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IMPROVING HEALTHCARE-RELATED FINANCIAL PROTECTION IN LOW- AND MIDDLE-INCOME COUNTRIES: A RAPID EVIDENCE REVIEW

Final Report

February 2025

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ACKNOWLEDGEMENTS

This report (Healthcare-related financial protection in low-and middle-income countries: a Rapid Evidence Review) was commissioned by FCDO with funding from the UK government. It is the result of the collective efforts of Sophie Witter (Team Leader), Krista Kruja, Nouria Brikci, Maria Bertone, and Travor Mabugu (Quality Assurer). Additional support for data extraction was provided by Charlotte Ward and Iris Mosweu. These efforts were managed by hera – right to health and development and contracted by FCDO. Guidance and additional inputs were provided by a designated Reference Group, including FCDO (Dominic Farrell, Harriet Mensah-Menson, Luisa Hanna and Harry Achillini), WHO (Matthew Jowett, Susan Sparkes and Gabriela Flores) and the World Bank (Agnes Couffinhal and Gil Shapira). We appreciate their guidance and support in this complex endeavour.

Design and lay-out by hera – right to health and development.

ACRONYMS

ART	Antiretroviral Therapy
BIS	Basic Insurance Scheme
BPL	Below Poverty Line
CBHI	Community-Based Health Insurance
CCT	Conditional Cash Transfer
CEA	Cost Effectiveness Analysis
CFA	Communauté Financière Africaine
CHARLS	China Health and Retirement Longitudinal Study
CHI	Compulsory Health Insurance
CHE	Catastrophic Health Expenditures
CII	Critical Illness Insurance
CI	Concentration Index
CMI	Catastrophic Medical Insurance
CMS	Cooperative Medical Scheme
CT-PSD	Cash Transfer - People with Severe Disabilities
DIP	Diagnosis Intervention Packet
DRG	Diagnosis Related Group
DSF	Demand Side Financing
DPT	Diphtheria, Polio and Tetanus
EBP	Episode Bundled Payments
EML	Essential Medicines List
ERR	Effective Reimbursement Ratio
FCDO	Foreign, Commonwealth and Development Office
FE	Fixed Effect
FHCI	Sierra Leone Free Health Care Initiative
FP	Family Planning
GERF	Insurance for Government Employees and Pensioners
HI	Health Insurance
HEF	Health Equity Fund
HPAP	Health Poverty Alleviation Programme
HTP	Health Transformation Plan
IMSS	Mexican Social Security Institute
INSABI	Instituto de Salud para el Bienestar
IV	instrumental variable
JSSK	Janani Shishu Suraksha Karyakram
JSY	Janani Suraksha Yojana
LAK	Lao Kip
LMIC	Low- and Middle-Income Countries
LTCI	Long Term Care Insurance
MDR-TB	Multidrug-Resistant TB
MFA	Ministry of Foreign Affairs
MIP	Medical Insurance for the Poor
MMAT	Mixed Methods Appraisal Tool
MNCH	Maternal, Neonatal, Child Health
MSF	Medicines Sans Frontieres
NCD	Non-Communicable Diseases
NCMS	New Cooperative Medical Scheme
NEMS	China Essential Medicine Policy
NHI	National Health Insurance
NHIF	National Health Insurance Fund
NRCMS	New Rural Cooperative Medical Scheme
NRR	National Reimbursement Ratio
PBF	Performance-Based Financing
PFHI	Publicly Financed Health Insurance
PHC	Primary Health Care
PHI	Private Health Insurance
PICs	Private Insurance Companies
PLHIV	People Living with HIV
PM-JAY	Indian National Health Insurance Scheme
PPM	Provider Payment Mechanisms
OLS	Ordinary Least Squares
OOPE	Out-Of-Pocked Expenditures
RMB	Renminbi (Currency system in China – Yuan)
RSBY	Rashtriya Swasthya Bima Yojana
RWF	Rwandan Franc
SDG	Sustainable Development Goal
SHI	Social Health Insurance
SIMIS	Serious Illness Medical Insurance
SIO	Private Health Insurance for Private Sector Workers
SP	Sponsored Programme
SSO	Social Security Organisation
SUT	New Health Budget Law
TPA	Targeted Poverty Alleviation
UCS	Universal Coverage Scheme

UEBMI	Urban Employee Basic Medical Insurance
UF	User Fees
UHC	Universal Health Coverage
UHI	Universal Health Insurance
UMIS	Universal Medical Insurance System
UN	United Nations
URBMI	Urban Resident Basic Medical Insurance
VHI	Voluntary Health Insurance

EXECUTIVE SUMMARY

Background to review

Financial protection, defined as the ability to consume needed quality healthcare without experiencing financial barriers to access or financial hardship due to out-of-pocket health spending, has been deteriorating globally. Two billion people are currently estimated as being at risk of healthcare related financial hardship.

This assignment was commissioned by FCDO to support it and other stakeholders at global and country level to identify effective approaches to improving financial protection from health spending and better understand the factors that affect the success of different interventions. The research focused on the following questions:

- Which policy choices or interventions are most (or least) effective in improving financial protection?
    - In particular, what is the evidence that financial protection measures targeted towards poorer, marginalised and/or more vulnerable groups lead to better financial protection?
- What are the political, economic, bureaucratic or other factors that constrain or enable governments from taking and/or implementing these policy choices and interventions?

Methods

The work was conducted May to December 2024. The review team developed a typology to categorize a range of interventions that may improve health care-related financial protection, including not just health financing and system interventions but also demand-side approaches, which can reduce household health care costs; social protection measures, which can increase available household resources to fund health care; and social determinants, which can reduce health needs (and therefore costs).

We undertook a review of published evidence, not predefining which interventions might have impact but selecting studies which reported on changes to financial protection indicators (and then mapping their interventions to our categories). Changes to OOPE, catastrophic health expenditures (CHE), health-care related impoverishment and further impoverishment, and healthcare foregone for financial reasons were the main indicators used for study selection. It is important to note that OOPE, whilst commonly used as an indicator of financial protection, needs to be interpreted in context. Household-level reductions in OOPE may not always indicate improved financial protection, as they could reflect households using fewer services (reflecting the possible tension between SDG 3.8.1, focused on increased coverage, and SDG 3.8.2, focused on financial protection). OOPE reductions at the country level may provide a clearer picture of systemic financial protection improvements, while OOPE as a percentage of total health expenditure offers a more meaningful measure than absolute spending alone. Given these complexities, this review reports OOPE findings alongside CHE, impoverishment, and service use, where available, to provide a more comprehensive understanding of financial protection.

We searched Pubmed (including PMC, Medline, NCBI Bookshelf), Cochrane Library, and Web of Science, with no date or language restrictions, focusing on empirical studies reporting results from low- and middle-income countries (LMICs). Data were extracted using a structured extraction sheet which focused on intervention approach, study design including quality appraisal, primary outcomes (for financial protection), secondary outcomes (including those relating to equity, intervention costs, cost-effectiveness and any adverse outcomes) and factors affecting design and implementation. We worked in close collaboration with an advisory group throughout the review, which included experts from WHO and the World Bank.

Results

Bibliographic analysis

This review included 214 studies conducted between 1999 and 2024, covering interventions across 39 countries. Only one study focused on multiple countries, while all others examined interventions within a single nation. 14 studies examined more than one intervention, leading to 231 records included in the analysis. China emerged as the most frequently studied country, with 101 records. The majority of records (n=161) analysed interventions implemented at the national level, while the remainder focused on pilot programs or interventions at the state or city levels.

Most studies (~70%) were observational, approximately 25% were quasi-experimental and only 11 studies (~5%) used experimental methodologies, such as cluster-Randomized Controlled Trials (RCTs) (Choudhary et al., 2022; Dror et al., 2016; Fink et al., 2013; Grogger et al., 2015; Koch et al., 2022; Mori et al., 2024; Rabbani et al., 2022; Raza et al., 2016; Sunny et al., 2021; Thornton et al., 2010; Tsuei and Yip, 2024). The most commonly reported outcome was OOPE expenditure. In terms of outcomes, out of 214 included studies, 74% reported on OOPE changes, 51% on service utilisation, 41% CHE, 28% equity, 17% impoverishment, 10% other outcomes and 5% adverse effects.

The most common category of intervention was health insurance, which was addressed by 138 studies. However, reflecting the complexity of interventions within that group, we analysed data by five sub-categories: publicly financed health insurance (PFHI, 30 studies), voluntary health insurance (VHI, 25 studies), social health insurance (SHI, 44 studies), integration or assessment across multiple insurance programmes (8 studies), and expanding the insurance package/enhanced reimbursement (20 studies). Provider payment reforms was the next-largest group of studies (21 studies), followed by complex reforms (with multiple components cross cutting our typology categories, 19 studies), user fee reforms (15 studies), demand side financing (DSF, 9 studies), shifts in services organisation and funding (7 studies), social protection (4), behaviour change or health promotion (1), and upgraded health facilities (1).

SHI or national health insurance (NHI) includes schemes targeting the whole population that are government-led and subsidised, but which include payments from individual or employers' premia and are (in theory) compulsory. PFHI schemes share some features but are mostly voluntary and non-contributory or heavily subsidised, and usually aim to cover only a segment of the population, such as the poor (or informal sector). CBHI are schemes that are owned by communities or other non-state actors, and are voluntary. In some cases, premiums are partially subsidised by government or other actors e.g. NGOs. (Private health insurance studies were few and were included in the CBHI category.) Complex reforms encompassed a wide range of interventions on the supply and demand side, either at the same time or introduced in waves of reform over time. Provider payment reforms included, for example, moving from fee-for-service to capitation, or introducing performance-based financing (PBF) or similar output-based payments, or adding new payment methods. User fees schemes focused on the removal or reduction of user fees at the point of access for the entire population or a defined sub-set of the population. DSF included providing direct financial support to communities or patients, for example, vouchers schemes, conditional cash transfers, or loans with preferential repayment conditions, aimed at increasing the ability to pay for healthcare. Reforms to drug pricing and use included drug subsidies and changes to inclusion on national essential drugs lists, amongst other approaches. Shift in service delivery organisation included interventions that focused on, for example, a shift to Primary Health Care (PHC), bringing services closer to populations and new service delivery models. Behaviour change activities included any intervention that encourages the population, or a particular section of the population, to change behaviour towards seeking care, for example through education or awareness raising. Social protection focused on unconditional cash transfers to targeted households.

Analysis by intervention category

Classification of interventions was complex given the multiple components in most reforms, and findings were mixed, as would be expected given the variability of implementation and settings. The table below summarises overarching findings by intervention category.

Overall, the review highlights that most of these interventions and groups of interventions have produced some benefits for financial protection, however, they may not be beneficial for all populations and in all contexts. It is also important to note that most of the interventions studied had other primary objectives than financial protection, such as increasing access or improving service quality.

Intervention	Findings	Challenges
DSF	DSF strategies generally reduced financial hardship for targeted populations, often leading to lower OOPE, decreased CHE, and increased healthcare utilisation.	Structural barriers, indirect costs, and inequitable access hindered interventions. Increased access could lead to higher costs at formal facilities where DSF intervention is insufficient.
UF Reforms	Reforms abolishing/reducing user fees led to reductions in OOPE, CHE, and inequities, though impacts varied.	Often failed to address systemic inefficiencies like informal payments, and indirect costs (e.g., transportation).
Behavior Change	Behaviour change interventions showed positive effects, such as lower OOPE, reduced risk of impoverishment, increased awareness, and uptake when combined with other interventions.	Limited research on behaviour change as a primary intervention. Effects on CHE were not significant.
Upgraded Health Facilities	Mixed results, with positive spillovers to untargeted groups.	Only one study focused on upgraded facilities as the main intervention. Often accompanied by other interventions, making impacts difficult to isolate.
Service Delivery Reorganisation	Reorganising service delivery showed mixed results. Effects on impoverishment and CHE were not commonly studied.	Some interventions worsened equity outcomes, with wealthier individuals often benefiting disproportionately.
Provider Payment Reforms	Varied effects: some reduced OOPE and improved access, while others increased costs and inequities. Effects on impoverishment and CHE were rarely studied.	Outcomes varied within and across countries. Adverse consequences included cream-skimming, provider opportunism, and declining service quality.
Essential Medicines	Generally lowered OOPE for patients.	Mixed implementation and results, with some showing little or unintended negative impacts.
PFHI	Many PFHI studies reported reductions in OOPE, but others noted no significant changes or increases.	Mixed findings reflect program design, implementation quality, and infrastructure variations. Some schemes shifted healthcare utilisation toward costlier services.
VHI	Mixed designs and results reflect the complexity of VHI schemes.	Challenges included exclusions from benefits, client preferences, and sustainability issues.
SHI	SHI results varied by country: positive effects in Vietnam and Ghana, mixed in China.	Varied results reflect multiple revisions to SHI schemes. Low reimbursement rates diminished financial protection.
Insurance Integration	Integration of health insurance was generally positive for utilisation and impoverishment but mixed for OOPE, CHE, and equity.	Limited studies tracked impoverishment. Some reports noted increased inequality in healthcare access.
Expanded Benefits Package	Typically led to increased utilisation. Results were mixed on OOPE and CHE, but more positive on impoverishment and equity.	Complex interplay of utilisation and financial protection made results unpredictable. Some programs failed to reduce inequities in catastrophic costs.

Intervention	Findings	Challenges
Social Protection	Did not affect OOPE or CHE indicators, and impoverishment was not examined. Positive impacts on reducing financial barriers to service use were noted.	Limited scope, often focused on cash transfers. Some programs increased inequality in inpatient care utilisation.
Complex Reforms	Varying effect sizes, with stronger financial protection for programs targeting low-income populations.	Equity impacts were inconsistent, with vulnerable groups facing mixed outcomes. Context played a critical role in reform success.

Only 30 studies reported on some measure of costs or cost-effectiveness and the level of detail and outcomes for reporting were diverse.

Analysis by outcome area

Analysis by outcome area is affected by how many studies report on specific outcomes and given the variability in outcome reporting does not reflect size of effects but simple counts of positive, negative and no change results. It should not be overinterpreted as a result. In relation to CHE, SHI, PFHI and complex reforms are potentially impactful, though not without adverse consequences too. For impoverishment (which is not assessed for all intervention areas), fewer negative effects are reported: for behaviour change, medicines policies, expansion of insurance and insurance integration, and provider payment reforms there are only positive outcomes reported. For foregone care, results are generally positive, though proportionally, no change is more common for PFHI than beneficial change.

For equity, it is striking how many studies are reporting harmful changes, especially for PFHI, SHI, VHI, provider payment reforms and service delivery reforms. No reform area appears to be producing unequivocally positive results from an equity perspective, including targeted approaches such as social protection, DSF and PFHI.

Discussion

In relation to our typology, we note the 'bunching' of studies in certain areas, with no studies examining the financial protection effects of reforms to revenue raising, resource allocation, governance of the private sector, strengthening supply chains, human resource reforms and social determinants, to give examples. These are highlighted for future research as a number have plausible causal links with improved financial protection. The gaps also mean that lack of evidence for effects in specific areas cannot be taken to indicate lack of effectiveness.

Financial protection is the outcome of interactions across and beyond the health system, and therefore is affected by multiple features of each context, all of which can be influential and which interact with one another, requiring continuous monitoring and adaptation in relation to public goals.

- Cross-cutting lessons highlighted here include that efforts to expand access and reduce financial barriers (e.g. via demand side financing, user fee reduction, insurance etc.) will raise utilisation and therefore (at the macro level) costs, which ultimately threaten financial protection via constrained budgets (at macro and household level). It is therefore imperative that such policies include cost containment measures. These will depend on the policy but need to focus on improving efficiency rather than reintroducing financial barriers for needed services.
- A second message relates to drugs and consumables, which are a key driver of OOPE. Reforms that address their price, quality and availability should be prioritised within whichever reform initiatives are being undertaken. These are inadequately documented in relation to financial protection at present.

Reforms to provider payment systems, for example in China, indicate that providers have a tendency to shift costs to maintain income so systems for monitoring overall expenditure on different items at different levels

(by patients and/or purchasers, in public as well as private sectors) is important to identify and address adverse consequences as they emerge.

- For insurance programmes, all copayments, deductibles and reimbursement ceilings risk higher OOPE and CHE, however design also matters, as illustrated in China where high inpatient reimbursement rates increased CHE by encouraging costly care. It is noteworthy that many of the more effective cost containment approaches address the supply-side, which can have fewer adverse consequences than creating barriers to patient use (e.g. financial barriers).
- For households, especially poorer ones, access costs are very significant so measures to reduce these should be prioritised, including ensuring accessible infrastructure (facilities, equipment), of reasonable quality and staff, but also addressing information and awareness barriers which prevent enrolment and use of appropriate care (generating additional household costs). For equity, addressing wider factors (including cultural barriers, gender barriers, provider attitudes, trust in the health system, etc.) is critically important as reduction of costs and financial barriers enables better placed households (geographically, socially and educationally privileged) to increase service use and hence can have negative equity effects, as demonstrated by, amongst others, the user fee removal literature.
- Across all interventions, effective implementation also depends on broader contextual elements, such as the macro-economic context, the level of governance and accountability, and effective coordination and administrative capacity at all levels.

Limitations include the diversity of study methods and outcomes reported, which makes summarising in a consistent format hard. In addition, there is, as highlighted above, a bias in what is studied in relation to financial protection, which may ignore areas that could be (or are being) very impactful, as well as a bias in what has been reported in included studies. Classification of interventions was also highly challenging as most policies included multiple components. In addition, there was variation and limitations in population scope of interventions and study scale: many studies focused on specific population groups or examined a national policy in a sub-national context, making it difficult to generalize findings to entire health systems or UHC goals. While some interventions may affect the broader population, their impacts outside of the target population are not always measured or reported, requiring careful interpretation. A further limitation relates to the exclusion of grey literature, given the large number of published studies identified. We also highlight the methodological limitations of included studies, and explain how limitations were managed or mitigated.

We highlight some areas for future focus, which should include enforcement of reporting on cost of policies, at a minimum.

Conclusion

The UHC financial protection goal (SDG 3.8.2) remains a global challenge. The latest UHC monitoring report highlights the continuing dependence of LMICs in particular on OOPE to fund health care. As countries grapple with limited fiscal space, there remains an urgent need to identify ways of addressing SDG 3.8.2 alongside SDG 3.8.1 and the wider SDG goals.

This report brings together a large body of published studies which reported impacts of a range of interventions on financial protection outcome indicators, including OOPE, CHE, impoverishment, health care foregone for financial reasons and equity of these indicators. It adds value as an evidence review of interventions which have been studied in relation to financial protection, which includes all intervention types, health care areas and LMICs. We highlight key policy messages, including the fact that no single intervention or group of them (in the case of complex reforms) emerged as ensuring positive outcomes across the financial protection indicators, while also acknowledging the importance of grounded assessment of needs, resources and systems capacities in each context. We also highlight important areas for future

research, including more systematic and enforced reporting on costs of interventions, which is key for decision-makers' priority setting.

1 STUDY RATIONALE

FCDO is committed to supporting global achievement of the Sustainable Development Goals (SDGs), and the Global Health Directorate works towards the achievement of SDG 3. Universal health coverage (UHC) is at the heart of this as SDG 3.8, with protection from financial hardship, one of two key indicators that measures progress[1]. This matters not just for UHC, but also for the broader development goal of poverty eradication (SDG 1).

Financial protection, defined as the ability to consume needed quality healthcare without experiencing financial barriers to access nor financial hardship due to out-of-pocket health spending[2]., has been a relatively neglected issue, with much of the focus on coverage of services and medicines. Yet the most recent data is stark – financial protection globally is consistently getting worse. 2 billion people are at risk of financial hardship. While there is a silver lining in falling extreme poverty caused by out-of-pocket payments for health (though the absolute numbers remain high at 344 million people), relative poverty as a result of out-of-pocket payments is inexorably climbing upwards. Broader poverty alleviation measures support efforts to address deteriorating financial protection in health; similarly, effective financial protection in the health sector can positively impact on poverty reduction goals (SDG1).

There was some response to this at the recent UN High-Level Meeting on Universal Health Coverage, with Member States, WHO and the World Bank all placing much more emphasis on financial protection than previously. FCDO wants to take advantage of this to raise the status of financial protection as an issue that needs to be addressed and contribute to a better understanding of the evidence on the steps that governments and others can take in different contexts to rapidly reduce financial hardship. The goal is to have contributed to better progress on financial protection ahead of the next High-Level Meeting in 2027.

2 OBJECTIVE OF THE RESEARCH

This assignment aims to support FCDO and other stakeholders at global and country level working to strengthen health systems in LMICs to identify effective approaches to reducing financial hardship from health spending and better understand the factors that affect the success of different interventions. It also aims to strengthen FCDO's programming, policy and advocacy work in this area, recognising the importance of this topic but also the challenging context in terms of limited expected growth in fiscal space for health in the next few years.

3 RESEARCH QUESTIONS

The research focused on the following two questions:

- Which policy choices or interventions are most (or least) effective in improving financial protection?
    - ↘ In particular, what is the evidence that financial protection measures targeted towards poorer, marginalised and/or more vulnerable groups lead to better financial protection?

[1] SDG indicator 3.8.2 is measured as the proportion of the population with OOP health spending exceeding 10% and 25% of total household expenditure or income. The total population with impoverishing health spending includes people impoverished (pushed below the poverty line) and further impoverished (already below the poverty line but pushed even further below) due to OOP health spending.

[2] Tracking Universal Health Coverage: 2021 global monitoring report. Geneva: World Health Organisation and International Bank for Reconstruction and Development / The World Bank; 2021

Global monitoring report on financial protection in health 2021. Geneva: World Health Organisation and

International Bank for Reconstruction and Development / The World Bank; 2021.

- What are the political, economic, bureaucratic or other factors that constrain or enable governments from taking and/or implementing these policy choices and interventions?

There are different ways of measuring improvements of financial protection, but we have focused on the most common measures, which are a decrease in OOPE, a decrease in CHE, a decrease in the probability of impoverishment and further impoverishment, and a decrease in healthcare foregone for financial reasons, as well as changes in the distribution of these indicators for equity analysis. OOPE changes need to be interpreted carefully, as a decrease in OOPE at household level could indicate that households have foregone care (e.g. if they do not have sufficient resources to meet health care needs), rather than having their health care needs met through prepaid and pooled channels. At population level and as a proportion of total health expenditure, it is a better indicator of financial protection[3].

We are also interested in the political, economic, bureaucratic or other factors that constrain or enable governments from taking and/or implementing these policy choices and interventions, although this has been covered in a limited way as outlined below.

4 METHODOLOGY

We approached the above objectives through two steps:

1. Development of a typology to categorize a range of interventions that may improve financial protection;
2. A rapid evidence review of published evidence of interventions and of their effects on a range of outcomes associated with financial protection. These were mapped to the ex ante intervention categories listed in the typology, though for analysis we have grouped categories in ways that reflect the volume of studies (e.g. broken down those which had many and grouped those which had few), also adding multipronged (complex) interventions which combine multiple components.

We worked in close collaboration with an advisory group throughout the research, which included experts from FCDO, WHO and the World Bank. In particular, feedback was provided on (1) the draft protocol; (2) the draft typology and (3) the draft report and findings.

4.1 INTERVENTION TYPOLOGY

Interventions that improve financial protection from healthcare spending in LMIC contexts are multiple and multifaceted. As such, in order to systematically review the evidence on policies and interventions which can most effectively improve financial protection, it is first necessary to develop a typology of interventions which might achieve this goal. Existing reviews, such as those by Jalali et al. (2021), Sugunan et al. (2023), Rahman et al. (2022) and Essue et al. (2014), although focused on different outcomes, already offer insights into potential interventions. They show that approaches can range from those that are related to health financing factors to those targeting stewardship and regulatory frameworks (Jalali et al, 2021).

By proactively setting out a typology of interventions, our approach ensured that the review started from a comprehensive structured approach. Specifically, our approach aims to broaden the focus beyond interventions that have an explicit focus on reducing catastrophic health expenditure and out-of-pocket costs to encompass non-traditional or alternative measures that may potentially contribute (possibly even more significantly) to enhanced financial protection. These measures may involve innovative approaches to financing medicines, drug pricing strategies, improved regulation of the private sector, non-health-specific social protection programs (e.g., cash transfers) (Loesler, Osler, & Premand, 2021), and the adoption of technology and innovation.

[3] World Health Report 2010: Health Systems Financing: the Path to Universal Coverage

We outline below (in Box 1) the linkages we expected to find through our literature review between health sector specific and non-health sector specific interventions and financial protection. We have classified these interventions as: (a) health sector specific interventions, which typically work by reducing health care costs (direct or indirect, such as transport), through supply or demand side changes; (b) social protection interventions, which typically address the denominator of household or individual incomes; and (c) social determinant factors, which can address non-medical factors that influence health needs and health seeking behaviour.

Box 1. Starting typology of interventions which may impact on financial protection

(a) Health sector specific interventions, which predominantly reduce health care costs (direct or indirect).

On supply side:

- **Financing interventions:**
  - ↘ revenue mobilisation
    - additional and better coordinated aid for health: general, disease specific, target groups (RMNCH, refugees, other)
    - debt financing for health
    - innovative financing mechanisms
    - hypothecated taxes for health
  - ↘ risk pooling
    - increase in coverage by existing risk pools
    - shift to prepayment mechanisms: voluntary (Private Health Insurance (PHI) or Community-Based Health Insurance (CBHI)/mutuelles) or compulsory (National Health Insurance (NHI)/Social Health Insurance (SHI) or compulsory CBHI/mutuelles)
    - virtual pooling
    - merger and defragmentation of risk pools e.g. for formal/informal workers
    - creation of new pools for target vulnerable population
  - ↘ allocation of resources
    - introduction/adjustment of resource allocation formula with equity criteria
    - introduction/ adjustment of conditional grants with equity criteria
    - introduction/ adjustment of a performance-based budgeting with a focus on PHC
    - changes to budget rules and statutory appropriations
  - ↘ purchasing
    - provider payment mechanisms
      - introduction of or adjustment of Performance Based Financing (PBF) to include/ enhance equity indicators
      - introduction of or adjustment of Direct Facility Financing (DFF)
      - introduction or adjustment of capitation
      - reform of fee for service (FFS) or tariff paid
    - contracting of providers
      - introduction or amendment of equity indicators within contracting arrangements
      - strengthening of contracting with public sector, including subnational bodies
      - strengthening of contracting with private sector/NGOs
    - benefit package
      - definition of PHC benefit package
      - increase in national health benefit package
      - improving population understanding of entitlements

- **Governance and stewardship**
  - ↘ major policy reforms expanding coverage through UHC and PHC
  - ↘ better inclusion of private providers in UHC goals
  - ↘ increasing autonomy, with commensurate accountability, of providers in terms of recruitment, management and finances
  - ↘ improving implementation and monitoring of policies
  - ↘ effective regulation of the private sector
- **Drugs and medical supplies**
  - ↘ strengthen existing supply chain to PHC facilities
  - ↘ more efficient procurement and/ or market regulation
  - ↘ rational prescription reform/ intervention
  - ↘ cost controls and IP reform
  - ↘ subsidising specific drugs for target population
- **Health workers**
  - ↘ task shifting
  - ↘ changes in remuneration,
  - ↘ consolidated and targeted training
  - ↘ remote/ hardship bonus paid to health workers (to improve distribution, and hence access to services)
  - ↘ improved HRM and so performance
- **Service delivery**
  - ↘ creation of service delivery models with integrated patient pathways
  - ↘ introduction of clinical guidelines and quality improvement programmes
  - ↘ shift to PHC focus on service organisation and funding
  - ↘ introduction of telehealth
  - ↘ creation of patient-transport system
  - ↘ investing in improved infrastructure, increasing readiness and availability of facilities closer to population

On demand side:

- **Financing:**
  - ↘ reduction in direct costs at facility level
    - removal of user fees for target population (with provider compensation), e.g.
      - children under 5
      - women or reproductive age, pregnant women and lactating mothers
      - poor sections of population
      - other (e.g. those with chronic diseases)
    - elimination of informal fees
    - cash transfers (conditional to accessing healthcare)

        - vouchers (for health seeking)
    - ↘ reduction of indirect costs
        - payment of transport costs
        - payment of other costs (for example childcare whilst seeking care)
- **Behavioural change**
    - ↘ e.g. health promotion activities
    - ↘ Activities which stimulate early care-seeking, e.g. awareness campaigns

(b) Social determinants of health, addressing non-medical factors that influence health outcomes, health needs and health seeking

- **education**
    - ↘ subsidisation of school fees for children
    - ↘ investment in mothers' education
- **employment and job security**: any intervention improving employment prospects or job security
- **food insecurity**
    - ↘ nutrition support
- **housing, basic amenities**
    - ↘ subsidisation of rental costs
    - ↘ building of accommodation
- **water and sanitation**
    - ↘ building of latrines/ wells
    - ↘ other water and sanitation interventions
- **social inclusion and non-discrimination interventions**

(c) Social protection interventions, potentially addressing household or individual income

- **investment in additional job opportunities for target group**
- **income transfer to households or individuals:** cash transfers
- **investment in transport:** improvement of road network or transport fleet

4.2 PUBLISHED LITERATURE REVIEW

For the literature review, we focused on identifying interventions which have led to a change in financial protection for health outcomes. In other words, we did not specify (in our search) the intervention type but focused on studies which reported on financial protection outcomes and then mapped the intervention to our typology.

We anticipated that most would fall in health sector specific areas, as these were most likely to be documented in relation to financial protection. However, we wanted to keep the breadth of the search in case important findings emerged about other areas of intervention.

Information sources:

We searched the following databases: Pubmed (including PMC, Medline, NCBI Bookshelf), Cochrane Library, and Web of Science.

Search terms and inclusion criteria according to components of interest:

Presented in Table 1 below.

Table 1. Search terms and inclusion criteria

Component	Area of interest	Search terms	Include studies which:	Exclude studies which:
Population	LMICs	n/a	Provide evidence of an LMIC or a group of LMICs	Document an intervention in a high-income country/ country
Intervention	Interventions which may improve health care-related financial protection	n/a	Focus on an intervention that may affect financial protection related indicators, drawing on the typology defined in Step 1	Do not assess any outcomes related to financial protection.
Comparison	Any comparison, including no intervention /baseline	“reform” OR “policy” OR “programme*” OR “intervention” OR “impact” OR “evaluation” OR “trial” OR “pilot” OR “trial” OR “Review” OR “effect*” OR “Efficacy”	Empirically assess the effects of an intervention using observational or experimental methods	Do not include an intervention
Outcome	Outcomes relating to financial protection	"Financial protection" OR "Financial risk protection" OR "Impoverish*" OR "Out of pocket" OR “out-of-pocket” OR "Catastrophic health expenditure" OR “financial hardship”	Examine the effects of an intervention on at least one indicator of financial protection.	

Component	Area of interest	Search terms	Include studies which:	Exclude studies which:
		OR "Foregone care" OR "Coping strategies" OR "User fees" OR "Consumption" OR "Savings" AND ''healthcare'' [and synonyms]		

Other inclusion/ exclusion criteria: We included studies that:

- are primary research
  - ↘ Reviews of primary research were excluded at this stage of the review
  - ↘ Studies which provide qualitative information on the political economy context which would be relevant to implementing an intervention but do not have an empirical component were not synthesised as part of the rapid evidence review
- are written in English, French, and Spanish. Studies in other languages would be considered for inclusion depending on the feasibility of drawing on online translation tools.

Quality assessment:

- Primary research studies which report at least one empirical result were assessed for quality using the Mixed Methods Appraisal Tool (MMAT). The MMAT enables assessment of qualitative, quantitative (descriptive, randomised and non-randomised trials) and mixed method studies and will be appropriate given that the rapid evidence review will not exclude studies based on their design.

Data extraction - a data extraction table was developed and included the following information:

- Study details (e.g. authors names, date, full title of article, study design, country or regional focus)
- Research approach (e.g. research question, design, any observations on quality)
- Intervention approach, setting, scale, duration, funding sources
- Quality appraisal criteria (using the MMAT)
- Impact on outcomes and any related trade-offs
  - ↘ primary outcomes relating to financial protection. These included:
    - changes in OOPE (noting caveat to its interpretation given in the introduction above)
    - changes in catastrophic health expenditures
    - changes in healthcare-related impoverishment or further impoverishment
    - changes in utilisation, including reduction in healthcare foregone for financial reasons
  - ↘ secondary outcomes, including those relating to equity, intervention costs, cost-effectiveness and any adverse outcomes (e.g. on quality of care)
- Factors that affect the design and implementation of interventions, including political, economic, bureaucratic or other factors that constrain or enable governments from adopting and/or implementing these policies. These were only extracted for studies which included primary outcomes; a more detailed study focusing on this question may require a different methodology in future, with inclusion of more qualitative literature.

Data analysis:

Data analysis was carried out through the following steps:

- **Categorisation of interventions:**
  - Each record was assigned a primary intervention category. Additional interventions, if present, were classified as accompanying or supplementary.
  - Reported outcomes were categorized as OOPE, CHE, impoverishment, service use, or other.
- **Assessment of intervention effects (reported in results tables):**
  - Outcomes were classified as beneficial, harmful or no change.
  - Each study could report multiple outcome, and each outcome was assessed individual, rather than assigning a single conclusion per record studied.
  - If a change was not statistically significant, it was categorized as no change (except for equity outcomes).
  - Equity outcomes were assessed on a case-by-case basis due to variability in reporting
- **Narrative synthesis:**
  - Our narrative synthesis approach interpreted intervention effects by examining both the **breadth of evidence** (number of studies reporting beneficial, harmful, or neutral outcomes) and **key contextual insights** from individual studies. This allowed us to capture general trends while accounting for nuances. We specifically highlighted:
    - Common patterns, or an emphasis on inconsistencies or trade-offs if results were highly mixed or context-dependent.
    - Underlying mechanisms and factors contributing to change, such as constraints, unintended financial burdens or shifting healthcare demand patterns.
    - Examples from specific studies which could illustrate the nuances of intervention effects, highlighting variations in impact across populations, settings, and outcome measures.

Approach to the review:

- Searches were undertaken by two researchers (NB and KK). Deduplication was subsequently undertaken by one researcher (KK). Out of 3,272 deduplicated records, 84% of titles and abstracts were screened by KK and 21% were screened by NB – approximately 5% of records were screened by both researchers to ensure consistency and quality of the selection process. Any selection questions and disagreements on inclusion were discussed between the two researchers and based on the rationales presented a consensus was reached. In total, 310 records included for full-text review. Approximately 70% of full texts were reviewed by KK and 30% of full texts were reviewed by NB. Ultimately 214 studies were included. See Annex 1 for further details.
- Quality assessment and data extraction from each included study was carried out by one researcher (IM, NB, CW, KK). NB and KK quality-assessed a small selection of studies to ensure consistency in extraction and consistent application of the quality assessment criteria. If there were any disagreements, these were discussed until a consensus was reached.
- The software Rayyan was used to conduct the title and abstract screening, and Covidence was used to conduct full-text screening and data extraction.

Study limitations

5 RESULTS

5.1 BIBLIOGRAPHIC ANALYSIS

This review included 214 studies, representing 231 records conducted between 1999 and 2024, covering interventions across 39 countries. Included studies are summarized in Annex 2. Studies which examined and separately reported the results of multiple interventions were separated into unique records.

Notably, only one study focused on multiple countries, while all others examined interventions within a single nation. China emerged as the most frequently studied country, with 101 records. The majority of records (n=161) analysed interventions implemented at the national level, while the remainder focused on pilot programs or interventions at subnational (e.g. state or city) levels.

5.1.1 INTERVENTION TYPES

The types of interventions analysed are summarised in Table 1, with the most common category being insurance-based interventions. Interventions were labelled according to the primary category which they addressed. Records were labelled with a primary intervention, based on where the majority of the intervention was focussed.

Ultimately, results from included studies are presented according to 15 broad categories (see Table 2). More detailed descriptions of each intervention category and the interventions contained within them are shared in sections on findings by intervention category. Interventions were often implemented with accompanying measures from the other intervention categories, also described in the findings below.

Table 2. Number of studies by intervention category

Intervention category	Number of records examining
Demand side financing	9
User fee reforms	15
Behaviour change - health promotion activities	1
Upgraded health facilities	1
Shift in service delivery organisation and funding	7
Provider payment reforms	21
Reducing cost and increasing access to essential medicine	15
Social protection	4
Insurance and related interventions	139 (split into below)
Publicly financed health insurance (PFHI)	*30*
Voluntary health insurance (VHI)	*25*
Social Health Insurance (SHI)	*55*
Insurance integration/ overarching assessment of multiple schemes	*8*
Expanded benefit package or enhanced compensation	*21*
Complex reforms	19

5.1.2 STUDY QUALITY AND METHODS

Most studies (~70%) were observational, approximately 25% were quasi-experimental and only 11 studies (~5%) used experimental methodologies, such as cluster-Randomized Controlled Trials (RCTs) (Mori et al., 2024, Raza et al., 2016, Dror et al., 2016, Sunny et al., 2021, Tsuei et al., 2024, Fink et al., 2013, Koch et al., 2022, Rabanni et al., 2022, Grogger et al., 2015, Thornton et al., 2010, Choudhary et al., 2022).

The included studies used a variety of research methodologies to assess the impact of healthcare programs and policies Studies included cross-sectional and longitudinal designs using household surveys and administrative data. Quasi-experimental methods, like Difference-in-Differences (DiD) and Propensity Score Matching (PSM), were often used to estimate causal effects without relying on RCTs. This approach prioritized real-world relevance, acknowledging the practical limitations of implementing rigorous experimental controls in many settings. Potential publication bias in peer-reviewed studies may have influenced findings, as studies reporting at least some positive or significant outcomes are more likely to be published, while negative or neutral results are more likely to be underrepresented. This imbalance could inflate the perceived efficacy of interventions and skew the evidence base. Despite this, our synthesis includes many neutral and negative results; however, publication bias may have influenced the types of interventions studied and published.

While the quality of individual studies varied, their collective inclusion was guided by the principle of triangulation, leveraging diverse methodologies to paint a more comprehensive picture of the interventions' effects.

Three studies were excluded due to methodological weaknesses, including unclear causal links between interventions and outcomes or inappropriate use of data and methods. All studies that were not removed due to quality concerns were treated with equal weight in drawing conclusions.

Across included studies, several common limitations were noted:

- Cross-sectional data: Studies used cross-sectional designs, limiting their ability to establish change over time.
- Intervention fidelity: Insufficient detail on intervention implementation made it difficult to assess if interventions were delivered as intended, potentially affecting outcome reliability.
- Self-reported data: Studies relied on self-reported data, including data obtained through national surveys. Heavy reliance on self-reported information introduced recall bias, reducing the accuracy of the findings.
- Limited generalizability: Studies focused on specific regions or populations, limiting the applicability of results to broader contexts.
- Lack of confounder control: Studies failed to adequately control for confounding variables, leading to potential bias in outcomes.
- Small sample sizes: Smaller samples reduced the statistical power and generalizability of findings.

Studies also demonstrated strengths, such as employing robust methodologies, using nationally representative datasets, and integrating qualitative data. However, caution is needed when interpreting results, considering the inherent limitations that may affect conclusions about the effectiveness of interventions.

5.1.3 DESCRIPTION OF OUTCOMES

The primary focus of this review is on financial protection outcomes, with an emphasis on metrics such as OOPE, CHE, impoverishment, and service use. The most reported outcome was OOPE (see Figure 1). Out of 214 included studies, 74% report OOPE (at differing levels) as one of their outcome indicators.

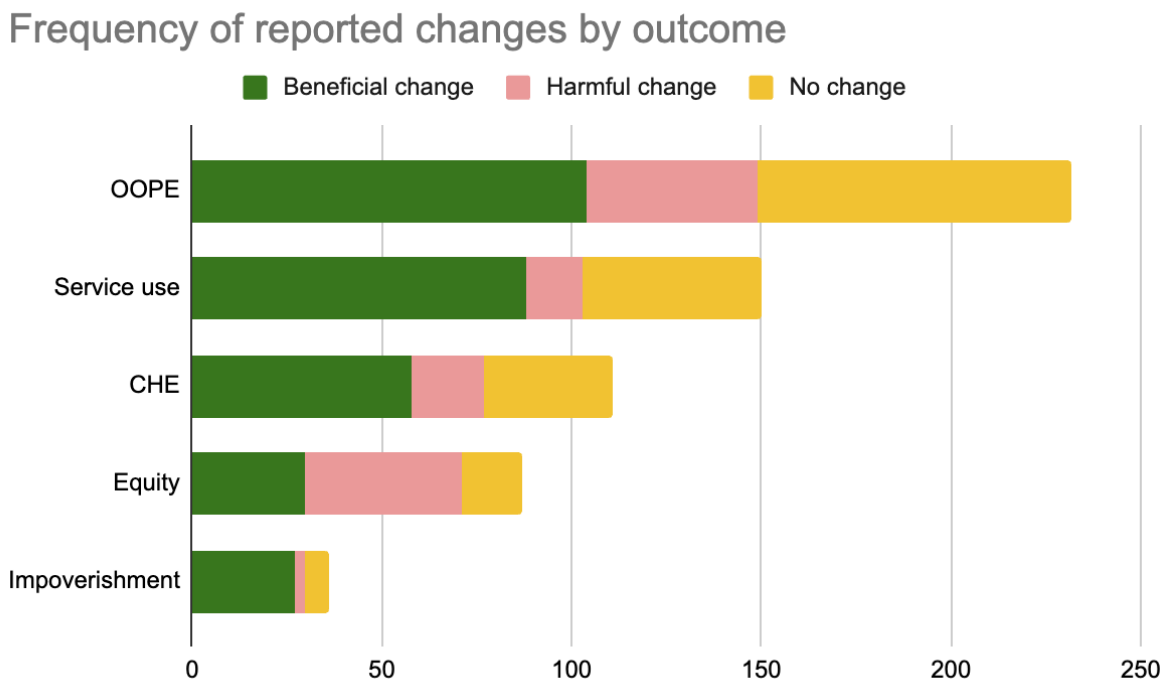
Initially, foregone care was designated as a primary outcome, with service use intended as a secondary measure. However, given inconsistencies in how studies reported these outcomes, all findings related to changes in service use were consolidated into a single category. This approach provided a clearer and more cohesive understanding of how interventions influenced healthcare utilisation.

