) and Impoverishing Health Expenditure (IMPOV) measures, offer mixed insights (Figure 19). In Vietnam, both indicators showed a decrease. This decrease in financial hardship indicators needs to be interpreted in the context of increased delayed and foregone care during the lockdown measures imposed during COVID-19, and does not translate into better financial protection. . In Cambodia, Indonesia, and Thailand, these financial hardship indicators remained significant or increased for certain income groups. This variation underlines the different impacts national health policies and economic conditions have had during the pandemic These results highlight the ongoing need for targeted policies to ensure financial protection by minimizing both foregone care and financial hardship against health costs, especially in light of the economic strains imposed by the global pandemic.

Figure 19 Trend in financial protection indicators



The disparities in health expenditure across income groups in the four countries have been exacerbated in the during COVID-19 era, with the exception of Vietnam (Figure 20). In Cambodia, Indonesia, and Thailand, the concentration index of health expenditure has shown an increase, suggesting that a larger share of health spending is being shouldered by the richer segments of the population. Particularly in Thailand, the trend has reversed from 2019 to 2021, with the wealthy spending more on health relative to their income. In Indonesia and Cambodia, the inequality in health OOP spending also increased between 2019 and 2021 reflecting a higher rationing of care-seeking among the poorest populations. In Vietnam however, the inequality in health OOP decreased slightly between 2018 and 2020, but they remain relatively high and concentrated among the better-off (concentration index close to 0.3). Detailed information on financial protection indicators is in the Annex 1.

Figure 20 Concentration indices of household total expenditure and household health expenditure



LIMITATIONS

The analysis of financing and utilization of health care within the context of selected Southeast Asian countries is subject to several limitations that warrant consideration. First, the reliability of health financing estimates may be compromised due to their dependence on national health accounts from various institutional reports, which may lack updates or be incomplete, necessitating the use of imputed values. Additionally, the evaluation of health service utilization and foregone care is potentially affected by response bias from individuals and households, particularly regarding noncommunicable diseases. Notably, the absence of data on health service utilization for Thailand and the limited one-year recall period for serious illness in Vietnam could lead to an underestimation of both OOP expenditures and instances of foregone care. This is exacerbated by the utilization of phone surveys, which may suffer from poor representativeness and time constraints, increasing the risk of nonresponse bias. Furthermore, discrepancies in recall periods across countries and the varied nature of care components hinder the standardization of data and may skew the interpretation of financial protection measures. These methodological constraints underscore the need for cautious interpretation of the findings, as they may not fully capture the intricacies of the health financing dynamics in the respective countries.

PART IV – DISCUSSIONS

DISCUSSIONS

The COVID-19 pandemic has significantly imppacted care-seeking patterns and the demand for health service with important implications on health financing across Southeast Asia, creating new challenges for financial protection and healthcare delivery. Our analysis highlights the complex interactions between

healthcare needs, utilization, OOP payments, and financial protection during this period, with substantial differences observed among Cambodia, Indonesia, Thailand, and Vietnam. A summary of country-specific findings is available in Annex 2.

These four nations are at different stages in their paths toward UHC. Thailand's low OOP spending reflects the effectiveness of redistributive health policies, which have strengthened financial protection and mitigated financial hardship for vulnerable populations. In contrast, Cambodia and Vietnam have faced persistent challenges, such as high OOP costs and limited health coverage, underscoring the urgent need for reforms to alleviate the financial burden on disadvantaged communities. For Indonesia, the intended role of public financing through JKN has been hindered by limited revenue realization, resulting in suboptimal financial protection outcomes.

The pandemic influenced healthcare demand, with preventative measures, lockdowns, and fear of infection contributing to lower healthcare utilization. This led to foregone care, particularly among poorer and uninsured groups, indicating ongoing barriers to healthcare access. While reported healthcare needs decreased across socioeconomic groups, the most pronounced decline was among high-income groups in Cambodia and Vietnam, suggesting variations in healthcare behavior during times of crisis. Addressing these behavioral shifts and the unmet needs resulting from the pandemic requires adaptive and targeted strategies.

Our analysis of OOP spending further illustrates the vulnerabilities in financial protection mechanisms. In certain contexts, reduced OOP spending during the pandemic may reflect a reluctance to seek healthcare due to mobility restrictions or fear of infection (delayed and foregone care). Meanwhile, increases in OOP costs, particularly in Thailand and Indonesia, signal gaps in health insurance coverage and rising healthcare costs for uncovered services. These trends highlight the importance of monitoring both foregone care due to financial reasons and financial hardship to properly measure changes in financial protection.

OOP spending trends during COVID-19 were shaped by various factors, including government interventions, changes in population behaviors, and unique pandemic-related circumstances. As the pandemic wanes, there is likely to be an increased demand for elective procedures, routine care, and preventive services, potentially driving up OOP expenses as individuals seek delayed treatments. To mitigate these risks, governments must adapt financial protection strategies to ensure sustained healthcare access and equity, particularly by maintaining or expanding health coverage, increasing subsidies, or reinforcing UHC programs. Close monitoring of post-pandemic trends is essential for adjusting these strategies and preventing a rise in OOP costs as temporary COVID-19-related measures are rolled back.

Robust data collection remains essential to monitoring health system performance and guiding policy decisions. During the pandemic, phone surveys emerged as an effective means of collecting timely data, providing valuable insights into the changing dynamics of health systems. Indeed, phone surveys are promising and nimble data collection instruments in complement to more traditional face-to-face approaches as they are cheaper to conduct, and they can be implemented on a higher frequency than traditional survey instruments, allowing for longitudinal hindsight (panel data) and faster data collection cycles following outbreaks or other types of shocks (economic, natural). In the context of strengthening countries preparedness for future pandemics, phone surveys can also be thought of as an agile surveillance tool in the context of health outbreaks. Finally, phone survey data collection can also be combined with face-to-face surveys through survey-to-survey imputation methods to foster an optimal balance between the depth and the frequency of data collection, both of which are relevant to inform public policies. . Moving forward, enhancing these data collection methods will be crucial in assessing and responding to emerging health challenges in the region.

POLICY IMPLICATIONS AND RECOMMENDATIONS

The findings of this study emphasize the urgent need for targeted health policy interventions that address socioeconomic and regional disparities across Cambodia, Indonesia, Thailand, and Vietnam. These nations face distinct challenges in achieving universal healthcare access, financial protection, and equitable service delivery. Addressing these challenges requires strategies that focus on enhancing healthcare infrastructure, promoting preventive care, and improving the efficiency of health services to reduce financial burdens, particularly for vulnerable populations.

Despite progress in expanding population coverage, significant gaps remain in the effectiveness, comprehensiveness, and equity of coverage. Such gaps manifest in areas like financial hardship due to high OOP expenses, which continue to burden disadvantaged groups. A key challenge is ensuring that healthcare coverage translates into tangible health outcomes, especially where quality of care—both clinical and non-clinical—is inadequate. Moving forward, expanding population coverage must be complemented by enhancing the quality and effectiveness of healthcare services and bolstering financial protection to leave no one behind.

To truly achieve meaningful progress towards UHC, it is crucial to expand comprehensive coverage to include preventive and outpatient care, improve equity in healthcare access, and reduce financial barriers for costly treatments. By adopting the recommendations outlined below—focused on strengthening primary care, expanding financial protection, and ensuring sustainable health financing—health systems in these countries will be better positioned to meet current and future healthcare needs, particularly in the aftermath of the COVID-19 pandemic and in anticipation of other public health challenges.

Country	Recommendations
Cambodia	• **Strengthen HEF:** i) **Expand the coverage of the HEF** to reach more uninsured and underinsured individuals, focusing on direct financial support for the poorest. Instead of incentives for informal workers to join schemes, consider using general taxation to fully cover them, as nudging has proven ineffective and may destabilize schemes by attracting mainly high-risk individuals. ii) In addition, there is a need to **improve targeting** by addressing exclusion errors in the HEF system, ensuring that more poor households are included in the program and minimizing inclusion errors where non-poor populations benefit. It could also provide targeted subsidies or financial assistance to lower-income groups to reduce their OOP spending. iii) Furthermore, there is a need to **update and revise the benefits package** provided under HEF to ensure it adequately covers both hospital and outpatient services, and reduce the need for OOP expenditure even in public facilities. • **Strengthen financial risk protection and monitor OOP spending trends**: Implement regular monitoring and reporting systems for OOP expenditures, with a focus on tracking the financial burden among the poorest. Continue efforts to lower catastrophic health expenditures for HEF beneficiaries, with a focus on increasing financial protection for higher-cost services. • **Utilize Fiscal Instruments**: Introduce health taxes (e.g., on tobacco, alcohol, sugary beverages) to reduce risk factors and increase revenue for healthcare services, even if these funds are not earmarked solely for health. • **Enhance Public Health Quality with Regional Focus:** Prioritize non-clinical improvements in public health services to better serve local populations. Strategies should include reducing waiting times, extending clinic hours, and ensuring adequate staffing to make public health services more accessible and appealing. Targeted investments are particularly crucial in Phnom Penh and coastal regions, where healthcare access is constrained. Implement region-specific interventions to address the unique needs of these areas, focusing on overcoming geographical barriers and improving the availability of essential health services in both urban and underserved rural communities. r. • **Address high utilization of private providers:** Encourage more effective utilization of public services by providing better quality care and ensuring that public services can meet the demand for both minor and chronic illnesses, as private providers still account for a large portion of healthcare usage.
Indonesia	• **Expand access to UHC with general taxation**: Continue efforts to expand insurance coverage through strengthening JKN and focusing on underserved rural areas, ensuring that informal sector populations are covered using general taxation, reducing dependence on private contributions.. • **Strengthen PHC and Address Financial Barriers:** Promote community-oriented primary healthcare to improve early disease intervention and reduce specialist reliance, focusing on high-need populations. Reduce OOP costs for essential and preventive services, and target subsidies effectively to benefit vulnerable groups.

	• **Improve targeting of insurance subsidies and improve financial barriers:** Enhance the administration of insurance subsidies to ensure that subsidies reach the poorest and most vulnerable populations. Address the mistargeting issues where wealthier households benefit from subsidies meant for the poor. Further reduce OOP expenditures for households, especially for preventive services and drugs. Many poorer households still face financial difficulties when accessing healthcare despite being insured. Gradually standardize payment rates across different levels of healthcare facilities, particularly by reducing discrepancies between public and private facilities to create consistent incentives for efficiency. • **Use Fiscal Health Tools:** Deploy fiscal instruments, such as health taxes, to encourage healthier behavior and improve healthcare financing, ensuring that even non-earmarked revenues contribute to public health improvements. • **Increase service readiness and reduce reliance on OOP for essential services:** Strengthen healthcare infrastructure and service readiness by investing in medical equipment, drugs, and healthcare staff, with a targeted focus on regions with inadequate facilities. Ensure that rural and remote health facilities are well-resourced to provide essential health services. Prioritize reducing reliance on OOP expenses by increasing accessibility to publicly funded services. For effective resource distribution, adopt a gradual approach that includes transparent data and communication to manage potential political resistance from facilities experiencing reduced payments. • **Improve geographical equity in health services and infrastructure:** Focus on reducing disparities in healthcare access and utilization across different regions by using master planning and regulation to guide investments towards underserved areas, particularly in less-developed and rural provinces such as Papua, where health service usage remains low despite high insurance coverage. In addition, build additional health infrastructure such as more clinics or hospitals in regions lacking sufficient facilities, particularly in remote and rural areas, to ensure that universal coverage translates to actual healthcare utilization.
Thailand	• **Refine universal coverage scheme**: Ensure the Universal Health Scheme (UHS) includes more comprehensive coverage for outpatient services, preventive care, and targeted catastrophic illness protection. This approach aims to rationalize OOP spending among wealthier populations while ensuring financial protection for costly procedures that currently lead to financial hardships, particularly for high-burden diseases. • **Strengthen and expand primary care**: Transition the primary care system from a disease-focused model to an integrated, community-oriented, and person-centered approach. This system should prioritize accessibility, continuity, and coordination of care, offering comprehensive services that address both medical and social needs effectively. Expand the role of family doctors in managing chronic diseases to reduce costly hospital visits, and provide financial incentives for patients to utilize primary care service. • **Implement sustainable healthcare financing**: Strengthen tax collection and introduce earmarked taxes on products detrimental to public health, such as tobacco, alcohol, and sugary beverages, to generate consistent and sustainable revenue for healthcare. This will reduce reliance on general taxation and ensure funding growth matches rising healthcare demands.