Equity was another secondary outcome of interest. In some cases, equity was explicitly measured using tools such as the Concentration Index (CI), while in other cases, it was inferred from studies that disaggregated results by specific subgroups, such as income or wealth quintiles.

In addition to the core financial protection metrics, other related measures were included where available. However, outcomes related to health status or service quality were only considered if there were adverse effects, allowing the analysis to stay focused on financial protection while capturing unintended consequences.

Health system expenditures and other costs not directly related to financial protection are addressed separately in the intervention cost section below. This separation ensures the analysis remains focused on understanding the core outcomes related to financial protection while accounting for broader economic impacts elsewhere.

Figure 1. Frequency of reported changes by outcome



5.1.4 MEASUREMENT DIFFERENCES

It is important to recognize that studies employed different methods and indicators to define and measure these outcomes. Key variations observed across outcome categories include:

- **Data sources**: Some studies relied on self-reported surveys, while others used administrative or other records.
- **Statistical adjustments**: Techniques such as logarithmic transformations and inflation adjustments were used to standardize data, with varying levels of consideration given to confounding factors.
- **Recall periods**: The timeframe for data collection varied, with studies using a range of recall periods (e.g. past month, three months, or a full year).
- **Population scope**: Some studies assessed changes in the entire population, while others focused specifically on those who received a particular intervention. Some studies measure the change in the outcome measures in the population over time, and some follow specific cohorts. Additionally, some studies specifically focus on vulnerable groups, such as households with chronic illnesses.

Table 3 provides further details on the variations within specific outcome measures.

Additionally, methodological differences were observed in how studies measured **exposure to the intervention**. Some studies assessed exposure at the **individual or household level**, determining whether a person or household was directly enrolled or participated in the intervention. In contrast, other studies assumed that all members of a community were enrolled if an intervention was available to that population at that time. For example, all residents of a given village were considered "insured" if an intervention, such as an insurance programme, was implemented at the **village or community level**, regardless of actual individual uptake.

This variation in measuring exposure highlights the challenges in comparing results across studies, as it may influence how financial protection outcomes are interpreted.

Table 3. Description of outcomes

Outcome	Description
OOPE	OOPE in healthcare refers to the direct costs borne by patients or their families for medical services, treatments, and related expenses, typically excluding insurance reimbursements but potentially encompassing direct non-medical costs such as transportation and food. The types of costs included also varied, with some studies focusing solely on direct medical costs, while others included non-medical expenses (like transportation) or even indirect costs (such as lost wages). The treatment of insurance reimbursements differed as well, with some studies considering payments made at the point of service (co-payments, deductibles) while others looked at net costs after reimbursements. The level of analysis ranged from individual to household or per capita levels, with some studies narrowing their focus to specific conditions (e.g., hospitalisation, cancer treatment) while others assessed all healthcare services. These methodological variations highlight the complexity in comparing OOPE outcomes across studies.
CHE	CHE occurs when healthcare expenses surpass a certain proportion of a household's financial capacity. The studies included in this review use various methods to measure CHE, differing in thresholds, definitions of capacity to pay, healthcare costs considered, and assessment metrics. **Differences in thresholds**: The most common threshold used is 40% of a household's capacity to pay, defined as total consumption expenditure minus food costs. This focuses on discretionary spending, where healthcare expenses exceeding this threshold are considered catastrophic. Alternatively, some studies use a 10% threshold of total household income, without adjusting for essential (food) expenditures, offering a broader perspective. Others explore thresholds ranging from 20% to 60%, though typically as part of a sensitivity analysis. **Differences in the denominator (definition)**: Definitions of capacity to pay vary. Most studies use total household consumption minus food expenses, while others rely on regional metrics like county-level rural per capita income adjusted for household size or simply annual disposable income excluding taxes. **Differences in the numerator (OOPE)**: Most studies use OOPE as the numerator. As a result, methodological variations noted in the row above for OOPE add an additional layer of variation to how CHE is calculated. **Differences in metrics used**: Metrics include CHE incidence (percentage of affected households), prevalence (proportion within a population), and mean catastrophic payment gap (severity of financial burden). Some studies also evaluate protection from CHE by examining changes in incidence after insurance reimbursements.

Outcome	Description
Impoverishment	Impoverishment is commonly measured by assessing how healthcare costs push households below a predefined poverty line. The differences in measurement arise from how the poverty line is defined and the metrics used to assess the impact. Specific measures include incidences of poverty (whether a household's income per capita falls below the poverty line) (Zhai 2021) or extreme poverty (using World Bank definitions) (Koch, 2022), as well as severity or depth of poverty (e.g. how far below the poverty line households fall) (Zhai 2021). Additionally, some studies assess the **probability of poverty based on vulnerability** (Zhou 2022). While some studies cover all these aspects, others focus on specific measures. These metrics are also applied differently across studies. For example, one study measures poverty depth as the extent to which individuals in poverty fall below the poverty line, expressed as a continuous variable ranging from 0 to 1 and analysed using a Tobit model (Zhai 2021). In contrast, another study defines impoverishing health spending as annual OOPE exceeding 6% of the total annual household income, indicating that healthcare expenses push households into deeper poverty (Chen and Pan, 2019).
Foregone care/service utilisation	The studies included in the systematic review use a variety of approaches to measure healthcare service utilisation and foregone care, with a focus on both the type of care accessed and the barriers that prevent individuals from receiving needed services. Metrics such as delayed care, self-treatment, unmet needs for treatment (e.g. foregone hospitalisation when needed), and partial treatment (e.g. early hospital discharges due to cost concerns) are used to capture instances where patients forgo necessary care. Many studies assessing service utilisation examine inpatient care (e.g., hospital admissions and length of stay) and outpatient visits, using metrics such as the number of visits, admissions, and the use of specific services like preventive care, dental services, or rehabilitation. Utilisation is captured through a mix of patient-report through surveys, admission and health service records, and financial metrics such as total healthcare expenditure. Additionally, some studies explore shifts in the use of different types of care, such as traditional versus formal medical care, or primary versus tertiary care. However, when these shifts are reported without clarifying whether they had a beneficial impact on access or use of healthcare services, these changes are only included in the narrative results rather than in the tables of findings.
Equity	Some studies explicitly measure equity as an outcome, while others report disaggregated results across groups, allowing for inferences about changes in equity. Direct measures include the Concentration Index (CI), which assesses how healthcare utilisation or financial burdens, like OOPE and CHE, are distributed among income groups. The CI helps identify whether interventions reduce disparities. Additionally, some studies use the Gini coefficient to evaluate income equity, particularly in rural areas. Disaggregated analyses compare outcomes across socioeconomic groups, such as income quartiles, urban versus rural populations, age groups, gender, and those living in poverty versus those not.
Adverse outcomes	Several studies examined outcomes which were not related to financial protection, service use or equity. These were only extracted if an adverse consequence was reported. Relevant measures included mortality, health outcomes, service quality (e.g. waiting times), and provider behaviours.

5.2 FINDINGS BY INTERVENTION CATEGORY: DEMAND SIDE FINANCING

Interventions targeted demand-side elements through various means, including vouchers, conditional cash transfers, medical reimbursements, insurance subsidies, and zero-interest loans.

Demand side financing reforms included: voucher programmes in Bangladesh and Kenya, both targeting pregnant women and delivery, and for maternity care in India; direct reimbursement of medical

expenditures in China; subsidisation of insurance premia for low-income households in China and the Philippines; and a zero-interest health loan to support medical expenditures in Uganda (see Table 4). Most of the studied interventions in this category targeted vulnerable groups such as the poor, elderly, disabled and/or mothers/pregnant people. The exceptions were the Medical fee direct reimbursement in China (Pan et al 2022) and Zero interest health loans in Uganda (Nannini et al., 2021).

Table 4. Demand side financing: Overview of interventions

Programme name	Programme summary	Country	Scale	Funding	Accompanying measures	Articles
Voucher programme	Provides poor pregnant women with cash incentives and free access to antenatal, delivery, and postnatal care, as well as cash incentives for providers to offer these services.	Bangladesh	Pilot - Functioning in 46 out of 489 sub-districts in the country. Covering a population of roughly 10 million people.	Government and donors	Not discussed	Nguyen et al, 2012
Voucher programme	Voucher Programme: Subsidised reproductive health services (safe motherhood, long-term family planning, and gender-based violence recovery services) targeting the poor.	Kenya	Subnational - multiple counties/provinces/regions	Health ministry budget and donors	n/a	Obare et al, 2015
Janani Suraksha Yojana (JSY) – Conditional cash transfer	Conditional maternity benefit (cash) transfer scheme - safe motherhood scheme launched in 2005 to encourage institutional deliveries and reduce out-of-pocket expenditures on maternity care. The scheme provides a cash incentive of Rs. 1400 to mothers who give birth in a public health facility and Rs.500 to the women below poverty line who deliver at home assisted by trained professionals. This scheme falls under the umbrella of the National Rural Health Mission in India.	India	National	Government health budget	This support comes in addition to maternity care, which is supposed to be free of cost when delivered through the public health system.	Mukherjee et al, 2018; Gopalan and Varatharajan, 2012
Medical fee direct reimbursement	Participants receive reimbursement for medical expenses incurred in real-time at the place of treatment, but with a slightly higher coinsurance level than if they were treated within the SHI coordinated area.	China	National	Government health budget	n/a	Pan et al, 2022

Programme name	Programme summary	Country	Scale	Funding	Accompanying measures	Articles
Medical Financial Assistance (MFA)	Subsidizes the insurance premium for low-income households and subsidizes, through a direct cash transfer, a percentage of OOPE for low-income people after medical insurance reimbursement.	China	National	Government health budget	This support comes in addition to all insurance mechanisms in place	Chen et al, 2023; Liu et al, 2017; Shi et al, 2010
Zero interest health loans	Community based zero-interest loans on health expenditures	Uganda	Pilot	Donor	n/a	Nannini et al, 2021

Most studied DSF programs showed at least some beneficial effects. Programs reduced OOPE (e.g., vouchers in Bangladesh and Kenya, JSY in India), lowered CHE incidence (e.g., loans in Uganda, China's reimbursement policy), improved healthcare utilisation (e.g., JSY and vouchers increasing maternal care access), and reduced financial hardship (e.g., loans in Uganda decreasing reliance on costly coping strategies).

However, China's MFA programme, aimed at low-income households, had limited success in improving healthcare affordability and access, showing minimal impact on OOPE, CHE incidence, foregone care, and SHI enrolment, possibly due to inadequate funding or design, though empirical studies provide little explanation for its lack of impact.

DSF programs, such as JSY in India, have struggled to fully address financial barriers to healthcare. One reason for this is because demand-side financing is not sufficient to cover the costs of accessing care or does not supplement indirect costs of accessing care. For example, JSY required the use of designated health facilities, forcing women to incur significant OOPE to access distant facilities despite the availability of non-designated options nearby. Mothers and ASHAs also had to spend on supplies due to systemic constraints (Gopalan 2012). Similarly, financial barriers were a primary obstacle to inpatient care in China, where the MFA and NRCMS schemes fell short of providing sufficient financial protection. Among NRCMS-enrolled patients who avoided inpatient care, 80.2% cited economic reasons, underscoring the inadequacy of these schemes in mitigating healthcare costs (Shi 2010). Catastrophic payments and medical impoverishment often increased after healthcare payments but before reimbursements, leaving patients vulnerable to financial shocks (Shi 2010). These challenges disproportionately affected lower-income households, those with multiple chronic illnesses, and individuals with less education.

Another reason is the need to address supply-side alongside demand-side barriers. For example, in the example of JSY, informal payments remained a significant issue. While JSY aimed to reduce OOPE, it fell short, with about 40% of the incentives reportedly diverted to providers as informal payments, particularly in public-sector facilities (Gopalan 2012). Mothers shared that accessing JSY benefits often increased costs at primary health centres compared to earlier deliveries without the programme (Gopalan 2012). Women expressed a preference for integrating JSY with complementary schemes like RSBY (a government-sponsored health insurance scheme) (Gopalan 2012). Among options like free care, JSY alone, and a combined approach, women strongly favoured the latter, reflecting the potential value of measures which combine supply and demand side approaches in offering comprehensive financial protection (Gopalan 2012).

Socioeconomic disparities influenced the impact of demand-side financing programs like India’s JSY and Uganda’s zero-interest healthcare loans. In Uganda, poorer households relied on loans as their primary means of accessing care, but those that were not part of community groups, often the most marginalised, including smaller households, women-led families, and individuals with lower literacy, were excluded, raising equity concerns (Nannini 2021). Interventions can also inadvertently exclude the most marginalised groups. In India, only some poor households took up JSY incentives for institutional deliveries. Whilst young, literate, and first-time mothers preferred institutional deliveries, whereas women over 25 and those living far from hospitals were less inclined towards institutional deliveries (Gopalan 2012).

A study assessing the effects of JSY on CHE in Varanasi found that exclusion from JSY had serious implications: mothers who did not benefit were up to 18 times more likely to incur CHE at the 10% threshold and 13 times more likely at the 40% threshold. JSY beneficiaries in poorer quintiles spent a larger share of their income than wealthier ones on maternal health care (Mukherjee 2018). However, a study in Orissa, which examined the impact of JSY on OOPE, found that mothers who did take up the JSY incentive incurred higher OOPE. JSY covered only 25.5% of maternal healthcare costs in rural areas and 14.3% in urban areas, leading to additional out-of-pocket expenses for some mothers (Gopalan 2012). JSY encouraged institutional deliveries, with 93% of mothers citing financial incentives as a motivator and one-third saying they would have delivered at home without them, but it may have worsened their financial situation (Gopalan 2012).

The cash incentive provided by JSY did not effectively tackle inequity in who bears the greatest costs of maternity care: working women faced a higher burden of maternity-related expenditure, incurring lost wages in addition to OOPE, with agricultural and casual labour households facing the highest burden (Mukherjee 2018). Additionally, poorer JSY households spent about Rs.2000 more than wealthier JSY households; authors' reflections suggest this may be due to low social capital, forcing poorer people to make informal payments in public health facilities to receive services (Mukherjee 2018).

These inequities highlight the issue of programs benefiting some poor households while excluding the most marginalised.

Table 5. Demand side financing: Results

Outcome	Positive change	Negative change	No change
	3	1	2
OOPE	• A community-based pilot of zero-interest healthcare loans in Uganda reduced the share of health expenditures over total monthly consumption by 5 percentage points for enrolled participants (Nannini 2021). • A voucher programme in Bangladesh reduced maternal OOPE by 640 Taka (US$9.43), equivalent to 64% of the sample's average monthly household expenditure per capita (Nguyen 2012). • In Kenya, a voucher programme significantly decreased the proportion of women paying for antenatal ($p<0.01$), delivery ($p<0.01$), and postnatal care ($p<0.05$) (Obare et al., 2015).	OOPE was higher for institutional deliveries supported by the JSY programme, at approximately US$80, compared to domiciliary deliveries (US $29-32) and non-JSY institutional deliveries (US$35) (Gopalan 2012).	MFA beneficiaries in China had a higher ratio of OOPE to per capita household non-food expenditure compared to non-beneficiaries, but the difference was not statistically significant (Chen et al., 2023: ID 240). Intra-provincial medical reimbursement policy in China showed no significant change in OOPE hospitalisation expenses or percentage of OOPE hospitalisation expenses in annual household expenditures (Pan et al., 2022).
	3	0	4
CHE	• The JSY, India programme reduced CHE incidence significantly but minimally, helping 8.1% and 15.3% of households escape CHE at 10% and 40% thresholds. For beneficiaries, 25.6% exceeded the 10% income threshold (down from 33.7% without JSY) and 40.8% exceeded the 40% capacity-to-pay threshold (down from 56.1%). Non-beneficiaries were significantly more likely to incur CHE, with odds ratios of 18.53 (10% threshold) and 13.37 (40% threshold) (Mukherjee 2018).	n/a	Three studies examining China's Medical Financial Assistance programme, which targeted low-income households, found that it had no significant impact on reducing CHE incidence or intensity. CHE incidence was higher among MFA beneficiaries than non-beneficiaries, indicating no effective financial protection for low-income rural households (Chen et al., 2023: ID 240; Shi 2010; Liu 2017). No significant changes were observed for the poorest quintile over 60 or other income/age group combinations following China's direct settlement policy (Pan et al., 2022).

Outcome	Positive change	Negative change	No change
	• The community-based pilot of zero-interest healthcare loans in Uganda reduced CHE incidence by 22 percentage points among those who enrolled in the programme (Nannini 2021). • China's intra-provincial medical reimbursement policy reduced CHE rates by 10.09% (95% CI: 5.15–15.03%, p<0.001) (Pan et al., 2022). • China's direct settlement policy significantly reduced CHE rates for middle-aged individuals in the lowest (24.51%, p<0.01) and second income quartiles (17.32%, p<0.05), and for older adults in the second income quartile (21.31%, p<0.01). (Pan et al., 2022)		
	0	0	1
Impoverishment	n/a	n/a	MFA had minimal impact on medical impoverishment in China, preventing impoverishment in only one household in the study. It showed no effect on the intensity of impoverishment (Shi 2010).
	2	0	1
Foregone care	• JSY India significantly increased maternal healthcare utilisation from 2005 to 2010, with annual growth rates of 20.3% for institutional deliveries, 8.4% for antenatal care, and 5.9% for postnatal care. Deliveries receiving JSY benefits rose from 3.7% in 2005–06 to 87.3% in 2009–10. Institutional deliveries showed the most substantial growth compared to antenatal and postnatal care (Gopalan 2012).	n/a	MFA in China had no significant effect on reducing unmet hospitalisation needs (Shi 2010).

Outcome	Positive change	Negative change	No change
	• The voucher programme in Bangladesh increased utilisation of maternal health services, with a 46.4 percentage point higher probability of using qualified providers and a 13.6 percentage point higher probability of institutional delivery in intervention areas. However, there was no significant effect on Caesarean section rates (Nguyen 2012).		
	0	0	1
Equity	n/a	n/a	MFA in China, which targets poor populations, had no significant effect on income-related inequality in healthcare utilisation, consistent with the lack of significant changes in OOPE and CHE (Chen et al., 2023: ID240). Although JSY reduced OOPE share by a greater percentage in the poorest (2.7%) than the richest quintile (1.3%), the concentration index for both JSY beneficiaries and non-beneficiaries was negative (-0.185 for beneficiaries and -0.187 for non-beneficiaries), indicating that poorer households still faced a greater burden of catastrophic maternal healthcare costs. Health care expenditure was highly regressive, with poorer households spending a larger share of their disposable income (12.9%) than richer households (5.3%) (Mukherjee 2018).
Other	Financial hardship • The community-based pilot of zero-interest healthcare loans in Uganda reduced financial hardship (assessed through the adoption of costly coping strategies in response to illness) by 27 percentage points among programme participants. Households in the second and third wealth tertiles faced a lower	n/a	The MFA intervention in China, designed to increase SHI enrolment among low-income households, showed no significant impact in achieving this goal (Liu, 2017).

Outcome	Positive change	Negative change	No change
	likelihood of financial hardship compared to the poorest tertile (Nannini 2021).		

5.3 FINDINGS BY INTERVENTION CATEGORY: USER FEE FORMS

Fourteen (14) user fee reforms (including abolition, reduction, as well as exemptions) were identified: 7 countries removed user fees for some or all parts of care for pregnant women and their newborn, at times children up to five (Sierra Leone, India, Benin, Burkina Faso, Mali, Morocco, and Nepal); Burundi, Cambodia and Peru removed user fees for poor sections of the population; Cameroon and Malawi removed user fees for People Living with HIV (PLHIV), in particular for the Antiretroviral Therapy (ART), and Zambia removed user fees for all PHC level services.

Table 6. User fee reforms: Overview of interventions

Programme name	Programme summary	Country	Scale	Funding	Accompanying measures	Articles
Janani Shishu Suraksha Karyakram (JSSK)	Removal of user fees - Delivery, caesarean section, drugs and consumables, diagnostics, diet during stay, provision of blood, and transport between home to health institution is provided free of cost. Newborn care up to 30 days after birth also included.	India	National	Government health budget	Comes as a complement to *Janani Suraksha Yojana* (JSY), free delivery care in public health facilities, and for any medical treatment of sick neonate up to 30 days of birth.	Tripathi et al, 2014
Removal of user fees for specific maternal services	Benin: free CSection but no other cost (such as complication) covered; Burkina Faso: 80% reduction of all fees for deliveries and complications with additional support for transport; Mali: free CSection; Morocco: free delivery and CS	Benin, Burkina Faso, Mali and Morocco	National	Government health budget	n/a	Witter at al, 2016
Removal of user fees for delivery and children healthcare	Originally, exemption only applied to the poorest women, i.e. those identified as indigents by social services staff, were exempted from any payment. Thereafter, exemption included pregnant women, lactating mothers and children under five.	Burkina Faso	National	Not specified originally, then supported by government health budget	None in first phase, then supplemented by PBF	Ridde et al, 2015; Aye et al, 2023
Removal of user fees for indigents	Removal of user fees - Free healthcare for indigents	Burundi	Pilot (Karuzi province)	Donor (INGO) and contribution by population through flat fees	none	Lambert-Evans et al, 2009

Programme name	Programme summary	Country	Scale	Funding	Accompanying measures	Articles
Removal of user fees within Health equity Fund (HEF)	User fee exemption of health centre outpatient consultations for the poor	Cambodia	Pilot	Government health budget	Multiple concurrent measures: introduction of user fees, introduction of a health equity fund and CBHI and strengthening of contracting with public and private providers.	Korachais et al, 2019
Removal of user fees for antiretroviral treatment (ART)	Free access to antiretroviral treatment for people living with HIV	Cameroon	National	Not specified	None	Bousmah et al, 2021
Removal of user fees for antiretroviral treatment (ART)	Access to free HIV treatment expanded through ART clinics between 2004 and 2010	Malawi	National	Government health budget and donors	None	Dickerson et al, 2020
Free Newborn Care (FNC) programme	Subsidy for treatment of sick newborn admitted in hospital that includes admission charge, bed charge, laboratory diagnosis, drug and doctor's fee.	Nepal	National	Government health budget	None	Sunny et al, 2021
Premium subidisation	Full subsidisation by the state for basic healthcare at public facilities for poor adult population.	Peru	National	Government health budget	Increased budget allocation to health, including upgraded health facilities	Neelsen et al, 2017
Free Health Care Initiative (FHCI)	Removal of user fees for pregnant women, lactating mothers and children under five	Sierra Leone	National	Government health budget and donors	Systematic strengthening of of supply side.	Edoka et al, 2016; VanDuinen et al, 2021
Removal of user fees	Removal of user fees in public primary healthcare facilities (rural areas in 2006, urban areas in 2011)	Zambia	National	Government health budget and donor	Compensation grants to facilities loosely based on utilisation of care	Masiye et al, 2016; Lepine et al, 2018
Hospital Provided Discounts	Diverse combination of tax-financed subsidies, fee discounts as well as health	Philippines	National	Various	n/a	Caballes et al, 2012

Programme name	Programme summary	Country	Scale	Funding	Accompanying measures	Articles
	insurance support administered at hospital level. The fee exclusions or write-offs are facilitated by social workers in government hospitals, specifically benefit the poor. Others, such as Senior Citizens' discounts, apply only to certain groups and are not necessarily geared for the poor or the very sick.					

User fee reforms, such as fee removal or exemptions, often reduce OOPE, CHE, and inequities. However, their impacts are inconsistent, with mixed findings on equity, unintended consequences, and healthcare utilisation.

Indirect costs, often not addressed by such reforms, play a critical role in shaping total OOPE. For instance, in Cambodia, while health expenditures decreased by 16.3% in intervention groups compared to controls, transport costs increased by 7% (Korachais, 2019). Similarly, in Nepal, the removal of user fees for newborns reduced costs for hospital beds but led to increased spending on medicines (Sunny, 2021). This issue was also evident in India: persistent out-of-pocket expenditures on medicines and diagnostics, driven by limited availability of drugs, ultrasounds, and reagents for blood tests in public health facilities, highlighted the need to address supply-side barriers alongside user fee removal policies like JSSK (Tripathi, 2014). These examples illustrate that user fee reforms can lower costs for specific services, but often leave systemic inequities or hidden expenses unaddressed.

Uneven impacts on OOPE can have ripple effects on deeper measures of financial protection, like CHE. Vulnerable groups can fall through the gaps, or new vulnerable groups can be created. For example, Cameroon's free ART policy significantly reduced CHE among the poorest but paradoxically increased it for middle-income groups (Bousmah, 2021). Similarly, in Zambia, the removal of user fees improved access but also led wealthier individuals to shift from private to government or mission facilities. This shift potentially crowded out poorer users, perpetuating inequities and leaving CHE almost three times higher among the poorest quintile compared to the wealthiest.

Targeting interventions effectively is crucial to address these gaps and inequities. In another example, the Sierra Leone Free Health Care Initiative (FHCI) highlights the importance of considering both the types of interventions targeted – such as high-cost interventions, which can have implications for putting people at risk of poverty – and the groups targeted, as benefits were unevenly distributed, with the poorest and least educated still facing greater financial burdens. While the FHCI showed no significant change in the likelihood of children under five paying for consultation or prescription, it protected 30.2% of women undergoing caesarean sections from being pushed below the poverty line and shielded 81.8% of women undergoing caesarean sections from catastrophic expenditure. The initiative also significantly increased utilisation of maternal health services, including ANC4 visits, public facility deliveries, deliveries with skilled health workers, postnatal care, and 3rd-course DPT vaccinations (van Duinen, 2017). However, the benefits were still unevenly distributed. A higher proportion of women in the richest quintile (92.6%–98.8%) avoided catastrophic expenditure compared to the poorest quintile (48.3%–74.5%), and women with no education spent twice as much as those with higher education. User fee reforms intended to improve equity can sometimes create unintended disparities, especially if they fail to address systemic inequities or broader structural issues.

Table 7. User fee reforms: Results

Outcome (and assessments reporting on it /14)	Beneficial change	Harmful change	No change
	9	1	5
OOPE	Health interventions across various settings led to significant reductions in OOPE, with savings ranging from 7% to 92%: • Burkina Faso: Facility-based delivery costs decreased by 71% for all deliveries (Witter, 2016), with gratuité policies reducing the probability of OOPE for children under five by 84% and total OOPE by 53.7% between 2014 and 2017 (Aye et al, 2023). • Cambodia: Health Equity Fund (HEF) extension decreased health expenditures by 16.3% (p<0.01) when assessed using diary data (Korachais, 2019). • India: The JSSK programme in India reduced childbirth-related OOPE among urban slum dwellers by 33% in public sector hospitals (p=0.001). Direct costs decreased significantly, though variation in reported reductions were noted (authors report a 23% overall reduction in out-of-pocket expenditure and 33% reduction in public sector hospitals) (Tripathi 2014). • Malawi: ART access reduced medical spending by 906 Kwacha in urban households (p<0.01) (Dickerson, 2020). • Morocco, Benin, Mali: Caesarean costs fell by 74% in Benin, 78% in Mali, and 92% in Morocco (Witter, 2016).	• Nepal (Sunny, 2021): After implementing the Free Newborn Care (FNC) programme, the cost of medicine increased significantly, rising from a mean of USD 3.4 ± 10.8 to USD 4.4 ± 9.5 (p=0.02).	• Cambodia (Korachais, 2019): HEF extension did not significantly affect the incidence of health expenditures or the amount of health expenditure when assessed using household survey data. • Malawi (Dickerson, 2020): ART expansion in rural households resulted in a small reduction in medical spending (169 Kwacha) but was not statistically significant (p < 0.2). • Nepal (Sunny, 2021): No significant change in the proportion of mothers paying for sick newborn care after the Free Newborn Care (FNC) programme (aOR-0.91, 95% CI: 0.65–1.28, p = 0.59), nor in total service expenses before (USD 14.4 ± 12.1) and after (USD 13.0 ± 9.6) implementation (p = 0.71). • Peru (Neelsen, 2017): Granting tax-financed basic care entitlements had no effect on average healthcare OOPE . • Sierra Leone (Edoka et al. 2016): The Free Health Care Initiative (FHCI) showed no significant change in the likelihood of children under five paying for consultation or prescription charges in public facilities (p > 0.05).

Outcome (and assessments reporting on it /14)	Beneficial change	Harmful change	No change
	• Nepal: Free newborn care reduced bed charges from USD 6.4 ± 6.5 to USD 3.1 ± 5.3 (p<0.001) (Sunny, 2021). • Peru: Medical spending for the poorest reduced by up to 25% (Neelsen, 2017). • Zambia: User fee removal resulted in 77% of individuals not incurring OOPE when they visited primary health care providers (Masiye, 2016), and an 89% reduction in medical OOPE compared to 2004 (Lépine, 2018). • Hospital discounts and PhilHealth reimbursements in the Philippines reduced discharge bills by 33–46% of hospitalisation expenses. Discounts were most impactful in Department of Health (DOH) hospitals and negligible in private hospitals. (Caballes et al., 2012).		
	4	1	3
CHE	• Cameroon (Bousmah, 2021): The free ART policy significantly reduced the probability of CHE for people with low levels of wealth (e.g. US$6 to $50). It reduced CHE probability by 23.7 percentage points (from 37.2% to 13.5%) among individuals in the lowest wealth decile and by 10.8 percentage points (from 22.3% to 11.5%) in the second lowest decile. • Sierra Leone (vanDuinen, 2021): The Free Health Care Initiative (FHCI) protected 81.8%	• Cameroon (Bousmah, 2021): The free ART policy unexpectedly increased the probability of CHE by 7.4 percentage points ($p < 0.05$) among individuals in the fifth wealth decile (out of 10 total wealth deciles)	• Cameroon (Bousmah, 2021): The free ART policy showed no significant effect on CHE risk for wealth deciles other than the poorest. • Malawi (Dickerson, 2020): ART access between 2004 and 2010 had no significant relationship with CHE at the 20%, 30%, or 40% thresholds in either urban or rural households ($p > 0.05$). • CHE prevalence for childbirth in urban slum households in India decreased from 21.2% to

Outcome (and assessments reporting on it /14)	Beneficial change	Harmful change	No change
	of women undergoing caesarean sections from catastrophic expenditure, which would have affected 66.1% and 28.8% of patients at the 10%- and 25%-income thresholds, respectively, without the intervention. • Following implementation of JSSK in India, the prevalence of CHE for childbirth in urban slum households decreased from 40% to 23% in the bottom three wealth quintiles, a statistically significant reduction (P=0.01) (Tripathi 2014). • After controlling for household expenditure and other factors, the likelihood of CHE is significantly lower among those who visited public primary health facilities (OR=0.676, SE=0.062, p<0.01). The intensity of catastrophic expenditure among households with cata-strophic expenditure shows that on average, households exceeded the 40% threshold by 8% (Masiye 2016).		15.6% post-JSSK, but the reduction was not statistically significant (p=0.151). After adjusting for confounders, no difference in CHE odds was observed between pre- and post-JSSK periods (OR=2.05; 95% CI=0.9–4.7) (Tripathi 2014).
	1	0	1
Impoverishment	• Sierra Leone (vanDuinen, 2021): The FHCI protected 30.2% of women (92 out of 305) undergoing caesarean sections from being pushed below the poverty line (Int$ 1.90 per day), with a national protection estimate of 29.8%.	n/a	• Burundi (Lambert-Evans, 2009): Despite the exemption policy in Burundi, 25.9% of households seeking healthcare became impoverished, with most resorting to debt, selling future harvests, or liquidating assets to cover costs, highlighting ongoing financial vulnerability.
	3	0	4

Outcome (and assessments reporting on it /14)	Beneficial change	Harmful change	No change
Foregone care	• Sierra Leone (Edoka et al. 2016): The FHCI significantly increased utilisation of maternal health services, including ANC4 visits, public facility deliveries, deliveries with skilled health workers, postnatal care, and 3rd-course DPT vaccinations. • Cambodia (Korachais, 2019): The extension of the HEF led to a modest increase of 2.5 percentage points in health centre outpatient consultations for individuals living near health facilities (significant at the 10% level) based on analysis of household healthcare diaries. • Peru (Neelsen et al., 2017): Tax-financed care entitlement increased the probability of ambulatory care utilisation by 6 percentage points (41% of the pre-reform rate) and raised medication use by 3.8 percentage points (14% of the baseline rate). The reform also led to a one-third increase in diagnostic testing rates and improved access to first-line medical treatment.	n/a	• Cambodia (Korachais, 2019): Analysis of household survey data found no significant impact of the HEF extension on health centre outpatient consultation utilisation. • Burundi (Lambert-Evans, 2009): While access to healthcare among cardholders (91.1%) was higher than non-cardholders (80.5%, CI: 72.4–88.6), the difference was not statistically significant. However, cardholders had 1.58 times greater likelihood of accessing care compared to non-cardholders (relative risk: 1.58, CI: 0.99–2.54). • Peru (Neelsen et al., 2017): There was no significant change in utilisation of diagnostic tests, dental or ophthalmic care, or hospitalisation rates following the introduction of tax-financed basic care for the poor. The unconditional DID for hospitalisation rates was negative but not significant. • Burkina Faso (Witter et al., 2016): Annual overall delivery rates increased each year in absolute terms, and continued to increase after policy implementation, albeit at a lower rate than prior to implementation (rates increased by 12% between 2002–2007, and 6% post-2007 ($p < 0.0001$)).
	2	2	1
Equity	• Cameroon (Bousmah, 2021): The free ART policy significantly reduced CHE for the	• Zambia: The likelihood of CHE was nearly three times higher in the poorest quintile	• Burkina Faso (Ridde, 2015): No significant change in equity following the user fee

Outcome (and assessments reporting on it /14)	Beneficial change	Harmful change	No change
	poorest socioeconomic deciles, demonstrating equity improvements. • Benin, Burkina Faso, Morocco (Witter, 2016): Relative inequity between the poorest and richest declined over time, with larger gains in coverage among the poorest, though substantial inequities in care utilisation persisted.	compared to the richest (OR = 2.9; p < 0.00), indicating significant inequities despite the abolition of user fees (Masiye, 2016). The removal of fees led the wealthiest 50% to shift from private to government or mission facilities, with an 18-percentage point increase in utilisation, potentially crowding out poorer users (Lépine, 2018). • Sierra Leone (vanDuinen, 2021): Under the FHCI, a much higher proportion of women in the richest quintile (92.6%–98.8%) avoided catastrophic expenditure compared to the poorest quintile (48.3%–74.5%). Women with no education spent twice as much (Int$ 31, IQR 11; 68) as those with higher education (Int$ 15, IQR 2; 35).	reduction policy, as household OOPE decreased uniformly across socio-economic strata, with no wealth-related differences in the amount paid or in facility delivery rates over time.

5.4 FINDINGS BY INTERVENTION CATEGORY: BEHAVIOUR CHANGE

Only one study specifically assessed the effects of a behaviour change intervention piloted to address maternal health in India (Choudhary 2022).

Table 8. Behaviour change: Overview of interventions

Programme name	Programme summary	Country	Scale	Funding	Accompanying measures	Articles
Kangaroo mother care	Kangaroo mother care is a health care intervention which involved promoting and supporting prolonged skin-to-skin contact and exclusive breastfeeding for neonates through nine home visits in the first 28 days, where workers provided guidance, observed practices, and helped families overcome barriers to these practices.	India	Pilot	Not included	Not discussed	Choudhary 2022

It found significantly lower **OOPE** among infants in the intervention arm, with reductions of $8.5 overall and $25.9 for inpatient care (p=0.03), and a significant reduction in the **risk of impoverishment** due to healthcare seeking (hazard ratio: 0.56, p=0.01). The intervention did not have significant effects on CHE and only slightly lowered mean OOPE per infant (mean difference of -US$5.5 (95% CI: -US$11.4 to US$0.3, p=0.06) and OOPE for outpatient care (-US$0.96, p=0.21).

2 other behaviour change interventions assessed as part of other categories also result in positive changes across all outcome categories but are reported in further detail in the other tables (Chen and Pan, 2019, Yu 2013).

5.5 FINDINGS BY INTERVENTION CATEGORY: UPGRADED HEALTH FACILITIES

Only one study assessed the specific effects of upgrading health facilities (Bonfrer 2018). The Kwara state of Nigeria upgraded health infrastructure alongside the establishment of a voluntary health insurance mechanism.

Table 9. Upgraded health facilities: Overview of interventions

Programme name	Programme summary	Country	Scale	Funding	Accompanying measures	Articles
Infrastructure investment	Upgrading of two largest health facilities in the Afon and Aboto Oja districts in Central Kwara contracted by the health insurance scheme	Nigeria	Pilot (Kwara state)	State government budget and donor	Subsidised low cost VHI	Bonfrer et al, 2018

The quality improvements from the Kwara State Health Insurance programme led to a 15.1 percentage point increase in hospital deliveries among uninsured pregnant women (95% CI: 1.1–29.1; p = 0.04). The programme also had a positive and significant impact on formal care use. However, following quality improvements, health expenditures for the uninsured dropped significantly, averaging 1,095 Naira (5.79 USD) per capita annually, likely due to the uninsured avoiding now more expensive services. This unintended consequence is notable, as 67% of the population did not enrol in the insurance programme. The study also

showed no significant change in formal healthcare utilisation among the uninsured, suggesting that quality upgrades specifically did not effectively increase formal healthcare use.

Upgraded health facilities were also included as accompanying intervention for assessments of insurance schemes and of exemptions / UF abolition or reduction (Huang 2023, Zoidze 2013, Bauhoff 2011, Gotsadze 2015, Okunogbe et al., 2022, Bonfrer 2018, Neelsen 2017). These studies, detailed in other sections, do not separately evaluate the specific impact of upgraded facilities within the broader programs. Across contexts, these programs showed mixed impacts: OOPE were significantly reduced for targeted groups in China, Georgia, and Peru, but some studies showed no change for broader populations. CHE outcomes varied, with reductions for poor households in Nigeria but increases in Georgia. Foregone care and equity improvements were observed in settings like China and Peru through increased service utilisation and reduced disparities, while some programs in Georgia and Nigeria showed no change or even unintended adverse consequences, such as crowding out of primary care services or increased reliance on costlier care.

5.6 FINDINGS BY INTERVENTION CATEGORY: SHIFT IN SERVICE DELIVERY ORGANISATION AND FUNDING

Five countries refocused their service delivery on primary health care: Iran empowered GPs to lead PHC teams whilst integrating a strict referral and gatekeeping system; Türkiye took a similar approach but focused on setting up Family Health Centres to provide preventive and primary care; Zambia established maternity waiting homes for new mothers; and finally, China piloted a hospital reform programme aimed at improving the cost effectiveness of its spending. Lastly, Medecins Sans Frontieres (MSF) implemented a MDR-TB patient-centred home-based treatment in Eswatini.

Table 10. Shift in service delivery: Overview of interventions

Programme name	Programme summary	Country	Scale	Funding	Accompanying measures	Articles
Family Physician (FP) plan	The plan involves a general practitioner (GP) leading a team that provides PHC, preventive care, and referrals, and introduces a gatekeeping function to referrals. Launched in 2005 for rural population, extended in 2011 for urban population.	Iran	Pilot	Government health budget	Within health insurance reform	Homaie Rad et al, 2017
Family Medicine (FM) programme	The government engaged general practitioners as contractual independent family doctors. The family medicine scheme provides free preventive care and family medicine services, which require a copayment in some cases, irrespective of insurance status.	Türkiye	National	Government health budget	User fees abolition or reduction and training of family doctors through short specialty programme	Tirgil et al, 2023; Erus, 2020
Maternity Waiting Homes (MWH)	MWHs are residential facilities located near health care facilities qualified to provide basic emergency obstetric care utilised by expecting mothers within 1-2 weeks of delivery, with a focus on the most remote women.	Zambia	Pilot	Government health budget and donors	Not discussed	Fontanet et al, 2021
Home based MDR-TB project	MSF supported, home-based intervention: delivered using a novel patient-centred home-based treatment approach based on task-shifting of directly observed therapy (DOT) and MDR-TB injection administration traditionally restricted to professional nurses. This was a shift from government led clinic base care.	Eswatini	Pilot	Government health budget and donor	Not discussed	Peresul et al, 2024
Public hospital reform	The main reform includes: to remove medication mark-up, to raise charges for medical services that require professional skills (physician services and surgical fees), and to lower charges for advanced medical diagnostic devices.	China	Pilot	Government health budget	Within broader set of reforms and supported by essential medicine reforms	Zhang et al, 2017
Investment in PHC	To attract and retain quality physicians in PHC institutions, the Chinese government provided full subsidies for public PHC facilities, established a general practitioner led PHC workforce, launched programs for postgraduate training and continuing professional development, and improved remuneration and working conditions.	China	National	Government health budget	Within broader set of reforms	Zhu et al, 2024

The outcomes of these interventions varied significantly. CHE and impoverishment were not reported in any of the studies. OOPE outcomes were mixed, reflecting the diverse objectives and designs of these interventions.

Three interventions specifically targeted vulnerable groups, including individuals with MDR-TB (Peresul et al., 2024) and mothers or low-income households (Fontanet 2021; Erus 2020). Equity improvements were not explicitly reported, and some interventions worsened equity outcomes. In Iran, the urban family physician programme increased healthcare inequality, with the concentration index rising from 0.0072 to 0.707, disproportionately benefiting wealthier individuals, particularly in drug service utilisation (HomaieRad 2017). Similarly, Türkiye's Family Medicine Programme increased the financial burden on poorer households, as the share of disposable income which households spent on healthcare rose more for low-income groups. Although the programme reduced OOPE for doctor visits in some regions by up to 122%, it also introduced copayments and increased the overall likelihood of OOPE, resulting in mixed financial equity impacts (Erus 2020; Tirgil 2023).

In China, a public hospital pilot project increased OOPE by 16.9% from baseline, despite a reduction in medicine costs. Hospital stays also increased by 0.51 days, with the rise in inpatient spending attributed to higher charges per service day rather than longer stays (Zhang 2017).

Table 11. Shift in service delivery: Results

Outcome (and assessments reporting on it) (/7)	Beneficial change	Harmful change	No change
	4	**2**	**3**
OOP	China: • Inpatient medication spending decreased by CNY 147 under a public hospital pilot project in Hubei province (Zhang 2017). • Strengthening PHC led to small decrease in health expenses as a percentage of total consumption expenses for urban residents by approximately 1.8% and rural residents by 0.02 to 1.7% depending on the model used (Zhu 2024). Eswatini: A home-based MDR-TB care strategy significantly reduced patient OOPE to $276 (vs. $670 for clinic-based care) and caregiver OOPE to $174 (vs. $451 for clinic-based care) (Peresul et al., 2024). Türkiye: The Family Medicine Programme reduced monthly OOPE for doctor visits by 42% (3 TL reduction on an average baseline of 7.21 TL). For some regions, doctor visit costs decreased by 122% compared to initial averages. Türkiye's Family Medicine Programme reduced expenditures at the 90th, 95th, and 99th percentiles, especially at the highest percentile, where spending decreased from 26.64% in 2003 to 22.58% in 2008. (Tirgil 2023).	China: A public hospital pilot project in Hubei province led to a 16.9% increase in out-of-pocket spending (CNY 385, 95% CI 382–399) and an increase in total inpatient spending by CNY 1160 (95% CI 1155–1166) from baseline levels in the intervention group (Zhang 2017). Türkiye: Co-payment policies and the extension of primary care services increased the likelihood of making OOPE by 14.12 percentage points in 2010 compared to 2008. By 2013, 70% of individuals reported making OOPE Türkiye's Family Medicine Programme increased the proportion of households incurring OOPE increased from 41.85% in 2003 to 55.59% in 2008. Median health expenditure share rose from zero to 0.17%, with significant increases observed at the 75th and median percentiles by 2013. (Erus 2020).	Iran: The urban family physician programme showed no overall change in OOPE. While outpatient and dental OOPE slightly increased (significant at 90%), there was no significant change in inpatient, drug, or paramedical service OOPE (HomaieRad 2017). Türkiye: The family medicine programme did not reduce household hospitalisation or medication expenditures, showing no significant impact on OOPE in these areas (Tirgil 2023). Zambia: No significant differences in OOPE were found between women using maternity waiting homes (MWHs) and those delivering directly at rural health facilities. Adjusted results also showed no difference in spending likelihood or amounts spent (Fontanet 2021).
	1	0	0
CHE	In China, strengthening primary healthcare reduced household CHE incidence significantly	n/a	n/a

Outcome (and assessments reporting on it) (/7)	Beneficial change	Harmful change	No change
	(M1: -0.01; 95% CI: -0.017 to -0.003, p<0.01; M2: -0.021; 95% CI: -0.040 to -0.001, p<0.001) (Zhu 2024).		
Impoverishment	0	0	0
	2	0	**1**
Foregone care	**China:** • A public hospital pilot project in Hubei province led to an increase in the average length of stay per inpatient by 0.51 days compared to the control group. (Zhang 2017) **Türkiye:** The introduction of co-payments and the family medicine system resulted in a 10% increase in per capita healthcare visits in 2010. Access to healthcare doubled from 2003 to 2008, with more households having at least one member visiting a physician. The inability to visit a physician or hospital decreased significantly by 2012. (Erus 2020)	n/a	**Iran:** Following the urban family physician programme, no statistically significant change was found in utilisation of any services (inpatient, outpatient, paramedical, dental, or drug services). (HomaieRad 2017)
	0	2	1
Equity	n/a	In Iran, the implementation of the urban family physician programme significantly increased healthcare inequality, as measured by the Concentration Index, which rose from 0.0072 to 0.707. This increase disproportionately favored wealthier individuals, with the most pronounced inequality observed in drug service utilisation (HomaieRad 2017). Türkiye's Family Medicine Programme led to a greater increase in the share of healthcare	In **Iran**, the urban family physician programme had no significant effect on healthcare utilisation across inpatient, outpatient, paramedical, dental, and drug services. Additionally, no significant changes were observed in inequality related to OOPE as measured by concentration indices (HomaieRad 2017).

Outcome (and assessments reporting on it) (/7)	Beneficial change	Harmful change	No change
		spending among the lowest spenders, indicating increased financial burden for poorer households. (Erus 2020)	

5.7 FINDINGS BY INTERVENTION CATEGORY: PROVIDER PAYMENT REFORMS

Provider reforms were numerous in China. Different areas of the country experimented with case-based payments, capitation, Diagnosis Related Groups (DRGs), Diagnosis Intervention Packet (DIP), Episode Bundled Payments (EBP), quota payments within global budgets and global budgets. Documented reforms in other countries are less complex, including the introduction of capitation in Myanmar, pay for performance (P4P) in Tanzania, DRGs in Thailand, and P4P and contracting in Türkiye.

Table 12. reforms: Overview of interventions

Programme name	Programme summary	Country	Scale	Funding	Accompanying measures	Articles
Case-based payment reform	Financing and payment model which focuses on increasing the reimbursement rate for TB patients and reforming provider payment methods by replacing fee-for-service with a case-based payment approach.	China	Pilot then national	Government health budget and donor	Expanded benefit package for TB patients.	Jiang et al, 2019; Xin et al, 2019
Case based payment reform	Case-based payment reform (2017–2019) for coronary heart diseases, setting fixed tariffs (10–20% patient copay) covering all medical costs. The reform targeted 20 case groups across 18 selected hospitals. Providers could choose between case-based payment and fee-for-service models, ensuring geographic accessibility	China	Pilot	Insurance schemes	n/a	Wu et al, 2022
Capitation reform	The insurance fund in URBMI was divided into three parts to reimburse inpatient care: capitation fund, the equalisation fund (meant to compensate the loss of small hospitals), and the preservation fund (created to reimburse providers for performing special outpatient services).	China	Sub-national (Changde province)	Government general budget	Insurance reforms and open enrolment	Gao et al, 2014
Capitation and DRG reform	Two-stage funding reform in county hospitals: DRGs-based payments for inpatient care and capitation funding for outpatient care. Under DRG payments, hospitals receive a prospectively set fixed amount for each admission according to its DRG	China	Sub-national (Zhejiang province)	Government general budget	Shift in service delivery (towards PHC)	Zhang et al, 2023; Meng et al, 2022
Diagnosis-Intervention Packet (DIP)	Launched in 2018 and designed to increase transparency and efficiency in healthcare funding, DIP classifies patients using ICD-10 and ICD-9-CM3 codes, forming over 10,000 groups with assigned weights based on historical costs to reflect resource use. Payments, determined post-treatment, align with the regional healthcare budget, unlike pre-determined reimbursements in DRG-based systems. Unlike DRG, DIP excludes demographic factors like age and gender in classifications.	China	Pilot	Government general budget	Not discussed	Chen et al, 2023
Episode-based bundled payment (EBP)	Policy reforming payment for childbirth by transforming the FFS payment into episode-based bundled payment (EBP). EBP pays a case rate for an entire episode of care. The cases with complications or complex conditions were still paid on a FFS basis.	China	Sub-national (Fujian province)	Government general budget	Part of broader insurance reforms	Meng et al, 2019a

Programme name	Programme summary	Country	Scale	Funding	Accompanying measures	Articles
Quota payment for specific diseases under global budget	Quota payment system reform for specific diseases under a global budget in rural China, as part of the NRCMS. for the publicly administered New Cooperative Medical Scheme (NCMS) to incentivise hospitals to have slower NCMS expenditure growth. The core of the global budget formula derives the expected budget for each hospital by multiplying together the expected volume and average NCMS expenditure per admission for the hospital over the previous year.	China	National	Government health budget	Part of the NRCMS insurance	Li H et al, 2018
Global budget	The Ministry of Human Resources and Social Security asked provinces to reform the payment of health insurance, and try to carry out global budget reforms, moving away from fee for service.	China	National	Government health budget	Part of insurance mechanism reforms	He at al, 2017; Huang et al, 2016; Tsuei and Yip, 2024
Diagnosis Related Group (DRG)	China transitioned from a fee-for-service (FFS) payment system to a diagnosis-related group (DRG) payment system. The DRG system groups patients into clinically meaningful categories representing equivalent health resource usage.	China	National	Government health budget	Not specified	Xiang et al, 2024
Integrated payment system	An integrated payment system was implemented as part of the the New Rural Cooperative Medical System (NRCMS) In Anhui, China. The integrated payment system in Anhui, China, centers on Medical Partnerships that manage prepaid global budgets from the NRCMS, covering most healthcare services. It combines capitation, fee-for-service, and case payment models to promote cost-efficiency and quality care, with financial risk and incentives shared among county, township, and village healthcare providers.	China	Sub-national	Government health budgt	Part of NRCMS Insurance	Li, H., et al 2019
Adapted DRG mechanism	Under this new payment system, a certain number of points reflecting the relative usage of resources are assigned to each DRG group. The monetary value for each point is calculated according to the predetermined regional budget and the point sum of all inpatient cases for a whole year in Jinhua. As a result, the amount of payment for each inpatient is not fixed, and the annual reimbursement for each hospital is affected by the service volume and its cost relative to other hospitals	China	Pilot	Government health budget	Not specified	Zhang et al, 2022
Strategic Purchasing (SP) Scheme	Capitation-based health financing scheme:. PSI/Myanmar simulated the role of a purchaser, contracted private GP clinics and designated them as SP clinics for the provision of a comprehensive package of primary care services to poor households in their catchment area. Payment was a fixed capitation payment	Myanmar	Pilot	Donor	n/a	Thein et al, 2021

Programme name	Programme summary	Country	Scale	Funding	Accompanying measures	Articles
	model. The project applied pro-poor beneficiary selection by systematically selecting poor households in the catchment areas of SP clinics within the selected townships. PSI/Myanmar issued health cards, as a proof of registration, to members from more than 2500 poor households in the catchment areas.					
Strategic purchasing through hospital reform	Systemic hospital purchasing reform and drug procurement reforms were implemented which included: • Adoption of a "two invoices system" and prescription behaviour monitoring; • Combining fee-for-service model and diagnosis related groups; and Reducing diagnostic tests prices and raising healthcare services prices	China	Pilot	Not specified	n/a	Meng et al, 2019b
Performance based financing (PBF)	A PBF programme was implemented alongside gratuité policies (user fee removal) for pregnant and lactating women and children under 5. The PBF programme was launched in 2014 and discontinued in 2018.	Burkina Faso	Sub-national (12 districts across 6 regions)	Not specified	User fee removal	Aye et al, 2023
Pay for Performance (P4P)	A payment for performance scheme was introduced in 2011 by the Ministry of Health and Social Welfare. Facilities receive a bonus payment based on achievement of targets relating to maternal and child health care. These payments are additional to the funding facilities receive to cover operational costs and the salaries of health workers. The targets are either for specific services or for care provided during a service. Performance targets are assessed, and payment made every six months. The programme design stipulates that at least 75% of bonus payments are distributed among health workers with the remainder being retained by the facility for investment in drugs, supplies or minor renovation.	Tanzania	Pilot (Pwani region)	Not specified	n/a	Binyaruka et al, 2015; Anselmi et al, 2017
DRG payment reform	Shift from retrospective FFS to DRG with risk adjustment payment in July 2007. The Thai DRG-based payment rate covers 2450 case groups based on the ICD-10 and 54 additional case groups based on the Thai mental health case mix classification in	Thailand	National	Government general budget	n/a	Damrongplasit and Atalay, 2021

Programme name	Programme summary	Country	Scale	Funding	Accompanying measures	Articles
	2011. There is also a risk adjustment factor for the DRG-based payment to reflect additional funding for teaching hospitals or regional differences					
Multiple purchasing reforms	Private Hospital Contracts (2004): Social security organisations began contracting with private hospitals, allowing insured members to use private facilities. Performance-Based Payment Scheme (2004): MoH hospitals adopted a performance-based payment model, similar to fee-for-service, which incentivised providers to increase service volumes, improving hospital productivity. Hospital Ownership Transfer (2005): management of hospitals was transferred to the MoH, consolidating hospital administration under the Ministry to enhance efficiency and streamline service delivery.	Türkiye	National	Government general and health budget	Reform occurred within broader insurance reforms, and as part of a service delivery reform	Erus and Aktakke, 2012

Results show varied effects, with some reforms significantly reducing OOPE and improving healthcare access, while others increased costs, inequities, and adverse consequences, such as cream-skimming. Outcomes varied both within and across countries.

For example, in China, where most studies were conducted, capitation reform reduced inpatient OOPE by 19.7% and OOPE ratio (percentage of total medical expenditure that is paid directly by the patient) by 9.5% ($p<0.01$) (Gao, 2014). However, DRGs combined with capitation reforms in Zhejiang province showed no effect on OOPE per inpatient visit (Zhang, 2023). The introduction of DRG systems across China decreased OOPE per admission and reduced OOPE as a share of patient expenditure (Meng, 2022), but in some cases increased OOPE for rural residents (Xiang, 2024). Pay-for-performance (P4P) schemes reduced OOPE for institutional deliveries by 4.5–5.0 percentage points in Tanzania, with the poorest groups benefiting the most (Binyaruka, 2015; Anselmi, 2017). However, the likelihood of paying OOPE for antenatal care increased under the same reforms (Binyaruka, 2015).

Most studies focused on OOPE, with very few reporting on CHE or impoverishment. Only two studies examined CHE, and neither found a beneficial effect. Case-based payment for TB patients in China increased the proportion of patients incurring CHE from 47.8% to 56.3% (at a 10% CHE threshold, $p<0.05$), though changes at other thresholds were not significant (Jiang, 2019). Capitation-based health financing in Myanmar showed no significant change in CHE at the 40% threshold of household capacity to pay (Thein, 2021). However, the same study reported significantly reduced health-induced impoverishment, affecting six individuals (Thein, 2021).

Service utilisation was another widely studied outcome, with payment reforms showing mixed effects. Reforms like P4P in Tanzania, capitation in Myanmar, and bundled payments in China increased care utilisation or reduced foregone care. Conversely, DRG reforms in Thailand and capitation in China reduced utilisation or had no effect. Global budget reforms increased readmissions, raising concerns about trade-offs in quality (He, 2017).

No studies reported beneficial equity effects, and several documented worsened equity outcomes after provider payment reforms. Case-based payment reform in China increased CHE risk for lower-income TB patients (Jiang, 2019). DRG payments exacerbated rural inequality (Xiang, 2024), DIP reform raised OOPE burdens for the oldest-old (Chen, 2023), and financial reforms increased costs for TB patients (Xin, 2019). In Myanmar, capitation financing disproportionately benefited wealthier households (Thein, 2021).

Adverse consequences were also observed. Case-based payment reform for coronary heart diseases in China led to cream-skimming and up-coding by providers, reflecting opportunistic behaviour (Wu, 2022). DIP reform increased the length of stay for the oldest-old, indicating declining service quality (Chen, 2023). Autonomy under reformed payment systems significantly increased OOPE per admission ($p<0.01$), suggesting profiteering tendencies (Tsuei and Yip, 2024). These findings underscore persistent challenges in balancing provider payment incentives, as evidenced across other supply-side interventions in China.

Table 13. Provider payment reforms: Results

Outcome	Beneficial change	Harmful change	No change
	14	**11**	6
OOP	**China**: Numerous reforms, including capitation, global budgets, and case-based payments, consistently led to significant reductions in OOPE. Effects varied, depending on the reform and context. • Compared to FFS, GBPS reduced OOPE (CNY 148.42 vs CNY 168.27, p<0.001) (Huang et al., 2016). • Capitation reform reduced inpatient OOPE costs by 19.7% and OOPE ratio by 9.5% (p<0.01) (Gao 2014). • Quota payment system reform decreased OOPE ratio for specific diseases by 7.54% in 2015 and 10.35% in 2016 (p<0.01) (Li 2018). • Integrated payment system reform reduced OOPE for cerebral infarction inpatients in 2016 (β=-58.40, p<0.01) (Li 2019). • Case-based payment pilot in China reduced per-admission out-of-pocket payment for coronary heart diseases by 9.2% (P = 0.00022), while out-of-pocket spending for percutaneous coronary stenting patients decreased by 95.5% (Wu 2022). • Systemic reform in Sanming, China, reduced out-of-pocket expenditure by 347.59 CNY (p<0.001) (Meng 2019). • Chinese DRG system decreased OOPE per admission by 19.51% (p<0.001) and OOPE as share of inpatient expenditure by 99.93% (p<0.001) (Meng 2022). • Payment reform in Chinese public hospitals slowed the trend of out-of-pocket payments per visit in tertiary hospitals by 4.18 and secondary hospitals by 4.87 (Zhang 2022).	**China**: • Case-based payment reform increased OOPE for TB patients from RMB 3576 to RMB 5791, with the poorest experiencing the most significant increase (p<0.001) (Jiang 2019). • Quota payment reform raised OOPE ratio for general diseases by 8.26% in 2015 and 9.84% in 2016 (p<0.01) (Li 2018). • Autonomy under reformed payment systems increased OOPE per admission significantly (p<0.01), indicating profiteering tendencies (Tsuei and Yip 2024). • Global budget reform increased OOPE by RMB 188.06 (45.96%, p<0.001) at the practice level, RMB 246.51 at county-level hospitals, and RMB 496.51 at township hospitals (He 2017). • Case-based payment for coronary diseases raised per-admission OOPE by 11% ($447.3, p<0.0001) (Wu 2022). • DRG payments raised rural residents' OOPE for neuropathic diseases by 16.4%, with drug expenses rising 60.7% (p<0.001) (Xiang 2024). • A new payment method in Chinese public hospitals accelerated the rise of outpatient spending per visit in tertiary hospitals by 1.67 units (p = 0.018) and in secondary hospitals by 1.24 units (p = 0.003) (Zhang 2022).	• Autonomy changes in the payment system in China showed no precise association with OOPE (Tsuei and Yip 2024). • DRGs+Capitation reforms in Zhejiang province showed no effect on OOPE per inpatient visit (Zhang 2023). • DIP payment reform in China showed no significant change in OOPE per case (Chen et al., 2023 ID:71). • Tanzania's P4P scheme showed no impact on ANC/PNC exemptions, average payments, or gifts for services (Binyaruka 2015). • DRG-based payment reform in Thailand had no overall effect on inpatient OOPE (Damrongplasit 2021). • PBF interventions were implemented in some facilities in Burkina Faso alongside removal of user fees for delivery and children's health care. PBF led to no substantial reductions in the probability of incurring a positive expenditure, -2.4% (CI -8.2%, 3.4%) or in its magnitude, 3.9% (CI -21.1%, 36.9%). (Aye et al., 2023)

Outcome	Beneficial change	Harmful change	No change
	• Financial reform for TB patients reduced OOPE as a share of income from 35% to 16% ($p<0.05$) (Xin 2019). • DRGs+capitation reform reduced OOPE per outpatient visit by β=-62.973 (p=0.005) (Zhang 2023). • Episode-based bundled payment reform in rural China decreased out-of-pocket payments by 14.24% (significant at 1%) (Meng 2019). **Myanmar**: Capitation-based financing in Myanmar decreased out-of-pocket capacity-to-pay ratios by 24%–18% over three rounds (significant at 1%) (Thein 2021). **Tanzania**: Pay-for-performance (P4P) schemes reduced OOPE for institutional deliveries, with reductions of 4.5–5.0 percentage points, particularly benefiting the poorest groups. (Binyaruka 2015; Anselmi et al., 2017) **Türkiye**: Health financing reforms in 2006 decreased OOPE for public insurees, with significant reductions in both the share and level of health spending. (Erus 2012)	• Episode-based bundled payment reform in rural China increased OOPE as a share of total spending by 8.72% ($p < 0.01$) (Meng 2019). • Diagnostic Intervention Packet (DIP) payment reform raised OOPE per case significantly (p=0.000), with increases of 2.5% per month for the oldest patients' post-reform (Chen 2023). P4P in **Tanzania** increased the likelihood of paying OOPE for antenatal care (Binyaruka 2015). Health financing reforms in **Türkiye** raised the probability of OOPE among public insurees by 6 percentage points, a 15% relative increase from 2003 to 2006 (Erus 2012).	
	0	1	1
CHE	n/a	Case-based payment implementation for TB patients in China increased the percentage of patients incurring CHE from 47.8% to 56.3% (when the CHE threshold was 10%, $p<0.05$). Changes at other thresholds were not significant. (Jiang 2019).	Capitation-based health financing in Myanmar showed no statistically significant change in the occurrence of CHE, defined as OOPE reaching or exceeding 40% of household capacity to pay (Thein 2021).
	1	0	0
Impoverishment	In Myanmar, a capitation-based health financing scheme significantly reduced health-induced impoverishment, with rates dropping from 0.7% (n=6	n/a	n/a

Outcome	Beneficial change	Harmful change	No change
	people) at baseline to 0.0% by round 3 (P < 0.02). (Thein 2021)		
	9	2	4
Foregone care	• Quota payment system reform in rural China reduced the length of stay for quota payment diseases by 0.77 days in 2015 (p < 0.01) and 1.21 days in 2016 (p < 0.01). (Li, 2018) • Global budget reform in China increased hospitalisation times for the intervention group from 1.41 to 1.6, showing a positive impact on care utilisation. (He, 2017) • The C-DRG system in China led to an 8.33% decrease in length of stay for older adults with hip fractures (p < 0.001). (Meng, 2022) • A new payment method in Chinese public hospitals resulted in a significant increase of 100 inpatient visits in tertiary hospitals (p < 0.05). (Zhang, 2022) • A two-stage funding reform in Zhejiang province significantly reduced outpatient visits in county hospitals (β10 = -85,498.101, p = 0.002; β11 = -9,404.615, p = 0.007) under capitation funding for outpatient care, while other indicators showed no significant changes. (Zhang, 2023) • Episode-based bundled payment (EBP) reform in rural China decreased caesarean delivery rates by 33.97% (p < 0.01) and reduced length of stay by 17.29% (p < 0.01). (Meng, 2019) • A capitation-based health financing scheme in Myanmar increased the utilisation of Strategic Purchasing (SP) clinics, with rates rising significantly in Hlegu from 20.5% to 61.9% and in Shwepyithar from 0.2% to 7.9%. (Thein, 2021)	• A government P4P scheme in Tanzania significantly reduced non-targeted service utilisation in lower-level facilities, with dispensary visits dropping by 35% (57.5 fewer visits per month) for children under five and by 33% (90.8 fewer visits per month) for those over five (95% CI: -110.2 to -4.9 and -156.5 to -25.2, respectively). (Binyaruka, 2015) • DRG-based payment reform in Thailand led to a significant reduction in inpatient utilisation among CSMBS beneficiaries, ranging from an 8.6% to 15.7% decrease relative to control groups, with effects statistically significant at the 1% level. (Damrongplasit, 2021)	• Systemic reform in Sanming, China, showed no significant change in the length of stay for the rural population after adjusting for cluster standard errors by hospital (p > 0.05). (Meng, 2019) • A new payment method in Chinese public hospitals resulted in no significant change in outpatient or inpatient service utilisation trends in tertiary and secondary hospitals. (Zhang, 2022) • A two-stage funding reform (DRGs+Capitation) in county hospitals in Zhejiang, China, did not result in changes in outpatient or inpatient service episodes during the second stage of the reform. (Zhang, 2023) • A government P4P scheme in Tanzania showed no differential effects on institutional deliveries, antenatal care, postnatal care, or total outpatient visits across socio-economic groups when standard errors were clustered at the district level. (Binyaruka, 2015)

Outcome	Beneficial change	Harmful change	No change
	• A government P4P scheme in Tanzania improved maternal and child health service utilisation, with a 10.3% increase in women receiving two doses of IPT during ANC (95% CI: 4.4% to 16.1%) and an 8.2% increase in institutional deliveries (95% CI: 3.6% to 12.8%). Positive effects on ANC coverage (3.3%, 95% CI: 1.5% to 5.1%) and polio immunisation at birth (5.6%, not significant at $p < 0.05$) were also noted. (Binyaruka, 2015) • P4P schemes in Tanzania showed significant positive effects on institutional deliveries (8.2 percentage point increase, 95% CI: 3.6 to 12.8), deliveries in public health facilities (6.5 percentage point increase, 95% CI: 1.3 to 11.7), and uptake of two doses of antimalarial drugs during ANC (10.3 percentage point increase, 95% CI: 4.4 to 16.1). (Anselmi, 2017)		
	0	4	1
Equity	No beneficial effects on equity reported.	• Case-based payment reform in China increased the financial burden on lower-income TB patients, with a significant rise in CHE likelihood ($P < 0.05$), while higher-income patients experienced a smaller increase in OOPE. (Jiang, 2019) • DRG payment implementation in rural China exacerbated healthcare inequality by increasing out-of-pocket costs and reducing service quality for rural residents. (Xiang, 2024) • The DIP payment system in China resulted in a rising financial burden for the oldest-old hospitalised patients, with OOPE	• The capitation-based health financing scheme in Myanmar did not improve equity, as less affluent households continued to allocate a larger portion of their capacity to pay (OOPCTP) towards healthcare compared to wealthier households, with significantly lower OOPCTP observed in richer quintiles (e.g., 0.78 times lower for Quintile 4, 95% CI: 0.66–0.92, $P < 0.01$; 0.77 times lower for Quintile 5, 95% CI: 0.62–0.95, $P < 0.05$). (Thein, 2021)

Outcome	Beneficial change	Harmful change	No change
		increasing by 2.5% per month post-reform. (Chen, 2023)	
Other	• Episode-based bundled payment reform reduced caesarean delivery probability by 33.97% and length of stay by 17.29% (p<0.01) (Meng 2019).	Significant increase in service utilisation but unclear if beneficial for service use or harmful for service quality • The quota payment system reform under the NRCMS in rural China led to increased length of stay for general diseases in 2015 ($\beta = 1.16$, $p < 0.01$) and 2016 ($\beta = 1.80$, $p < 0.01$). (Li, 2018) • A case-based payment pilot for coronary heart diseases increased monthly per-hospital admissions by 24.7% ($p = 0.0425$). (Wu, 2022) • Global budget reforms in China increased readmission rates by 11.4% ($p < 0.001$). (He, 2017) • A new payment method in Chinese public hospitals led to a significant increase in inpatient visits in tertiary hospitals by 100 ($p < 0.05$). (Zhang, 2022) • A case-based payment pilot in China for coronary heart diseases led to harmful consequences, including cream-skimming behaviours by health providers, such as selecting younger patients with lower CCI, up-coding complications, and retaining higher-cost patients in the fee-for-service system. (Wu, 2022) The DIP payment system in China resulted in adverse consequences for the oldest-old patients, with an increasing trend in length of stay (LOS) post-reform. (Chen, 2023)	n/a

Outcome	Beneficial change	Harmful change	No change
		Financial reform in China increased the financial burden on TB patients within the project, as they incurred higher inpatient expenses and a higher effective reimbursement rate compared to those outside the project (Mann-Whitney U test: $z = -13.455$, $P < 0.001$). (Xin, 2019)	

5.8 FINDINGS BY INTERVENTION CATEGORY: REDUCING COST AND INCREASING ACCESS TO MEDICINE

Reforms related to reducing cost and increasing access to medicine have been documented in three countries: China, where the government established an essential drugs list on which a zero markup policy was imposed to providers; India, in the states of Tamil Nadu (TN), Rajasthan (R) and West Bengal (WB), where a list of medicines was either fully subsidised (TN and R), or partially subsidised (WB); and Madagascar, where the resources collected through an equity fund were used to subsidise medicines.

Studies on drug subsidy interventions evaluated the effects of covering specific drugs or categories through reimbursement lists in China (Diao 2022, Qiu et al., 2014, Liu 2023, Cai 2022, Yang 2023), broad-scope medicine coverage policies in China (Chen 2017, Chen 2020, Chu 2023, Ding and Wu, 2017, Sun 2014, Wang 2019, Yu 2013, Zhu 2022), and medicine subsidies targeting the poor in India (Bose and Dutta, 2018) and Madagascar (Honda 2013).

Table 14. Reducing cost and increasing access to essential medicine: Overview of interventions

Programme name	Programme summary	Country	Scale	Funding	Accompanying measures	Articles
National Essential Medicines System (NEMS)	Launched in 2009, NEMS has five main objectives: establishing the National Essential Drugs List, sustaining quality standards, running the grassroots zero markup policy (ZMP) on essential medicines sales (only for Western Medicines), exempting herbal or Chinese-patented drugs. and improving rational drug use and public procurement. It aimed to eliminate the profit link between physicians and the pharmaceutical industry, and did not allow PHC providers to prescribe drugs outside of the Essential Medicines List	China	Pilot then taken up nationally	Government health budget	Expanded benefit package	Sun et al, 2015; Chen et al, 2017; Diao et al, 2022 ; Ding and Wu, 2017; Chu et al, 2023; Wang et al, 2019; Zhu et al, 2022; Yu et al, 2013; Chen and Pan, 2019.; Qiu et al, 2014; Liu et al, 2023; Chen et al, 2020
National Drug Price Negotiation (NDPN) policy	Implemented in 2016, the NDPN aimed to reduce the price of innovative medicines with high clinical value. The price of medicines was reduced prior to them being included in the national reimbursement drug list (NRDL), and such medicines were called 'negotiated medicines'. Patients can obtain reimbursement for negotiated medicines, which will improve cost-effectiveness and increase affordability. To ensure the	China	National	Government health budget	Not discussed	Cai et al, 2022; Yang et al, 2023

Programme name	Programme summary	Country	Scale	Funding	Accompanying measures	Articles
	accessibility of negotiated medicines, public hospitals must purchase them via the provincial medicine procurement platform, where the negotiated prices are the maximum ones.					
Reducing cost and increasing access to essential medicine	Tamil Nadu (TN) and Rajasthan implemented free medicine scheme in all public hospitals; West Bengal (WB) has devised Fair Price Medicine Shop (FPMS) scheme, a public-private-partnership model in the state, ie heavily subsidised price of medicines in both public and private hospitals	India	Sub-national (three states in India)	State-level funding	Not discussed	Bose and Dutta, 2018
Reducing cost and increasing access to essential medicine	Establishment of equity funds, at public health centres to subsidize free medicine for the poor - these funds recover costs from the sale of medicine, part of which is used to subsidize free medicine for the poor.	Madagascar	National	Health facilities (retain user fees to fund equity fund)	Reform within the Health Equity Fund (HEF)	Honda and Hanson, 2013

No negative outcomes were reported for studies which assessed effects of inclusion of drugs on reimbursement lists. These interventions significantly lowered OOPE for patients. In particular, public health insurance for novel breast cancer medications reduced OOPE by 24% (Diao 2022), while national price negotiations led to an 88.5% reduction in annual OOPE for 17 anticancer drugs (Cai 2022). Similarly, Hepatitis C reimbursement policies resulted in significant decreases of 7,709.9 yuan per outpatient visit ($p<0.001$) (Liu 2023). Such interventions also improved affordability of cancer medicines (Cai 2022), and improved utilisation. However, their effects on outcomes such as CHE, equity and impoverishment were not reported.

Interventions which subsidised drugs for the poor, or which included broader policy reforms had more mixed results, with some reforms significantly improving financial protections and access while others had little to no impact or even unintended negative consequences.

The China Essential Medicine Policy (NEMS), alongside related drug markup reduction or prevention, had a mixed impact, demonstrating both positive and negative effects. It is important to note that while the policy is nationally determined, its implementation varies at subnational levels. NEMS demonstrates the complexities of implementing large-scale healthcare reforms and the importance of considering interactions between charges for various components of health services, such as drugs versus physician costs, as well as potential adverse consequences such as supplier induced demand. Some studies indicate that the NEMS policy reduced OOPE (Yu 2013, Chu 2023, Wang 2019), and even reduced CHE and impoverishment (Sun 2015). However, other studies found that NEMS increased OOPE. For example, in Shanghai, it raised OOPE as well as total spending for oesophageal cancer surgery inpatients (Chen 2020). Researchers attributed this to hospitals compensating for revenue losses caused by the drug markup withdrawal through adjustments in medical service pricing. The prices of 660 medical service items, including previously low-cost services like surgeries, were increased, with higher charges for high-skill services such as physician diagnosis and surgical procedures. Based on these findings, Chen et al. emphasize the need to monitor interactions between drug spending, consumable costs, and medical service adjustments during healthcare reforms (2020).

Similarly, a study in the Shandong region (Chen 2017) distinguished between supply-side and demand-side elements of NEMS. The supply-side interventions required government-owned primary care providers to implement a zero-markup policy for dispensing drugs, limiting them to those on the essential medicines list (EML). This reduced drug prices but also constrained supply. The demand-side interventions focused on enhancing insurance coverage for EML drugs compared to non-EML drugs by adjusting social insurance benefits packages.

The study found that supply-side elements contributed to supplier-induced demand, leading to higher medicine costs and no significant reduction in overall healthcare expenditures, despite the zero-markup policy's cost-reducing potential. Total monthly expenditures for hypertensive patients at supply-side EML providers increased by 30.4% ($p<0.05$) compared to controls and were 28.5% higher ($p<0.1$) at providers implementing both supply- and demand-side measures versus demand-side interventions alone. Drug expenditures surged by 88.6% during the supply-side "ramp-up" period, ultimately increasing by 66.6% ($p<0.01$) upon full implementation.

Medicine subsidisation for the poor has shown mixed results in improving healthcare affordability and equity across regions. While targeted interventions like equity funds in Madagascar have reduced OOPE for members in some urban and suburban settings, their overall effectiveness was limited in rural areas, with statistically insignificant changes in certain contexts (Honda 2013). In India, the results highlight both beneficial and harmful trends. Public healthcare utilisation increased for the poorest classes in states like Tamil Nadu and Rajasthan, signalling improved equity and access. However, OOPE for medicines surged across public and private hospitals, especially in Tamil Nadu and Rajasthan, offsetting potential financial benefits for patients (Bose and Dutta, 2018).

Table 15. Reducing cost and increasing access to essential medicine: Results

Outcome and no. Studies (/14)	Beneficial change	Harmful change	No change
OOP expenditure	8	3	6
	Inclusion of drugs in reimbursement list • Public health insurance for novel breast cancer medications reduced OOPE by 24% (95% CI 0.20–0.27) (Diao 2022). • Hepatitis C reimbursement policies significantly reduced OOPE by 7,709.9 yuan (p<0.001) (Liu 2023). • National price negotiations reduced the average annual OOPE of 17 anticancer medicines by 88.52%, from $44,715.90 to $5,131.17 (Cai 2022). Medicine coverage policy • Subsidised hypertension drug coverage reduced annual OOPE overall and for outpatient services, with median OOPE for outpatient visits dropping from 380 yuan to 192 yuan (p<0.001). OOPE as a percentage of income fell from 27.7% to 12.3% (Yu 2013). • The ZMDP programme reduced OOPE by 54.62% and the OOPE ratio by 14% (p<0.01). Outpatient	Medicine coverage policy • Implementation of Shandong's Essential Medications List increased monthly expenditures (by 30.4% for hypertensive patients (p<0.05) in EML providers which had supply side measures, and by 28.5% (p<0.1) among providers subject to both demand and supply side measures compared to demand-side only EML providers) (Chen 2017). • In Shanghai, the drug markup reduction policy increased OOPE for oesophageal cancer surgery inpatients by 11.27%, or ¥8093.99 per patient ($1278.09) (Chen 2020). • The drug markup reduction policy for oesophageal cancer surgery inpatients resulted in a 6.88% increase in total spending per patient (including non-drug costs) with an absolute growth of ¥6259.29 per patient ($986.67). (Chen 2020). Medicine subsidisation • Medicine expenditures increased across public and private hospitals in West Bengal, Tamil Nadu, and Rajasthan. In West Bengal, public hospital medicine costs rose from 1,326.12 INR to 1,916.52 INR. Private hospital costs increased more sharply in Tamil Nadu (from 1,125.9	Inclusion of drugs in reimbursement list • OOPE for targeted anticancer medicines, including daily costs and the proportion of expenses borne by patients, showed declines but were not statistically significant (Yang 2023). Medicine coverage policy • Total healthcare expenditures at the visit level remained unchanged following the implementation of the Essential Medications List (Chen 2017). • Out-of-pocket, drug, and total annual healthcare expenditures per capita showed no significant differences between intervention and control groups under the National Essential Medicine Policy (NEMP) (Ding 2017). • Inpatient OOPE and the ratio of OOPE to total patient expenditure were unaffected by the zero-markup drug policy (ZMDP) (Chu 2023). • Total OOPE for inpatients did not significantly change after the introduction of the ZMDP (Zhu 2022). Medicine subsidisation • Across urban, suburban and rural settings, equity funds in Madagascar showed limited effects on OOPE. In suburban settings, members saw no significant differences in overall OOPE for outpatient consultations. Mean OOPE for

Outcome and no. Studies (/14)	Beneficial change	Harmful change	No change
	OOPE decreased by 23.66% (Chu 2023). • FCEM policy reduced OOPE by 626 RMB after implementation (p<0.001) (Wang 2019). Medicine subsidisation • Medicine expenditures increased across public and private hospitals in West Bengal, Tamil Nadu, and Rajasthan. In West Bengal, public hospital medicine costs rose from 1,326.12 INR to 1,916.52 INR. Private hospital costs increased more sharply in Tamil Nadu (from 1,125.9 INR to 3,920.06 INR) and Rajasthan (from 2,228.25 INR to 3,451.26 INR). Medical expenditures in private hospitals also rose significantly in Tamil Nadu (from 11,766.71 INR to 19,264.71 INR) and in both public and private hospitals in Rajasthan and West Bengal (Bose and Dutta, 2018). • In urban settings, equity funds in Madagascar significantly reduced OOPE for healthcare services for equity fund members compared to non-members for outpatient consultations overall (p = 0.009) and at public health centres (p = 0.057). In suburban settings, equity fund members paid significantly	INR to 3,920.06 INR) and Rajasthan (from 2,228.25 INR to 3,451.26 INR). Medical expenditures in private hospitals also rose significantly in Tamil Nadu (from 11,766.71 INR to 19,264.71 INR) and in both public and private hospitals in Rajasthan and West Bengal (Bose and Dutta, 2018).	consultations were nearly identical between members and non-members (Honda 2013). In rural settings, no significant differences were observed in OOPE , either overall or at public health centres, between equity fund members and non-members. However, the small number of health-seeking events limited the conclusions (Honda 2013). In Urban settings, differences in OOPE for medicines at public health centres were not statistically significant (Honda 2013).

Outcome and no. Studies (/14)	Beneficial change	Harmful change	No change
	less at public health centres (p < 0.001) (Honda 2013).		
CHE	1	0	0
	Medicine coverage policy • NCMS combined with NEMS provided greater financial protection against CHE for rural households with cardiovascular disease (11.26% incidence for NCMS with NEMS compared to 17.51% for NCMS alone). Additionally, the combined intervention protected a higher percentage of households from CHE (25.68%) than NCMS alone (18.29%). After adjusting for household factors, the risk of CHE was 36% lower for households covered by NCMS plus NEMS (OR: 0.64; 95% CI 0.42–0.98) (Sun 2015).	n/a	n/a
Impoverishment	1	0	0
	Medicine coverage policy • NCMS plus NEMS reduced impoverishment incidence for cardiovascular disease households from 6.91% to 3.30%, with greater protection from impoverishment (34.65%) than NCMS alone (25.05%). However, NCMS alone was more effective for poorer households, while richer households benefited more from the combined scheme. Adjusted analysis showed a significant reduction in impoverishment	n/a	n/a

Outcome and no. Studies (/14)	Beneficial change	Harmful change	No change
	risk (OR: 0.52; 95% CI 0.28–0.97) (Sun 2015).		
Foregone care	9 Inclusion of drugs in reimbursement list led to improvements in utilisation for some populations in all cases where it was examined: • Antiviral drug utilisation among outpatients increased significantly following the second half of 2011, rising from approximately 40% before July 1, 2011, to 50% afterward (Qiu et al., 2014). • Annual outpatient visits and treatments for hepatitis C patients rose significantly after the reimbursement policy in Chengdu (Liu 2023). • Utilisation of 17 anticancer medicines increased by 11.44 DDDs immediately and 3.54 DDDs per month post-policy implementation, with no significant changes in the control group (Cai 2022). • TAM use prevalence increased significantly after the 2017 price negotiation policy, from 1.4–2.1% to 2.9–3.1%, with reduced regional disparities (Yang 2023). Medicine coverage policy • Full coverage for hypertension drugs improved adherence, with 75% of	1 Medicine subsidisation • Hospitalisation rates in public hospitals declined between 2004 and 2014 in West Bengal (74.3% to 70.4%) and in urban areas of Tamil Nadu (36.2% to 32.6%), Rajasthan (63.4% to 58.1%), and West Bengal (65.6% to 55.1%). OOPE for outpatient consultations (overall and at public health centres) were significantly lower for equity fund members than non-members (P = 0.009, 0.057) (Bose and Dutta, 2018).	3 Medicine coverage policy • The National Essential Medicine Policy (NEMP) had no significant effect on annual outpatient visits, with no differences observed between intervention and control groups after controlling for confounders (p=0.707) (Ding 2017). • The zero-markup drug policy did not significantly affect the number of inpatient admissions for ischemic heart disease or chronic renal failure, showing no level or trend changes (p>0.05) (Zhu 2022). Medicine subsidisation • Utilisation of public hospitals for inpatient care in Tamil Nadu remained stagnant at 38.8% during the study period. Payments for medicine were lower for equity fund members but not significantly different (Bose and Dutta, 2018).