	• **Focus on cost-effective health management**: Apply cost-containment strategies, including centralized procurement of medicines, national formularies, and assessment of high-cost medical interventions, to control healthcare expenses without sacrificing quality or access. Establish family physicians as gatekeepers to specialist care, ensuring efficient resource utilization. • **Reduce health inequalities**: Harmonize health insurance schemes to ensure equal access to healthcare services across different population groups, addressing disparities in service provision. Ensure that vulnerable groups, especially the poor, continue to receive financial protection through non-contributory financing mechanisms.
Vietnam	• **Strengthen primary care and reduce hospital dependence:** Encourage the use of primary care services to address the healthcare system's overreliance on hospitals. Improve referral systems and expand PHC to underserved areas, focusing on non-clinical quality aspects to reduce patient burden. • **Address healthcare access inequality**: Reduce the reliance on hospital-based care by encouraging the use of primary care services and improving referral systems. This will help distribute healthcare resources more evenly, reduce the overcrowding in urban hospitals, and lower OOP expenditure for patients. • **Improve cost-effectiveness and equity:** Implement cost control measures, such as regulating hospital autonomy and controlling the pricing of medical services. Increasing health insurance premiums must be accompanied by improving the efficiency of service delivery to prevent rising costs from burdening the system. • **Address Funding Gaps for Critical Diseases:** As international aid for key diseases like HIV, tuberculosis, and malaria declines, it is crucial to bridge these funding gaps by enhancing domestic financial resources, particularly through SHI. Engaging private sector resources, such as integrating private healthcare providers into SHI or establishing public-private partnerships (PPPs), can help deliver affordable diagnostic and treatment services. This strategy will expand healthcare access, particularly in underserved areas, while reducing costs and ensuring sustainable disease control efforts.

The COVID-19 pandemic has not only tested the resilience of public health systems across East Asia but also highlighted the profound disparities in financial protection and healthcare access. As we move forward, it is imperative that both regional and socioeconomic factors are considered in the formulation of health policies to ensure that no demographic is disproportionately burdened during health crises. This study lays the groundwork for such targeted interventions, aiming to foster a more equitable health system that can better withstand future challenges. The discussions and findings herein invite further research and policy formulation to bridge the gaps identified during the COVID-19 pandemic.

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Annex 1: Country level results on financial protection and analysis of Top 20% OOP spenders

Cambodia

Financial protection

	National 2019	National 2021	2019	2021	2019	2021	2019	2021	2019	2021	2019	2021	2019	2021	2019	2021
			No Insurance		Have Insurance		Q1		Q2		Q3		Q4		Q5	
Total expenditure (pd, LCU) Nominal	18,433	14,182	18,860	14,323	17,109	13,964	7,455	6,284	10,955	9,126	14,297	11,660	19,661	15,277	39,810	28,575
Total expenditure (pd, LCU) Real (2010 dollars)	15,722	11,413	16,086	11,526	14,593	11,237	6,359	5,057	9,344	7,344	12,195	9,383	16,769	12,294	33,955	22,995
Concentration index	0.35	0.31	0.34	0.31	0.36	0.32	0.11	0.11	0.05	0.04	0.05	0.04	0.06	0.05	0.24	0.23
Health expenditure (pcpd, LCU) Nominal	1,123	741	1,149	746	1,040	733	413	223	627	432	896	489	1,217	726	2,461	1,831
Health expenditure (pcpd, LCU) Real (2010 dollars)	958	596	980	600	887	590	352	180	535	348	764	394	1,038	584	2,099	1,473
Concentration index	0.36	0.42	0.35	0.41	0.37	0.43	0.14	0.14	0.02	0.05	0.03	0.09	0.07	0.11	0.17	0.31
Budget share	6.03%	4.62%	6.0%	4.7%	6.0%	4.5%	5.5%	3.5%	5.8%	4.7%	6.3%	4.2%	6.2%	4.7%	6.5%	6.0%
Concentration index	0.03	0.10	0.01	0.12	0.08	0.06	0.03	0.04	-0.03	0.01	-0.01	0.05	0.00	0.06	-0.06	0.06
OOP top 10%	56.0%	61.3%	56.1%	59.2%	55.9%	64.0%	16.7%	3.5%	21.2%	32.3%	36.3%	35.1%	52.8%	55.6%	80.1%	84.4%
OOP top 20%	72.1%	76.1%	72.1%	75.2%	72.3%	77.4%	26.7%	25.2%	45.1%	53.6%	58.6%	60.8%	75.7%	75.4%	89.8%	92.0%
Catastrophic health expenditure (10%)	18.0%	12.8%	17.9%	13.3%	18.4%	12.0%	16.7%	9.7%	17.9%	12.7%	19.6%	13.6%	19.6%	13.8%	16.2%	14.2%
Catastrophic health expenditure (25%)	5.6%	4.1%	5.5%	4.5%	5.6%	3.5%	3.1%	2.2%	5.3%	2.5%	5.8%	4.3%	6.5%	5.0%	7.0%	6.4%
Impoverishing health spending, 2.15$ (%)	0.6%	0.7%	0.5%	0.6%	0.6%	0.8%	1.1%	0.4%	0.5%	0.2%	0.4%	1.9%	0.7%	0.1%	0.1%	0.5%
Impoverishing health spending, 3.65$ (%)	3.1%	5.5%	2.7%	4.8%	4.2%	6.6%	12.7%	1.2%	0.7%	0.4%	0.4%	24.4%	1.7%	0.4%	0.5%	0.7%
Impoverishing health spending, 5.50$ (%)	12.7%	19.3%	11.6%	19.0%	15.9%	19.9%	51.6%	7.8%	2.2%	0.9%	0.8%	50.9%	37.4%	5.4%	1.7%	1.2%