Outcome and no. Studies (/14)	Beneficial change	Harmful change	No change
	intervention patients taking prescribed drugs regularly versus 66% in the control group (P=0.034) (Yu 2013). • Length of stay (LOS) for esophageal cancer surgery patients dropped from 27 to 22 days post-DRMP (Chen 2020). • Average LOS for elderly beneficiaries decreased by 3.257 days immediately post-FCEM policy implementation, with a slowed rate of increase thereafter (Wang 2019). • Inpatient admissions for lung cancer increased significantly after the zero-markup drug policy (ZMDP) (Zhu 2022). Medicine subsidisation • Public healthcare facility utilisation increased sharply in Rajasthan (55.2% to 65.6%) and modestly in Tamil Nadu (40.2% to 45.4%) and West Bengal (77.5% rural sector) from 2004 to 2014 (Bose and Dutta, 2018).		
Equity	1	2	1
	Medicine subsidisation In India, public hospital utilisation and benefit shares for the poorest class increased significantly during 2004–2014: • Tamil Nadu: Utilisation rose in rural areas (22.3% to 35.3%) and urban areas (47.63% to 49.42%). The poorest class's benefit share increased from 41.5% to 54.2%, with the urban poorest class's share rising from 57.8% to 64.4%.	Medicine coverage policy • Under NCMS plus NEMS, protection from impoverishment was more effective for richer households (3rd to 5th quintiles) than for poorer households (1st and 2nd quintiles), where NCMS alone offered better protection (Sun 2015). Medicine subsidisation	Medicine subsidisation • Utilisation of public inpatient facilities by the poorest class in rural West Bengal remained stagnant at 28.45% (Bose and Dutta, 2018).

Outcome and no. Studies (/14)	Beneficial change	Harmful change	No change
	• Rajasthan: Utilisation increased in rural areas (27.4% to 37.5%) and urban areas (28.1% to 38.6%). The poorest class's benefit share rose from 25.4% to 41.5%. • West Bengal: The poorest class's urban benefit share declined slightly, from 41.0% in 2004 to 36.2% in 2014. Rural utilisation increased marginally (30.5% to 31.3%) (Bose and Dutta, 2018).	• Utilisation of public inpatient facilities by the urban poorest class declined in West Bengal (42.13% to 33.56%) and Rajasthan (38.38% to 35.94%). In West Bengal, the share of the poorest class utilising public hospitals dropped further from 32.69% to 29.72%, while the rural upper middle class benefited the most from public subsidies (28.15%) (Bose and Dutta, 2018).	
Other	Inclusion of drugs in reimbursement list: • Affordability of 17 anticancer medicines improved dramatically under the policy, with the affordability ratio dropping from 17.35 times to 1.99 times the catastrophic health expenditure threshold. Most medicines had affordability ratios between 1 and 4 (Cai 2022).	Medicine coverage policy The average number of monthly visits increased by 0.189 for hypertension patients ($p<0.05$) and 0.176 for diabetes patients ($p<0.05$) post-EML in Shandong, suggesting supplier-induced demand (Chen 2017).	

5.9 FINDINGS BY INTERVENTION CATEGORY: INSURANCE AND RELATED INTERVENTIONS

Insurance reforms were by far the most widely documented. Efforts to increase population coverage took time, as is apparent by the evolution of reforms we see for example in China or Vietnam, which have both started with fragmented schemes for the formal sector and slowly moved to include poor segments of the population, the informal sector, or otherwise vulnerable population groups such as children or students. Other countries have also worked at increasing population coverage through including the informal sector (for example women in the ready-made garment industry in Bangladesh) and poor segments of the population (for example people living below the poverty line in India and Bangladesh). The modalities for the insurance schemes varied in each country and evolved over time: some chose to rely on some form of voluntary health insurance schemes as the key building block for their coverage extension (for example, Burkina Faso or Ethiopia), whilst others chose to rely on publicly funded health insurance schemes which are targeted towards poor, marginalized or vulnerable populations (for example, Georgia or Mexico) or on SHI which targets the broader population (for example, Ghana or Vietnam), although nearly all countries identified used a combination of mechanisms to progress coverage.

Table 16. Insurance schemes: Overview of interventions

Programme name	Programme summary	Country	Scale	Funding	Accompanying measures	Articles
1. Bangladesh						
Employer-sponsored health insurance (ESHI) scheme	ESHI scheme targeted workers in the ready-made garment (RMG) industry, covering inpatient and outpatient treatment with a maximum coverage of 15,000 BDT (US$192.8) per year. The premium was 487 BDT (US$6.3) per year, borne by the employer.	Bangladesh	Pilot	Private non state actor	n/a	Ahmed et al, 2020
Shasthyo Surokhsha Karmasuchi (SSK)	The government-initiated social health protection scheme, SSK primarily for the below poverty line (BPL) population seeking inpatient care from designated government hospital. The non-contributory scheme offered healthcare to the identified BPL population for 78 disease groups or health conditions. In SSK health facilities, insured patients received all prescribed drugs and diagnostic tests through contracted providers if these items were not available at the hospitals. Transportation services to the DH were provided to the insured patients for referral cases.	Bangladesh	Pilot	Government health budget	n/a	Hasan et al, 2024
Health Security Scheme (HSS)	Mandatory employer sponsored insurance - The scheme is mandatory for all eligible artisans (poor rural women only). Eligibility primarily depends on how regular the artisan works with the foundation (employer). The artisans pay a monthly premium of 25 taka, with an equal contribution from the employer as long as the artisans remain affiliated with one of the participating sub-centres. The scheme allows coverage for a maximum of five persons from an artisan's household. HSS was primarily designed to cover inpatient or hospitalisation costs. The beneficiaries are reimbursed only if the services are received at one of the six empanelled hospitals, which	Bangladesh	Pilot	Donor	n/a	Rabbani et al, 2022

Programme name	Programme summary	Country	Scale	Funding	Accompanying measures	Articles
	include private clinics, government hospitals and public medical college hospitals.					
2. Burkina Faso						
Community Based Health Insurance (CBHI)	Insured members were assigned to one public primary care facility based on geographical location, and were supposed to get free treatment without any co-payment, ceiling or limit on all services included in the scheme's benefit package.	Burkina Faso	Pilot	Government general budget and donor	Shift in service delivery organisation and provider payment reform (Health facilities were paid on a capitation basis. This payment mechanism was applied to all 14 contracted primary care facilities as well as the district hospital)	Fink et al, 2013
3. China						
Labour Medical Insurance System	Labour Insurance System (LIS) was implemented in 1951 to cover the employees of state-owned (SOEs) or collectively-owned (COEs) enterprises as well as their dependents. Was replaced by the Urban Employee Basic Medical Insurance (UEBMI) in 1998.	China	National	Government general and health budget	n/a	Hu et al, 1999
Urban Employee Basic Medical Insurance (UEBMI)	Introduced in 1998, this insurance scheme is mandatory for urban employees, including those working in the private sector. Funding is derived from payroll contributions, with employers contributing 6% and employees 2%. The UEBMI provides coverage for both outpatient and inpatient services and operates at the prefecture level.	China	National (although variations across regions)	Government general and health budget	Various health insurance and health system reforms.	Tan et al, 2019; He et al, 2019; Wang et al, 2018; Xiong et al, 2018; Zhou et al, 2017;Fang et al, 2012; Peng and Zhu, 2021; Liu et al, 2023; Yang et

Programme name	Programme summary	Country	Scale	Funding	Accompanying measures	Articles
						al, 2022; Peng et al, 2021; Xue and Witvorapong, 2022
Urban Resident Basic Medical Insurance (URBMI)	URBMI (Urban Residents' Basic Medical Insurance) was launched in 2007 to cover non-employed urban residents, such as children, the disabled, and the poor, with shared premiums between individuals and the government.	China	National (although variations across regions)	Government general and health budget	Various health insurance and health system reforms.	Atella et al, 2015; Tan et al, 2019; Cheng et al, 2021; Wang et al, 2018; Xiong et al, 2018; Zhou et al, 2017; Fang et al, 2012; Peng and Zhu, 2021; Yang et al, 2022; Peng et al, 2021; Xue and Witvorapong, 2022; Sun et al, 2021
New Cooperative Medical Scheme (NCMS) started in 2003, thereafter New Rural Cooperative Medical Scheme (NRCMS), started in 2007	Public voluntary health insurance for rural population. Established in 2003, households could purchase health insurance for 10 to 20 Yuan per person. Within five years, NCMS had expanded to include 800 million people in rural China. NCMS is administered at the county level, so coverage has varied across regions of China and over time. Although all county programmes cover at least a portion of inpatient expenses, county administrators are encouraged to define benefits packages on the basis of local needs and resources. Local health officials establish reimbursement levels, designate participating providers, pool risk across local subscribers, and experiment with a variety of policy innovations. By 2007, many counties had expanded benefits beyond inpatient reimbursement to include outpatient services at hospitals, township health centres, and village clinics. Other counties required households to invest in compulsory medical savings	China	National (although variations across regions)	Government general and health budget (local and central government contributions)	n/a	Shi et al, 2010; Tan et al, 2019;Babiarz et al, 2010; Ma et al, 2021; Sun et al, 2021; Sun et al, 2016; Cheng et al, 2021; Wang et al, 2018; Xiong et al, 2018; Zhang et al, 2016; Zhou et al, 2017; Fang et al, 2012; Peng and Zhu, 2021; Guo et al, 2016; Lei et al, 2009; Sun et al, 2009; Wagstaff et al, 2009; Zhai et al, 2021; Gu et al, 2017; Ma et al, 2016; Yang et al, 2022; Peng et al, 2021; Xue and

Programme name	Programme summary	Country	Scale	Funding	Accompanying measures	Articles
	accounts. These accounts are often used for outpatient services at village clinics and account balances are carried over to the next year if not used in full					Witvorapong, 2022; Wang et al, 2014
URRBMI (Urban and Rural Resident Medical Insurance)	To promote urban-rural equity and eliminate disparities in medical insurance benefits, the State Council integrated URBMI and NRCMS in 2016, forming the Urban-rural Resident Basic Medical Insurance (URRBMI). The URRBMI encompasses a wide range of healthcare services, and includes coverage for inpatient care, outpatient care, and an expanded range of prescription drugs within the insurance plan. Reimbursement, benefit package, contributions are now the same for both urban and rural residents	China	National (although variations across regions)	Government general and health budget	Various health system reforms	Tan et al, 2019; Ma et al, 2021; Wang et al, 2020; Jiang et al, 2021; Fang et al, 2012; Huo 2023
Long Term Care Insurance (LTCI)	This insurance scheme, launched in 2016, targets the ageing population, specifically disabled or semi-disabled elders. LTCI's coverage differs slightly across cities. The pilot started in 15 cities, each with varying implementation times and target populations. The coverage also differs; some cities primarily cover employee health insurance participants, while others include medical insurance for employees, non-working urban residents, or rural residents.	China	National (although variations across regions)	General government budget	Other social health insurance reforms	Ma and Xu, 2022; Chen and Ning, 2022
Medical Financial Assistance (MFA)(part of HPAP)	Launched in 2012, the MFA provides cash assistance and social health insurance to low-income people to access healthcare. The MFA is a compulsory insurance scheme for very poor households, which subsidizes the insurance premium for low-income households and subsidizes, through a direct cash transfer, a percentage of out-of-pocket healthcare expenses for low-income people after medical insurance reimbursement.	China	National (although variations across regions)		Other social health insurance reforms	Shi et al, 2010; Liu et al, 2017; Zhou et al, 2022

Programme name	Programme summary	Country	Scale	Funding	Accompanying measures	Articles
Private Health Insurance (PHI)	Introduced as complementary to SHI and with the aim of achieving UHC without additional public funding.	China	National (although variations across regions)	Unclear, but assume private contributions	Other social health insurance reforms	Wu and Ercia, 2021
Commercial Health Insurance	Work-place health insurance which supplements SHI schemes.	China	National (although variations across regions)	Unclear	Other social health insurance reforms	Fang et al., 2012
4. Ethiopia						
Community Based Health Insurance (CBHI)	Voluntary CBHI scheme that offers health insurance to about 300,000 households (1.8 million individuals). The Ethiopian CBHI scheme can be characterised as a government run programme with community involvement in scheme design, management and supervision. Benefit packages, registration fees and premium payments were determined in collaboration with regional governments, and are similar within each of the four regions but differ slightly across regions.	Ethiopia	National	Individual's contributions	n/a	Mebratie et al, 2019
5. Colombia						
Social health insurance	The strategy was to assure universal coverage expanding the population covered through payroll linked insurance, and implementing a subsidised insurance programme for the poorest populations, those not affiliated through formal employment. It has a co-payment rate depending on the individual's income. The subsidised plan has similar coverage to the contributive plan, but it does not cover most intermediate level surgery. Special plans have	Colombia	National	Government health budget and individual contributions	n/a	Ruiz et al, 2007

Programme name	Programme summary	Country	Scale	Funding	Accompanying measures	Articles
	different health packages, but all of them have at least the contributive package coverage.					
6. Georgia						
Government-funded medical insurance for the poor (MIP)	Launched as a public single-payer programme in September 2007, the Georgian government contracted the delivery of MIP benefits to Private Insurance Companies (PICs). All 14 PICs operating in Georgia in 2007 could participate, contracting services primarily from private providers or through their own facilities. In 2010, the programme was restructured: the country was divided into 26 medical regions, with three-year contracts awarded to PICs via competitive tendering. Beneficiaries were required to contract with PICs based on residency but could change providers annually if dissatisfied. MIP includes basic benefits package (outpatient and inpatient services; no co-payments and deductibles for utilising health-care services)	Georgia	National	Government health budget	Upgraded health facilities and shift in service delivery funding and organisation	Zoidze et al, 2013; Bauhoff et al, 2010; Gotsadze et al, 2015a, Gotsadze et al, 2015b
7. Ghana						
National Health Insurance Scheme (NHIS)	Publicly funded health insurance - The NHIS, introduced in 2003, allows voluntary enrolment for persons in the informal sector (approximately 80% of the population). While the premium is supposed to vary by income, in some districts, a flat premium payment is charged due to the difficulty of assessing and verifying income in the informal sector. The NHIS mandates a pre-defined benefits package that covers over 95% of the disease conditions, including outpatient consultations, essential drugs, inpatient care, maternity care, eye care, dental care, and emergency care.	Ghana	National	The programme is funded by a 2.5% National Health Insurance Levy on goods and services subject to Value Added Tax (VAT), 2.5% payroll deductions for formal sector employees,	Premium payment exemptions (Pensioners, the elderly, children under age 18, indigents and pregnant women (as of 2008) are exempt from paying premiums.)	Aryeetey et al, 2016; Brugiavini and Pace, 2016; Navarrete et al, 2019; Frimpong et al, 2021; Kanmikil et al, 2019; Nguyen et al, 2011; Okoroh et al, 2020; , Sarkodie, 2021; Abrokwah et al, 2014

Programme name	Programme summary	Country	Scale	Funding	Accompanying measures	Articles
				premiums for informal sector members, and funds from donations or loans		
8. India						
Sampoorna Suraksha Programme (SSP)	CBHI – SSP was introduced in 2004 to provide pooling benefits to self-help group (SHG) members and cover the risk in case of unforeseen consequences of ill health, natural disasters and death. The benefit package of SSP includes medical benefits (cashless treatment for hospitalisation) and special benefits (delivery expenses, death compensation, and sickness allowances). The premium payable for the first member of a family was INR (Indian rupees) 350 in 2011 that was reduced to INR 250 in 2014.	India	Sub-national (Karnataka province)	premium payment by population signing up	n/a	Savitha and Kiran, 2015; Savitha and KB, 2015; Aashima, 2024; Raza et al, 2016
CBHI	CBHI implemented in cooperation with local grassroots non-governmental organisations (NGOs). As community was involved in defining benefit package, these differ across sites.	India	Pilot (Pratapgarh, Uttar Pradesh; Kanpur-Dehat, Uttar Pradesh; Vaishali, Bihar).	Donor	n/a	Dror et al, 2016
Yeshasvini	Community-based health insurance scheme for the poor. Key features include: Enrolment through cooperative societies, low premium subsidised by the government, coverage for a wide range of medical events, including outpatient care, hospitalisation,	India	Sub-national (Karnataka province)	Government health budget and general government budget	n/a	Aggarwal, 2010

Programme name	Programme summary	Country	Scale	Funding	Accompanying measures	Articles
	surgery, and maternal health, fixed tariffs for each surgical procedure; procedures for approval and cash reimbursement have been minimised; empanelled hospitals provide cashless services to members.					
Karnataka's Vajpayee Arogyashree	A government insurance programme that provided free tertiary care to households below the poverty line in about half of villages in Karnataka from February 2010 to August 2012. No enrolment or annual premiums. It also incentivizes providers to seek patients with cardiac and oncologic conditions whose treatment requires costly specialised care	India	Sub-national	Government health budget	n/a	Sood et al, 2014
Pradhan Mantri Jan Arogaya Yojana (PMJAY)	Yojana (PM-JAY), targets more than 500 million economically and socially disadvantaged Indians. Launched in, 2018. PM-JAY aims to provide health insurance to more than 500 million Indians, close to 40% of the population. The scheme eligibility is based on the deprivation and occupational criteria from the Socio- Economic Caste Census 2011 (SECC 2011). Targeting households from economically and socially disadvantaged groups in both rural and urban areas. All public hospitals are automatically included in the scheme, while private hospitals can decide to be empaneled	India	National	Government health budget	n/a	Aashima, 2024; Parmar et al, 2023; Garg et al, 2020
Publicly Funded Health Insurance (PFHI)	PFHI in India mainly covers inpatient care i.e. hospitalisation expenditure. Government carries out the enrolment of the eligible households and individuals. Some states engage insurance firms as intermediaries. Other state governments set up their own ‚Trusts' to act as a purchaser organisations. The states or their purchaser organisations enter into contracts with private and public hospitals. Government announces a defined list of services covered under the scheme and the	India	National	Government health budget	n/a	Garg et al, 2022; Garg et al, 2019; Garg et al, 2022.; Ranjan et al, 2018; Sharma, 2023

Programme name	Programme summary	Country	Scale	Funding	Accompanying measures	Articles
	pre-defined prices at which hospitals will get reimbursed. Hospitals interested in joining the scheme apply for empanelment and those who pass the government scrutiny for defined capacity and quality parameters enter into contracts. The contracted hospitals provide services to enrolled individuals and generate claims through an online process to get reimbursed at pre-defined prices. The services under PFHI are expected to be completely free for the enrolled persons and cash-less at the point of care. The contracts with the hospitals prohibit them to charge any copayments from the patients. The contracts with hospitals are renewed annually					
National health insurance schemes	Various health insurance schemes: 20 percent of the population has some kind of health insurance; approximately 13 percent have the government's health insurance scheme which covers people living below the poverty line and Scheduled Caste/ Scheduled Tribe (SC/ST) groups (13% of rural population and 9% of urban population), 3 percent have a government employer- sponsored scheme, 2 percent have a private health insurance scheme, and 1.6 percent have a private employer-sponsored scheme	India	National	Government general and health budget and private employers	n/a	Ahmed and Mahapatro, 2023; Aashima, 2024
Rashtriya Swasthya Bima Yojana (RSBY)	Government-sponsored health insurance (GSHI): Scheme launched in 2008 and providing wide range of hospital-based healthcare services to BPL families	India	National	Central and state level government budget	n/a	Aashima, 2024; Maroof et al, 2021; Siriam et al, 2020
Rajiv Saroyas Scheme	In 2007 the state began rolling out the Rajiv Saroyas Scheme which was targeted to families with a BPL card in order to reduce financial risk from catastrophic health expenditure among the poor.	India	Sub-national	State level government	n/a	Fan et al, 2012

Programme name	Programme summary	Country	Scale	Funding	Accompanying measures	Articles
	Saroyas was implemented in groups of selected districts over five staggered phases, and gradually covered all 23 of the state's districts by June of 2009. Because the majority of the population of Andhra Pradesh holds BPL cards, Aarogyasri coverage in theory extends today to nearly 65 million people of the 76 million residents in the state. The benefits package of this scheme currently includes 942 tertiary care procedures in designated private and public hospitals for up to a maximum payout of Rs. 200,000 (USD 4,545) and an annual premium of Rs. 330 (USD 7.50), paid by the state on behalf of beneficiaries					
9. Indonesia						
health insurance for poor people (Askeskin)	76.4M, social insurance, identified poor and near poor and their spouse and children, outpatient and inpatient care at public providers only, no co payment	Indonesia	National	Government health budget and general budget (taxes)	n/a	Aji et al, 2013; Sparrow et al, 2013
Civil servant health insurance (Askes)	14M people covered, mandatory, civil servants and armed forces (and their dependents - spouse and 2 eldest children), covers outpatient and inpatient care at public providers only, copayment only for higher class of treatment, heart surgery, renal dialysis or transplant;	Indonesia	National	Government health budget and members contributions (2% of basic salary) and contribution of government (2% basic salary),	n/a	Aji et al, 2013
Employee health insurance (Jamsostek)	4.1M covered, mandatory, formal private employees with spouse and 3 oldest children, outpatient care at public and private, inpatient at public only, no co-payment but cancer treatment, dialysis and heart surgery not covered	Indonesia	National	Government health budget and members contributions	n/a	Aji et al, 2013

Programme name	Programme summary	Country	Scale	Funding	Accompanying measures	Articles
10. Lao PDR						
Community Based Health Insurance (CBHI)	Implemented by government alongside other health schemes: SHI and Health Equity Funds. CBHI targets individuals working in the informal sector, who are not covered by formal SHI. Voluntary, household-level enrolment. Flat-rate premiums that vary based on urban/rural location and household size. Originally designed to be 2.5% to 3% of average household income, the premiums have not been adjusted since 2005. Benefit package: Covers a defined set of healthcare services and drugs provided at district and referral hospitals.	Lao PDR	National	Government health budget, donors and premia	n/a	Alkenbrack and Lindelow, 2015
Social Health Insurance	In 2017, the government of the Lao PDR People's Democratic Republic allocated a budget of 180 billion LAK (approximately 20 million USD) to develop NHI through a combination of three healthcare schemes (SSO, CBHI and HEF) that can potentially cover 75% of the total population. Similar to its predecessor, NHI offers both outpatient and inpatient services, where the contribution rates depend on the location of the health service provided. Patients are expected to pay a flat contribution rate of 5000 LAK (0.60 USD) at a village health centre, 10,000 LAK (1.20 USD) at a referral hospital and 15,000 LAK (1.80 USD) when using provincial hospitals. PD services are only available in district hospitals and referral/provincial hospitals, where patients are expected to pay a flat contribution rate of 30,000 LAK (3.60 USD). In the case of patients transferred from OPD to IPD, they are required to pay an additional amount of 20,000 LAK (2.40 USD) and 15,000 LAK (1.80 USD) in district hospitals and referral/provincial hospitals, respectively. However, patients are also expected to	Lao PDR	Pilot	Government health budget, donors and premia	n/a	Bodhisane and Pongpanich, 2019; Bodhisane and Pongpanich, 2022

Programme name	Programme summary	Country	Scale	Funding	Accompanying measures	Articles
	pay 25% (as a co-payment) for surgery or treatment that costs over 5 million LAK (600 USD)					
11. Malaysia						
Supplementary Private Health Insurance	Voluntary Private Health Insurance	Malaysia	National	Employers and individual premia	n/a	Ng et al, 2024
12. Mexico						
Seguro Popular	Public health-care insurance scheme introduced in 2006 to provide health care for the poor, increasing coverage and reducing out-of-pocket costs. A voluntary health insurance programme, by 2018, covered 53.5 million people, offering 294 essential services and 66 high-cost interventions	Mexico	National	Government health sector	n/a	Servan-Mori et al, 2023; Celhay et al, 2019; Garcia-Diaz et al, 2023; Grogger et al, 2015; knaul et al, 2018; ; Martinez-Garcia, 2018; Nikoloski and Mossialos, 2018; Sosa-Rubio et al, 2011
Instituto de Salud para el Bienestar (INSABI)	Established in January 2020 to replace Seguro Popular, aiming to improve coverage and quality amid corruption concerns. Also voluntary, by 2021, covered 26 out of 32 states. In April 2022, IMSS-Bienestar (a pre-existing federal programme) was announced to take over services for the uninsured.	Mexico	National	Government health sector	n/a	Mori et al, 2023; Celhay et al, 2019; Garcia-Diaz et al, 2023
13. Nicaragua						
Seguro Facultativo de Salud	Voluntary health insurance programme for informal sector workers, established in 2007. The programme allowed individuals to pay a monthly fee for healthcare services at INSS-contracted facilities without copayment. The monthly fee was higher in the first two months (approximately US $18) and then	Nicaragua	Pilot	National Health Insurance Levy and contributions from workers' Social Security payments	n/a	Thornton et al, 2010

Programme name	Programme summary	Country	Scale	Funding	Accompanying measures	Articles
	decreased to approximately US $15 in subsequent months.					
14. Nigeria						
CBHI	Voluntary CBHI - The programme subsidised the cost of annual premiums for enrollees and upgraded selected health facilities in the intervention areas. Enrolment in the insurance programme was at the individual level and could occur on a monthly basis. Coverage lasted for a full year, after which it needed to be renewed. Enrolment and renewal were voluntary.	Nigeria	Sub-national (Kwara state)	Government health budget (state level) and premia	Upgraded health facilities and Demand side financing / cash transfer / voucher / loans	Okunogbe et al, 2022; Bonfrer et al, 2018.
15. Philippines						
PhilHealth	National SHI scheme run by the Philippine Health Insurance Corporation (PHIC), and launched in 1995, replacing the earlier Philippine Medical Care Plan (Medicare) from 1969 and expanding beyond Medicare's initial formal sector coverage. PhilHealth covers some outpatient services but primarily funds in-hospital care. Support for low-income individuals is provided through the Sponsored Programme (SP), with premiums fully subsidised by the government.	Philippines	National	Government	n/a	Caballes et al, 2012
17. Rwanda						
CBHI	Compulsory CBHI (as of 2007) - CBHI covers a basic package of services and drugs from authorised providers anywhere in the country as determined by the Ministry of Health and Rwanda Social Security Board. A referral or transfer from a health centre is required to access a higher level of care. Ubudehe Category 1 patients do not pay any annual premium or copay - rather, the government and other donors	Rwanda	Pilot then national	Government general budget, donors an d premia	n/a	Koch et al, 2022, Lu et al, 2012;

Programme name	Programme summary	Country	Scale	Funding	Accompanying measures	Articles
	pay 2000 Rwandan Francs (RWF) (~$2.40) per household member per year for them to be insured.					
18. Senegal						
CBHI	(CBHI) scheme that includes a general scheme (CBHI-1), partially subsidised, and a special scheme for the poor (CBHI-2), fully financed by the state (registration and free care). Voluntary scheme open to all.	Senegal	National	Government heath budget	Cash transfer for poorest household; premium subsidisation for people living with HIV	Ly et al, 2022; Bousmah et al, 2022; Taverne et al, 2021
19. Sri Lanka						
Agrahara	Mandatory SHI scheme, was introduced in Sri Lanka in 1997 to cover public sector employees. Primarily covers a selected list of inpatient care services, with providers being both government (non-fee levying) and private sector (fee levying) hospitals. Outpatient care was initially reimbursed but was later discontinued due to excessive claims. Coverage for outpatient services is limited to purchasing spectacles and hearing aids.	Sri Lanka	National	Government general and health budget and premia	n/a	Karunaratna et al, 2019
20. Thailand						
Universal Coverage Scheme (UCS)	Social Health Insurance - The UCS began in 2001 and provides comprehensive outpatient and inpatient care at registered primary care unit (PCU), which is either a public facility or private establishment, and the beneficiaries have followed the referral system The UCS beneficiaries are classified into two groups: the beneficiaries who are exempted from a co-payment of 30 Baht and others who have to pay 30 Baht per visit or admission. For provider payment, the UCS employed capitation for outpatient care and a	Thailand	National	Government health budget and premia	Multiple supply and demand side reforms	Somkotra and Lagradaa, 2008

Programme name	Programme summary	Country	Scale	Funding	Accompanying measures	Articles
	global budget with a diagnostic-related group for inpatient care.					
21. Türkiye						
Green Card Scheme	Voluntary health Insurance (PFHI) - The original scheme, targeting poor households and introduced in 1992 covered a limited number of services such as inpatient treatment costs. In 2005, Green Card holders were given access to outpatient care and pharmaceuticals and were given access to the same benefits as SIO (PHI for private sector workers), Bag-Kur (HI for self-employed and artisans) and GERF (government employees for HI and pensions) enrolees. In 2008, the harmonisation of the benefits package was completed; Green Card holders receive the same benefits package that other beneficiary had been receiving since 2007.	Türkiye	National	Government health budget	Expanded benefit package/enhanced compensation	Tirgil et al, 2019; Yardim et al, 2014
22. Vietnam						
Student Health Insurance	This programme is voluntary and offered to school children with users paying a yearly fee. Individuals must pay for this insurance. The average cost is around 80,000 VND (about 4 USD in 2012) per year.	Vietnam	National	Government health budget and premia	n/a	Nguyen 2016
Compulsory Health Insurance (CHI)	Established in 1993, compulsory health insurance for employees of state institutions and private businesses with more than 10 employees.	Vietnam	National	Government health budget and premia	n/a	Nguyen et al, 2012
Voluntary Health Insurance (VHI)	Established in 1993, voluntary health insurance to cover the self-employed, informal-sector employees, dependents of CHI members, and employees at lower-level state institutions excluded by CHI.	Vietnam	National	Government health budget and premia	n/a	Nguyen et al, 2012; Jowett et al, 2003
Community Health Insurance (CHI)	Established in 2002, Community Health Insurance (CHI) comprises three programs covering 41% of the population as of 2007:	Vietnam	National	Government health budget and premia	n/a	Nguyen et al, 2012; Jowett et al, 2003; Nguyen and Wang,

Programme name	Programme summary	Country	Scale	Funding	Accompanying measures	Articles
	Social Health Insurance: Covers 9% of the formally employed, retirees, and dependents of military and police officers, funded by a payroll tax of up to 3%. Health Care Fund for the Poor (HCFP): Replacing the Free Health Care Cards for the Poor, it covers 18% of the population and receives three-quarters of its funding from the central government. Free Health Care for Children Under 6: Covers 11% of children, funded entirely by the central government. CHI covers inpatient treatment at state hospitals and outpatient services but only includes inpatient drugs on a Ministry of Health list, typically excluding outpatient medications. Additionally, voluntary health insurance covers another 11% of the population, financed by individual private premiums based on financial capacity.					2013; Nguyen and Lo Sasso, 2019; Axelson et al, 2009; Nguyen, 2018
National Health Insurance	In 2009, the national level Health Insurance Law united the existing health insurance programs and schemes for the poor, making SHI compulsory for all and pooled risks and resources together.	Vietnam	National	Government health budget and premia	n/a	Nguyen et al, 2012
Vietnam Social Security (VSS)	Publicly Financed Health Insurance - In 2015, integrating all HI pools. PHI in Vietnam became compulsory nationwide in from January 2015. The amendment expanded PHI eligibility (encouraging the enrolments of the hard-to reach populations, covering part time labourers and dependent household members, ethnic minorities, pensioners, receivers of certain kinds of disability allowances), provided more incentives and subsidies in both premiums and medical coverages, and mandated employers' contribution to PHI premiums for their employees (doubling the penalty for not being enrolled). Starting from 2016 enrollees can use PHI to	Vietnam	National	Government health budget and premia	n/a	Thuong et al, 2020; Nguyen et al, 2023; Nguyen, 2020

Programme name	Programme summary	Country	Scale	Funding	Accompanying measures	Articles
	receive care from any public care provider in their same residential province (not just enrolled providers).					

In this review, we present results of the included studies according to the type of insurance scheme examined (SHI, PFHI, or CBHI/other) or the component examined (e.g. integration of insurance schemes/insurance as a broad area, or expansion of insurance scheme benefit package/coverage).

5.9.1 PUBLICLY-FINANCED HEALTH INSURANCE (PFHI)

This category includes insurance schemes that are mostly voluntary and non-contributory or heavily subsidised, and are usually aimed to cover only the poor (or informal sector in the case of Nicaragua).

Many of these schemes were implemented in the context of wider efforts to advance universal health coverage (See Box 2, describing the wider efforts in which Türkiye's Green Card Scheme reforms took place).

Some incorporate measures to reduce indirect costs or barriers to access. Vietnam targeted children under five, and several schemes incorporated explicit cost-containment strategies, such as in Mexico (Serván-Mori 2023) and Vietnam (Nguyen 2016). Strategic purchasing was a feature of PFHI schemes in Georgia (Zoidze 2013; Bauhoff 2011; Gotsadze 2015a, 2015b) and India (Ranjan 2018).

The most commonly studied outcome of PFHI schemes was their impact on OOPE. Many studies reported reductions in OOPE, though others noted no significant changes or even increases. These mixed findings reflect variations in programme design, implementation quality, healthcare infrastructure, and study approaches. For example, studies of India's PFHI schemes showed beneficial changes and lack of change, potentially influenced by differences in regional implementation as well as study methodologies/studied indicators. Additionally, schemes in Georgia (Zoidze 2013) and India (Parmar et al., 2023) led to shifts in healthcare utilisation toward costlier services, such as hospital outpatient care over primary care or private facilities over public ones. Such shifts can increase costs for both patients and the healthcare system.

Persistent challenges also undermined PFHI goals of financial protection. In Senegal, subsidised insurance also offered less protection for poorer scheme members, who had significantly lower odds of avoiding catastrophic expenditures (OR: 0.5; $P < 0.05$) (Ly 2022). Such issues were also seen in India. For example, enrolment in PMJAY and similar schemes in India failed to reduce CHE due to double-billing and private sector non-adherence to agreed prices (Garg 2019). While PFHI schemes such as SP in Mexico and MIP in Georgia initially showed promise by reducing CHE and OOPE for disadvantaged groups, targeting issues, horizontal inequity, and diminished effects with expanded coverage limited their long-term equity outcomes. SP reduced CHE by 35.2% (p=1%) and OOPE for poorer groups and women-headed households (97-peso reduction, p=1%), but its impact declined as coverage expanded, with households of similar incomes facing different OOPE burdens. SP's impact also varied by healthcare availability, with reductions in CHE seen in well-facilitated areas but no effects in underserved regions. However, the dismantling of SP and introduction of INSABI exacerbated inequities, disproportionately affecting female-headed, rural, and indigenous households, and driving sharp increases in CHE in southern states.

Issues with targeting also limited equitable implementation of PFHI schemes. In the Philippines, PhilHealth reimbursements under the Sponsored Programme disproportionately benefited wealthier patients, leaving poorer populations under-protected due to targeting inefficiencies (Caballes et al., 2012). OOPE in Indonesia increased slightly in urban areas due to more expensive hospital care not fully covered by Askeskin insurance (Sparrow 2013).

Box 2. Türkiye's Universal Health Insurance- Health transformation Plan (2003-2009)

Between 2003 and 2009, Türkiye implemented reforms which aimed to expand insurance coverage, standardize benefit packages across insurance schemes, and improve the efficiency of public hospitals. Detailed descriptions of studied interventions are available in the Overview of interventions tables.

- 2003 Expanded Hospital Access: Private providers were included to align benefit packages across public health insurance schemes, broadening healthcare options for public insurers.

- 2004 Private Hospital Contracts: Social security organisations began covering partial costs at private facilities, enabling insured members to access these services. However, patients often paid extra fees beyond what social security covered.
- 2004 Performance-Based Payment Scheme: Introduced for Ministry of Health (MoH) and public hospitals, this scheme incentivized increased service volumes.
- 2005 Hospital Ownership Transfer: Management of hospitals was centralized under the MoH to enhance efficiency and streamline service delivery (Erus et al. 2012).
- 2005 Expanded Benefits for Green Card Holders: Green Card holders gained access to outpatient care and pharmaceuticals, with benefits aligned to those of SIO (private sector workers), Bag-Kur (self-employed and artisans), and GERF (government employees and pensioners).
- 2007 New Health Budget Law (SUT): This law removed the referral requirement for MoH hospital patients seeking care at university hospitals under SIO and Bag-Kur schemes, granting direct access.
- 2008 Social Security and Universal Health Insurance (UHI) Law: Operationalized to harmonize benefit packages, formally integrate Green Card holders into UHI, and ensure equal benefits for all beneficiaries as per the 2007 Health Budget Law (Yardim et al. 2014).
- 2009 Family Medicine Programme: Institutionalized co-payments for physician visits, hospital stays, and prescription drugs while expanding free primary care through a family medicine system (Erus et al. 2020).

Table 17. Insurance schemes – PFHI: Results

Outcome (and assessments reporting on it) (/30)	Beneficial change	Harmful change	No change
	17	3	**12**
OOP	In **Bangladesh**, the Shasthyo Surokhsha Karmasuchi (SSK) programme led to a 33% reduction in OOPE among insured households compared to those in non-intervention areas. Households utilising SSK services incurred 92% lower OOPE, with particularly significant reductions in medicine and diagnostic test expenditures for BPL households (Hasan 2024). In **Georgia**, the Medical Insurance Programme (MIP) consistently demonstrated reduced OOPE. Monthly self-treatment costs fell by 5.3 GEL, inpatient expenses by 226.93 GEL, and chronic disease management costs by 4.98 GEL. Insured individuals were also more likely to receive free outpatient (18%) and inpatient (14%) services (Zoidze 2013). Similarly, MIP reduced outpatient OOPE to 45% and inpatient expenditures to 42%-53% of those incurred by non-insured populations, with controls for individual factors (Bauhoff 2011). For acute illnesses, provider fees decreased by 20.16 GEL, and drug expenses fell by 15.14 GEL, while chronic illness cases with acute episodes showed a marginal reduction in provider fees (Gotsadze 2015 – ID 274). Overall, total monthly healthcare costs for insured households dropped by 27.01 GEL, underscoring the financial protection offered by the MIP (Gotsadze 2015 – ID 106).	In Türkiye, the likelihood of incurring OOPE increased significantly between 2003 and 2009 despite health reforms. Publicly insured individuals saw their odds of incurring OOPE rise from 0.555 ($p<0.01$) in 2003 to 1.256 ($p<0.01$) in 2009, while Green Card holders experienced an increase from 0.768 ($p<0.01$) to 1.712 ($p<0.01$) over the same period (Yardim 2014). In Mexico, dismantling Seguro Popular and introducing INSABI led to an 18.7% increase in excessive healthcare expenditure (95% CI: 7.9–29.5) among uninsured households (Serván-Mori 2023). OOPE in Indonesia increased slightly in urban areas due to more expensive hospital care not fully covered by Askeskin insurance (Sparrow 2013).	**Georgia**: MIP had no significant effect on outpatient visits' average payments, expenditures on drugs for chronic conditions, or outpatient provider fees for chronic illnesses (Zoidze 2013; Bauhoff 2011; Gotsadze 2015). Various studies of PFHI in **India** showed no significant reductions in OOPE (Garg 2019, 2020, 2022 (ID 33 and ID 50); Parmar et al., 2023; Sriram 2020). **Mexico**: Seguro Popular showed no statistically significant reduction in OOPE when accounting for endogeneity, and community-level impacts were minimal (Nikoloski 2018; Sosa-Rubio 2011). **Türkiye**: Increases were observed in OOPE for some groups, such as privately insured or uninsured, but were not statistically significant (Yardim 2014).

Outcome (and assessments reporting on it) (/30)	Beneficial change	Harmful change	No change
	In **India**, PFHI schemes reduced mean OOPE on hospitalisation to Rs 10,943, compared to Rs 14,436 among uninsured households (Ranjan 2018). Studies which examined specific PFHI schemes in the country found: • PM-JAY reduced OOPE by Rs 1,656 (13%) overall and Rs 2,574 (17%) in private facilities (10% significance), and log OOEP fell by 21% (Parmar et al., 2023). • The Aarogyasri programme significantly reduced inpatient health expenditure for below-poverty-line households by Rs 12-13 per capita per month across regions and outpatient drug expenditure by Rs 6-7 in later phases (Fan 2012). • Karnataka's Vajpayee Arogyashree programme reduced OOPE for covered conditions by 39% across all facilities, 60% at tertiary care facilities, and 69% for tertiary care admissions excluding emergencies (Sood 2014). In **Indonesia**, the Askeskin scheme (which targeted the poor and near poor) reduced OOPE by 34% according to one model, however the effects were not statistically significant when calculated using the Ordinary Least Squares model (Aji et al., 2013). In **Mexico**, the Seguro Popular programme (SP) and its expansion through SMSXXI significantly reduced OOPE. SMSXXI led to a 14% reduction in OOPE, with greater reductions for hospital-		

Outcome (and assessments reporting on it) (/30)	Beneficial change	Harmful change	No change
	related expenses and neonates with critical conditions (Celhay 2019). SP was associated with reductions in OOPE for rural households, including outpatient (-247.7 pesos in 2005 to -158.7 pesos in 2008) and inpatient care (-204.5 pesos in 2005 to -213.3 pesos in 2008), with similar benefits for urban households (-155.8 pesos in 2008) (Sosa-Rubio 2011). Further analysis indicated SP reduced per capita OOPE by 28.61 pesos ($p<0.05$) and social security reduced OOPE by 50.18 pesos (Nikoloski 2018). Knaul (2018) also reported significant reductions in OOPE under SP, although results varied depending on sensitivity analysis. In the **Philippines**, the PhilHealth Sponsored Programme reduced hospitalisation discharge bills by covering a greater proportion of expenses for enrolled indigent patients compared to the general population (Caballes et al., 2012). In **Türkiye**, the Green Card scheme reform led to a 33% reduction in household medical expenditures, equal to 58.96 Turkish Lira ($p<0.001$), providing substantial financial protection for low-income households (Tirgil 2019). In **Vietnam**, free health insurance significantly reduced OOPE for children and households. For children aged 6–14, free health insurance decreased healthcare expenditures by 15.8% in 2006–2008 and 63.4% in 2010–2012, while also		

Outcome (and assessments reporting on it) (/30)	Beneficial change	Harmful change	No change
	reducing the likelihood of incurring OOPE. These benefits were particularly impactful for low-income households, alleviating healthcare expenditure burdens (Nguyen 2016). For households, reformed health insurance schemes, including the Health Care Fund for the Poor (HCFP), consistently lowered total healthcare costs, which likely included OOPE. This reduction was observed across income levels, with the most substantial benefits for poor households. The lower total costs were primarily attributed to reduced direct medical fees for both inpatient and outpatient treatments (Nguyen 2012).		
	12	**3**	**9**
CHE	• **Bangladesh (SSK)**: SSK significantly reduced CHE incidence, with intervention areas showing 36.4% vs. 54.6% at the 10% threshold and 14.6% vs. 25.6% at the 40% threshold. The reduction was greater for BPL households and those utilising SSK services (Hasan 2024). • **India**: ↘ **PM-JAY**: Reduced CHE by 8 percentage points overall and 8.5 percentage points in private facilities, translating to relative decreases of 21% and 19%, respectively (Parmar et al., 2023).	• **Georgia (MIP)**: CHE incidence increased significantly from 11.7% in 2007 to 24.8% in 2010 (Zoidze 2013). • **Mexico (INSABI/Dismantling of Seguro Popular)**: Health policy changes and the COVID-19 pandemic led to a significant 18.4% increase in CHE (95% CI=6.1, 30.7). Uninsured households experienced a 90.7% increase in CHE probability (Serván-Mori 2023). • **Türkiye (Green Card Scheme)**: Non-significant reduction in CHE incidence at the 25% threshold of non-food consumption (Tirgil 2019).	• **India:** Several studies consistently found **no significant association** between enrolment in Publicly Funded Health Insurance (PFHI) programs, including PM-JAY, and reductions in **Catastrophic Health Expenditure (CHE)** at thresholds of **10%, 25%, or 40%** of household consumption or non-food expenditure. This conclusion applies across multiple contexts, including hospitalisations, financial protection, and assessments during the COVID-19 pandemic in India (Garg 2019, 2020, 2022 (ID 33 and ID 50)). • **Indonesia**: Askeskin showed no significant effect on CHE (Aji et al., 2013)

Outcome (and assessments reporting on it) (/30)	Beneficial change	Harmful change	No change
	↘ **Aarogyasri**: Reduced CHE related to total health and inpatient expenditures by 2.4–2.9 percentage points during Phase I (Fan 2012). ↘ **PFHI**: Reduced CHE incidence by 0.4 percentage points at the 10% threshold and 1 percentage point at the 25% threshold (Ranjan 2018). • **Mexico (Seguro Popular) reduced CHE in areas with access to healthcare services, particularly in urban and well-facilitated rural settings. Improvements were also notable in reducing catastrophic expenditures related to pregnancy and critical conditions.** ↘ Seguro Popular (SP) reduced OOPE by 0.7 percentage points (14.6% relative decline) for expenditures unrelated to pregnancy/childbirth and by 0.3 percentage points (25% decline) for pregnancy-related expenditures. (**Celhay 2019**) ↘ SP reduced CHE by 4.5 percentage points (43% relative reduction) nationally. In rural areas with larger facilities, SP reduced CHE by 3.3 points (46% reduction).		• **Mexico (Seguro Popular): No effects were observed in areas with limited access to care, highlighting the dependence of SP's impact on healthcare availability and accessibility.** ↘ In areas with limited access to healthcare, SP had no significant effect on reducing CHE. (**Grogger 2015)** ↘ Initial results showed SP reduced CHE likelihood by 20%, but sensitivity analyses rendered the results statistically insignificant. (**Knaul 2018)** ↘ Measured at the community level, SP had no significant impact on CHE in rural or urban areas during 2006-2008. (**Sosa-Rubio 2011)** • **Senegal (CBHI)**: **Ly (2022)** found no significant protection against CHE at thresholds of 10% or 40%.

Outcome (and assessments reporting on it) (/30)	Beneficial change	Harmful change	No change
	Urban areas saw a 2.9-point (72%) reduction. (**Grogger 2015)** ↘ SP reduced catastrophic hospital debt for STEMI patients, with only 1.89% of insured individuals in debt compared to 16.15% of uninsured, though differences were not always statistically significant. (**Martínez-García 2018)** ↘ SP reduced CHE likelihood by 0.3–0.5 percentage points at thresholds of 20%, 30%, and 40% of household expenditure. Social Security (SS) reduced CHE likelihood by 13.2% (significant at 30% threshold). (**Nikoloski 2018)** ↘ SP reduced CHE in rural areas by 2.5% (DID) and 6.7% (fixed model). Urban reductions became significant only in 2008 (CHE reduced from 0.054% to 0.032% with SP). (**Sosa-Rubio 2011)** • **Türkiye**: ↘ The Green Card Scheme reduced CHE incidence by 1.5% at the 15% threshold and 0.7%		

Outcome (and assessments reporting on it) (/30)	Beneficial change	Harmful change	No change
	at the 40% threshold (Tirgil 2019). ↘ Health reforms reduced CHE from 0.75% in 2003 to 0.48% in 2009 (Yardim 2014). • **Senegal**: the scheme showed protection at the 25% threshold (OR: 3.06; p<0.05) (Ly 2022).		
	3	1	2
Impoverishment	Bangladesh: SSK significantly reduced impoverishment from OOPE, with rates of 6.7% in intervention areas compared to 10.8% in comparison areas (P < 0.01). Among BPL households, impoverishment was lower in intervention areas (7.6% vs. 10.8%; P < 0.01), and those using SSK services had even lower rates (5.6%). Non-BPL households in intervention areas were significantly less likely to experience impoverishment (OR = 0.70; P < 0.01). (Hasan 2024) Mexico: Seguro Popular reduced the probability of impoverishment from health expenditures by 1.5% to 2.4% (P = 0.01), with findings consistently supported across all sensitivity analyses. (Knaul 2018) Senegal: CBHI-2 provided significant protection against impoverishing out-of-pocket expenditures, with an odds ratio of 2.4 (P < 0.05). (Ly 2022)	Mexico (Insabi/dismantling of SP): Following the dismantling of Seguro Popular and introduction of INSABI, along with the COVID-19 pandemic, impoverishing health expenditures increased significantly among uninsured households (Servan-Mori 2023).	India: The Aarogyasri programme showed no effect on the measure of impoverishment due to health spending across all panels. (Fan 2012) Türkiye: The proportion of households experiencing impoverishment due to health expenditures showed no statistically significant changes between 2003 and 2009. (Yardim 2014)
	5	1	7

Outcome (and assessments reporting on it) (/30)	Beneficial change	Harmful change	No change
Foregone care	In Georgia, the Medical Insurance Programme for the Poor (MIP) led to increased healthcare utilisation, particularly in rural areas, where average consultations rose from 1.67 in 2007 to 1.97 in 2010 (Zoidze 2013). Financial access improved slightly, with hospitalisation foregone due to cost decreasing from 3.9% to 2.6% during this period. Outpatient utilisation for acute illnesses was 1.47 times higher among MIP-insured individuals (Gotsadze 2015, ID 274). Other measures of service use, including preventive care and overall service utilisation, showed modest increases, though MIP's financial impact varied, with some expenditures increasing while inpatient costs decreased (Gotsadze 2015, ID 106). In India, poor individuals enrolled in health insurance programs were 1.23 times more likely to be hospitalised than uninsured peers (Sriram 2020). Askeskin in Indonesia increased outpatient utilisation by 0.062–0.079 visits per person per month, particularly at rural public health centres and urban public hospitals, with greater effects for the poorest quartile (Sparrow 2013). In Senegal, insured individuals used care more frequently, with CBHI-2 members being 1.37 times more likely to access services, and CBHI-1 members foregoing care less often (Ly 2022). In Vietnam, free health insurance for children increased healthcare visits significantly, by 20.1%	In Georgia, MIP saw a decline in urban healthcare utilisation, with average consultations dropping from 2.36 in 2007 to 1.85 in 2010 (Zoidze 2013).	In Georgia, MIP did not show significant impacts on healthcare utilisation or access in various contexts. Overall contact with any healthcare provider saw a small decline between 2007 and 2010, but this change was not statistically significant (Zoidze 2013). Similarly, there were no statistically significant effects on outpatient or inpatient utilisation in either the MIP-70 or MIP-100 regions (Bauhoff 2011). For individuals with chronic illnesses, MIP did not lead to statistically significant higher odds of using formal outpatient services compared to those without MIP coverage, and most utilisation outcomes showed no statistically significant changes (Gotsadze 2015). In India, PM-JAY was found to have no significant effect on hospitalisation rates, with the average marginal effect showing a precise null result (Parmar et al., 2023). Public health insurance programs for the poor did not significantly affect the duration of hospitalisation either (Sriram 2020). Karnataka's Vajpayee Arogyashree programme also showed no significant differences in the utilisation of tertiary care facilities or in the reported forgone need for care among insured households (Sood 2014). In Mexico, Seguro Popular's SMSXXI programme did not lead to significant changes in hospital discharges, suggesting that the programme

Outcome (and assessments reporting on it) (/30)	Beneficial change	Harmful change	No change
	in 2006-2008 and 66.1% in 2010-2012 (Nguyen 2016).		might not have increased healthcare utilisation overall (Celhay 2019).
	3	5	2
Equity	In Mexico, SP initially reduced inequality in OOPE, benefiting lower-income groups, with a positive redistributive effect between 2003 and 2010. However, its vertical equity impact declined as coverage expanded (Garcia-Diaz 2023). SP also improved equity by reducing CHE and impoverishment, especially for women-headed households (97-peso OOP reduction, p=1%), poorer groups, and deprived communities (35.2% CHE reduction, p=1%) (Knaul 2018). In Georgia, MIP had more pronounced benefits for the poorest tercile. (Bauhoff 2011)	The dismantling of SP and introduction of INSABI in Mexico caused significant drops in health insurance coverage, especially in female-headed, rural, low-income, and indigenous households. Southern states saw sharp increases in catastrophic expenditures, while wealthier northern states experienced modest changes (Serván-Mori 2023). SP showed horizontal inequity, with households of similar incomes facing different OOPE burdens (Garcia-Diaz 2023). Households with members under 5 or over 65 saw a 20% higher probability of CHE and impoverishment, while remittances increased CHE likelihood by 10% (Knaul 2018). PhilHealth reimbursements (including for the PFHI component, the Sponsored Programme) in the Philippines disproportionately favored wealthier patients, and targeting issues left poorer patients underprotected (Caballes et al., 2012). In Senegal, subsidised insurance offered poorer members of the scheme less protection against catastrophic expenditures (OR: 0.5; p<0.05) (Ly 2022).	SP showed benefits for vulnerable populations but no significant equity changes (Celhay 2019). MIP-covered males, individuals aged 45–64, and rural/Western Georgia residents had 11–29% higher odds of accessing free outpatient benefits. For inpatient services, MIP beneficiaries were 17–24% more likely to receive free treatment, particularly those aged 65+ (P < 0.01). (Bauhoff 2011)

Outcome (and assessments reporting on it) (/30)	Beneficial change	Harmful change	No change
Other	• MIP increased the likelihood of receiving free outpatient (18%, p<0.001) and inpatient benefits (14%, p<0.05) in Georgia (Gotsadze 2015). • In Vietnam, free insurance reduced lost parental income, especially for children under six (by $69.10 inpatient, $8.30 outpatient) (Nguyen 2012).	• MIP in Georgia unintentionally shifted care from primary to hospital outpatient services, with primary care use among MIP beneficiaries declining from 17.3% in 2007 to 13.1% in 2010, and hospital use increasing from 21.3% to 25.8% (p<0.1) (Zoidze 2013). • In India, PM-JAY was associated with a 7.9% relative increase in hospitalisations at private facilities compared to public ones, conditional on hospitalisation, highlighting a shift in healthcare utilisation patterns (Parmar et al., 2023).	

5.9.2 VOLUNTARY HEALTH INSURANCE

26 studies which were conducted across 11 countries examined the effects of different types of voluntary health insurance (VHI) schemes, such as Long-Term Care Insurance (LTCI), Community-Based Health Insurance (CBHI), Private Voluntary Health Insurance, and employer-sponsored schemes. These schemes differ in target populations, premium structures, and benefit packages, with most requiring contributions from members, though some premiums were partially subsidised by governments or other actors.

Approximately one-third of the schemes targeted vulnerable groups, such as the disabled (Ma et al., 2022), women's self-help groups (Raza 2016), the poor (Aggarwal 2010; Savitha and Kiran, 2015; Thornton 2010; Bousmah 2022), garment workers (Ahmed et al., 2020), and schoolchildren (Jowett 2003). Few schemes included supply-side cost-containment mechanisms; the Yeshasvini programme in India was a notable exception, incorporating fixed surgical tariffs, streamlined approvals, cashless transactions, and minimal patient administrative burden (Aggarwal 2010).

Results varied (see Table 18), reflecting the complexity of VHI schemes and their diverse implementation contexts. A deeper analysis would be needed to examine specific schemes, countries, and outcomes to understand the key factors influencing these varied results. While Table X highlights changes in CHE, OOPE, impoverishment, and service use, some studies also shed light on how these interventions influenced broader service utilisation patterns.

For example, a study on garment workers in Bangladesh found that private providers were the most utilised among both insured and uninsured groups, highlighting the role of factors beyond insurance coverage, such as provider preferences and availability (Ahmed et al., 2020). Similarly, an evaluation of the Yeshasvini programme in India reported no significant impact of insurance status on the choice between private and public facilities for deliveries. However, it increased inpatient care at private hospitals, particularly for higher socioeconomic groups, likely due to free outpatient consultations and discounted lab tests at network hospitals. The study also noted a significant reduction in the use of government hospitals for surgeries, despite these services being theoretically free (Aggarwal 2010).

Access to services was also important for the equitable success of VHI. For example, an analysis of LTCI in China and found significant positive impacts in urban areas, including reduced out-of-pocket expenses and improved self-rated health (Ma et al., 2022). However, these benefits were not statistically significant in rural areas. The study attributed this disparity to differences in accessibility and policy prioritisation, with urban areas often receiving more focus and resources.

CBHI in Lao PDR and Senegal revealed persistent gaps in financial protection due to care sought outside insurance schemes, driven by exclusion restrictions, provider preferences, and medicine shortages. In Lao PDR, Alkenbrack et al. (2015) noted CHE persisted despite coverage, though insurance promoted lower-level facility use, suggesting cost-saving potential. Bousmah (2022) found no effect on financial risk protection in Senegal, as high medicine costs – exacerbated by shortages and coverage restrictions – posed a barrier to benefiting from the insurance scheme.

Some studies also reported severe adverse effects following insurance implementation. In Burkina Faso, Fink et al. (2013) observed a 35% increase in old-age mortality associated with insurance, potentially due to delayed or inadequate treatment. Additionally, patient satisfaction with contracted facilities declined, particularly regarding cleanliness, drug and staff availability, which led to reduced facility attendance among insured individuals.

Table 18. Insurance schemes – VHI: Results

Outcome (and assessments reporting on it) (/25)	Beneficial change	Harmful change	No change
	9	4	11
OOP	China • LTCI reduced inpatient OOPE by 533.47 yuan and total OOPE by 512.56 yuan annually (Chen and Ning, 2022). Another study showed LTCI reduced annual OOPE by 37.16% with a declining trend for insured groups compared to an increasing trend in controls (Ma et al., 2022). India: • The Sampoorna Suraksha Programme reduced median OOPE for insured individuals compared to newly insured or uninsured by 24–29% (Savitha and Kiran, 2015). • Private voluntary health insurance significantly reduced OOPE, with insured individuals spending less than uninsured, particularly for poor populations (Aashima, 2024). • Ethiopia: A voluntary CBHI scheme reduced outpatient visit costs by up to 87%, though not all reductions were statistically significant (Mebratie 2019). • Lao PDR: CBHI members spent significantly less than uninsured individuals on healthcare, reducing inpatient costs by two-thirds and outpatient costs by one-seventh. Total payments, including premiums, were lower for insured members ($62.71 vs. $98.70) (Alkenbrack and Lindelow, 2015). Vietnam: • Various health insurance schemes consistently lowered costs for inpatient and outpatient	China: • Commercial health insurance increased odds of OOP exceeding 1,000 Yuan (OR=1.476, p=0.003) and 5,000 Yuan (OR=2.977, p<0.001) (Fang 2012). • LTCI had no significant impact on outpatient OOPE but increased inpatient expenses (Chen and Ning, 2022). India: • Private voluntary health insurance led to higher median OOPE (INR 6,600 or USD 97) compared to uninsured. OOPE and CHE were significantly higher in private hospitals than public hospitals (Aashima, 2024). Malaysia: • Supplementary PHI significantly increased inpatient OOPE across measures (e.g., MYR 1,101.69, p=0.07) (Ng 2024). Vietnam: • Voluntary and heavily subsidised health insurance increased outpatient OOPE probabilities by 3.8% (VHI) and 3.7% (HSHI) but did not significantly affect inpatient OOPE for HSHI (Thuong et al., 2020).	• In Bangladesh Insured garment workers had reduced spending compared to uninsured workers, but differences in OOPE expenditures were not statistically significant post-intervention. (Ahmed et al., 2020) • In Burkina Faso OOPE showed small, non-significant reductions. (Fink 2013) • In China LTCI had no significant impact on outpatient OOPE. (Chen and Ning, 2022) • In China, PHI did not significantly affect OOPE. (Wu 2021) • In Ethiopia CBHI increased healthcare utilisation, but its impact on OOPE was statistically insignificant in pilot districts. (Mebratie 2019) India: • Savitha and Kiran, 2015: Insured individuals incurred lower direct OOPE compared to newly insured and uninsured groups, but the results were inconsistent. • Raza 2016: No significant reduction in OOPE under CBHI schemes across study sites. Lao PDR: • Alkenbrack and Lindelow, 2015: CBHI provided positive financial protection at the point of care, but overall expenditures for insured and uninsured were similar.

Outcome (and assessments reporting on it) (/25)	Beneficial change	Harmful change	No change
	care, especially among the poor. The VHI programme had a stronger impact on reducing OOPE for outpatient care compared to heavily subsidised schemes (Thuong et al., 2020). • Insured individuals spent 53% less on average compared to uninsured, with reductions significant at the 1% level (Jowett 2003). • Reformed health insurance schemes reduced total costs, driven by reductions in direct facility fees, with the largest decreases observed among poor households (Nguyen 2012).		Nicaragua: • Thornton 2010: OOPE reduced by 55% for respondents but were not statistically significant. Insurance did not yield net cost savings due to premium costs. Nigeria: • Bonfrer 2018: No significant reduction in OOPE for insured populations despite a 63% average decrease in overall healthcare costs. Vietnam: • Nguyen 2016: Student and free health insurance had no significant effect on the probability or amount of OOPE.
	5	0	3
CHE	Burkina Faso: Insurance reduced likelihood of CHE by ~30%, statistically significant ($p<0.10$) only at the 5% inome threshold (Fink 2013). India: SSP reduced CHE incidence from 44.8% to 26.5% for insured, though some CHE cases persisted due to exclusions and high-cost diseases (Savitha and Kiran, 2015). Health insurance reduced CHE by 7.33% at the 10% threshold and 2.61% at 25% for overall insured, but no effect for poor under GSHI (Aashima, 2024). Lao PDR: CBHI decreased CHE incidence to 6% for members vs. 9% for non-members, with notable protection for inpatient users (Alkenbrack and Lindelow, 2015).	n/a	Nigeria: A health insurance programme in Kwara State had no significant impact on reducing CHE at thresholds of >10% or >40% of household consumption, both in the short term (2009–2011) and long term (2009–2013) (Okunogbe et al., 2022). Senegal: • CBHI showed no effect on protecting households from CHE at thresholds of 25% or 40% of income or expenditure (Ly 2022). • The PNBSF-subsidised health insurance programme did not reduce CHE risk for beneficiaries, even at alternative thresholds (30% or 20% of non-food expenditure), with no significant differences across groups (Bousmah 2022).

Outcome (and assessments reporting on it) (/25)	Beneficial change	Harmful change	No change
	Nigeria: Health insurance reduced CHE by 5.7 percentage points in the short term at the 10% threshold (Okunogbe et al., 2022). Senegal: CBHI protected members against CHE at 10% (OR: 1.63, p<0.05) (Ly 2022).		
	2	0	1
Impoverishment	India: Health insurance reduced the poverty headcount due to OOPE by 1.43% among insured, with greater reductions under private voluntary insurance (2.91%) than GSHI schemes (0.87%) (p<0.05) (Aashima, 2024). Lao PDR: CBHI indirectly reduced impoverishment by lowering catastrophic expenditures and reducing reliance on coping mechanisms like borrowing, asset sales, and cutting children's expenses (Alkenbrack and Lindelow, 2015).	n/a	In Senegal, subsidised CBHI showed no impact on protecting against impoverishing out-of-pocket expenditures (Ly 2022).
	12	2	7
Foregone care	Bangladesh: Employer-sponsored health insurance (ESHI) led to a 26% increase in the utilisation of medically trained providers among insured workers, adjusted to 18.4% with covariates (Ahmed et al., 2020). • China: LTCI reduced outpatient visits (by 0.322/month), hospitalisations (by 0.158/year), and inpatient stay duration (by 1.441 days/year) (Chen and Ning, 2022). • China: PHI increased outpatient care use (relative risk ratio = 1.62, 95% CI 1.08, 2.43) (Wu 2021). • Ethiopia: CBHI increased modern healthcare use by 6–11 percentage points, primarily	India: In Pratapgarh, CBHI schemes caused a 7-percentage point decline in outpatient care use, with a larger 51 percentage point drop among those enrolled in CBHI. This decline stemmed mainly from reduced use of general practitioners/specialists, as insurance did not cover care from these providers (Raza 2016). Similarly, the Sampoorna Suraksha Programme led to higher hospitalisation rates among insured individuals (77.7%) compared to uninsured (64.5%) and newly insured individuals (60.7%), regardless of illness type (Savitha and Kiran, 2015).	China: Private health insurance (PHI) had no significant impact on inpatient care utilisation (Wu 2021). India: Community-based health insurance (CBHI) schemes showed no significant effects on outpatient or inpatient care utilisation across three sites, including no change in the use of rural medical practitioners (Raza 2016). CBHI also showed no impact on reducing self-medication practices in rural areas (Dror 2016). The Yeshasvini programme had negligible impact on pre-delivery care utilisation, especially among lower-income women (Aggarwal 2010).

Outcome (and assessments reporting on it) (/25)	Beneficial change	Harmful change	No change
	public healthcare, and outpatient visits by 45–64% relative to baseline (Mebratie 2019). • India: Health insurance boosted private hospital use among insured individuals (54.62%) compared to uninsured (47.52%), with a higher likelihood under private voluntary schemes (OR: 4.54) (Aashima, 2024). The Yeshasvini programme increased outpatient care utilisation by 6–7%, with insured individuals more likely to undergo surgery and prefer private healthcare (Aggarwal 2010). • Lao PDR: CBHI nearly doubled the likelihood of inpatient visits (8% for CBHI members vs. 4.2% for non-members) and increased outpatient and inpatient service use at district and provincial hospitals (Alkenbrack and Lindelow, 2015). • Nigeria: Kwara State's subsidised health insurance programme improved care utilisation by 9 percentage points, formal care use, and hospital deliveries (Bonfrer 2018). • Senegal: When they are ill, members of the general insurance scheme forego care less often than the non-insured (OR: 2.23; p<0.05)). (Ly 2022). PNBSF programme improved facility deliveries by 23.8 percentage points and reduced forgone medical treatment by 7.2 percentage points (Bousmah 2022). • Vietnam: Health insurance programs increased outpatient visits and utilisation of district hospitals, with a rise in inpatient service use (Thuong et al., 2020). Student health insurance		Nicaragua: Health insurance under NHIS did not significantly increase care-seeking behaviour or overall healthcare utilisation, though it substituted public/private facility visits with free EMP visits (Thornton 2010). Senegal: CBHI led to slightly higher healthcare utilisation (OR: 1.36; p<0.1), but this was significant only at the 10% level (Ly 2022). The PNBSF programme did not significantly increase health facility consultations, prenatal visits, or reduce the probability of forgoing medical consultations or treatment (Bousmah 2022)

Outcome (and assessments reporting on it) (/25)	Beneficial change	Harmful change	No change
	increased healthcare visits by 12.4–13.6% over multiple periods (Nguyen 2016).		
	4	4	3
Equity (	China: LTCIimproved equity by significantly reducing OOPE and improving self-rated health for disabled individuals, while having no significant effect on non-disabled individuals due to prioritisation of formal care for the disabled (Ma et al., 2022). India: • Community-Based Health Insurance (CBHI) resulted in positive income redistribution effects, with insured households more likely to experience upward income quintile mobility and less likely to face downward shifts in their financial position, particularly in Vaishali and Kanpur Dehat (Dror 2016). • The Sampoorna Suraksha Programme (SSP) reduced CHE incidence across all income quintiles, with the greatest impact seen in lower-income groups (Q4 and Q5). For Q5 (poorest), CHE incidence was completely eliminated post-claim (Savitha and Kiran, 2015). Nigeria: • Health insurance in Kwara State reduced CHE incidence for poor households by 6.2 percentage points in the short term and 5.4 percentage points in the long term at the 10% threshold, enhancing financial equity (Okunogbe et al., 2022).	India: • CBHI: Negative impact on equity as households with savings accounts and past non-health borrowing in Vaishali were less likely to experience upward income mobility (Dror 2016). • SSP: Insured individuals in higher-income quintiles (Q4) had the highest OOPE, while lower claims benefit was observed for poorer groups (Q5 and Q3), indicating inequitable financial protection (Savitha and Kiran, 2015). Lao PDR: CBHI: Exacerbated inequalities in financial protection. The poorest quintile had low enrolment (8%), with no significant impact on their health service utilisation or financial risk protection, partly due to regressive flat-rate premiums and uncovered expenses for drugs, supplies, and transportation (Alkenbrack and Lindelow, 2015). Senegal: CBHI: Poor members faced increased OOPE relative to income and were less protected against CHE at the 10% threshold compared to non-poor members (OR: 0.27; p<0.01) (Ly 2022)	Nigeria: Health Insurance: No significant change in equity across most subgroups (e.g., poor, middle, and rich) in both short-term (2009-2011) and long-term (2009-2013) impacts on CHE at 10% and 40% thresholds (Okunogbe et al., 2022). Senegal: CBHI: Limited equity improvement with only weak significance (p<0.1) at the 25% CHE threshold for poor members under CBHI-1 (Ly 2022). Research of PHI in China found minimal difference in OOPE between the urban and rural areas. (Wu 2021)

Outcome (and assessments reporting on it) (/25)	Beneficial change	Harmful change	No change
• Other	India: • CBHI (Dror 2016): Borrowing for non-hospitalisation events reduced by 7 percentage points in Kanpur Dehat and Vaishali ($p<0.05$), but no effect in Pratapgarh. • Sampoorna Suraksha Programme (Savitha and Kiran, 2015): Reduced hardship financing (71.2% of insured households borrowed compared to 86% of newly insured and 81% of uninsured ($p=0.02$)). Borrowing incidence was 57.2% among insured compared to 79.5% for newly insured and 75.2% for uninsured. More insured individuals (35.8%) could afford healthcare compared to uninsured (27.1%) and newly insured (20.5%). Total borrowing, savings use, and asset sales were also significantly lower among the insured. • Yeshasvini Insurance Programme (Aggarwal 2010): Borrowing for surgeries reduced by 36% (better-off) and 30% (worse-off) among enrollees. Borrowing or asset sales for primary healthcare use dropped by 61% for the worse-off group.	• China: Private health insurance increased the odds of inpatient financial strain for people with chronic diseases (OR: 6.25; 95% CI: 1.33–52.22), indicating a significant financial barrier for those with private insurance (Peng and Zhu, 2021). • India: The Yeshasvini Insurance Programme reduced borrowing for surgeries but led to increased borrowing for non-surgical inpatient care among better-off households, likely due to reliance on private facilities for treatments not covered by the scheme (Aggarwal 2010). • Burkina Faso: The introduction of insurance was associated with harmful effects, including a 35% increase in old-age mortality (likely due to delayed or inadequate treatment for common conditions) and significant declines in patient satisfaction with contracted facilities (e.g., lower approval for facility cleanliness, drug availability, and staff availability). These perceptions led to decreased facility attendance among insured individuals (Fink 2013). • Lao PDR: Community-based health insurance (CBHI) did not improve timeliness of care and was associated with significantly longer waiting times for CBHI members compared to cash-paying patients. Qualitative findings suggest this may reflect system inefficiencies rather	• China: Public and private health insurance had no significant effect on reducing outpatient or inpatient financial strain for people with chronic diseases (Peng and Zhu, 2021). • India: The Sampoorna Suraksha Programme (SSP) showed no significant impact on the use of savings or asset sales as risk-coping strategies. A larger proportion of uninsured households relied on savings (35.3%), and asset sales were higher among insured households compared to the newly insured but lower than the uninsured (Savitha and Kiran, 2015). • Nicaragua: A voluntary health insurance programme delivered through microfinance institutions (MFI) had no significant effect on healthcare utilisation, health status, or use of family planning and reproductive health services (Thornton 2010).

Outcome (and assessments reporting on it) (/25)	Beneficial change	Harmful change	No change
		than patient complexity (Alkenbrack and Lindelow, 2015). • Nigeria: In Kwara State, the subsidised health insurance programme led to a significant drop in health expenditures among the uninsured (by 1,095 Naira per capita annually), likely due to a "crowding-out" effect where uninsured individuals avoided costlier services. This unintended consequence occurred as 67% of the sample did not enrol in the insurance programme (Bonfrer 2018).	

5.9.3 SOCIAL HEALTH INSURANCE (SHI)

This group includes social or national health insurance schemes that are supposedly compulsory for the entire population and where payments are a mix of premiums (either based on income or flat) and subsidised (fully or partially) payments. The level of coverage varies between countries, with in some cases only the formal sector being effectively covered. For example, in Sri Lanka, the insurance covers only civil servants (Karunaratna et al 2019), while in Bangladesh the scheme focuses on those in formal employment only (Employer-sponsored health insurance - Ahmed et al 2020; Rabbani et al 2022). In some of the cases described, the insurance is created by merging existing schemes for different segments of the population (for example, in Indonesia and Lao PDR); such cases are discussed in greater detail in the sub-section examining insurance integration or insurance as an overarching intervention (e.g. studies examining SHI, VHI, PFHI or any combination of the above jointly). Designs and benefit packages vary between countries.

Tables below report on the findings of insurance schemes by specific country, where these have been widely studied (China, Ghana, Vietnam), and for all other countries.

The evidence on the effects of SHI is mixed, within and across studies and countries. Studies reporting on insurance schemes in China report a greater mix of harmful outcomes alongside beneficial, though potentially by virtue of the significantly greater volume of literature published. Over the past three decades, Chinese SHI schemes have undergone multiple revisions, with changes in coverage and benefits introduced at different times and in different areas of the country. This evolving nature means that the same scheme can show both beneficial and harmful effects, depending on the period, place and provisions being assessed. A detailed comparison of these variations was beyond the scope of this report. Several studies identify specific design and implementation challenges within China's SHI system which may have affected outcomes.

One concern raised is the discrepancy between the nominal reimbursement rates promised by schemes like the NCMS and the lower effective reimbursement rates experienced by patients. Ma (2016) notes that while the NCMS pledged a 70% reimbursement rate for inpatient services, the actual rate frequently fell below 40%. This gap, linked to limited benefit packages that exclude numerous essential drugs and medical checks, leads to greater OOPE than anticipated, thereby diminishing financial protection (Ma 2016). Policy design elements can also shape healthcare utilisation patterns in ways that mitigate or heighten financial strain. Research on the NCMS policy design found that pooled outpatient accounts and higher reimbursement ceilings effectively reduced CHE, while high inpatient reimbursement rates increased CHE by encouraging costly care, family outpatient accounts lacked impact due to poor risk pooling, and increased funding alone proved insufficient without targeted policy improvements (Zhang 2016). An assessment of local variation in UEBMI reforms found that in regions where benefit-expansion and cost-containment were implemented in coordination, this was more likely to reduce OOPE, while poorly coordinated reforms increased financial burdens (Liu 2023). For example, efforts to enhance SHI sustainability through cost-containment reforms led to adverse consequences and raised OOPE for those lacking insurance (Liu 2023).

Box 3. SHI in China

The health financing reforms in China and their impact cannot be understood without an overview of the wider reforms launched by the government in the health system as a whole. In 2009, China embarked on a series of large-scale health care reforms, focused on reforming the supply side as well as improving the availability and affordability of drugs. On the supply-side, the focus was on restructuring the health service delivery system, with substantial government investment in primary health care infrastructure upgrading, investment in availability and capacity of primary health care workers, and a move away from a hospital centric health system to a more integrated one through, for example, medical alliances (Liu et al, 2023). In 2012, the government encouraged the engagement of the private sector within hospitals. (ibid). As to pharmaceutical reforms, the key flagship reform was the National Essential Medicines System, which eliminated the profit link between physicians and the pharmaceutical industry, introduced price controls

and did not allow PHC providers to prescribe drugs outside of the Essential Medicines List (EML) (Liu et al, 2023).

From a health financing perspective, reforms aimed at improving financial protection of the population started in 1998 and culminated in the 'Health Poverty Alleviation (HPA) project in 2016' (a critical element of the national Poverty Alleviation Project). (see Box 4 below for more detailed information)

Box 4. Detailed overview of China Health insurance schemes

- **Urban Employees Basic Medical Insurance (UEBMI) Reform** (previously known as Labour Insurance Scheme)- The UEBMI was launched by the Chinese government in 1998 and covers urban employees and retirees in the formal sector. This scheme is mandatory for urban employees (of public and private sectors). Employers contribute 6% and employees 2%. The UEBMI offers coverage for both outpatient and inpatient services.
- **New cooperative medical scheme (NCMS)** relaunched in 2003 as New Rural Cooperative Medical Scheme (NRCMS): heavily subsidised voluntary health insurance programme for rural residents operating at county level. Premium contribution is linked to household income. Poor households 'contributions are entirely subsidised by the county budget, and non-poor households pay a subsidised flat-rate contribution. The NRCMS primarily covers inpatient services. This was stopped in 2016 and merged with URBMI into URRBMI.
- **Urban Resident Basic Medical Insurance (URBMI**) - launched in 2007, covers urban residents who are not eligible for UEBMI, such as unemployed individuals, the elderly, self-employed. and children. This was stopped in 2016 and merged with NRCMS into URRBMI.
- **Urban and Rural Resident Basic Medical Insurance (URRBMI)** – launched in 2016, the URRBMI was the merger of the URBMI and the NRCMS, and was implemented in most regions, bar Dongguan and Zhongshan, which merged the UEBMI, URBMI, and NCMS. This was the cornerstone of the HPA.
- The UEBMI and the URRBMI are referred to as China's basic medical insurance (BMI).

Other insurance schemes aimed at complementing the BMI include:

- **Catastrophic medical insurance (CMI)** - launched in 2012 and fully rolled out across China by 2016. CMI is a mandatory scheme for NCMS and URBMI participants and aims to enhance financial protection. CMI reimburses patients whose cumulative co-payments expenses over the previous year exceeded the CMI threshold after reimbursement by basic medical insurance. Local governments determine the deductibles (thresholds) for CMI based on the per capita disposable income of urban residents and the per capita net income of rural residents in the preceding year.
- **Medical financial Assistance (MFA) -** launched in 2012, this subsidizes the insurance premium for low-income households and subsidizes, through a direct cash transfer, a percentage of OOPE for low-income people after medical insurance reimbursement. The MFA pays part (partial MFA subvention, over 50% of premiums in most provinces) or all (full MFA subvention, 100% of premiums) of the premium per household member in 2016.
- **Long term care insurance (LTCI) -** introduced in 2016, targeting the aging population, specifically disabled or semi-disabled elders, funded by government subsidies. LTCI's coverage differs slightly across cities. The pilot started in 15 cities, each with varying implementation times and target populations. The coverage also differs; some cities primarily cover employee health insurance participants, while others include medical insurance for employees, non-working urban residents, or rural residents.

- **Critical illness insurance (CII**) – launched in 2016, provides further reimbursement of high medical expenses associated with critical illness for patients whose OOPE still exceed the threshold (usually the local income per capita); they can obtain additional reimbursement

Table 19. Insurance schemes – SHI China: Results

Outcome (and assessments reporting on it) (/29)	Beneficial change	Harmful change	No change
	9	6	7
OOPE	• The 1998 reform reduced the OOPE/income ratio (-0.012 for publicly insured; -0.019 for privately insured), with private insurance significantly benefiting lower-income households (BIS, UEBMI/URBMI) (Atella et al., 2015). • Participation in NCMS reduced annual OOPE by 19%, with policy bundles achieving a 40% reduction and household account requirements lowering OOPE by 20% (Babiarz et al., 2010). • Health insurance under UEBMI lowered OOPE, though effects were imprecise and marginally significant in some cases (He 2019). • Workers with full insurance were significantly less likely to incur OOPE (-2.75, p<0.001) than uninsured workers (Labour Medical Insurance) (Hu 1999). • UEBMI significantly reduced OOPE, particularly in prefectures implementing cost-containment and benefit-expansion policies (-1.395, p<0.01) (Liu 2023). • NCMS reduced OOPE for deliveries by 61% (p<0.01) in rural China (Wagstaff 2009). • SHI schemes lowered OOPE (Urban SHI: OR=0.70; Rural SHI: OR=0.73), with the rural	• The average real total OOPE under UEBMI increased significantly by 351% (17.31 to 78.06 yuan), with difference-in-differences showing an increase of over RMB 177 (He 2019). • In prefectures with only benefit-expansion reforms and no cost-containment policies, UEBMI significantly increased OOPE for individuals (Benefit expansion = 0.473, P < 0.05), with similar increases observed for enrollees (0.609, P < 0.10) (Liu 2023). • NCMS increased the cost of an outpatient visit by 236% (p<0.01), with significant increases in OOPE observed in half of the studied counties (Wagstaff 2009). • Individuals with social health insurance incurred higher OOPE compared to those without coverage: UEMI (1.128, p<0.001), URMI (0.937, p<0.001), and NCMI (0.882, p<0.001), despite higher reimbursement rates for UEMI enrollees (UEMI, URMI, NCMI) (Wang 2018). • Average OOPE per hospitalisation rose across all UMIS schemes from 2008 to 2014: UEBMI (1,927.14 RMB to 2,129.26 RMB, AGR 1.68%), URBMI (2,318.46 RMB to 2,427.65 RMB, AGR 0.77%), and NRCMS (1,439.56 RMB to 1,545.29 RMB, AGR	• Public insurance under Basic Insurance System had no significant impact on OOP expenses/income ratios (Atella et al., 2015). • Basic medical insurance did not significantly affect odds of spending 1000 versus 5000 yuan on OOPE (Fang et al., 2012). • NCMS participation showed no significant effect on reducing OOP expenditures (Babiarz et al., 2010; Lei 2009). • No difference in OOP spending for UEBMI enrollees or uninsured under prefectural reforms (Liu 2023). • Full or partial Labour Medical Insurance coverage showed no difference in OOP spending (Hu 1999). • UEBMI, URBMI, NCMS, and URRMI did not significantly reduce OOP costs for enrollees (Tan 2019). • NCMS had no significant effect on inpatient spending levels (Wagstaff 2009).

Outcome (and assessments reporting on it) (/29)	Beneficial change	Harmful change	No change
	SHI scheme significantly reducing OOPE (-0.24, 95% CI -0.38 to -0.10) (Wu 2021). • OOPE for older adults decreased significantly by 2011 (-0.283, p<0.01) after expanded public insurance coverage (Xue 2023). • URBMI significantly reduced OOPE inpatient (log OOPE = -0.406, p<0.001) (Zhou 2017).	1.19%) (UMIS: UEBMI, URBMI, NRCMS) (Xiong 2018). • For older adults, OOPE were higher for insured individuals in the 2005 and 2008 waves, particularly among those with public insurance (Xue 2023).	
	10	2	1
CHE	• Compared to rural families fully covered by NCMS, those with partial NCMS coverage had lower CHE incidence (OR=0.65, 95% CI 0.43–1.00) (Gu 2017). • NCMS reimbursement reduced both the incidence and intensity of CHE, with stronger effects observed in 2012 compared to 2009 (Guo 2016). • Full SHI enrolment reduced the likelihood of CHE by 24% (OR=0.76, 95% CI 0.626–0.924), though MFA subvention had no effect on SHI enrolment (Liu 2017). • Larger family size was associated with a lower risk of CHE (-0.0499, p=0.000) (Ma 2021). • NCMS reduced CHE incidence by 9.9% and intensity by 16.9%, improving financial protection (Shi 2010). • NCMS decreased CHE incidence by 0.73 percentage points (8.15%) and reduced the catastrophic payment gap by 18.7%, with	• The incidence of CHE among elderly families with CVD members was 19.9%, 3.6% higher than for uninsured families (16.3%), with risks increasing for families with >3 chronic diseases (38.88%), members aged >75 (33.33%), or disabled members (33.33%) under NCMS (Ma 2021). • Higher nominal reimbursement rates for inpatient spending at provincial hospitals were correlated with increased CHE incidence before reimbursement under NCMS (Zhang 2016).	• CHE prevalence remained high after NCMS reimbursement across provinces (Ma 2016).