OOP analysis: Top 20% spenders

2019			
Household characteristics between the top 20% and bottom 80% of OOP spenders			
Characteristics	**Top 20**	**Bottom 80**	**Total**
Mean household size (SE)	4.03 (0.047)	4.44 (0.019)	4.39 (0.017)
Median age of household head (IQR)	50 (23)	48 (21)	48 (21)
Geographical characteristics			
Urban (%)	35.32	38.15	37.79
Rural (%)	64.68	61.85	62.21
Gender of households head			
Male (%)	76.92	78.73	78.5
Female (%)	23.08	21.27	21.5
Total expenditure per capita, annual LCU	9,009,982	6,431,301	6,728,002
Budget share among OOP spenders	31.35%	5.26%	10.48%
OOP per capita by gender, annual LCU			
Male	211,554	10,590	33,345
Female	209,515	10,614	33,497
Old age dependency ratio			
Zero OADR (%)	59.85	67.81	66.81
Low OADR (%)	15.53	15.95	15.9
High OADR (%)	24.62	16.24	17.29
Poverty status (LMIC, 3.65$)			
Non poor (%)	99.87	97.79	98.05
Poor (%)	0.13	2.21	1.95
Health insurance status (households)			
Non insured (%)	76.26	76.11	76.13
Insured (%)	23.74	23.89	23.87
OOP by public/private			
Public facilities (%)	26.73	15.05	23.16
Private facilities (%)	72.99	84.95	76.64
OOP by levels of health services			
Hospitals (%)	61.93	51.53	58.79
Primary health care (%)	22.16	44.23	28.79
Traditional practices (%)	5.23	1.12	3.99
Overseas (%)	7.71	0.68	5.59
Others (%)	3.09	2.42	2.88
OOP distribution by components of services			
Treatment (%)	92.66	89.45	91.69
Transport (%)	7.34	10.55	8.31

2021			
Household characteristics between the top 20% and bottom 80% of OOP spenders			
Characteristics	**Top 20**	**Bottom 80**	**Total**
Mean household size (SE)	3.95 (0.052)	4.39 (0.018)	4.34 (0.017)
Median age of household head (IQR)	54 (22)	48 (20)	48 (21)
Geographical characteristics			
Urban (%)	30.99	38.93	38.04
Rural (%)	69.01	61.07	61.96
Gender of households head			
Male (%)	75.6	78.89	78.52
Female (%)	24.4	21.11	21.48
Total expenditure per capita, annual LCU	6,933,296	4,978,020	5,176,536
Budget share among OOP spenders	29.14%	4.09%	9.10%
OOP per capita by gender, annual LCU			
Male	164,411	5,881	21,619
Female	166,283	5,903	22,215
Old age dependency ratio			
Zero OADR (%)	50.6	68.32	66.34
Low OADR (%)	18.06	15.7	15.96
High OADR (%)	31.34	15.99	17.7
Poverty status (LMIC, 3.65$)			
Non poor (%)	99.54	93.85	94.49
Poor (%)	0.46	6.15	5.51
Health insurance status (households)			
Non insured (%)	65.52	61.54	61.99
Insured (%)	34.48	38.46	38.01
OOP by public/private			
Public facilities (%)	17.48	9.05	15.20
Private facilities (%)	82.99	90.88	84.65
OOP by levels of health services			
Hospitals (%)	63.87	36.76	56.59
Primary health care (%)	27.13	60	36.1
Traditional practices (%)	1.97	1.36	1.8
Overseas (%)	4.78	0.32	3.59
Others (%)	2.22	1.56	2.04
OOP distribution by components of services			
Treatment (%)	93.94	90.93	93.13
Transport (%)	6.06	9.07	6.87

	National 2019	National 2021	2019	2021	2019	2021	2019	2021	2019	2021	2019	2021	2019	2021	2019	2021
			No Insurance		Have Insurance		Q1		Q2		Q3		Q4		Q5	
Total expenditure (pd, LCU) Nominal	**18,433**	**14,182**	18,860	14,323	17,109	13,964	7,455	6,284	10,955	9,126	14,297	11,660	19,661	15,277	39,810	28,575
Total expenditure (pd, LCU) Real (2010 dollars)	**15,722**	**11,413**	16,086	11,526	14,593	11,237	6,359	5,057	9,344	7,344	12,195	9,383	16,769	12,294	33,955	22,995
Concentration index	**0.35**	**0.31**	0.34	0.31	0.36	0.32	0.11	0.11	0.05	0.04	0.05	0.04	0.06	0.05	0.24	0.23
Health expenditure (pcpd, LCU) Nominal	**1,123**	**741**	1,149	746	1,040	733	413	223	627	432	896	489	1,217	726	2,461	1,831
Health expenditure (pcpd, LCU) Real (2010 dollars)	**958**	**596**	980	600	887	590	352	180	535	348	764	394	1,038	584	2,099	1,473
Concentration index	**0.36**	**0.42**	0.35	0.41	0.37	0.43	0.14	0.14	0.02	0.05	0.03	0.09	0.07	0.11	0.17	0.31
Budget share	**6.03%**	**4.62%**	6.0%	4.7%	6.0%	4.5%	5.5%	3.5%	5.8%	4.7%	6.3%	4.2%	6.2%	4.7%	6.5%	6.0%
Concentration index	**0.03**	**0.10**	0.01	0.12	0.08	0.06	0.03	0.04	-0.03	0.01	-0.01	0.05	0.00	0.06	-0.06	0.06
OOP top 10%	**56.0%**	**61.3%**	56.1%	59.2%	55.9%	64.0%	16.7%	3.5%	21.2%	32.3%	36.3%	35.1%	52.8%	55.6%	80.1%	84.4%
OOP top 20%	**72.1%**	**76.1%**	72.1%	75.2%	72.3%	77.4%	26.7%	25.2%	45.1%	53.6%	58.6%	60.8%	75.7%	75.4%	89.8%	92.0%
Catastrophic health expenditure (10%)	**18.0%**	**12.8%**	17.9%	13.3%	18.4%	12.0%	16.7%	9.7%	17.9%	12.7%	19.6%	13.6%	19.6%	13.8%	16.2%	14.2%
Catastrophic health expenditure (25%)	**5.6%**	**4.1%**	5.5%	4.5%	5.6%	3.5%	3.1%	2.2%	5.3%	2.5%	5.8%	4.3%	6.5%	5.0%	7.0%	6.4%
Impoverishing health spending, 2.15$ (%)	**0.6%**	**0.7%**	0.5%	0.6%	0.6%	0.8%	1.1%	0.4%	0.5%	0.2%	0.4%	1.9%	0.7%	0.1%	0.1%	0.5%
Impoverishing health spending, 3.65$ (%)	**3.1%**	**5.5%**	2.7%	4.8%	4.2%	6.6%	12.7%	1.2%	0.7%	0.4%	0.4%	24.4%	1.7%	0.4%	0.5%	0.7%
Impoverishing health spending, 5.50$ (%)	**12.7%**	**19.3%**	11.6%	19.0%	15.9%	19.9%	51.6%	7.8%	2.2%	0.9%	0.8%	50.9%	37.4%	5.4%	1.7%	1.2%