Outcome (and assessments reporting on it) (/29)	Beneficial change	Harmful change	No change
	greater reductions modeled at higher reimbursement rates (Sun 2009). • Insurance compensation under URBMI and NCMS reduced CHE incidence for lung cancer households by 14.9% (Sun 2021). • UMIS significantly decreased catastrophic payment rates (CPR) across income levels, but low-income rural patients still experienced CPRs exceeding affordability thresholds (>40%), particularly in tertiary hospitals (UMIS: UEBMI, URBMI, NRCMS) (Xiong 2018). • NCMS reduced CHE incidence by 0.6 percentage points in 2007 and 2.4 percentage points in 2011, with outpatient pooled accounts reducing CHE by 6.4 points pre-reimbursement (51% reduction) and 1.9 points post-reimbursement (15%) (Zhang 2016). • NCMS led to significant reduction in CHE after reimbursement across all income groups in Hubei and Chongqing province ($p<0.05$) but only for the rich and very rich groups in Zhejiang province ($p<0.05$) (Wang et al., 2014).		
	3	0	0
Impoverishment	• NCMS reduced impoverishment incidence (from 8.2% to 7.6%) and impoverishment intensity by 10% (Shi 2010).	n/a	n/a

Outcome (and assessments reporting on it) (/29)	Beneficial change	Harmful change	No change
	• NCMS reduced the percentage of medically impoverished households by 24.6% in rural Yanbian (Sun 2016). • A 20% increase in NCMS reimbursement ratio reduced poverty incidence by 6.51%, poverty depth by 8.94%, and poverty intensity by 6.38%, with greater impacts observed among males, younger older adults (60–69), and residents of economically disadvantaged areas (Zhai 2021).		
	10	3	5
Foregone care	• Clinic designation for NCMS reimbursement increased average weekly patient flow by 26%, with NCMS participation increasing village clinic use by 5% (Babiarz et al., 2010). • Under UEBMI, insured individuals were 27 percentage points more likely to use preventive care, possibly influenced by moral hazard and the 2003 SARS outbreak (He 2019). • NCMS increased preventive care utilisation by 60–85% depending on the regression model, with participants 1.1–2.4% more likely to use preventive care in the last four weeks (Lei 2009). • Health insurance participants were more likely to use inpatient care: UEBMI (+18.4%), URBMI (+16.3%), and NCMS (+9.7%)	• For elderly cardiovascular patients, CHE risk increased with other chronic diseases (+4.68%, p=0.000) and hospitalisation members (+10.01%, p=0.000), indicating gaps in health service support for high-risk groups (Ma 2021). • Participants in UEI, URI, and NCMS had statistically significant reductions in outpatient care utilisation compared to the uninsured (Tan 2019). • Older insured individuals had lower probabilities of hospital visits in the 2005 and 2008 survey waves, suggesting underutilisation of services (Xue 2023).	• NCMS participation did not significantly change the probability of care-seeking (Babiarz et al., 2010; Lei 2009). • UEBMI had no effect on formal health care utilisation (He 2019). • MFA and NCMS did not improve access to inpatient care (Shi 2010). • UMIS had no statistically significant effect on outpatient or inpatient visits at lower-level facilities (Xiong 2018).

Outcome (and assessments reporting on it) (/29)	Beneficial change	Harmful change	No change
	compared to uninsured individuals (p<0.01) (Tan 2019). • NCMS significantly increased utilisation of outpatient (+21% for township health centres; +81% for county hospitals) and inpatient services (+119%) and village clinic visits (+56%, p<0.01) (Wagstaff 2009). • Social health insurance significantly increased healthcare utilisation and reduced underutilisation, with UEBMI enrollees 40.7% less likely to underutilize care (OR=0.593, p<0.001), and URMI and NCMI enrollees 10.8% (OR=0.892) and 24.3% (OR=0.757) less likely, respectively (Wang 2018). • FMS and rural SHI significantly increased inpatient care use (RRR=2.17, CI 1.42–3.31; RRR=1.41, CI 1.03–1.93), while PHI expanded outpatient utilisation in inland and urban areas (PHI, SHI) (Wu 2021). • UMIS led to significant increases in outpatient visits across hospitals and inpatient visits (+203/year), though growth was slower at lower-level facilities (Xiong 2018). • Older insured individuals had a higher probability of hospital visits in 2011, though hospitalisation probability was lower in 2005 and 2008 (Xue 2023).		

Outcome (and assessments reporting on it) (/29)	Beneficial change	Harmful change	No change
	• URBMI and NRCMI significantly increased hospitalisation use (UEBMI: 0.107, URBMI: 0.084, NRCMI: 0.109; p<0.01) (Zhou 2017).		
	4	6	3
Equity	• Controlling for income tertiles, private insurance significantly reduced the OOPE/income ratio for lower-income households (-0.031), while public insurance significantly increased the savings rate for the lowest income group (+0.064) (Atella et al., 2015). • After NCMS reimbursement, inequality in CHE incidence decreased, with CE reducing to 0.021 in 2012, though the overshoot remained concentrated among wealthier households in 2009 (Co=0.130) (Guo 2016). • Healthcare utilisation increased significantly for individuals with poorer self-reported health, while higher income quintiles incurred significantly higher total healthcare and OOPE (coefficients up to 1.253 for costs, 1.059 for OOP) (Wang 2018). • The expansion of NCMS significantly decreased horizontal inequity in rural areas, reducing inequity from 997.83 to 199.87 points, though OOPE remained pro-rich in redistribution (Yang 2022).	• The concentration index (CI) of CHE worsened from -0.298 (2009) to -0.323 (2010), indicating increased inequality in CHE incidence among poorer families (Gu 2017). • The overshoot intensity of CHE remained concentrated among poorer households in 2012 after NCMS reimbursement (Guo 2016). • NCMS increased inequity in CHE prevalence post-reimbursement across all income groups, with CIs worsening in Hubei (-0.093 to -0.119), Chongqing (-0.2279 to -0.2495), and Zhejiang (-0.1498 to -0.1821) (Ma 2016). • NCMS disproportionately benefited the richest quintile for inpatient care use and spending, as wealthier individuals lived closer to facilities and could afford higher copayment (Wagstaff 2009). • Healthcare utilisation significantly increased among higher-income groups compared to the lowest income quintile, especially under UEBMI, where coefficients ranged up to 0.161 (p<0.001) (Wang 2018).	• Social Health Insurance (SHI) in urban areas (UWBMI) did not significantly affect horizontal inequity, which remained unchanged (Yang 2022). • Commercial insurance had limited effects on horizontal inequity, as SHI played a larger role (Yang 2022). • NCMS slightly reduced poverty and CHE after healthcare costs, with greater impact on households with chronic illnesses, but these households continued to face a higher financial risk than those without anyone suffering from chronic diseases (Wang et al., 2014).

Outcome (and assessments reporting on it) (/29)	Beneficial change	Harmful change	No change
		• Horizontal inequity in healthcare finance worsened in rural areas, increasing from 22.28 to 48.80 percentage points, while taxation, commercial insurance, and OOP payments were strongly pro-rich by 2007 (Yang 2022).	
• **Other**	• China: Participation in NCMS reduced financial risk exposure, lowering the likelihood of financing medical care through asset sales or borrowing by 45% in the basic model and 63% in the full model (Babiarz et al., 2010). • Enrolling in NCMS reduced the use of traditional Chinese folk doctors by 4.9 percentage points ($p<0.01$), though results were not significant in some models (Lei 2009). • Public insurance coverage under the 1998 reform significantly increased the saving rate, inducing households to save 4.1–5.2 percentage points more, particularly among low-income households (Atella et al., 2015). • Clinic designation for NCMS reimbursement increased patient flow by 26% and monthly gross income by 29%, with clinics in NCMS counties experiencing a 71% rise in gross income (Babiarz et al., 2010). • NCMS adoption significantly increased the probability of using preventive care by 1.7 percentage points (OLS) and 60–85% across various models (Lei 2009).	• Health clinic economic outcomes: NCMS was associated with substantial reductions in clinic weekly patient flow (39%) and nearly significant reductions in clinic gross income. (Babiarz et al., 2010) • Cost-containment reforms under UEBMI significantly increased OOPE for uninsured individuals in prefectures without benefit-expansion policies (Cost-containment = 1.695, $P < 0.01$), highlighting unintended adverse spillover effects (Liu 2023). • UMIS implementation led to a significant increase in heart failure fatality rates (coefficient = 1.597, $P < 0.01$) but showed a declining trend in fatality rates for acute myocardial infarction (AMI) (coefficient = –0.835, $P < 0.01$), with no significant changes reported for other diseases (Xiong 2018).	• NCMS implementation did not lead to changes in net income for health facilities (Babiarz et al., 2010). • Perceived reasonableness of reimbursement rates under URRBMI showed no significant difference (Jiang 2021). • NCMS financial burden indicator (OOPE/Expenditure) remained high post-reimbursement (Ma 2016). • No significant difference in outpatient financial strain between public/private insurance holders (Peng and Zhu, 2021).

Outcome (and assessments reporting on it) (/29)	Beneficial change	Harmful change	No change
	• Public health insurance reduced the odds of outpatient financial strain compared to those without coverage (OR: 0.58, 95% CI: 0.34–3.55) (Peng and Zhu, 2021).		

Table 20. Insurance schemes – SHI Ghana: Results

Outcome and No. assessments reporting on it (/9)	Beneficial change	Harmful change	No change
OOPE	4	2	4
	• NHIS reduced OOPE for insured pregnant women (GHS 3,600 vs. GHS 21,600) (Abrokwah et al., 2014). • Enrolment in NHIS reduced household OOPE by 86% (Aryeetey et al., 2016). • OOPE for healthcare and medications decreased by 63% and 62%, respectively (Kanmiki 2019). • Insured surgical patients had significantly lower OOPE for surgery (997.1 vs. 2860; p<0.001) (Okoroh et al., 2020).	• Mean OOPE for the entire sample (insured and uninsured) increased for outpatient services (GHS 23 to GHS 33) and inpatient services (GHS 51 to GHS 62) (Aryeetey et al., 2016). • Insured individuals still faced OOPE for informal care, uncovered drugs, and tests at facilities despite a generous benefit package (Nguyen 2011).	• NHIS had no significant effect on OOPE after controlling for self-selection (Brugiavini 2016). • While NHIS reduced OOPE for insured individuals, the effect was only marginally significant (p<0.1) (Nguyen 2011). • For surgical ancillary and non-medical costs, NHIS showed no significant change (p=0.667 and p=0.657, respectively) (Okoroh et al., 2020). • NHIS enrolment had no statistically significant effect on OOPE, with conflicting explanations on slight increases or decreases (Sarkodie 2021).
CHE	5	1	0
	• CHE incidence dropped significantly (27% to 12%) for insured households (Aryeetey et al., 2016). • NHIS enrollees were significantly less likely to incur CHE (-0.47; p<0.01) (Fiestas Navarrete 2019). • NHIS reduced exit time from CHE at both 20% and 40% thresholds (Frimpong 2021). • NHIS significantly lowered the probability of catastrophic OOPE at various thresholds (Nguyen 2011). • Insured surgical patients' OOPE still exceeded WHO thresholds but remained	Across the whole sample (insured and uninsured), households were 5% more likely to incur CHE for outpatient services and 19% for inpatient services (Aryeetey et al., 2016).	n/a

Outcome and No. assessments reporting on it (/9)	Beneficial change	Harmful change	No change
	significantly lower than for uninsured patients (Okoroh et al., 2020).		
Impoverishment	1	2	0
	Insured households were 7.5% less likely to fall into poverty (Aryeetey et al., 2016).	• Across the whole sample (insured and uninsured), use of outpatient services increased the probability of falling into poverty by 4%, while inpatient services increased it by 16%. Larger households and those with unemployed individuals were more vulnerable, while higher education reduced poverty incidence. (Aryeetey et al., 2016).	n/a
Foregone care	4	0	0
	• NHIS increased prenatal care visits by 23–24% (Abrokwah et al., 2014). • Enrolment in NHIS increased formal antenatal care and hospital births (Brugiavini 2016). • Insured individuals were more likely to use medical services (0.22; p<0.01) (FiestasNavarrete 2019). • NHIS increased healthcare utilisation by 26%, especially in public and private facilities (Sarkodie 2021).	n/a	n/a
Equity	3	0	2
	• NHIS improved healthcare utilisation more for the poorest 40% (+18 p.p. vs. +8 p.p.) (FiestasNavarrete 2019). • Financial protection benefits were larger for poorer households (-10 p.p. CHE) compared	n/a	• NHIS did not improve prenatal care access for lower-income women, despite reduced spending when care was sought (Abrokwah et al., 2014).

Outcome and No. assessments reporting on it (/9)	Beneficial change	Harmful change	No change
	to richer ones (-6 p.p.) (FiestasNavarrete 2019). • The NHIS significantly reduced catastrophic OOPE for the poor across all thresholds (Nguyen 2011).		• The NHIS impact on catastrophic OOPE was marginal or non-significant for wealthier groups (Nguyen 2011).

Table 21. Insurance schemes – SHI Vietnam: Results

Outcome and No. assessments reporting on it (/9)	Beneficial change	Harmful change	No change
OOPE	5	0	7
	• HCFP reduced total household OOPE (19% lower) and inpatient care spending (27% lower) (Axelson et al., 2009). • Insurance schemes consistently lowered total costs for inpatient/outpatient care, especially among the poor (Nguyen 2012). • FCCU6 policy reduced OOPE probability by 1.7 percentage points, significant for children aged 4-5 (Nguyen 2013). • Health insurance reduced inpatient OOPE by ~50% for children aged 3-5 (Nguyen 2019). • HSHI reduced OOPE for outpatient and inpatient care (-0.418, p<0.001) under DID analysis and DID with PSM (-0.295, P<0.1) (Thuong et al., 2020).	n/a	• No significant reduction in OOPE for inpatient utilisation (Axelson et al., 2009). • Insurance for the poor (HCFP) had no significant effect on lost income (Nguyen 2012). • No significant effect on OOPE for children aged 0-3 (Nguyen 2013). • No significant effect on outpatient OOPE (Nguyen 2019). • Insignificant impact on outpatient (-15.3%) and inpatient (+12.8%) costs, net total OOPE change ~0.7% (Nguyen 2020). • No significant difference in OOPE for low- or middle-income groups post-PHI amendment (Nguyen 2023). • No significant impact of HSHI on reducing OOPE for visits to provincial hospitals (Thuong et al., 2020).
CHE	2	0	1
	• HCFP reduced catastrophic health expenditure at the 20% threshold (Axelson et al., 2009). • FCCU6 decreased the probability of large OOPE by 0.004 percentage points for children aged 4-5 (Nguyen 2013).	n/a	No significant effect on probability of catastrophic health expenditure for youngest age group (0-3 years) (Nguyen 2013).
Impoverishment	0	0	0
	n/a	n/a	n/a
	5	0	4

Outcome and No. assessments reporting on it (/9)	Beneficial change	Harmful change	No change
Foregone care	• HCFP increased outpatient visits (+4%) and inpatient admissions (+6%) with a shift from private to public providers (Axelson et al., 2009). • FCCU6 increased outpatient/inpatient use at secondary public hospitals, especially among children aged 0-5 (Nguyen 2013). • Universal child insurance increased outpatient visits (27% for 0-2 years) and hospital admissions (22% for 3-5 years) (Nguyen 2019). • Public insurance expansion significantly increased utilisation among nonpoor children (Nguyen 2020). • VHI and HSHI programs increased outpatient and inpatient visits, particularly at district-level hospitals (Thuong et al., 2020).	n/a	• Small, insignificant changes in health care utilisation; no change in inpatient utilisation (Axelson et al., 2009). • No significant difference in annual healthcare service use (outpatient, inpatient, or total) (Nguyen 2020). • No significant increase in PHI-eligible visits for the low-income group (Nguyen 2023). • No change in outpatient visits or inpatient visits for HSHI groups (Thuong et al., 2020)
Equity	0	0	0
	n/a	n/a	n/a
Other	HCFP resulted in substitution effects: from private to public care and primary to higher-level care (Axelson et al., 2009). Insurance reduced parental income losses, especially for children under 6 and specific groups (Nguyen 2012).	Compulsory insurance unexpectedly increased lost income by $41.40 (Nguyen 2012).	Insurance for the poor and meritorious schemes showed no statistically significant impact on lost income (Nguyen 2012).

Table 22. Insurance schemes – SHI – Other countries

Outcome and No. assessments reporting on it (/9)	Beneficial change	Harmful change	No change
OOPE	4	0	4
	• In **India**, poor persons under GSHI had lower median OOPE (INR 1,600/USD 23 vs. INR 2,290/USD 34) (Aashima, 2024). • Askes health insurance in **Indonesia** reduced OOPE by 55% (Aji et al., 2013). • In the **Philippines** PhilHealth reimbursements reduced discharge bills; Sponsored Programs further reduced costs for indigent patients, covering a higher proportion of expenses (Caballes et al., 2012). • In **Rwanda**, CBHI (Mutuelles de Santé) significantly reduced OOPE expenses, with insured patients in Ubudehe category 1 (no copayment) paying $16.33 compared to $30.47 for category 2/3 (10% copay), $55.44 for privately insured, and $201.94 for uninsured patients (Koch et al., 2022).	n/a	• The Health Security Scheme (HSS) in **Bangladesh** showed no significant impact on OOPE or healthcare-seeking behaviours, with hospitalisation odds not statistically different (OR=1.09, p=0.569) (Rabbani et al., 2022). • GSHI in **India** reduced OOPE, but the effect was not statistically significant for poor populations (Aashima, 2024). • Askes and Jamsostek in **Indonesia** had no significant impact on OOPE in OLS and FE models (Aji et al., 2013; Sparrow 2013). • In **Senegal**, average OOPE under Couverture Médicale Universelle were not statistically different between beneficiaries and non-beneficiaries (€6.1–€7.6 per consultation) (CMU) (Taverne 2021).
CHE	4	0	1
	• GSHI schemes had modest impacts on CHE incidence at 10% threshold and no significant effect for the poor (Aashima, 2024). • CBHI in **Rwanda** reduced CHE risk, with no-copay Ubudehe 1 households experiencing a 4.1% CHE rate compared to 24.5% for copay categories 2/3(Koch et al., 2022).	n/a	Agrahara SHI in **Sri Lanka** had no significant effect on CHE, with 30% of households facing CHE due to outpatient care, particularly in the poorest quintile, and reimbursements supporting only 2 out of 8 households (Karunaratna 2019).

Outcome and No. assessments reporting on it (/9)	Beneficial change	Harmful change	No change
	• Mutuelles households in **Rwanda** were significantly less likely to incur CHE (OR=0.047, p<0.001), indicating strong financial protection (Lu 2012). • **Thailand's** Universal Coverage (UC) scheme reduced CHE incidence, with headcount falling by 22% and 24.48% (using 10% consumption threshold) post-UC compared to pre-UC levels (Somkotra 2008).		
Impoverishment	3	0	0
	• Health insurance in India reduced impoverishment caused by OOPE for hospitalisation, with poverty headcount decreasing by 1.43% for overall insured, 0.87% under GSHI, and 2.91% under private voluntary insurance compared to uninsured populations (p<0.05) (Aashima, 2024). • In **Rwanda**, hospitalisation expenses for C-sections increased poverty rates, with extreme poverty rising from 93.5% to 96.7%; Ubudehe 2/3 patients were most likely to borrow money (55%) compared to Ubudehe 1 (28%) or private/no insurance (29–30%), while uninsured patients were most likely to sell possessions (20%) (Koch et al., 2022). • **Thailand's** UC scheme reduced the post-payment poverty headcount, which increased by 1.23% pre-UC but by only 0.7% (2002) and 0.58% (2004) post-UC; almost-poor households falling into poverty	n/a	n/a

Outcome and No. assessments reporting on it (/9)	Beneficial change	Harmful change	No change
	also declined (1.01% to 0.62% and 0.49%) (Somkotra 2008).		
Foregone care	2	0	0
	HSS in **Bangladesh** significantly increased hospitalisation rates for women (OR=1.54, p=0.081) and hospitalisation at empanelled hospitals (OR=1.78, p=0.004) (Rabbani et al., 2022). In Rwanda, Mutuelles enrollees had twice the odds of using medical care (p<0.01), with ill children under five being more likely to seek care (OR=3.398, p<0.01) (Lu 2012).	n/a	n/a
Equity	1	2	0
	The UC scheme in **Thailand** improved equity by reducing OOPE for poorer households (1st and 2nd quintiles), while wealthier households remained more likely to spend on healthcare from their own resources (Somkotra 2008).	In the **Philippines**, PhilHealth reimbursements were not progressive, with poorer patients receiving lower reimbursement (Caballes et al., 2012). In Rwanda, households in the lowest expenditure quintile covered by Mutuelles had the highest probability of experiencing catastrophic health spending (Lu 2012).	n/a

5.9.4 INSURANCE INTEGRATION

Studies on the integration of Lao PDR insurance into the Lao PDR National Health Insurance (NHI) scheme showed mixed impacts on healthcare access, CHE, and equity (Bodhisane 2019, Bodhisane 2022). The NHI improved financial protection across all income levels by reducing income-based disparities in CHE, which were significant under CBHI. For example, under CBHI, insured individuals had 96.3% lower odds of CHE compared to uninsured individuals (OR: 0.037), while income level no longer impacted CHE probability under NHI. Healthcare utilisation increased under NHI, especially for low-income households earning less than 1 million LAK (120 USD/month), while CBHI increased hospitalisation odds by 1.8 times for the insured ($p = 0.021$). However, NHI's equity outcomes were mixed; households with chronic conditions were 108 times more likely to incur CHE than those without chronic conditions, and the poorest households (<1 million LAK monthly income) were 200 times more likely to face CHE compared to the wealthiest (inverse OR: 1/0.005). Additionally, patients from districts further from provincial hospitals had 3.8 times higher odds of CHE than those residing nearby.

Table 23. Insurance schemes – Insurance integration/overarching insurance: Results

Outcome (and assessments reporting on it) (/8)	Beneficial change	Harmful change	No change
	2	1	1
OOPE	In **Colombia**, insured populations had lower OOPE for ambulatory ($1.87–$4.90 vs. $9.58–$17.08) and inpatient care ($15.90–$33.19 vs. $29.14–$76.47) compared to uninsured populations (p=0.000) (Ruiz 2007). In India, private and government-sponsored insurance reduced mean OOPE for hospitalisation ($197 overall insured, $168 GSHI insured vs. $219 uninsured) and median OOPE for poor individuals ($23 insured vs. $34 uninsured) (Aashima, 2024).	In **China**, the integrated URRBMI resulted in higher OOPE across all income quintiles compared to the non-integrated scheme, with the poorest quintile spending $417.58 (vs. $394.02) and the richest quintile spending $4801.56 (vs. $3816.38) (Wang 2020).	Effect of overall insurance coverage in **India** (Ahmed et al., 2023) • The ratio of **OOPE to Total Health Expenditure (THE)** remained near 1 in both India and Bihar, indicating that health insurance coverage had little to no effect on reducing OOPE. • Delayed reimbursements (30–90 days) from insurance policies might slightly alter the ratio but did not substantially change the outcome.
	2	2	0
CHE	In **India** (Aashima, 2024), health insurance reduced CHE incidence at 10%, 25%, and 40% thresholds compared to uninsured populations, with the greatest reductions under private voluntary insurance (CHE10: 13.47% lower, p < 0.05). GSHI schemes reduced CHE incidence modestly but had no significant impact for poor individuals.	In **China**, the integrated insurance scheme under URRBMI resulted in a 1.10% higher incidence of CHE, defined at the 40% threshold (15.53%) compared to the non-integrated scheme. (Wang 2020) The integration of health schemes into **Lao PDR** NHI in 2012 expanded coverage for high-cost	n/a

Outcome (and assessments reporting on it) (/8)	Beneficial change	Harmful change	No change
	In **Lao PDR** (Bodhisane 2019), the NHI significantly reduced CHE risk across all income levels, unlike CBHI, where income influenced CHE likelihood.	treatments like haemodialysis but introduced a 25% copayment for expenses exceeding $500, increasing financial burdens and catastrophic health expenditures for remote and chronically ill households. (Bodhisane 2022)	
	3	0	0
Impoverishment	In **India**, health insurance significantly reduced the likelihood of falling below the poverty line due to OOPE, with overall insured populations showing a 1.43% reduction in poverty headcount, government-sponsored health-insured populations a 0.87% reduction, and private voluntary insurance a 2.91% reduction compared to uninsured populations ($p < 0.05$). (Aashima, 2024) Insurance-related policy reforms targeting the poor in China decreased poverty odds among hypertension patients with higher inpatient (0.959, $p<0.001$) and overall reimbursement rates (0.956, $p<0.001$) (Zhou et al. 2022). In China, integration of insurance into the URRBMI scheme significantly reduced the incidence of medical impoverishment (ATT = -0.055, $p < 0.05$) (Huo et al., 2023).	n/a	n/a
	4	0	0
Foregone care	• **Colombia** (Ruiz 2007): Insured individuals had significantly higher healthcare	n/a	n/a

Outcome (and assessments reporting on it) (/8)	Beneficial change	Harmful change	No change
	utilisation, with 2–6 times more ambulatory and inpatient events compared to uninsured (p=0.000). • **India** (Aashima, 2024): Insurance increased private hospital utilisation (54.62% vs. 47.52%) and access to repeat hospitalisations, especially under GSHI and private voluntary schemes. • **Lao PDR:** CBHI increased hospitalisation likelihood by 1.8 times for insured, while NHI provided broader access with predictors like marital status influencing utilisation. (Bodhisane 2019). NHI improved healthcare use for chronic kidney disease patients (Bodhisane 2022).		
	2	3	0
Equity	• **China** (Wang 2020): Under URRBMI, equity improved as the intensity of CHE and impoverishment among the poorest decreased, with inequity reducing by 28.38% (CI = -0.53), although CHE remained concentrated among the poor. • **Lao PDR** (Bodhisane 2019): NHI enhanced equity by significantly increasing healthcare accessibility for low-income households (earning <$120/month) compared to CBHI, though the poorest still had the highest likelihood of facing catastrophic health expenditure.	Integration of urban and rural residents' insurance into URRBMI in **China** led to greater inequity for poorer and rural patients based on Concentration Index. (Wang 2020) In India, insurance schemes (both public and private) disproportionately benefited higher-income groups, creating **pro-rich inequality**. (Ahmed and Mahapatro, 2023) In **Lao PDR**, integrated insurance into NHI contributed to inequalities based on factors such as education (least educated individuals were 3.7 times more likely to experience CHE compared to those with secondary education), income (households in the lowest income	n/a

Outcome (and assessments reporting on it) (/8)	Beneficial change	Harmful change	No change
		quantile (<$100/month) were 200 times more likely to face CHE than the wealthiest households), residence (Patients outside Kaysone Phomvihane District were 3.766 times more likely to experience CHE compared to local residents), and chronic conditions (Households with additional chronic conditions were 108 times more likely to encounter CHE than those without) (Bodhisane 2022).	

5.9.5 EXPANDED INSURANCE PACKAGE

The expansion of the benefit package was used as a reform to improve financial protection in India (inclusion of MDR-TB), Kenya (inclusion of NCD services) and China (various reforms to increase inpatient and outpatient services included in the various insurance schemes' benefit packages). China also relied on improving the level of compensation of the insured population through each of its health insurance schemes.

Table 24. Insurance schemes – Expanded package: Overview of interventions

Programme name	Programme summary	Country	Scale	Funding	Accompanying measures	Articles
Compliance Medical Costs within Catastrophic Medical Insurance (CMI)	Enhanced compensation - Following consultation with a physician, an elderly patient is compensated by their basic medical insurance. If an individual continues to have significant OOPE after reimbursement for basic medical insurance, the portion of these out-of-pocket expenses that are eligible for CMI reimbursement would be reimbursed in addition	China	National (with variations across states)	Government health budget	Additional measure to Basic Medical Insurance (BMI) and CMI	Cao et al, 2022
Urban Employee Basic Medical Insurance (UEBMI)	Expansion of compensation: increase of the reimbursement rate and of the cap line and decrease in the deductible line for beneficiaries of the UEBMI	China	National (with variations across states)	Government health budget	Integrated within the UEBMI	Zhang et al, 2023
Catastrophic Medical Insurance (CMI)	Expansion of compensation: Supplements basic insurance by reimbursing a portion of out-of-pocket expenditures exceeding a certain threshold. Reimbursement rates varied by expenditure level. In 2015, the reimbursement rate increased 5% for each interval.	China	National (with variations across states)	Government health budget.	Additional measure to Basic Medical Insurance (BMI)	Yu et al, 2021; Zhao et al, 2020

Programme name	Programme summary	Country	Scale	Funding	Accompanying measures	Articles
Social Pooling Account (SPA) and Household Account within New Rural Cooperative Medical Scheme (NCMS)	Enhanced compensation and extended benefit package: The reimbursement ratio increased within the SPA provides additional coverage for inpatient care and a Household Account for critical outpatient care (i.e. chronic or fatal disease) (limited). covers inpatient care and catastrophic outpatient services.	China	National (with variations across states)	Co-financed and subsidised by both central and local Government, farmers' organisations (cooperatives) and families	Supplementary coverage to BMI (specifically NCMS)	Dai et al, 2016;
New Rural Cooperative Medical Scheme (NRCMS), thereafter New Cooperative Medical Scheme (NCMS)	Enhanced compensation and extended benefit package: NRCMS initiated in 2002, morphed into NCMS in 2007. Focused initially on increasing reimbursement ratio for inpatient services, thereafter started to cover outpatient services and increased reimbursement ratios over time.	China	National (with variations across states)	Government health budget	Integrated within the NRCMS (insurance)	Jing et al, 2013; Li et al, 2015; You et al, 2016; Miao et al, 2018; Yang and Wu, 2015; Zhang et al, 2021; Li et al, 2019; Xiang et al, 2016; Yuan et al, 2014
Critical illness Insurance (CII)	Enhanced compensation and extended benefit package: CII provides an expended benefit package through inclusion of critical illnesses and the reimbursement of associated high medical expenses	China	Pilot	Government health budget	Integrated within the CII (Insurance)	Jiang et al, 2019; Zhong et al, 2021; Li A et al, 2019; Li L et al, 2019.

Programme name	Programme summary	Country	Scale	Funding	Accompanying measures	Articles
Serious Illness Medical Insurance (SIMIS)	Enhanced compensation: In 2012, the Chinese government required local governments to create a serious illness medical insurance (SIMI) affiliated with the NRCMS and URBMI as complementary medical insurance. After receiving payment through NRCMS, patients in rural areas who meet the requirements of SIMIS policy would receive a second payment for their high medical expenses	China	National (with variations across states)	Government health budget	In complement to other insurance mechanisms (NRCMS and URBMI)	Li et al, 2020
MDR-TB financial protection policy	Expansion of benefit package: MDR-TB benefit packages as part of the universal health insurance scheme.: the state purchases health insurance against set packages of services from third party health insurance agencies on behalf of all its residents.	India	Sub-national (Chhattisgarh state)	Central and state level funding	Provider payment reform (lump sum fee is reimbursed as per the MDR-TB benefit package rates) to empanelled public and private providers.	Kundu et al, 2018
National Health Insurance Fund (NHIF)	Expansion of benefit package: inclusion of NCD services in the NHIF for households with hypertension and/or diabetes for 12 months	Kenya	National	Government health budget	Within the NHIF	Oyando et al, 2023

Expanded benefit packages led to mixed effects. Improvements were particularly observed in service use. For example, CII, CMI, and NCMS reforms increased inpatient and outpatient utilisation, closing gaps in access (Jiang 2019, Cao 2022, You 2016) and institutional deliveries and postnatal visits improved significantly (You 2016).

Enhanced insurance coverage under CMI reduced distance-related barriers to seeking care, increasing visits to higher-quality tertiary hospitals (Yu 2021). But the emphasis on inpatient care within SHI systems created inequities in outpatient access and reimbursement (Miao 2018). CII and NCMS improved healthcare utilisation, but rural households and vulnerable groups often faced higher risks of CHE still (Li 2019, Xiang 2016). Limited outpatient quotas and affordability barriers further restricted the effectiveness of expanded coverage, particularly for critical conditions like TB (Xiang 2016).

NCMS improved equity by reducing the Gini coefficient by 26% post-reimbursement (Li 2015) and enhancing access for rural TB patients (Xiang 2016). However, inequities persisted: lower-income households under NCMS faced rising catastrophic expenditures (Zhang 2021). SIMIS disproportionately benefited wealthier individuals seeking care at higher-reimbursement hospitals (Li 2020). In Kenya, NHIF expansion failed to reduce inequities in catastrophic costs, which remained concentrated among the poor (Oyando et al., 2023).

Some studies indicate that expanded coverage can unintentionally create new vulnerabilities. For example, CII's impact was mixed, with the CHE gap decreasing most for the poorest but increasing for middle-income groups (Jiang 2019). In Shanghai, an expansion of the insurance package to cover stents intended to reduce the disease burden for patients, reduce health service utilisation inequities, and increase provider-side cost sharing. It found that PCI use increased significantly for low and moderate reimbursement groups but decreased in the high reimbursement group after the policy change (Yuan 2014). This could indicate that provider behaviours shifted to mitigate the effects of cost sharing.

Table 25. Insurance schemes – Expanded benefit package: Results

Outcome and no. studies reporting (/22)	Beneficial change	Harmful change	No change
	8	6	9
OOPE	**Benefits ranging from 0.85% to 50% OOPE reductions:** **China:** • The New Cooperative Medical Scheme (NCMS) reduced OOPE at township health centres and tertiary hospitals by 5.51% and 0.85% per year, respectively (Dai, 2016). • The Serious Illness Medical Insurance Scheme (SIMIS) improved the actual reimbursement level by 2–2.5%, reducing economic burdens for rural residents (Li, 2020). • NCMS reforms decreased the odds of OOP medical expenses exceeding 40% of household income by 30–35% between 2003 and 2013 (Zhang, 2021). • Critical illness insurance reduced inpatient OOP payments by 35.69%, with statistically significant reductions across income levels (p<0.001) (Jiang, 2019). • Outpatient and inpatient medical expenses under the Social Health Insurance (SHI) reforms were reduced by 29.9–36.7% (Miao, 2018). • Expanded NCMS benefits reduced OOPE among rural elderly migrants by 50% of income between 2005 and 2014, with an effective reimbursement rate increase of 12.4% (Li, 2019).	China's **CMI:** • **Significantly increased total OOPE for the elderly, with total logarithmic OOPE expenditures rising by 0.65 units (p<0.05) and inpatient OOPE by 0.63 units. For rural residents, total logarithmic OOPE increased by 0.64 units (Cao 2022).** • **Led to significant increases in total OOPE**, with total OOPE rising by 73.3%, inpatient OOPE by 27.1%, and outpatient OOPE by 71.5% (p<0.001 for all) (Yu 2021). China's CII: • **Increased OOPE by 32.2%** (95% CI 24.8% to 39.5%, p<0.001) (Zhong 2021). • **Increased OOPE for high-cost inpatient visits**, with an abrupt increase of $682.6 (p<0.01, 95% CI $446 to $919.2) after its introduction (Li 2019). NCMS • **OOPE at county hospitals under NCMS increased annually by 10.16% between 2012 and 2014 (Dai 2016).**	• SHI reforms in China showed no significant decrease in outpatient OOPE, with a reduction of 9.1 yuan per capita that was not statistically significant (p>0.05) (Miao 2018). • NCMS coverage had no significant impact on post-reimbursement outpatient costs, as OOPE after reimbursement were similar between treatment and control groups (Yang 2015). • CMI did not significantly alter inpatient OOPE per hospitalisation (Yu 2021). • CMI had no significant effect on inpatient OOPE for serious illnesses, reflecting its protective financial role (Cao 2022). • The average OOPE for rural inpatients under NCMS remained stable (Dai 2016). • CII led to a reduction in OOPE, but the trend was not statistically significant (p=0.19) (Li 2019). • SIMIS implementation had little impact on self-payment inside medical insurance, as levels remained nearly unchanged (Li 2020). • NCMS maternal-services policy adjustment showed no significant changes in OOPE for delivery fees (p>0.05) (You 2016). • Changes in cost-sharing for heart failure patients in Zhejiang province had no

Outcome and no. studies reporting (/22)	Beneficial change	Harmful change	No change
	Kenya: • National Health Insurance Fund (NHIF) enrolment significantly reduced household OOPE, with NHIF-enrolled households with hypertension/diabetes spending 12.4% of their budget on healthcare compared to 23.2% for unenrolled households (p=0.004) (Oyando, 2023).		significant effect on inpatient OOPE (p>0.05) (Zhang 2023). • OOPE decreased for high and moderate reimbursement groups but increased slightly for the low reimbursement group; none of these changes were statistically significant (Yuan 2014).
CHE	• 2	2	4
	Reductions mainly observed among vulnerable populations. • China's expanded New Cooperative Medical Scheme (NCMS): Reduced the severity of CHE, although the incidence reduction was statistically significant only in Mianxian County (p=0.035) (Xiang, 2016). • China's Critical Illness Insurance (CII): Decreased CHE prevalence the most among the lowest income group by 11.8%. Reductions were smaller among higher-income groups (2.4% and 0.4%) but indicated improvements in equity (Jiang, 2019).	CII in China had harmful effects on CHE: • CII increased the average CHE gap for middle-income households, with a 0.7 unit increase in CHE prevalence among this group (Jiang 2019). • Households with CII were less likely to experience CHE at the 40% threshold, with 0.76 times the odds of CHE compared to households without CII coverage (OR = 0.760, 95% CI 0.574–1.006). However, the intensity of CHE increased for households with CII coverage, though it decreased as the number of CII-covered members in a household increased (Coefficient = -0.005, p<0.01) (Li 2019).	• NHIF in Kenya did not significantly reduce CHE incidence**,** as households with active NHIF had similar CHE rates compared to those without (p=0.365) (Oyando et al., 2023). • NCMS reimbursement policies in China did not lead to statistically significant reductions in CHE incidence (p>0.05) (Xiang 2016). • Chronic disease reimbursement policies in China had no significant impact on reducing CHE incidence (p=0.814) (Jing 2013). • CII's impact on CHE incidence was limited, with over 95% of patients still experiencing CHE (Jiang 2019).
Impoverishment	2	0	0
	• China's expanded NCMS reduced medical impoverishment rates from 2.69% (ex ante)	n/a	n/a

Outcome and no. studies reporting (/22)	Beneficial change	Harmful change	No change
	to 2.12% (ex post), a 21% decrease ($p<0.05$) (Li 2015). • China's Serious Illness Medical Insurance Scheme (SIMIS) decreased self-payment proportions outside medical insurance by 1.6%, reducing financial burdens for rural residents in Jinzhai County. However, actual medical insurance payment proportion increased by about 2.5% (Li 2020).		
Foregone care	8 **China's** Catastrophic Medical Insurance (CMI) • Increased healthcare utilisation among elderly individuals, promoting inpatient expenditures without significantly increasing OOPE burdens for serious illnesses (Cao 2022). • Increased inpatient and outpatient utilisation for resident insurance beneficiaries. Inpatient spending at urban tertiary hospitals rose by 43.6% ($p<0.001$), closing gaps with better-insured groups (Yu 2021). China's Critical Illness Insurance (CII) : • Increased inpatient service utilisation (hospital admissions from 2.6 to 4.6, $p<0.001$) and reduced inpatient underuse (16.2% to 14.9%) (Jiang 2019).	2 NCMS in China reduced inpatient utilisation, with the number of inpatients at township health centres and tertiary hospitals decreasing by 17.68% and 10.63%, respectively, between 2012 and 2014 (Dai 2016). Expanded stent coverage by the Shanghai Medical Insurance Bureau led PCI use to decrease by 48.72% in the high reimbursement group after the policy change (Yuan 2014).	2 In China: • NCMS participation had no significant impact on outpatient care utilisation (Yang 2015). • Cost-sharing policy changes for heart failure patients showed no significant impact on hospitalisation or rehospitalisation rates within 30 or 90 days ($p>0.05$) (Zhang 2023). • The policy change did not significantly impact the number of stents used per PCI procedure (Yuan 2014).

Outcome and no. studies reporting (/22)	Beneficial change	Harmful change	No change
	• Increased high-cost inpatient visits, with 44% covered by CII and 86.9% conducted in-county, indicating enhanced financial coverage and accessibility (Li 2019). NCMS and SHI reforms in China: • Several studies show that NCMS reforms increased inpatient hospitalisations. It led to a 19% annual increase in inpatient numbers at county hospitals (Dai 2016). It increased hospitalisation rates significantly, from 2.7% in 2003 to 7.7% in 2013 (Zhang 2021). Outpatient visits initially rose (2003–2008) but declined slightly by 2013 (Zhang 2021). • SHI reforms boosted outpatient frequency by 81% while reducing hospitalisation frequency by 60% (Miao, 2018). • Adjustments to NCMS maternal-services policy increased postnatal visits (OR = 3.32, p = 0.009) and institutional deliveries at higher-level facilities (OR = 2.32, p = 0.03) (You 2016). Expanded stent coverage by the Shanghai Medical Insurance Bureau led PCI use to increase significantly for low (+20.32%) and moderate (+22.22%) reimbursement groups (Yuan 2014).		
Equity	5	4	1

Outcome and no. studies reporting (/22)	Beneficial change	Harmful change	No change
	Interventions in China improved equity, with notable pro-poor impacts: • **CMI** significantly increased healthcare expenditures and utilisation among rural residents (e.g., total logarithmic healthcare expenditures rose by 0.81 units, p<0.01), reflecting increased access despite higher out-of-pocket costs (Cao 2022). • **CII improved pro-poor equity in healthcare financing**, with the CI of OOPE becoming less concentrated among the poor (-0.045 to -0.035) and the average gap CI becoming more pro-poor (increased by 0.188) (Jiang 2019). • **NCMS enhanced equity** in healthcare access for rural TB patients (Xiang 2016) and **improved income equity among rural residents**, reducing the Gini coefficient by 26% after medical expense reimbursements (Li 2015). • NCMS outpatient service coverage expansion disproportionately benefited individuals with major illnesses, who were more likely to seek outpatient care compared to those with minor illnesses (Yang 2015). • Expansion of the MDR-TB benefit package in India meant that poor beneficiaries were significantly more likely to use the RSBY pre-treatment evaluation package compared to non-poor beneficiaries, with odds 0.03 times lower for the non-poor (Kundu 2018).	• **In Kenya, following NHIF benefit expansion, CHE remained heavily concentrated among the poor**, with strong evidence of inequity in catastrophic healthcare costs due to both healthcare and transport expenses (CI: -0.190, p<0.001) (Oyando et al., 2023). • **In China, lower-income households under NCMS faced increasing inequities in medical expenditures**, with 24.7% of the lowest-income quintile experiencing catastrophic medical expenditures in 2013, up from 16.1% in 2003. In contrast, higher-income groups saw either decreases or no change in high expenditure risk (Zhang 2021). • **Following expanded benefit coverage to cancer treatments through NCMS, rural breast cancer patients faced a 12% higher OOPE share** compared to urban patients, with additional burdens for rural resident insurance enrollees (16%) and non-local patients (6%, p=0.02) (Diao et al., 2022). • **SIMIS in China disproportionately benefited wealthier individuals**, as those with better financial means were more likely to access higher-reimbursement treatment at hospitals outside their counties (Li 2020). • Following an MDR-TB benefit package in Chhattisgarh, India, claims were utilised by non-poor fourteen times more in 2015 than	In China, CII's impact on equity was mixed, as higher-income patients experienced greater reductions in CHE incidence (2.4% and 0.4%), while the average CHE gap decreased most for the poorest group (-11.8) but increased for the middle-income group (+0.7). The highest-income group saw the greatest decrease in medical debt (Jiang 2019).

Outcome and no. studies reporting (/22)	Beneficial change	Harmful change	No change
		in 2013 from non-backward or economically rich districts, whereas poor beneficiaries utilised five times more claims in 2015 than in 2013 mostly from the backward districts. (Kundu 2018).	
Other	2	1	0
	• NRCMS reduced financial risk from medical expenses, with the risk for the treated population falling by 22.52% (from 2.62 to 2.03, p<0.01) (Li 2015). • CII reduced long-term financial burdens, decreasing the average medical debt by RMB 7,209.4, with the highest-income group experiencing the largest reduction (RMB 8,119.9) (Jiang 2019).	• CII increased the medical debt rate, with the proportion of households carrying medical debt rising from 62.8% to 69.1% (Jiang 2019). • NCMS policy changes led to a decline in admissions at lower-level health facilities, with the proportion of inpatient care at township health centres decreasing between 2008 and 2013, reversing earlier gains (Zhang 2021).	

5.10 FINDINGS BY INTERVENTION CATEGORY: SOCIAL PROTECTION

Three social protection reform, all utilising cash transfers, were identified: Reconocer pension programme in Mexico, using a cash transfer mechanism to augment recipient's food baskets and income, a cash transfer mechanism in Zambia, aimed at promoting a wide range of social benefits, and a cash transfer in China aimed at supporting disabled adults and their carers.

Table 26. Social protections: Overview of interventions

Programme name	Programme summary	Country	Scale	Funding	Accompanying measures	Articles
Reconocer pension programme	Cash transfers not conditional on healthcare use - Programme provided a monthly food basket and cash payments of US$55.92 to adults aged 70 and older, and was expanded to urban areas in phase III, where its main component was a monthly cash transfer of US$61.52.	Mexico	Sub-national (Yucatan region)	Government health budget	n/a	Riumallo-Herl and Aguila, 2019
Cash transfers	Cash transfers are direct and regular monetary payments provided to poor and vulnerable individuals or households to promote a wide range of social benefits. The girls received monthly cash transfers (CT) of 30 Zambian Kwacha (ZMW) while their parents/guardians received 350 ZMW annually.	Zambia	Pilot	Donor	Social determinants of health (education for young girls)	Mori et al, 2024
Disability-targeted cash transfer programme:	Cash Transfer for disabled adults in difficulties and for carers of People with Severe Disabilities (CT-PSD) programme	China	National	Government health budget	Not discussed	Li et al, 2023; Wang et al, 2023

None of the social protection interventions affected OOPE or CHE indicators, each assessed by one study. Impoverishment was not examined by any of the studies.

China's CT-PSD programme reduced financial hardship as a barrier to accessing treatment, especially for the poor (Li 2023, Wang 2023), and both China's CT-PSD and Mexico's Reconocer programme led to increased service utilisation, especially for those who were most vulnerable (Riumallo-Herl, 2019). In Zambia, the cash support programs had no significant impact on care utilisation overall, however it reduced inequality in CHE and outpatient care utilisation, but increased inequality in inpatient care utilisation specifically, with richer households using more care (Mori, 2024).

Table 27. Social protection: Results

Outcome (and assessments reporting on it) (/4)	Beneficial change	Harmful change	No change
	0	0	1
OOPE	n/a	n/a	No significant changes were observed in total OOPE or expenditures on formal care, informal care, or hospital stays with supplemental income programs in Mexico. (Riumallo-Herl, 2019)
	0	0	1
CHE	n/a	n/a	In Zambia, cash support programs did not reduce CHE, as 10.4% of households in the control arm experienced CHE compared to 11.6% in the economic arm (RR = 1.1, 95% CI: 0.8–1.5, p = 0.468) and 12.1% in the combined intervention arm (RR = 1.1, 95% CI: 0.8–1.5, p = 0.468) (Mori 2024).
Impoverishment	0	0	0
	3	0	2
Foregone care	China's disability-targeted cash transfers significantly increased the likelihood of beneficiaries using rehabilitation services (Li 2023: OR 2.12; Wang 2023: OR 2.27) and medical services (Li 2023: OR 1.74; Wang 2023: OR 1.34) compared to non-beneficiaries.	n/a	In Mexico, supplemental income programs showed no significant changes in health service utilisation, medication adherence, or use of formal/informal care. (Riumallo-Herl, 2019) In Zambia, cash support programs had no significant impact on inpatient (RR: 1.0–1.1, p >

Outcome (and assessments reporting on it) (/4)	Beneficial change	Harmful change	No change
	Mexico's Reconocer programme increased care use by 7.5 percentage points (95% CI: 3.7–11.3) for individuals without baseline access. It increased formal care use by 15% (95% CI: 6.1–23.9) for those with baseline access. (Riumallo-Herl 2019)		0.586) or outpatient (RR: 1.0–1.1, p > 0.378) care utilisation. (Mori, 2024)
	2	1	0
Equity	China disability-targeted cash transfers significantly reduced the likelihood of financial hardship as a barrier to accessing medical services for those living in poverty (OR: 0.64, 95% CI: 0.59–0.68, p < 0.0001) (Li 2023). In Zambia, cash support programs reduced inequality in CHE and outpatient care utilisation. The concentration index for CHET10 decreased from 0.21 in the control arm to 0.13 in the combined intervention arm, and outpatient care utilisation inequality decreased (CI: 0.17 in control, 0.11 in economic support, 0.09 in combined intervention) (Mori 2024).	In Zambia, cash support programs increased inequality in inpatient care utilisation, with richer households using more care in the combined intervention arm (CI: 0.10 control, 0.07 economic support, 0.12 combined intervention) (Mori 2024).	n/a
Other	China's disability-targeted cash transfers significantly reduced financial hardship as a barrier to accessing rehabilitation (Wang 2023: aOR 0.63; Li 2023: OR 0.53), medical treatment (Wang 2023: aOR 0.66; Li 2023: OR 0.88), and school attendance (Wang 2023: aOR 0.41).	n/a	The disability-targeted cash transfer programme in China did not significantly affect financial hardship among those not living in poverty (OR: 1.03, 95% CI: 0.97–1.09, p = 0.26). (Li, 2023)

5.11 COMPLEX REFORMS

Three countries stand out for having introduced reforms on both supply and demand side to improve financial protection: Cambodia, with a focus on a health equity fund, the introduction of user fees and voucher systems for women and children, community based health insurance and contracting reforms; Iran, with a refocus

on PHC and family medicine, a reduction of OOPE, and a programme of physician retention; and China, through a wide ranging health care reform, supported by general, targeted and MNCH specific poverty alleviation programmes focused on a combination of infrastructure investment, health insurance and assistance for the most vulnerable.

Table 28. Complex reforms: Overview of interventions

Programme name	Programme summary	Country	Scale	Funding	Accompanying measures	Articles
Various health financing reforms	Multiple concurrent measures: introduction of user fees, introduction of a health equity fund, vouchers (introduced from 2007, cover costs of family planning, antenatal, delivery and postnatal care and reimbursement for transport to reach the facility for these services), CBHI and strengthening of contracting with public and private providers.	Cambodia	National	Health ministry budget and donors		Ensor et al, 2017
Health Transformation Plan (HTP) (also referred to as Health Sector Evolution Plan)	The first phase of the programme, implemented in May 2014, focused on medical care, including reducing out-of-pocket payments, supporting physicians' retention in deprived areas, promoting natural vaginal delivery, specialist residency programme, quality Improvement of the package of outpatient visit, and financial protection to patients with incurable illness. The second phase of the HTP (August 2014) included a focus on the development of PHC and family physician programme. The third step of the HTP (2015 onwards) focused on the modification of medical tariffs, establishment of a control system for informal	Iran	National	Government general budget	Shift in service delivery organisation and funding (Increased public spending on health care was made possible because earmarking of a proportion of revenue generated an increased value-added tax (VAT) and transferring part of the generated fiscal space from a national subsidy reform to the health sector)	Darvishia et al, 2021; Assari Arani et al, 2018; Esmaeili et al, 2021; Nemati et al, 2020; Ahmadnezhad et al, 2023; Ahmadnezhad et al, 2019; Mohammadzadeh et al, 2023; JoshaniKheibari et al. 2019; Malekroudi et al. 2023

Programme name	Programme summary	Country	Scale	Funding	Accompanying measures	Articles
	payments, and reform of the payment system.					
New Health Care Reform (NHCR)	The NHCR was a comprehensive reform launched in 2009 consisting of health insurance expansion and structural changes on health care providers. The NHCR aimed to develop a universal health insurance system covering both urban and rural residents. The health care provider reform aimed to establish a national essential-medicine system. All primary care facilities that received specific subsidies from government were required to provide and distribute a catalogue of basic prescription drugs at zero markup. Other efforts included promoting a set of free basic public health services such as check-ups and chronic disease screening for elderly residents.	China	National	Government health budget	Expanded benefit package/ enhanced compensation and reforms to reduce cost and increase access to essential medicine	Cui et al, 2024; Xu et al, 2018;Huang et al, 2018; Tang et al, 2023; Liu et al, 2021; Xu et al., 2019
Health Poverty Alleviation Programme (HPAP)	Launched in June 2016, the HPAP encompassed: 1. Basic Medical Insurance Systems: The New Rural Cooperative Medical System (NCMS) and Critical Illness Insurance (CII) for rural inhabitants furnish enhanced security measures for economically disadvantaged rural families. This chiefly manifests in amplified reimbursements for severe ailments.	China	National	Government general and health budget	Multiple supply and demand side reforms	Li et al, 2023; Chen et Pan, 2019

Programme name	Programme summary	Country	Scale	Funding	Accompanying measures	Articles
	2. Augmentation of Medical Assistance: Enhancements to medical and charitable assistance for vulnerable rural households. 3. Dynamic Management System: incorporates electronic archival systems, facilitating the precise identification of impoverished rural families and enabling a structured settlement procedure for critical ailment treatments. 4. Resource Equilibration: HPAP champions the equitable distribution of medical resources across urban and rural landscapes. This involves fostering consistent collaborations between preeminent tertiary medical institutions in affluent regions and county-level hospitals in underprivileged sectors. 5 Medical Infrastructure Development: actualize standardised healthcare service infrastructures at county and village strata in deprived areas. and plan for the diffusion of telemedicine diagnostic services and health consultancy into these locales. 6. Human Resources: HPAP enacts enabling policies to stimulate the migration of medical talent to primary health institutions in deprived territories					

Programme name	Programme summary	Country	Scale	Funding	Accompanying measures	Articles
Maternal and Child Health Policies and Programs for Poverty Alleviation (MCH-PA)	A series of policies and programs implemented from 2015 to 2020, aimed at improving maternal and child health (MCH) and reducing poverty related to illness among women and children. The interventions included: Financing: CNY 1.3 billion (US$201.8 million) transferred to specific MCH-PA programs, excluding social medical insurance reimbursements. An additional CNY 449.1 million (US$69.5 million) invested in infrastructure for MCH system strengthening. Construction of 128 emergency obstetric care centres and 112 emergency newborn care centres. Provision of free MCH services including pre-pregnancy check-up, prenatal screening, newborn disease screening, child nutrition packages, folic acid supplements, and cancer screenings. Services Provision: Expansion of free MCH services, including birth companion and waiting room services. Counterpart assistance programs and training for medical staff at the primary level. Health Human Resources: Counterpart assistance programs assigned specialists from developed provinces and tertiary hospitals to	China	Sub-national (Yunnan province)	Government general and health budget	Various health reforms	Huang et al, 2023

Programme name	Programme summary	Country	Scale	Funding	Accompanying measures	Articles
	poor counties and townships. Capacity-building training for obstetricians and other primary-level medical staff. Financial Protection: A three-tiered financial protection strategy (basic medical insurance, serious illness insurance, medical financial assistance) to ensure affordable medical services (10% out-of-pocket payments) for households with poverty registration. Complete coverage of out-of-pocket health expenditures for extremely poor households.					
Targeted Poverty Alleviation (TPA) programme	Programme implemented in 2015 to improve healthcare equity. Includes: (a) Guarantees of adequate food, clothing, basic medical services, safe housing and compulsory education; (b) A health poverty alleviation programme addressing health expenditure for low-income individuals; (c) Catastrophic Disease Insurance as a means of alleviating poverty induced by poor health; (d) Universal pension coverage as a mechanism for promoting equity in accessing health services	China	National	General government budget	Social protection and multiple supply and demand side interventions	Tang et al, 2023

The complex health reforms showed diverse effects on studied outcomes, with the most mixed changes being in reports of CHE and equity.

Beneficial changes were reported in several cases; for example, donor-funded HEFs and vouchers in Cambodia reduced OOPE spending by up to 25%, reforms in China (e.g., HPAP, NHCR) lowered OOPE by 10%-89% and reduced CHE incidence by 5.5%-7.7%, and Iran's HTP decreased OOPE by 13% and CHE prevalence by 0.57%-5.8% for poorer groups.

However, some policies had mixed or adverse effects. User fees in Cambodia raised health spending overall, and NHCR in China increased CHE rates among urban and hypertensive populations. Iran's HTP improved equity in physiotherapy OOPE but worsened inequities in service utilisation and CHE risk for vulnerable groups (Nemati et al. 2020). Studies note that implementation challenges undermined the effectiveness of interventions in Cambodia and Iran, particularly for non-poor households.

Effect sizes ranged from small reductions (e.g., 0.03% drop in impoverishment in Iran) to more substantial changes (e.g., 89.4% reduction in inpatient OOPE in China). Programs targeting low-income or vulnerable populations, such as HPAP and MCH-PA, generally achieved stronger financial protection, while broad or expansion-oriented reforms like NHCR showed more variable outcomes. Equity impacts were inconsistent, with vulnerable groups facing mixed outcomes.

Context plays a crucial role in the success of complex reforms, though it was not a central focus in the studies reviewed. For instance, the limited effects of Iran's HTP must be understood within the economic challenges the country faced during implementation. These contextual factors are explored further below.

Table 29. Complex reforms: Results

Outcome and No. assessments reporting on it (/19)	Beneficial change	Harmful change	No change
OOPE	7	3	3
	Donor-funded HEFs and vouchers in Cambodia significantly reduced OOPE, with vouchers decreasing spending by 25% and donor-financed HEFs by 8% (p<0.05) (Cambodia Insurance) (Ensor et al. 2017). **In China, reforms reduced OOPE by 10%-89.4%, with greater decreases for poor and inpatient care.** • HPAP in China lowered OOPE by 15.0% (p<0.01) overall (Chen et al. 2019), decreased outpatient OOPE by 72.8% and inpatient payments by 89.39% (p<0.05) (Li et al. 2023). • In China, MCH-PA in Yunnan reduced inpatient OOPE for cervical and breast cancer to 10% for poor women (vs. 30%–27.2% non-	• In Cambodia, user fees increased household health spending over time (coefficient: 0.021, *p*<0.05) (Ensor et al. 2017). • In China, NHCR led to a rising trend in medicine expenditures (2009–2013), with overall medical expenses growing faster than non-food consumption (Huang et al. 2018). • In Iran, under HTP, OOPE rose for wealthier quintiles (Q4: +0.38%, Q5: +2.73%) and urban households (+2%) (Ahmadnezhad et al. 2019).	• In Iran, OOPE remained stable pre- and post-HTP (+0.01%) across quintiles (Ahmadnezhad et al. 2019). Physiotherapy-related OOPE were unchanged (coeff: -0.04423, p=0.671) (Malekroudi et al. 2023). • In Iran (Tabriz area), insurance coverage showed no significant impact on OOPE (Nemati et al. 2020).

Outcome and No. assessments reporting on it (/19)	Beneficial change	Harmful change	No change
	poor, p<0.01) and outpatient costs to 50% (vs. 60%–62.7% non-poor). Costs for children under 5 with congenital heart disease fell to 10% (vs. 43.1% non-poor) (Huang et al. 2023). • China's NHCR and TPA reforms decreased outpatient OOPE proportion from 86.9% in 2011 to 79.7% in 2018 and inpatient OOPE from 62.7% to 51.2% (Tang et al. 2023). • The Essential Public Health Service (EPHS) programme (likely a product of NHCR in China) reduced outpatient OOPE by 30.8% and hospitalisation OOPE by 35.6% among hypertensive patients (Cui et al., 2024). **Iran** • Iran's Health Transformation Plan (HTP) reduced OOPE by 13.02% (95% CI: 9.09–16.94, p=0.00), while its second phase slightly decreased OOPE from IR2,294,896 to IR2,275,811 (Darvishi et al. 2021; Assari Arani et al. 2018).		
CHE	7	7	4
	HPAP and NHCR in China significantly reduced CHE incidence and probability. • HPAP in China reduced probability of CHE by 7.7% (P<0.01) (Chen et al. 2019). • NHCR in China reduced CHE incidence from 29.15% to 23.62% (p=0.01) (Xu et al. 2018).	**In China, NHCR led to higher CHE rates, in general (especially in urban areas) and among hypertensive patients. Medicines remained a significant cost driver.** • In China, NHCR increased urban CHE rates from 19.18% to 24.95% (*p*=0.01), with heterogeneous impacts across urban and rural areas (Xu et al. 2018).	Following NHCR in **China** CHE occurrence remained unchanged at ~24% (Xu et al. 2018). **Iran** • In Iran, following HTP there were no significant reduction in CHE rates or financial protection across years or quintiles. The FFC index showed limited impact (JoshaniKheibari et al. 2019;

Outcome and No. assessments reporting on it (/19)	Beneficial change	Harmful change	No change
	• NHCR's constraint-oriented policies reduced CHE probability (β = -0.092, p<0.001) (Liu et al. 2021). **In Iran, HTP decreased CHE prevalence and overshoot, especially for lower-income and urban households.** • HTP in Iran decreased CHE prevalence from 2.5% to 2.37% and overshoot from 13.16% to 12.32% (Ahmadnezhad et al. 2019). • HTP reduced CHE by 5.8% between 2015–18 (Darvishi et al. 2021). • HTP reduced CHE by 0.57% (2.92% to 2.35%), with greater improvements for lower-income and urban households (Assari Arani et al. 2018).	• Medicines under NHCR remained a major expense, with rising costs from 2009–2013 (*p*<0.001) (Huang et al. 2018). • Expansion-oriented NHCR policies increased the probability of CHE (*β*=0.064, *p*<0.001) (Liu et al. 2021). • Following NHCR, CHE incidence for hypertensive patients increased from 15.6% in 2011 to 24.2% in 2018 (Tang et al. 2023). **In Iran, HTP slightly increased CHE prevalence and inpatient expenditures, and increased concentration of CHE among wealthy households.** • In Iran, HTP slightly increased CHE prevalence at the 10% total consumption threshold (3.76% to 3.82%) (Ahmadnezhad et al. 2019). • HTP also raised inpatient per capita expenditures significantly (24,436 Rials to 34,459 Rials, *P*<0.001) (Esmaeili et al. 2021). • HTP in Iran increased the concentration of catastrophic health payments among wealthier households across all thresholds (e.g., CI for 10% threshold: 0.099 to 0.128) (Ahmadnezhad et al. 2019).	Mohammadzadeh et al. 2023). Percentage of households facing CHE due to physiotherapy did not change significantly (coeff: -0.039, p=0.407) (Malekroudi et al. 2023).
Impoverishment	3	1	1
	China • HPAP in China reduced impoverishing health spending by 11.7% (p<0.01) (Chen et al. 2019).	In Iran, HTP increased the poverty headcount due to proportion of income/expenditure spent on healthcare OOPE by 14.32% overall	Medicine coverage policy • Reforms in China had no significant impact on household impoverishment odds in **urban**

Outcome and No. assessments reporting on it (/19)	Beneficial change	Harmful change	No change
	• Reforms in China reduced household impoverishment odds in rural areas (OR: 0.54; p<0.001) post-reform compared to pre-reform levels (Xu et al., 2019). Iran • HTP reforms in Iran reduced impoverishment rates from 1.36% to 0.912% (Joshani Kheibari et al. 2019).	(*n*=1,349,488). The poverty rate increased from 10.89% to 12.45% (Ahmadnezhad et al. 2023). • At the $1.9/day poverty line, impoverishment as a portion of the population decreased slightly to 0.03%, but the headcount of people impoverished by OOPE still rose by 15.53% (*n*=27,613). • At the $3.2/day line, poverty increased by 11.6% (2.36% to 2.64%; *n*=236,782). • At the $5.5/day line, poverty increased by 14.32% (10.89% to 12.45%; *n*=1,349,488).	areas, with an OR of 0.83 (p=0.35) (Xu et al., 2019).
Foregone care	6	2	3
	• Cambodia's donor-funded HEFs and vouchers increased public facility use among the poorest 40%, while reducing private facility use (Ensor et al. 2017). HPAP, NHCR, and TPA reforms in China increased inpatient care utilisation, hospitalisations, and medicine use, including traditional treatments. • HPAP in China increased annual hospitalisations per household by 0.035 (p=0.011) and inpatient care utilisation by 9.34% (p<0.01) (Chen et al. 2019; Li et al. 2023). • NHCR in China achieved 90% medicine use during illness, with over half using traditional Chinese medicine (Huang et al. 2018). • NHCR and TPA reforms in China increased inpatient utilisation from 14.5% in 2011 to 24.3% in 2018 (Tang et al. 2023).	In Cambodia, contracting areas saw reduced use of private facilities (p=0.02), particularly where vouchers and equity funds were implemented (Ensor et al. 2017). In Iran, HTP significantly decreased physiotherapy service utilisation (coefficient = -0.00188, p=0.032) (Malekroudi et al. 2023).	In Cambodia, user fees formalisation policies had no significant impact on public/private facility use (Ensor et al. 2017). In China, there was no significant increase in outpatient utilisation by poor rural residents following HPAP (Li et al. 2023) and outpatient service utilisation showed no significant change following NHCR with TPA (Tang et al. 2023).

Outcome and No. assessments reporting on it (/19)	Beneficial change	Harmful change	No change
	• The Essential Public Health Service (EPHS) programme led to improved hypertension medication use (53.43% in 2018). However, outpatient and inpatient utilisation rates decreased by 4.4% (P < 0.05) and 3.6% (P < 0.1), respectively, after receiving EPHS-covered blood pressure measurements. (Cui et al., 2024) **Iran:** HTP in Iran significantly increased monthly hospitalisation rates by 0.06 (p<0.001) (Esmaeili et al. 2021).		
Equity	5	4	2
	China • HPAP in China targeted the poorest effectively, reducing impoverishing health spending in the lowest quintile (Q3 -0.148, p=0.006; Q2 -0.03, p=0.007). Poor households also had lower OOPE than non-poor households post intervention (Chen et al. 2019). • MCH-PA in Yunnan reduced disparities in service coverage (e.g., facility births to 99.9% in poor areas) and health outcomes while enhancing financial protection for poor households (Huang et al. 2023). • NHCR and TPA reforms in China reduced inequity in inpatient service utilisation (CI: 0.144 in 2011 to 0.066 in 2018) (Tang et al. 2023).	China • In China, NHCR increased CHE inequality; the concentration index worsened in rural areas (-0.4572 to -0.5499, p<0.05), disproportionately impacting the poorest households (Xu et al. 2018). Iran • HTP worsened service utilisation inequities in physiotherapy, favouring the rich (p=0.000) (Malekroudi et al. 2023). • Crowded, low-income households with elderly members faced higher CHE risk, while affluent and educated groups were less affected (Mohammadzadeh et al. 2023). • Poverty worsened among the poorest and rural areas, which experienced twice the impact of urban areas at the $5.5/day poverty line (Ahmadnezhad et al. 2023).	• In China, NHCR and TPA initially improved CHE equity (CI: -0.069 to -0.012, 2011-2015) but declined afterward (CI: -0.063, 2018). Outpatient service equity and payment proportions remained consistent across socioeconomic strata (Tang et al. 2023). • In China, the Essential Public Health Service (EPHS) programme improved equity by reducing healthcare costs across different demographics. Urban residents experienced significant reductions in outpatient total costs (-0.572, p<0.01) and outpatient OOPE (-0.350, p<0.01), while rural residents saw greater reductions in hospitalisation OOPE (-0.750, p<0.01) and hospitalisation total costs (-0.670, p<0.01). Additionally, individuals with primary school or higher education levels benefited most, with substantial

Outcome and No. assessments reporting on it (/19)	Beneficial change	Harmful change	No change
	• NHCR reduced impoverishment rates among the poorest groups in China from 2008 to 2013, with the largest drop observed in the poorest group ($\chi^2 = 179.32$, $p < 0.001$). However, a high proportion of the poorest households still fell below the poverty line after paying OOPE ($\chi^2 = 4.79$, $p = 0.029$) (Xu et al., 2019). Iran • Post-HTP in Iran, inequity in OOPE for physiotherapy improved significantly (p=0.000) (Malekroudi et al. 2023).		reductions in both outpatient and inpatient OOPE and total costs (Cui 2024). • In Iran, HTP showed limited improvement in equity. Rural FFC indexes improved marginally, but urban equity declined (JoshaniKheibari et al. 2019).
Other	HTP in Iran reduced per capita health service costs, with greater decreases among lower-income groups and rural areas, primarily due to reduced inpatient costs, while outpatient costs remained stable (Assari Arani et al. 2018).	In China, NHCR and TPA coincided with an increase in hypertension prevalence among adults aged 45+ from 25.2% in 2011 to 32.9% in 2018, with a higher prevalence in wealthier groups (23.5% in the lowest vs. 28.7% in the highest socioeconomic quintile) (Tang et al. 2023).	n/a

6 COSTS TO THE HEALTH SYSTEM

The costs of interventions to support better financial protection are especially important in a time of constrained public finances and cost effectiveness could help to illuminate better choices between measures, so the intention of the review was to analyse these systematically. However, reporting on these aspects was limited across the studies – only 30 reported on some measure of costs or cost-effectiveness and the level of detail and outcomes for reporting were diverse. We therefore provide a narrative summary of key themes here.

Health insurance

One of the themes of the studies is the *challenge of controlling costs* within health insurance programmes, which is particularly illustrated by the China studies. Dai 2016, for example, documents the failure of the NCMS to control costs, especially for inpatients and at county hospitals in Hainan in 2012-14. With China's catastrophic health insurance, inpatient and outpatient overall resource use increased in the newly insured group (Yu 2021).

This puts pressures of *financial sustainability* on programmes, with UMIS expenditure in China, for example, increasing beyond its funding (Xiong 2018). This was reportedly driven by an increasing trend in UMIS beneficiaries seeking care at tertiary hospitals, particularly among those enrolled in the UEBMI scheme. This finding suggests a potential preference for higher-level care, possibly influenced by perceived quality differences or insurance coverage policies.

Employment-based SHI still requires *broader subsidies*, as highlighted by the Basic Insurance Scheme in China for urban workers. The Ministry of Labor and Social Security estimated that the BIS premium contribution based on the 8% of the current wage (2% employee, 6% of wage from employer) can only cover about 70% of the total outlay (Atella et al., 2015). Equally, an employer-sponsored HI for garment workers in Bangladesh provided coverage for treatment with a cost of US$193 annually, with a premium of only US$6.3 per year per worker paid by the employer (Ahmed et al., 2020).

Others document challenges sustaining the level of public financial support required for SHI, for example in Lao PDR (Bodhisane 2022). The *budgetary impact* can also be significant. In Georgia, for example, the government-funded HI for the poor (MiP) accounted for 43% of the total health budget in 2010 (Zoidze 2013). Some countries were able to draw on financing from reduced energy subsidies to finance their SHI programmes (e.g. Indonesia for the Askeskin programme, which was initially budgeted at $400 million in 2005, Sparrow 2013).

However, *restructuring coverage to favour lower cost services* may be an important design component. For example, when the NCMS was expansion in many areas to include some outpatient costs, this increased utilisation of village clinics and decreased use of more specialised services, which Babiarz et al., 2010 describes as providing some financial risk protection for individuals in rural China but also partly correcting distortions in Chinese rural healthcare (reducing the oversupply of specialty services and prescription drugs). An increase in outpatient reimbursement for hypertension patients led to a 28% reduction in per capita total medical expenditure (Miao 2018) due to decreased inpatient care use.

Health insurance can shift utilisation towards *higher level care and also private sector care*, if designed to allow that (as illustrated for the Health Care Fund for the Poor in Vietnam, Axelson et al., 2009, but also for CBHI in India, Aggarwal 2010), which may or may not be appropriate depending on prior utilisation patterns and needs but which will inflate costs.

At service level, *increasing the coverage of care in a health insurance package is likely to increase cost*s. Yang 2015 found a statistically significant trend of increase in pre-reimbursement outpatient costs (gross billed costs before insurance claims) for the treatment group in NCMS expansion to outpatient care ($P < 0.1$), which may reflect the enabling effect of health insurance on care provided. However, *for patients*, inclusion of the

service in an insurance package may reduce expenditure, as documented for the addition of stents in Shanghai, China (Yuan 2014), of TB services in India (Kundu 2018) and of VHI for the informal sector in Nicaragua (Thornton 2010). However, in the last example, while total out-of-pocket expenditures fell for enrolled members, the total expenditures fell by less than the insurance premiums, indicating a lack of overall gain.

Where health insurance introduces *more efficient purchasing*, the full cost of the package may drop, as illustrated for the Aarogyasri programme in India, a PFHI scheme targeting BPL households in Andra Pradesh, where the cost was approximately Rs. 90 per person in Phase I and was possibly lower in Phase II. This was less than the average reduction in out-of-pocket inpatient spending per person of Rs. 132- 156 per year (Fan 2012). Negotiation of fixed tariffs for each procedure may be one supportive mechanism here, as illustrated in study of a CBHI in India, which negotiated tariffs 40-50% lower than those applied by private hospitals (Aggarwal 2010).

For VHI, costs of enrolment may be low but potentially the benefits too. In Vietnam, for example, the Student Health Insurance annual premium was equivalent to 4 USD in 2012 (Nguyen 2016), borne by the students, the "Health Care Fund for the Poor", funded by the government, paid approximately $3.5 per person (Nguyen 2016). In Senegal, the total premium for the CBHI was 7,000 CFA francs per individual per year (Bousmah 2022), split half between individuals and state, however, beneficiaries' healthcare costs were only covered at 50% in private pharmacies or 80% in public facilities and for generic drugs.

User fee removal or reduction

A study of delivery and caesarean exemptions in four countries in West African (Witter 2016) highlights that the scale of investment was very different across the countries, with Morocco spending in the region of 24.5 million Euros on its overall action plan in 2011, compared to 3.2 million Euros in Benin, and 415,000 Euros in Burkina Faso. Per delivery covered that equated to 1.3 Euros for all kinds of deliveries (in Burkina Faso), 152 Euros per caesarean (in Benin), and 797 Euros for all deliveries combined (in Morocco). As a proportion of public health expenditure in 2011, the policies absorbed around 2.5 % in Morocco, 3 % in Benin and 3.5 % in Burkina Faso - not insignificant but all potentially sustainable, if the policies are (and are perceived as) effective.

Looking at a comparison of the funds spent by government on the policies versus the estimated gains made by households gave insight into the policies' value-for-money (Witter 2016). In all three countries for which there was unit cost data (this was missing in Morocco), the average public expenditure on the policy per delivery was lower than the average gain per household with a delivery. There was therefore a net gain, which probably reflected the payment system and the fact that facilities were providing care without fully recovering their costs. The authors comment that if they are able to do this and still provide adequate care without passing additional costs to women, then the policy is leveraging an efficiency gain in the health system.

A general challenge with user fee exemptions is that they tend to benefit people with better access to services, which can be regressive. In Zambia, for example, the user fee removal policy change was calculated to represent a yearly government transfer worth about US$4.47 and US$1.13 to each individual of the richest and poorest group respectively (Lepine 2013).

Demand-side financing

Information on the value of conditional cash transfers is more commonly reported, though cost effectiveness assessments are lacking. For example, one study of the JSY programme in India found that approximately US $22 was paid per beneficiary for an institutional delivery in a public health facility (Mukherjee 2018). The financial allocation for JSY increased from US$ 8.2 million to US$ 266.8 million between 2005-06 and 2008-09 and the number of beneficiaries increased from 0.73 million to 8.43 million. The cost per beneficiary grew from US$ 11.24 to US$ 31.65 during the same period (Gopalan 2012). The authors also note that the JSY

programme seems to have increase OOPE for JSY-supported institutional deliveries, which is worrying given their focus on reducing financial barriers.

Provider payment reforms

Provider payment reforms often have an explicit focus on cost reduction or containment and in some cases this result is reported to have been achieved. For example, analysis of the switch from fee for service to episode-based payments in China found a net decrease in government expenditure of just over 60% ($p<0.01$) (Meng 2019).

However, some results are more complex. For example, a study on the introduction of DRGs for tertiary hospitals serving rural populations in China found that the intervention increased OOPE as well as insurance fund expenditure, indicating an increased burden on both system and patients (Xiang 2024). In another study of increased reimbursement and a switch to case-based payment for inpatient TB care under the NCMS in China, raised costs per patient were found to result, presumably because of compensatory behaviour by providers (Xin 2019).

Changes to delivery models

Cost data were very limited in this category, but the few reports are consistent with expectations. In Eswatini, a shift to home-based TB treatment incurred a lower cost per patient treated and per patient successfully treated of US$1,080 and US$6,790 respectively. The cost per successfully treated MDR-TB patient in the home-based model was 22% lower (US$24,488) compared to clinic-based care (US$31,278) (Peresul et al., 2024).

Social protection

One study of LTCI in China concludes that it provides economic benefits by reducing family care costs through financial subsidies, alleviating economic burdens, and potentially increasing workforce participation and wages (Ma et al., 2022). Although not quantified, the authors comment that subsidies can improve beneficiaries' nutrition and health, lowering medical service use and costs. However, LTCI may also raise overall medical expenses due to increased access.

6.1 FACTORS AFFECTING AGENDA SETTING AND IMPLEMENTATION

In this section, we aim to address the second question outlined in the Terms of Reference (ToRs) which focuses on “what are the political, economic, bureaucratic or other factors that constrain or enable governments from taking and/or implementing these policy choices and interventions?”. We report here on the evidence based on the literature reviewed on the political, economic, bureaucratic and other factors, including the cultural and broader health system factor (i.e. going beyond the specific technical elements of the reform/intervention design which are reported elsewhere). Specifically, in line with the ToRs, we consider two key stages of the policy cycle: (i) the decision-making process during the agenda setting during which policy choices were taken, and (ii) the policy implementation stage. We have preferred to look at factors at these two stages for all types of interventions and policies, rather than separating them by categories as in other sections. However, we do compare and contrast and highlight patterns if any is identified between categories of interventions.

Before presenting the results, it is important to note that, because of the search approach utilised which focused on quantitative papers presenting financial protection outcomes, the literature included does not discuss systematically nor in detail the political, economic and bureaucratic factors that affected agenda setting, design and implementation. This is an important limitation of the analysis in this section and a different search approach should be adopted for any further exploration of qualitative findings around non-technical factors influencing agenda setting, design and implementation of interventions.

6.1.1 FACTORS AFFECTING AGENDA SETTING

Our analysis in relation to the broader political, economic, bureaucratic and other factors that lead to decision making around the identified financial protection policies shows that findings can be categorised in line with the "multiple streams framework" by Kingdon in relation to agenda setting for public policy making (Kingdon, 1984). The Kingdon framework identifies three critical streams (problem, politics and policy) that influence agenda setting and suggest that the convergence of these three streams might open windows of opportunity for policy making.

The **problem stream** refers to the identification or definition of an issue as a problem. This emerges as relevant for many of the interventions analysed. In Iran as well as in China, studies reflect that one of the key drivers of multiple health financing reforms was the recognition by the government of the critical need to improve financial protection and reduce direct payments for the general population (JoshaniKheibari et al 2019; Li et al 2019). Similar reasoning emerges also from Cambodia, India and Mexico, with specific reference to catastrophic health expenditures for the poorest as the link between poverty and health expenditure increasingly emerged (Ensor et al 2017; Nikoloski et al 2018).

Poor health outcomes played a role as a "problem" that led to the adoption of interventions such as targeted user fee exemptions. A multi-country study in Burkina Faso, Benin, Mali and Morocco found that one of the drivers for the reform was the high-level political recognition of high maternal mortality as a problem issue and its link to financial barriers and socio-economic status. Focus on the lack of progress towards Millennium Development Goals (MDGs) and UHC also emerged as a driver of reform (Witter et al 2016).

More technical and focused reforms, such as shifts in provider payment mechanisms and reforms to reduce cost and improve access of essential medicines in China, were clearly linked to well identified problems including the growth rate of expenses for hospitalisation (140% between 2009 and 2011 – He et al, 2017) and in drug expenditure (Chu et al, 2023).

The **politics stream** concerns the political climate surrounding the issue and the potential reform. Supportive political environment and clear government commitment to addressing the problem (whether that is alleviating poverty, improving health equity, ensuring financial protection, improving health outcomes, etc.) and supporting the introduction of the reform are mentioned across multiple settings. These include China (Huang et al 2023), Bangladesh (Ahmed et al 2020), Thailand (Somkotra et al 2008), Ethiopia (Mebratie et al 2019), India, Türkiye (Tirgil et al 2019), Mexico (Nikoloski et al 2018), and in the multi-country study on user fee exemptions (Burkina Faso, Benin, Mali and Morocco – Witter et al 2016).

Political stability, alongside commitment by leadership and a clear vision for a comprehensive transformation strategy is also mentioned in relation to the Türkiye example (Tirgil et al 2019) and appears to be relevant, potentially also for other settings. A study on Rwanda (Koch et al 2022) stresses the role of the historical context and reflects on how the *mutuelle* (social health insurance) emerged in the context of the post-genocide reconstruction where the political climate was permeated by a sense of urgency and focus in relation to the reconstruction of societal institutions, including the health system, and poverty alleviation. The role of actors other than the government, such as external actors and public opinion, is less detailed in all of the papers – although the support and advice of international agencies is mentioned by Ensor et al (2017) in relation to Cambodia.

The **policy stream** refers to the question of whether there exist potential policy solutions (reforms or interventions) that are considered feasible and effective. Availability of funds emerges as a key concern under this stream and is considered a factor that enabled the government in taking the decision to implement financial protection reforms or interventions. Availability of domestic funding is mentioned for China (Huang et al, 2023) and Mexico (Nikoloski et al 2020), while external funding support is mentioned in Cambodia (Ensor et al 2017) and Malawi (Dickerson et al 2020).

The (international) evidence availability for the potential effectiveness of reform is mentioned as a factor supporting the decision-making process in a multi-country study on fee exemptions/free healthcare in Burkina Faso, Benin, Mali and Morocco (Witter et al 2016). In Rwanda, evidence that supported the scale-up of the *mutuelle* reform was based on the success of the pilot studies that motivated the government at all levels to adopt and expand the programme (Lu et al 2021).

Governance elements also emerged as potential factors to support decision making for financial protection reforms, under the policy stream, making the proposed interventions more likely to be feasible and effective. These include the willingness for intersectoral collaboration across public agencies and public/private insurers and providers for the establishment of an MDR-TB benefit package in publicly-funded health insurance in India. In Ethiopia, the alignment of the CBHI scheme to the existing government administrative structures was seen as a facilitator of the reform as it signalled government commitment (Mebratie et al 2019). In other cases, the alignment of the proposed intervention with broader reforms and policy frameworks was seen as a driver for its adoption and success. This was the case in China were health workforce reforms aligned to PHC focus (Zhu et al 2024), and insurance reforms aligned to financial protection policy frameworks (Huang et al 2023), as well as in Vietnam where the FCCU6 policy aligned with broader legal frameworks for social protection of children (Nguyen et al 2013).

Finally, in another example, the reform took advantage of technological progress – this is the case in China where enhanced tax supervision and measures to address tax avoidance allowed improving horizontal equity of resource mobilisation (Yang et al 2022).

While elements that are relevant to each of the streams of the Kingdon framework emerge from the analysis of the reviewed literature, there is no evidence on the convergence of elements belonging to the different streams and the opening of policy windows in any of the papers. Furthermore, the relative importance of each stream varies between countries, with some streams (such as, the politics one) mentioned across most settings and others less prominent. However, it is also possible that this is due to the way these factors are reported as they are not the main focus of the papers, but mentioned selectively in the discussion to explain the main quantitative results. In addition, no clear evidence emerges from the articles selected on how the specific policy choice was made (e.g. the weighting of different policy alternatives to address the same problem) or whether alternative financial protection interventions were considered.