Indonesia

Financial protection

	National 2019	National 2021	2019	2021	2019	2021	2019	2021	2019	2021	2019	2021	2019	2021	2019	2021
			No Insurance		Have Insurance		Q1		Q2		Q3		Q4		Q5	
Total expenditure (pd, LCU) Nominal	38,249	41,576	33,655	35,245	39,590	43,405	14,283	14,457	21,313	22,462	28,863	31,181	41,571	44,431	85,214	95,347
Total expenditure (pd, LCU) Real (2010 dollars)	32,623	33,457	28,705	28,363	33,768	34,929	12,182	11,634	18,178	18,076	24,618	25,092	35,456	35,755	72,681	76,728
Concentration index	0.37	0.38	0.34	0.34	0.37	0.39	0.10	0.11	0.05	0.06	0.05	0.05	0.07	0.07	0.24	0.25
Health expenditure (pcpd, LCU) Nominal	977	1,123	652	602	1,072	1,274	242	206	384	372	615	584	1,034	968	2,609	3,487
Health expenditure (pcpd, LCU) Real (2010	833	904	556	484	914	1,025	207	165	328	300	525	470	882	779	2,225	2,806
Concentration index	0.48	0.57	0.44	0.46	0.48	0.58	0.11	0.13	0.08	0.07	0.06	0.07	0.11	0.09	0.27	0.43
Budget share	2.22%	2.04%	1.7%	1.5%	2.4%	2.2%	1.7%	1.4%	1.8%	1.7%	2.1%	1.9%	2.5%	2.2%	3.0%	3.1%
Concentration index	0.12	0.16	0.09	0.10	0.13	0.17	0.02	0.02	0.03	0.02	0.01	0.02	0.04	0.03	0.04	0.13
OOP top 10%	66.3%	71.9%	64.9%	65.6%	65.9%	72.1%	48.2%	51.5%	49.5%	53.0%	52.8%	54.7%	55.5%	57.9%	63.0%	69.3%
OOP top 20%	80.1%	83.4%	77.8%	77.8%	80.0%	83.7%	67.0%	68.4%	68.1%	69.5%	70.6%	70.9%	73.0%	73.5%	78.9%	82.1%
Catastrophic health expenditure (10%)	4.4%	4.0%	2.7%	2.3%	4.8%	4.5%	2.2%	1.8%	2.7%	2.7%	4.2%	3.5%	5.6%	4.7%	7.1%	7.1%
Catastrophic health expenditure (25%)	0.7%	0.8%	0.5%	0.4%	0.8%	0.9%	0.1%	0.1%	0.2%	0.2%	0.5%	0.4%	1.0%	0.9%	1.8%	2.2%
Impoverishing health spending, 2.15$ (%)	3.2%	4.8%	3.7%	5.5%	3.1%	4.5%	16.0%	23.8%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Impoverishing health spending, 3.65$ (%)	25.2%	24.9%	28.5%	28.7%	24.3%	23.8%	96.4%	95.9%	29.4%	28.6%	0.3%	0.2%	0.0%	0.0%	0.0%	0.0%
Impoverishing health spending, 5.50$ (%)	51.9%	49.4%	57.1%	55.1%	50.4%	47.7%	96.4%	95.9%	97.3%	96.6%	64.7%	53.6%	1.1%	0.7%	0.1%	0.1%

OOP analysis: Top 20% spenders

2019			
Household characteristics between the top 20% and bottom 80% of OOP spenders			
Characteristics	Top 20	Bottom 80	Total
Mean household size (SE)	4.33 (0.007)	4.51 (0.004)	4.47 (0.003)
Median age of household head (IQR)	48 (20)	47 (17)	47 (18)
Geographical characteristics			
Urban (%)	64.4	53.75	55.88
Rural (%)	35.6	46.25	44.12
Gender of households head			
Male (%)	88.63	88.55	88.56
Female (%)	11.37	11.45	11.44
OOP per capita by gender, annual LCU			
Male	1,468,112	88,197	354,673
Female	1,473,012	88,270	356,614
Total expenditure per capita, annual LCU	21,200,000	12,200,000	14,000,000
Budget share among OOP spenders	7.77%	0.92%	2.29%
Old age dependency ratio			
Zero OADR (%)	70.17	73.57	72.89
Low OADR (%)	15.72	15.57	15.6
High OADR (%)	14.11	10.86	11.51
Poverty status (LMIC, 3.65$)			
Non poor (%)	94.12	74.86	78.71
Poor (%)	5.88	25.14	21.29
Health insurance status (households)			
Non insured (%)	16.2	26.4	24.36
Insured (%)	83.8	73.6	75.64
OOP by public/private			
Public facilities (%)	4.91	38.91	8.86
Private facilities (%)	95.45	61.49	91.28
OOP by levels of health services			
Hospitals (%)	51.45	19.27	46.61
Primary health care (%)	45.38	77.78	50.35
Traditional practices (%)	2.40	1.84	2.32
Others (%)	0.64	1.06	0.71
OOP distribution by components of care			
Medical/curative service costs (%)	78.06	42.47	70.47
Drugs cost (%)	8.56	19.95	10.99
Traditional practices costs (%)	1.55	2.46	1.74
Preventive services cost (%)	11.83	35.12	16.80

2021			
Household characteristics between the top 20% and bottom 80% of OOP spenders			
Characteristics	Top 20	Bottom 80	Total
Mean household size (SE)	3.36 (0.006)	3.65 (0.003)	3.59 (0.003)
Median age of household head (IQR)	48 (24)	48 (20)	48 (20)
Geographical characteristics			
Urban (%)	70.98	53.16	56.83
Rural (%)	29.02	46.84	43.17
Gender of households head			
Male (%)	84.27	85.97	85.62
Female (%)	15.73	14.03	14.38
OOP per capita by gender, annual LCU			
Male	1,750,601	84,246	402,706
Female	1,759,403	84,412	406,047
Total expenditure per capita, annual LCU	25,500,000	12,700,000	15,200,000
Budget share among OOP spenders	7.32%	0.82%	2.12%
Old age dependency ratio			
Zero OADR (%)	67.95	71.05	70.41
Low OADR (%)	10.96	11.53	11.41
High OADR (%)	21.09	17.42	18.18
Poverty status (LMIC, 3.65$)			
Non poor (%)	94.93	74.57	78.77
Poor (%)	5.07	25.43	21.23
Health insurance status (households)			
Non insured (%)	15.28	26.81	24.43
Insured (%)	84.72	73.19	75.57
OOP by public/private			
Public facilities (%)	4.81	39.00	6.62
Private facilities (%)	95.49	61.13	93.59
OOP by levels of health services			
Hospitals (%)	63.97	17.00	59.63
Primary health care (%)	33.23	80.20	37.31
Traditional practices (%)	1.59	1.86	1.61
Others (%)	1.40	0.99	1.36
OOP distribution by components of care			
Medical/curative service costs (%)	70.94	29.08	63.45
Drugs cost (%)	8.81	23.70	11.48
Traditional practices costs (%)	1.43	2.14	1.56
Preventive services cost (%)	18.82	45.09	23.51

Vietnam

Financial protection

	National 2018	National 2020	2018	2020	2018	2020	2018	2020	2018	2020	2018	2020	2018	2020	2018	2020
			No Insurance		Have Insurance		Q1		Q2		Q3		Q4		Q5	
Total expenditure (pd, LCU) Nominal	105,472	128,214	108,637	128,105	105,402	128,192	34,083	41,803	59,649	72,886	82,412	100,937	116,315	141,348	234,921	284,141
Total expenditure (pd, LCU) Real (2010 dollars)	89,959	103,176	92,659	103,089	89,899	103,159	29,070	33,640	50,876	58,653	70,291	81,226	99,207	113,746	200,369	228,655
Concentration index	0.37	0.37	0.37	0.33	0.37	0.37	0.16	0.16	0.06	0.06	0.05	0.05	0.06	0.06	0.21	0.23
Health expenditure (pcpd, LCU) Nominal	4,465	4,150	2,959	2,357	4,498	4,188	1,249	1,432	2,542	2,543	3,231	3,556	4,939	5,251	10,365	7,979
Health expenditure (pcpd, LCU) Real (2010 dollars)	3,808	3,340	2,524	1,897	3,837	3,370	1,066	1,153	2,168	2,047	2,756	2,861	4,213	4,225	8,840	6,421
Concentration index	0.40	0.32	0.30	0.25	0.40	0.32	0.21	0.16	0.04	0.09	0.03	0.07	0.07	0.05	0.27	0.06
Budget share	4.02%	3.43%	2.99%	1.99%	4.04%	3.46%	3.52%	3.34%	4.28%	3.47%	3.93%	3.51%	4.24%	3.72%	4.12%	3.12%
Concentration index	0.02	-0.01	-0.03	-0.07	0.03	0.00	0.07	0.04	-0.02	0.03	-0.02	0.02	0.00	-0.01	0.00	-0.13
OOP top 10%	61.96%	59.71%	61.14%	51.45%	61.84%	59.76%	46.82%	50.81%	48.15%	48.67%	49.73%	53.24%	53.75%	57.34%	65.43%	60.16%
OOP top 20%	77.19%	75.61%	75.23%	69.49%	77.19%	75.67%	66.58%	68.77%	67.36%	66.57%	68.27%	71.71%	72.77%	74.77%	79.23%	75.86%
Catastrophic health expenditure (10%)	10.04%	8.55%	7.27%	2.90%	10.10%	8.55%	8.61%	8.27%	12.10%	8.37%	9.63%	9.22%	10.83%	9.75%	9.04%	7.16%
Catastrophic health expenditure (25%)	2.44%	1.86%	1.44%	0.42%	2.47%	1.76%	1.15%	1.35%	2.59%	1.01%	2.22%	1.55%	3.18%	3.36%	3.08%	2.03%
Impoverishing health spending, 2.15$ (%)	1.26%	0.71%	1.07%	0.50%	1.27%	0.71%	6.24%	3.53%	0.00%	0.00%	0.08%	0.00%	0.00%	0.00%	0.00%	0.00%
Impoverishing health spending, 3.65$ (%)	6.18%	3.97%	4.24%	1.98%	6.22%	4.02%	30.72%	19.76%	0.06%	0.11%	0.08%	0.00%	0.00%	0.00%	0.03%	0.00%
Impoverishing health spending, 5.50$ (%)	17.62%	12.57%	12.00%	6.84%	17.74%	12.70%	83.74%	62.00%	3.71%	0.63%	0.39%	0.11%	0.18%	0.09%	0.07%	0.00%

OOP analysis: Top 20% spenders

2018			
Household characteristics between the top 20% and bottom 80% of OOP spenders			
Characteristics	Top 20	Bottom 80	Total
Mean household size (SE)	3.41 (0.037)	3.79 (0.018)	3.71 (0.017)
Median age of household head (IQR)	57 (19)	50 (18)	52 (18)
Geographical characteristics			
Urban (%)	40	32.38	34.01
Rural (%)	60	67.62	65.99
Gender of households head			
Male (%)	70.42	74.39	73.54
Female (%)	29.58	25.61	26.46
OOP per capita by gender, annual LCU			
Male	6,352,606	460,384	1,608,941
Female	6,373,944	463,352	1,629,973
Total expenditure per capita, annual LCU	53,900,000	34,700,000	38,500,000
Budget share among OOP spenders	13.29%	1.79%	4.09%
Old age dependency ratio			
Zero OADR (%)	48.84	64.83	61.41
Low OADR (%)	13.75	13.9	13.87
High OADR (%)	37.41	21.27	24.72
Poverty status (LMIC, 3.65$)			
Non poor (%)	99.55	94.16	95.32
Poor (%)	0.45	5.84	4.68
Health insurance status (households)			
Non insured (%)	1.9	3.94	3.51
Insured (%)	98.1	96.06	96.49
OOP by public/private			
Public facilities (%)	60.63	56.92	59.97
Private facilities (%)	39.17	43.01	40.19
OOP by levels of health services			
Hospitals (%)	62.50	46.01	58.84
Primary health care (%)	32.92	51.19	37.30
Traditional practices (%)	2.63	1.56	2.38
Others (%)	1.76	1.12	1.61
OOP distribution by components of care			
Outpatient health care (%)	31.08	38.21	32.81
Inpatient health care (%)	52.43	20.79	44.69
Non prescription medicine and self care (%)	15.27	37.14	20.63
Medical commodities (%)	1.21	3.87	1.88

2020			
Household characteristics between the top 20% and bottom 80% of OOP spenders			
Characteristics	Top 20	Bottom 80	Total
Mean household size (SE)	3.33 (0.036)	3.72 (0.018)	3.64 (0.016)
Median age of household head (IQR)	56 (20)	48 (20)	50 (20)
Geographical characteristics			
Urban (%)	39.07	36.45	37
Rural (%)	60.93	63.55	63
Gender of households head			
Male (%)	71.38	73.33	72.92
Female (%)	28.62	26.67	27.08
OOP per capita by gender, annual LCU			
Male	5,845,261	454,355	1,492,190
Female	5,902,706	458,719	1,520,535
Total expenditure per capita, annual LCU	61,200,000	43,300,000	46,800,000
Budget share among OOP spenders	11.81%	1.46%	3.53%
Old age dependency ratio			
Zero OADR (%)	51.85	67.84	64.45
Low OADR (%)	12.32	12.09	12.14
High OADR (%)	35.83	20.06	23.41
Poverty status (LMIC, 3.65$)			
Non poor (%)	99.62	96.37	97.06
Poor (%)	0.38	3.63	2.94
Health insurance status (households)			
Non insured (%)	1.91	3.65	3.28
Insured (%)	98.09	96.35	96.72
OOP by public/private			
Public facilities (%)	60.37	54.96	59.08
Private facilities (%)	39.63	44.81	40.92
OOP by levels of health services			
Hospitals (%)	59.08	44.66	55.63
Primary health care (%)	37.93	53.08	41.37
Traditional practices (%)	1.90	1.32	1.76
Others (%)	1.22	1.02	1.18
OOP distribution by components of care			
Outpatient health care (%)	32.91	35.98	33.69
Inpatient health care (%)	50.28	17.50	41.78
Non prescription medicine and self care (%)	15.17	40.43	21.73
Medical commodities (%)	1.64	6.08	2.80

Thailand

Financial protection

	National 2019	National 2021	2019	2021	2019	2021	2019	2021	2019	2021	2019	2021	2019	2021	2019	2021
			No Insurance		Have Insurance		Q1		Q2		Q3		Q4		Q5	
Total expenditure (pd, LCU) Nominal	225.15	235.59	239.49	204.15	225.01	235.82	85.56	87.68	129.29	134.78	177.86	186.39	251.95	265.80	481.17	503.35
Total expenditure (pd, LCU) Real (2010 dollars)	192.04	189.59	204.26	164.28	191.91	189.77	72.97	70.56	110.28	108.46	151.70	149.99	214.89	213.89	410.40	405.06
Concentration index	0.35	0.35	0.43	0.36	0.35	0.35	0.11	0.11	0.05	0.05	0.05	0.06	0.06	0.06	0.21	0.20
Health expenditure (pcpd, LCU) Nominal	2.79	3.86	2.61	2.96	2.79	3.86	0.63	0.78	1.11	1.48	1.82	2.31	2.64	3.37	7.76	11.34
Health expenditure (pcpd, LCU) Real (2010 dollars)	2.38	3.10	2.22	2.38	2.38	3.11	0.54	0.63	0.95	1.19	1.55	1.86	2.25	2.71	6.62	9.13
Concentration index	0.50	0.53	0.43	0.57	0.50	0.53	0.15	0.16	0.07	0.09	0.06	0.07	0.06	0.06	0.38	0.42
Budget share	1.02%	1.27%	1.03%	1.09%	1.02%	1.27%	0.73%	0.87%	0.86%	1.09%	1.02%	1.23%	1.05%	1.27%	1.43%	1.87%
Concentration index	0.14	0.15	-0.11	0.17	0.14	0.15	0.05	0.06	0.01	0.04	0.01	0.01	-0.01	0.00	0.16	0.15
OOP top 10%	66.78%	63.27%	66.02%	63.20%	66.78%	63.29%	48.51%	45.95%	49.34%	46.14%	50.26%	46.39%	55.73%	48.17%	61.40%	61.27%
OOP top 20%	80.08%	76.76%	79.35%	74.73%	80.09%	76.76%	66.00%	63.04%	67.18%	62.92%	67.68%	63.59%	71.99%	64.99%	78.42%	75.62%
Catastrophic health expenditure (10%)	1.61%	1.74%	0.24%	1.24%	1.62%	1.74%	0.68%	0.93%	0.92%	1.42%	1.46%	1.60%	1.73%	1.77%	3.26%	2.96%
Catastrophic health expenditure (25%)	0.18%	0.23%	0.06%	0.04%	0.18%	0.23%	0.00%	0.06%	0.07%	0.08%	0.08%	0.16%	0.28%	0.20%	0.46%	0.65%
Impoverishing health spending, 2.15$ (%)	0.02%	0.00%	0.29%	0.00%	0.00%	0.00%	0.03%	0.01%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Impoverishing health spending, 3.65$ (%)	0.49%	0.20%	3.71%	1.77%	0.24%	0.19%	1.36%	1.01%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Impoverishing health spending, 5.50$ (%)	2.62%	2.47%	7.71%	7.69%	2.80%	2.43%	14.27%	12.34%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%

OOP analysis: Top 20% spenders

Household characteristics between the top 20% and bottom 80% of OOP spenders			
Characteristics	Top 20	Bottom 80	Total
Mean household size (SE)	2.54 (0.019)	2.74 (0.008)	2.72 (0.007)
Median age of household head (IQR)	58 (21)	55 (22)	55 (21)
Geographical characteristics			
Urban (%)	53.67	45.74	46.72
Rural (%)	46.33	54.26	53.28
Gender of households head			
Male (%)	58.01	61.56	61.12
Female (%)	41.99	38.44	38.88
OOP per capita by gender, annual LCU			
Male	6,538	232	960
Female	6,784	233	1,013
Total expenditure per capita, annual LCU	124,852	76,439	82,181
Budget share among OOP spenders	5.76%	0.70%	1.72%
Old age dependency ratio			
Zero OADR (%)	48.04	56.23	55.21
Low OADR (%)	9.76	10.06	10.02
High QADR (%)	42.2	33.71	34.76
Poverty status (LMIC, 3.65$)			
Non poor (%)	100	99.62	99.67
Poor (%)	0	0.38	0.33
Health insurance status (households)			
Non insured (%)	1.05	1.18	1.16
Insured (%)	98.95	98.82	98.84
OOP distribution by components of care			
Outpatient (%)	66.99	21.37	56.53
Inpatient (%)	1.39	4.09	2.01
Drugs (%)	28.10	68.13	37.27
Medical supplies (%)	1.01	1.50	1.13
Traditional medicine (%)	2.51	4.92	3.07

Household characteristics between the top 20% and bottom 80% of OOP spenders			
Characteristics	Top 20	Bottom 80	Total
Mean household size (SE)	2.41 (0.018)	2.81 (0.008)	2.75 (0.007)
Median age of household head (IQR)	57 (22)	55 (20)	56 (21)
Geographical characteristics			
Urban (%)	58.04	44.75	46.59
Rural (%)	41.96	55.25	53.41
Gender of households head			
Male (%)	54.37	59.66	58.93
Female (%)	45.63	40.34	41.07
OOP per capita by gender, annual LCU			
Male	8,173	374	1,309
Female	8,482	376	1,408
Total expenditure per capita, annual LCU	142,488	77,681	85,992
Budget share among OOP spenders	6.07%	0.95%	1.97%
Old age dependency ratio			
Zero OADR (%)	49.45	53.73	53.13
Low OADR (%)	9.57	11.03	10.82
High QADR (%)	40.98	35.25	36.04
Poverty status (LMIC, 3.65$)			
Non poor (%)	100	99.66	99.71
Poor (%)	0	0.34	0.29
Health insurance status (households)			
Non insured (%)	0.66	0.89	0.86
Insured (%)	99.34	99.11	99.14
OOP distribution by components of care			
Outpatient (%)	53.86	15.56	43.54
Inpatient (%)	1.71	3.05	2.07
Drugs (%)	36.43	51.45	40.53
Medical supplies (%)	5.34	24.72	10.52
Traditional medicine (%)	2.67	5.22	3.35

Annex 2 Summary Table of Indicators

Component	Cambodia	Vietnam	Indonesia	Thailand
Health Financing and Insurance Schemes	National Social Security Fund and Health Equity Fund cover ~41%.	Social Health Insurance covers 91%.	JKN aims for near-universal coverage by 2024.	Universal Coverage Scheme covers 99.5%.
Public Health Expenditure Share of CHE	~41% indicating a reliance on alternative financing and high OOP costs.	High public expenditure, positive GDP correlation, but still lower than Thailand.	Significant public expenditure, mixed model with private engagement.	Approximately 70%, largely tax-funded, low OOP costs.
Healthcare Need During COVID-19	Decrease from 9.6% to 6.5%, greater drop among the poorest and uninsured.	Less pronounced drop, disparities evident, possible under-reporting.	Downward trend, particularly among uninsured, indicating access issues.	Stable or increased among top spenders, suggesting better access for the wealthy.
Foregone Care	Increase, especially among uninsured. Coastal regions buck trend.	Increase, bottom 40% shows reduction in foregone care.	Increase in foregone care, accentuated without insurance.	Notable regional disparities, even top spenders forgoing care.
OOP Expenditure Trends	High but declining, especially for uninsured and Coastal region.	Relatively high but decreasing, especially in Midlands & Northern Mountains.	Intermediate, increasing among insured and urban populations.	Low but increasing among the wealthy and in Central region/Bangkok.
Budget Share of OOP Spending	Decreasing among uninsured.	Decreasing, thanks to policy interventions.	Increasing among insured, potential coverage gaps.	Increasing among the wealthiest, possibly due to cost hikes.
OOP Spending Patterns	Higher spending on hospital services among wealthier.	Similar high costs for hospital services among insured.	During COVID-19 increase in preventive care spending.	During COVID-19 surge in spending on drugs and medical supplies.
Top 20% OOP Spenders	Concentrated spending among urban, insured populations on private hospitals and curative care.	Concentrated spending among urban, insured populations on private hospitals and inpatient care.	High utilization among top spenders, urban bias, private and outpatient care.	Disproportionate spending among the wealthy on outpatient care.
Financial Protection Indicators	Mixed results, some improvement.	Decreased CATA and IMPOV, better protection during COVID-19.	Variable impacts, highlighting the need for policy focus.	Stable but with increasing OOP challenges.
Concentration Index	Increase, indicating a larger share of spending by richer segments.	Decrease, suggesting a more equitable distribution during COVID-19.	Increase, reflecting inequality in health spending.	Increase, potential regression in equity of health financing.