6.1.2 FACTORS AFFECTING IMPLEMENTATION

A broad range of factors is discussed in relation to the implementation of the interventions and reforms. It is important to note that, as for the factors affecting agenda setting presented above, these elements are often mentioned in the discussion of the papers with the aim of providing a suitable explanation for the quantitative results. As such, their review does not offer a comprehensive assessment of all factors that might have affected implementation. However, it might offer potential preliminary insights on key implementation barriers and enablers to be considered in further analyses.

This section is organised to cover: (i) contextual factors relating to the implementation setting and macroeconomic context, (ii) broader health system elements on the demand and supply side which go beyond those specifically addressed by the reform or intervention but that interact with it, (iii) bureaucratic and administrative elements that are shown to constrain or enable the implementation of the interventions/reforms.

Context of implementation

The broader context within which the interventions are implemented is reported to affect their general effectiveness, including their impact on financial protection. The macro-economic context is an important element for interventions as shown by the case of Türkiye, where the growth of economy after 2000 has influenced the success of the health financing reforms in a positive way (Yardim 2014), as well as by the contrasting case of Iran, where the implementation of the reforms, including the HTP and the FP plan, relied

on public funding in a context of fluctuating and reduced revenues due to changes in oil prices, economic sanctions and inflation (Darvishi et al 2021; Malekroudi 2023; Ahmadnezhad et al 2019; HomaieRad et al 2017). Even within a country, the setting of implementation can have an impact of the effectiveness of reforms. For example, UEMBI as implemented in Yunnan province in China was negatively affected by the mountainous environment, cultural diversity and weak service delivery (Huang 2023). Finally, the broader policy environment also affects implementation and effectiveness of the interventions. This is the case, for example, of the role of poverty alleviation and rural pension policies in China in supporting better financial protection.

Broader health system elements

Elements of the health system beyond the technical design of the intervention are also mentioned in the literature reviewed as impacting the implementation of the reforms and contributing to explain their results in relation to financial protection. On the supply-side, factors such as insufficient healthcare infrastructure, lack of supplies, drugs and equipment, low availability and quality of the health workforce are mentioned across multiple settings (China, Vietnam, Rwanda, Lao PDR, India, Mexico, Madagascar, Nepal, Sierra Leone, Zambia, West Africa, Tanzania - Zhu 2024; Dai 2016; Ma et al., 2022; Lu et al 2021; Bodhisane et al 2022; Ahmed et al 2023; Parmar et al 2023; Sunny et al 2021; Edoka et al 2016; Masiye et al 2016: Witter et al, 2016). Supply-side insufficiencies led to facilities become overcrowded with increased waiting times (Lao PDR, Nigeria, Mexico - Bodhisane et al 2022; Bonfrer et al 2018; Nikoloski et al 2018), low quality of care (Ethiopia, Bangladesh, West Africa, Cambodia - Mebratie et al 2019 Edoka et al 2016; Witter et al 2016; Honda et al 2013; Korachais et al 2019; Nguyen et al 2012), and increase in prices of health services (Nigeria - Bonfrer et al 2018). It is interesting to note that these issues are similar across different categories of interventions including insurance schemes, user fee exemption policies and DSF, such as CCT or vouchers. Authors point to the need for broader health system reforms and supply-side support to complement interventions (Nguyen et al 2012). Additionally, where insurance is voluntary, insufficiencies on the supply side are indicated as a key factor to explain barrier in uptake and low enrolment.

Equally, on the demand side, a series of factors are mentioned in the literature as affecting the implementation of interventions and therefore limiting their potential effects on financial protection. Across all interventions, lack of awareness of benefits is a factor mentioned in multiple settings (Nicaragua/ Seguro Facultativo de Salud, China/LTCI, India/PFHI, Georgia/PFHI, West Africa/exemptions, Madagascar/HEF, Senegal/cash transfers - Bauhoff et al 2011; Thornton et al 2010; Ma et al., 2022; Witter et al 2016; Honda et al 2013; Bousmah et al 2022). Similarly, costs of transport, food and other indirect costs are shown to create barriers to healthcare and impact on level of financial protection, even once financial protection for direct costs is improved (Rwanda, Senegal - Koch et al., 2022; Ly et al., 2022). Especially for interventions that rely on voluntary mechanisms of enrolment such as PFHI and CBHI (and in some cases, also for SHI despite many being theoretically compulsory), mistrust in the insurance scheme or in the healthcare system is mentioned as limiting enrolment and therefore decreasing the effectiveness of the intervention on financial protection (Cambodia/CBHI, Nicaragua/Seguro Facultativo de Salud, Ghana - Ensor et al 2017; Sarkodie, 2021; Thornton et al 2010). Cultural elements that define health seeking behaviour, such as the preference for informal providers, is cited in Bangladesh as a reason of low uptake of CBHI (Ahmed et al., 2020). Finally, in Senegal, fear of stigma and disclosure of HIV status was found to be a barrier to CBHI uptake, therefore limiting the potential of the intervention in relation to financial protection (Taverne et al 2021).

Bureaucratic and administrative elements

Finally, a number of factors at bureaucratic and administrative level emerge which affect the implementation of the interventions. Elements relating to the overall governance and accountability in the system emerge, which can lead for example to the persistence of informal payments for patients, double billings practices, delays and artificial barriers in enrolment in health insurance and issuing of insurance cards (Türkiye, India, Georgia, West Africa, Zambia, Tanzania - Erus et al 201; Kundu et al 2018; Bauhoff et al 2011;

Gotsadze et al 2015; Zoidze et al 2013; Masiye et al 2016; Witter et al, 2016; Anselmi et al 2017), and in some cases corruption scandals (Mexico - Nikoloski et al 2018).

Challenges affecting the cash flow to providers are often mentioned in relation to complex reimbursement procedures, delays in reimbursement and low levels of payment to providers which are not sufficient to compensate for lost revenues (China, Ghana, Zambia, Cameroon, Vietnam - Shi 2010; Axelson et al 2009; Nguyen et al 2012; FiestasNavarrete et al 2019; Lepine et al 2018; Aye et al 2023). In Ghana, specifically, it was noted that there might be a tension between healthcare providers facing budget constraints and reimbursement uncertainty, and policies seeking to broaden access to care among vulnerable beneficiaries. As such, implementation inefficiencies may be part of the explanation as to why some of the most vulnerable enrolees in Ghana's National Health Insurance Scheme are least protected from financial hardship (FiestasNavarrete 2019).

Management capacity and effective coordination mechanisms are also mentioned as a key factor affecting implementation and therefore potentially explaining the different level of success of the same intervention in different contexts. In China, studies noted that the lack of managerial capacity has become an important factor potentially influencing the success of rural health insurance (Li 2015). On the other hand, the success in improving financial risk protection of the TPA is credited to the high degree of accountability of the management system and tight interdepartmental coordination (Chen et al 2019). In Vietnam, with reference to the FCCU6 policy, it was noted that it required "vast implementation efforts" from provincial health bureaus and other government sectors, suggesting the importance of effective coordination and administrative capacity for successful implementation (Nguyen et al 2013).

Furthermore, where interventions require targeting of the poor, for example for DSF schemes (Senegal and Bangladesh), targeted exemptions (Burkina Faso) or for the purpose of calculating insurance premiums (Ghana), this is often challenging and costly from an administrative perspective, leading to ineffective targeting (Nguyen et al 2012; Bousmah et al 2022; Nguyen et al 2011; Ridde et al 2015).

These elements cut across the intervention categories and generally lead to low or variable implementation fidelity as the interventions could not be implemented as originally envisaged, therefore limiting their potential impact on financial protection.

7 DISCUSSION

7.1 AN OVERVIEW OF THE LITERATURE

Reviewing the findings across the 214 studies in 39 countries over 25 years, the first point that emerges is the **complexity of these reforms and their results**: even when we have tried to break down the interventions beyond their top-level labels, the results are still mixed. This does not mean that we cannot draw out key messages but that we have to do so with care, recognising the diverse settings and the multiple design components that contribute to outcomes.

It is also important to note what has and has not been studied. If we look back at our *ex ante* typology (Box 1), we see how 'bunched' our studies are. There are no studies focusing on revenue raising, which is perhaps understandable given the indirect links from raising to spending. However, there are also no studies on resource allocation, which might more closely affect household health expenditures. The introduction or adjustment of resource allocation formula, conditional grants or budgets, potentially with equity criteria, very plausibly influence financial protection outcomes. These gap areas highlight **priorities for future studies**.

In addition, under the governance heading, it is likely that changes to provider autonomy and changes to inclusion and regulation of the private sector will affect financial protection, but no studies in these areas were identified. Studies have been identified relating to drugs and supplies – rightly so, given household expenditures in this area – however, none focused on what could be very impactful areas of strengthening supply chains, making procurement more efficient and promoting rational prescribing. Studies of health workforce reforms were lacking. Service delivery reforms, while included here in small numbers, are not fully represented. If financial protection is a serious goal at national and global levels, then future PHC strengthening programmes should include monitoring of impact on financial protection outcomes. No studies were identified focused on social determinants of health and few on social protection, even though both are potentially impactful on this domain. What this highlights is that **lack of evidence of impact is not evidence of lack of impact**.

The patchy reporting on costs of policies (even less their cost-effectiveness) is another important gap in the literature. **Any paper reporting on policy effects should at minimum report expenditure** on the policy, to enable informed decisions. Lack of such information should disbar publication unless there is a clear reason for it.

7.2 FINDINGS BY INTERVENTION CATEGORY

Notwithstanding the challenge of classifying reforms by intervention type and the variability of results, we start by summarising findings by intervention category. In broad terms:

- Demand-side financing strategies (9 studies), including conditional cash transfers, health vouchers, and zero-interest loans, generally reduced financial hardship for their targeted populations. Nonetheless, these interventions were hindered by structural barriers, including indirect costs and inequitable access. As DSF increases access, it may increase costs as users seek care at more formal or higher-level facilities (one of the coverage/financial protection tensions) and may struggle to reach the poorest households.
- Reforms abolishing or reducing user fees (15 studies) showed reductions in OOPE (as would be expected as this is their primary focus), CHE and inequities, however their impacts are inconsistent and some failed to address systemic inefficiencies such as informal payments.
- Behaviour change was only studied as a primary intervention in one study, however, it emerges as a positive component in other interventions, increasing awareness and uptake.

- Upgraded health facilities was only the focus of one study but was an ancillary component in seven other interventions, with mixed results, though some evidence of positive spillovers to untargeted groups.
- Service reorganisation (7 studies) included very diverse approaches with mixed results.
- Provider payment reforms (21 studies), many of which focused on cost containment and moving away from fee for service, though PBF was more focused on stimulating utilisation and quality, showed varied effects, with some reforms significantly reducing OOPE and improving healthcare access, while others increased costs, inequities, and adverse consequences, such as cream-skimming. Outcomes varied both within and across countries.
- Interventions to addressing the cost of medicines through subsidies, exemptions and inclusion in essential medicines lists (16studies) generally lowered OOPE for patients but again had mixed implementation and results.
- For PFHI (30 studies) many studies reported reductions in OOPE, though others noted no significant changes or even increases. These mixed findings (as for other intervention types) reflect variations in program design, implementation quality, healthcare infrastructure, targeting challenges, and study approaches.
- VHI (25 studies) had mixed designs and results, linked to the challenges with availability of services and medicines, clients' preferences as to providers and exclusions from the benefits package, in addition to broader sustainability challenges linked to small risk pools.
- SHI (55 studies) results varied by country. Studies of Vietnam reported positive effects in most domains, and no adverse ones, which was broadly similar to the mixed country group. Studies on Ghana were broadly positive on utilisation, CHE and impoverishment, though more mixed on OOPE and equity. For China, mixed results were linked largely to low effective reimbursement rates but also highlighted the importance of cost containment measures.
- Integration of health insurance, or insurance as n general approach (8 studies) was generally positive for utilisation and impoverishment (but only one study tracked this) but more mixed for OOPE, CHE and equity.
- Expanded benefits packages within insurance systems (20 studies) typically led to increases in utilisation, as would be expected, with mixed results on OOPE and CHE, which is perhaps understandable given the complex interplay of utilisation and financial protection, but more positive on impoverishment and equity.
- Social protection (4 studies) – None of the social protection interventions, which were unconditional cash transfers, affected OOPE or CHE indicators and impoverishment was not examined by any of the studies. However, some positive impacts on finance as a barrier to service use, utilisation and inequality were noted.
- Complex reforms (19 studies) had varying effect sizes. Programs targeting low-income or vulnerable populations, such as HPAP and MCH-PA, generally achieved stronger financial protection, while broad or expansion-oriented reforms like NHCR showed more variable outcomes. Equity impacts were inconsistent, with vulnerable groups facing mixed outcomes.

7.3 TARGETED SCHEMES

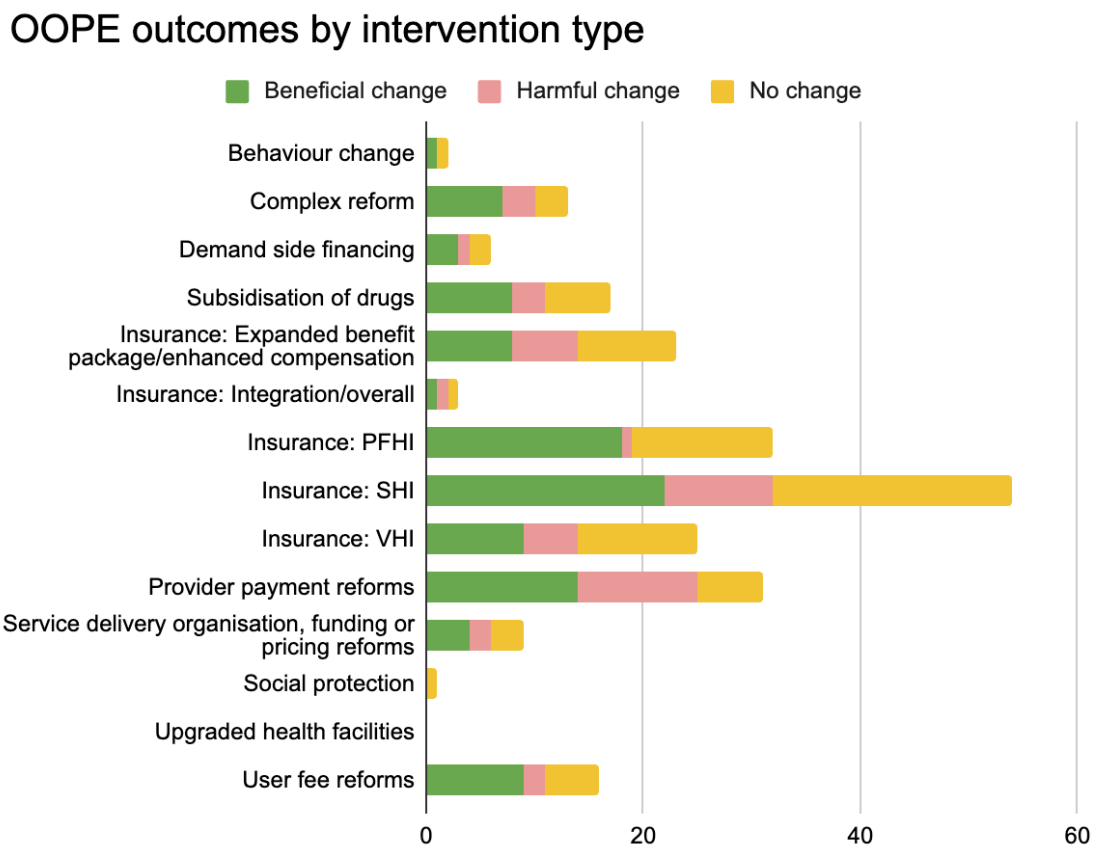
More in-depth analysis will be needed of the targeted versus untargeted programmes but initial crude analysis by number of positive and negative effects reported for interventions which have targeted of poorer households as part of their general design (like social protection, PFHI and DSF) suggests that targeted

programmes may not perform any better, with a higher proportion of negative reported effects, though this has to be examined more carefully.

7.4 ANALYSIS BY OUTCOME AREA

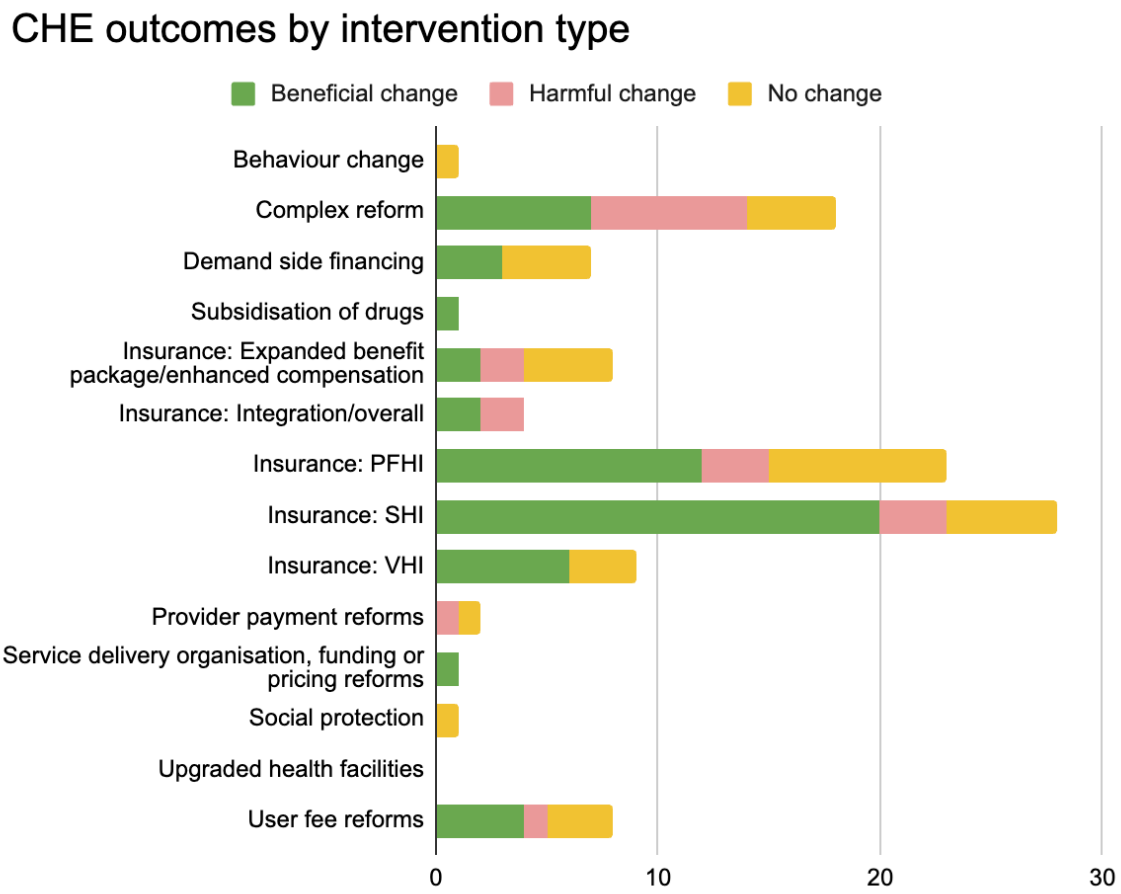
Analysis by outcome area is affected by how many studies report on specific outcomes and given the variability in outcome reporting does not reflect size of effects but simple counts of positive, negative and no change results. It should not be overinterpreted as a result. For OOPE (see Figure 2), it shows that positive effects are often balanced by negative ones, though less so proportionately for some interventions, such as PFHI, medicines policies and DSF.

Figure 2. OOPE outcomes by intervention type



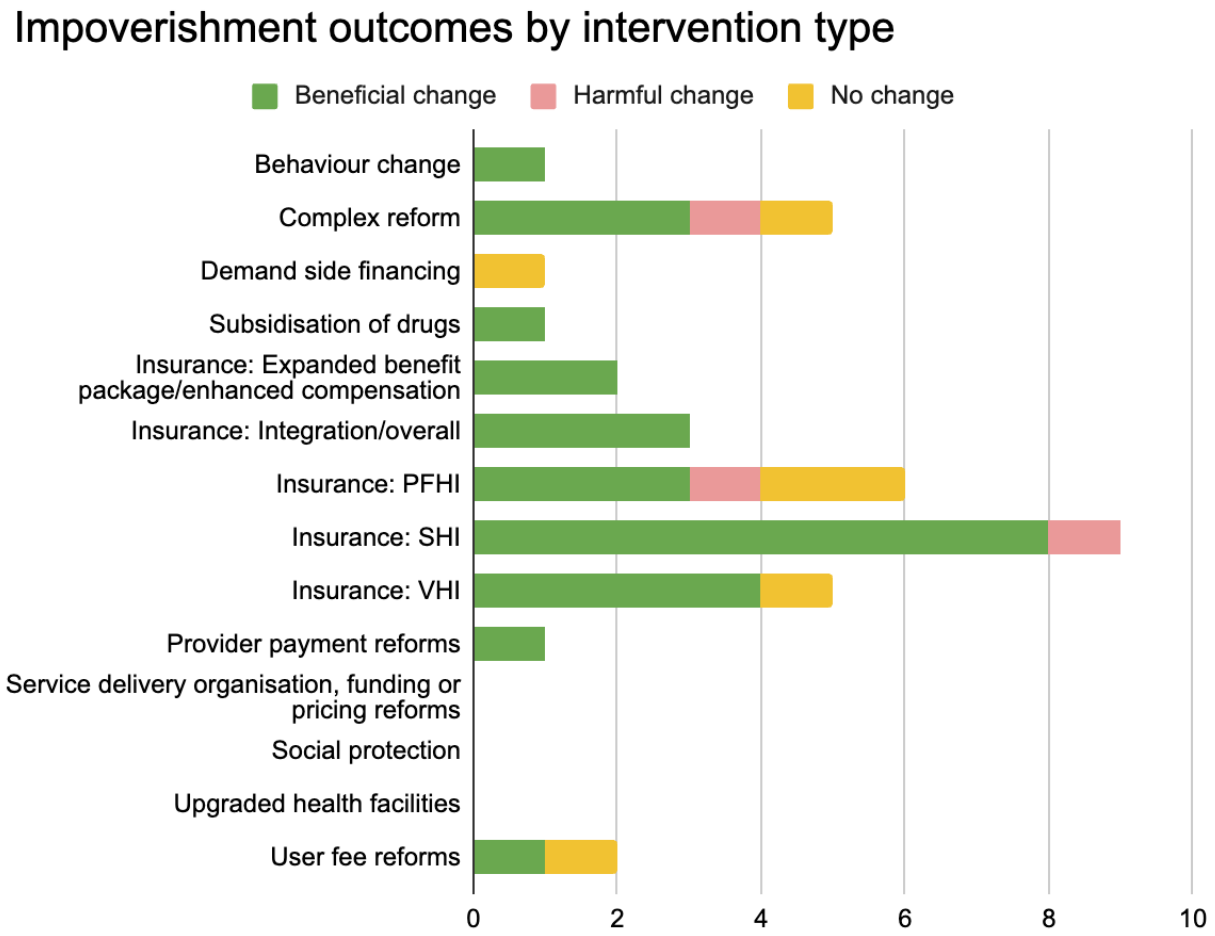
In relation to CHE (Figure 3), SHI, PFHI and complex reforms are potentially impactful, though not without adverse consequences too.

Figure 3. CHE outcomes by intervention type



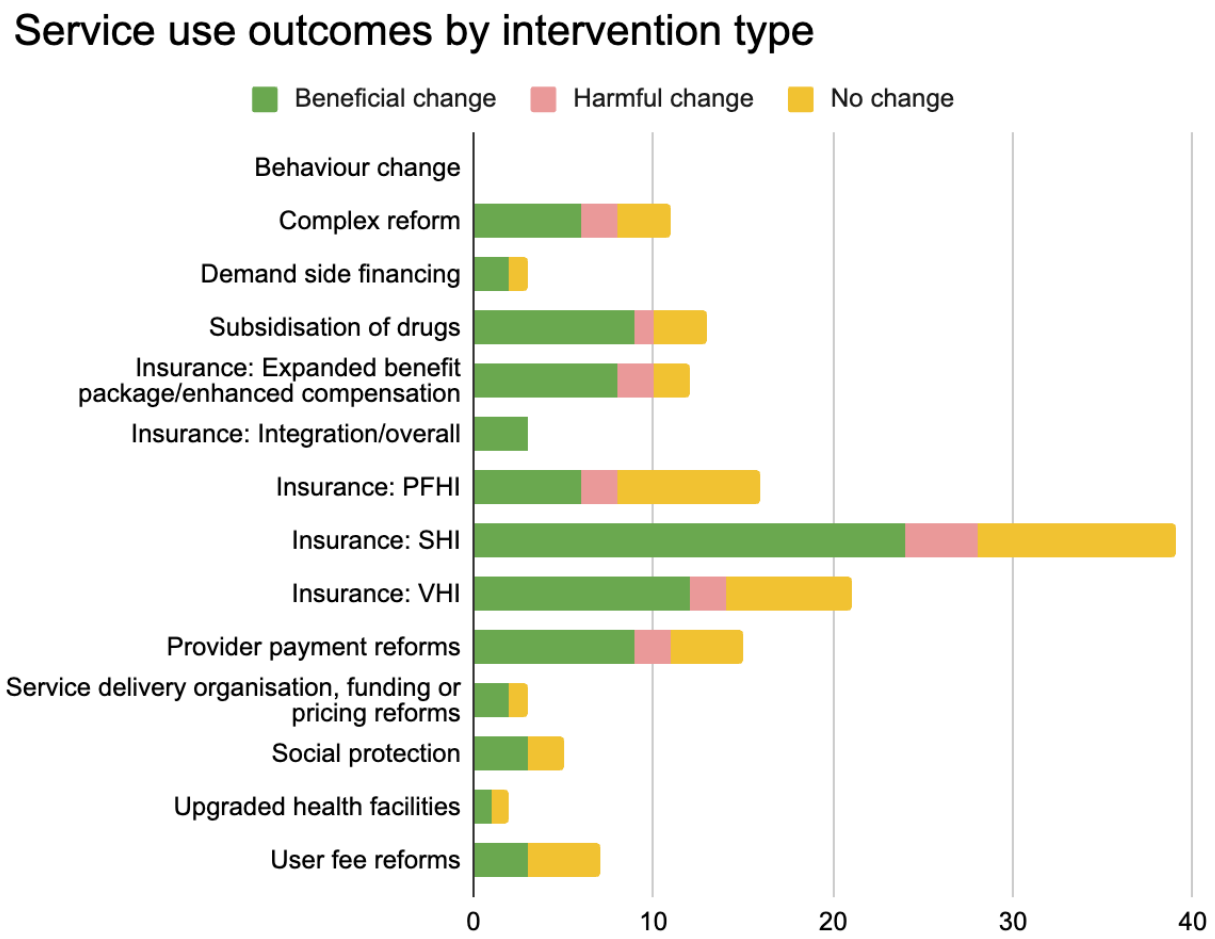
For impoverishment (which is not assessed for all intervention areas) (Figure 4), fewer negative effects are reported: for behaviour change, medicines policies, expansion of insurance and insurance integration, and provider payment reforms there are only positive outcomes reported.

Figure 4. Impoverishment outcomes by intervention type



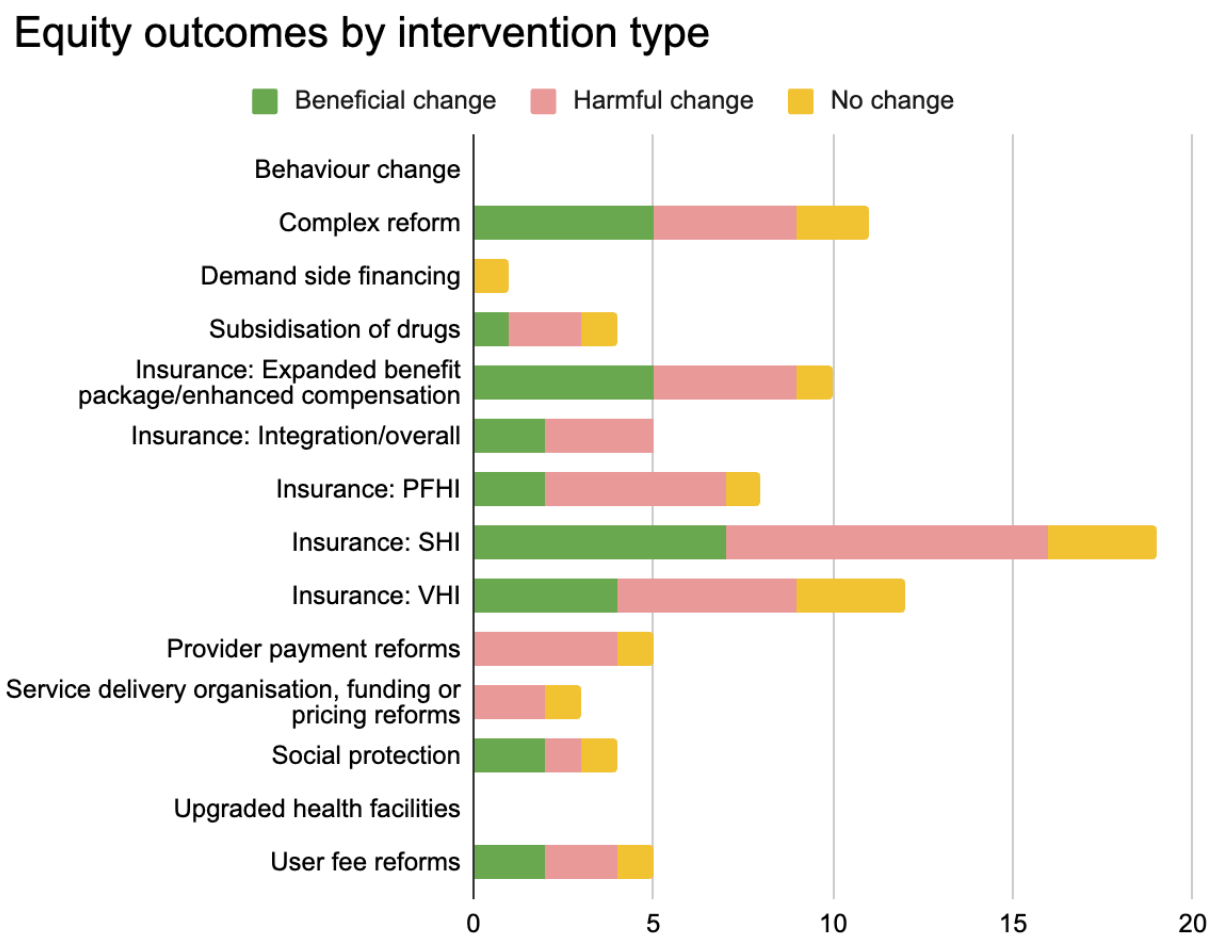
For foregone care (Figure 5), results are generally positive, though proportionally, 'no change' is more common for PFHI than beneficial change.

Figure 5. Service use outcomes by intervention type



For equity (figure 6), it is striking how many studies are reporting harmful changes, especially for PFHI, SHI, VHI, provider payment reforms and service delivery reforms. No reform area appears to be producing unequivocally positive results from an equity perspective, including targeted approaches such as social protection, DSF and PFHI.

Figure 6. Equity outcomes by intervention type



7.5 CROSS CUTTING REFLECTIONS

More productive than examining by intervention label, given internal variability in components, implementation and context, is to draw out some key cross cutting reflections.

First, it is important to acknowledge the **tensions and trade-offs between the UHC goals and between specific indicators for financial protection**. At one extreme, no use of services could produce perfect financial protection, with no OOPE, CHE, impoverishment or inequity in these indicators. Clearly that would be suboptimal, however, it highlights that policy-makers do not have easy choices to make.

Secondly, financial protection, as our typology illustrates, is the outcome of interactions across and beyond the health system, and therefore is affected by **multiple features of each context, all of which can be influential and which interact with one another,** requiring continuous monitoring and adaptation in relation to public goals. Reflections emerging include the following:

- Efforts to expand access and reduce financial barriers (e.g. via demand side financing, user fee reduction, insurance, etc.) will raise utilisation and therefore overall costs, which ultimately threaten financial protection via constrained budgets (at macro and household level). It is therefore **imperative that such policies include cost containment measures**. These will depend on the policy but need to focus on improving efficiency rather than reintroducing financial barriers for needed services. Good examples may include:
    - ↘ reinforcing gate-keeping and use of preventive, primary and outpatient care (Miao 2018, Babiarz et al., 2010);

- more effective strategic purchasing (e.g. negotiation of fixed tariffs in Aggarwal 2010)
- private sector regulation (Nguyen 2019).
- although not highlighted in our studies, improved human resource management is another area which could address absenteeism, poor care, and dual practice, which drive informal payments and use of private care, both of which can threaten financial protection, especially for the poor.

The importance of coordinating between benefit expansion and cost containment was highlighted in the China experience, where more coordinated approaches were reported to reduce OOPE, while poorly coordinated reforms increased financial burdens, especially for the uninsured population (Liu 2023).

- **Drugs and consumables are a key driver of OOPE** and reforms that address their price, quality and availability should be prioritised within whichever reform initiatives are being undertaken. These are inadequately documented in relation to financial protection at present. As highlighted by China's reform efforts (e.g. Sun 2015), providers relying on drugs sales for income is undesirable. Supply chain strengthening, rational prescribing, consumer education on generics, and regulation of private sector markets can all in principle impact positively on financial protection (Ahmednezhad 2019).
- **Service delivery reforms that can provide win-win outcomes (increased access with increased efficiency and quality)** will potentially be impactful on financial protection, though currently under-studied in the literature. For example, reinforcing primary care systems, encouraging uptake of preventive care (Lei 2009, He 2019), shifting care to local providers (Alkenbrack 2015), and home-based care (as appropriate), use of telemedicine etc. Perceptions of PHC quality are key to increasing utilisation at that level (low quality is key driver of high OOPE), there is therefore a need to focus on quality of care and monitor it closely as reforms proceed.
- Providers have a tendency to shift costs to maintain income, as illustrated in some of the China provider payment reform studies (Chen 2017, Chen 2020) so **systems for monitoring overall expenditure** on different items at different levels (by patients and/or purchasers, in public as well as private sectors) is important to identify and address adverse consequences as they emerge.
    - Expansion of insurance coverage can lead to provider-induced demand, and so needs to be coupled with clear clinical guidelines and enforcement of good practice
    - Information systems to monitor performance and quality are important part of supply side reinforcement more generally.
- For insurance programmes, all copayments, deductibles and reimbursement ceilings risk higher OOPE and CHE, however **design also matters**, as illustrated in China where high inpatient reimbursement rates increased CHE by encouraging costly care and increased funding alone proved insufficient without targeted policy improvements (Zhang 2016). It is noteworthy that many of the more effective cost containment approaches address the supply-side, which can have fewer adverse consequences than creating barriers to patient use (e.g. financial barriers).
- For households, especially poorer ones, **access costs** are very significant so measures to reduce these should be prioritised, including ensuring accessible infrastructure (facilities, equipment), of reasonable quality and staff, but also addressing information barriers which prevent enrolment and use of appropriate care (generating additional household costs).
- **For equity, addressing wider factors** (including cultural barriers, gender barriers, provider attitudes, etc.) is critically important as reduction of costs and financial barriers enables better placed households (geographically, socially and educationally privileged) to increase service use and hence can have negative equity effects, as demonstrated by, amongst others, the user fee removal literature.

7.6 CONTEXT AND IMPLEMENTATION ISSUES

Beyond design factors, contextual factors and how reforms are implemented are of course key to determining their effects. To take an example of the Urban Family Physician Program in Iran, **economic instability,** high inflation, sanctions, limited government budgets, insufficient infrastructure, untrained GPs, and ineffective healthcare financing all contributed to the programme (which combined insurance with gatekeeping for referral care) achieving increased out-of-pocket expenses and worsened healthcare access inequalities (HomaieRad 2017). In a less hostile context, potentially the reform could have paid dividends. Growth appears to have supported the reforms in Turkey, for example.

Maintaining adequate funding relative to the population included in the programme is also critical. For example, the Seguro Popular in its early years of implementation had beneficial effects on vertical inequity (it initially targeted the lowest income deciles, improving redistributive effects and vertical equity by directing resources to those most in need of financial protection, without the need for copayments), but with oversaturation in later years (too many people brought onto Seguro Popular relative to available resources) the beneficial effects on vertical equity diminished (Garcia Diaz 2023). Zhu 2022 makes a similar point about oversaturation, with effects diminishing as enrolment in the programme grew. This highlights the importance of a range of actions, including good actuarial modelling for policies, iterative management of reforms to ensure that affordability is considered alongside generosity of packages, the importance of adequate public financing allocations to health, and the need for adequate per capita funding and equalisation across areas with diverse fiscal bases.

The salience of financial protection as policy issue appeared to vary across the study contexts, and was not the focus of our study, but it may be that LICs are more focused on raising service coverage, while MICs like China, Turkey and Mexico have greater political interest in achieving high economic growth rates and therefore addressing financial protection within poverty alleviation. This area would be interesting to study in more depth – how to raise the profile of this issue, which is inherently more complex to convey to policy-makers than the UHC coverage goal.

Bureaucratic and administrative implementation issues (such as delays in payment for provider payment mechanisms) as well as broader governance constraints (lack of coordination and management capacity, or corruption) are a concern that can affect the implementation of interventions and therefore limit their impact on financial protection.

As such, interventions might play out differently and have different effects on financial protection because of the context in which they are implemented (we found variation between countries, within countries or even between different periods in the same setting). These **context differences** need to be taken into account during design and piloting phases. The roll out of DRGs, for example, in China, produced different effects in the rural areas, having only been piloted in urban.

7.7 STRENGTHS AND LIMITATIONS OF THE LITERATURE

7.7.1 STRENGTHS

This review synthesizes a large body of published literature on how various interventions impact financial protection, drawing on more diverse evidence than many previous studies.

Proactively establishing a typology of interventions allowed for systematic consideration of the types of interventions which have been studied and where gaps persist. Additionally, by seeking to identify relevant studies for inclusion based on outcomes rather than the types of interventions, the review provides a broad and balanced perspective on what has and has not been studied in relation to financial protection.

Many previous reviews have examined aspects of financial protection in more limited contexts or have assessed the effects of specific interventions, such as:

- CBHI (Eze et al., 2023), finding that CBHI schemes in LMICs improved healthcare utilisation and financial protection but inconsistently shielded households from health expenditure shocks.
- Micro health insurance (Habib et al., 2016), finding mostly positive effects on financial protection in low-income households but highlighting that there have been few impact evaluations despite over 100 such schemes operating globally.
- Public health insurance (Erlangga et al., 2019), finding mixed evidence, with an overall favourable effect on financial protection in 26 out of 46 studies, although several studies indicated otherwise.
- User fees and charges (Qin et al., 2019), finding mixed but generally positive effects on access to healthcare and financial protection across 17 studies, though heterogeneity prevented meta-analysis.
- Hospital payment reforms (Ghazaryan et al., 2021), finding that shifting from fee-for-service to models like diagnosis-related group payments and capitation generally reduced hospital expenditures and readmissions, though impacts on OOPE varied, with potential unintended consequences for uninsured patients.

Similar to our study, several of these reviews have relied on narrative synthesis rather than meta-analysis given the heterogeneity of studies. The consistency between our findings and prior reviews reinforces research reliability, strengthening confidence in key conclusions. The inclusive strategy which our review applies provides a fuller picture of financial protection strategies, capturing insights that more narrowly focused reviews might overlook.

7.7.2 LIMITATIONS

Several limitations should be noted when interpreting the findings of this review. Below, we outline key limitations and their implications:

- Diversity and variability of study methods and outcomes reported: Studies define, measure and analyse outcomes in diverse ways (see section 5.1.3 and 5.1.4), making summarising in a consistent format difficult. In addition, due to the heterogeneity of interventions, studies and reporting of outcomes, it was not appropriate to do meta-analysis, and we have therefore focused on narrative synthesis in the results section. A meta-analysis would have necessitated stricter study selection, and would have limited the scope of included studies, potentially limiting the richness of our review. Choosing a narrative synthesis over a meta-analysis enabled us to explore a broad range of interventions offering financial protection. Many studies use multiple measurement approaches, which can yield different results. For example, a study on user fee exemptions in Cambodia found a small increase in outpatient service use using patient diary data but no statistically significant change using household survey data (Korachais et al., 2019). Research on China's NCMS found different

results depending on the analytical model used (Babiarz et al., 2010). These differences highlight the limitations of categorising effects simply as positive, negative, or no change, underscoring the importance of contextual interpretation of results.

- **Challenges in classifying complex interventions:** Classification of interventions was highly challenging as most included multiple components which made allocation to particular categories debatable. For that reason, we have (a) added a complex reform category to do justice to interventions with multiple components and (b) tried to add details on ancillary elements to other reforms where one approach was the main one but was not introduced alone.

Bias in what has been studied: There is an inherent bias in what aspects of financial protection are studied, which may ignore other areas that could be (or are being) very impactful. For example, whilst there is extensive research and publication about the effects of insurance-based interventions on financial protections, revenue-raising and resource allocation interventions are notably absent from the reviewed literature.

- **Bias due to what has been reported in included studies:** The lack of standardized reporting on intervention costs and cost-effectiveness is a major gap, limiting insights into the financial feasibility of different strategies. Studies also did not systematically explore the political, economic, and bureaucratic factors that influence intervention agenda-setting, design, and implementation. This omission limits understanding of the feasibility and sustainability of certain interventions in different contexts. Sometimes large studies also report qualitative findings in a different paper to the quantitative ones – in such cases we included the quantitative study (since it met our criteria) but not the qualitative one. In a next stage it would be important to supplement the findings on why changes were or were not observed with any qualitative insights that have already been published. In addition, a more in-depth set of case studies to probe promising policy interventions and system design features, including more qualitative data gathering, such as interviews, may be useful as the policy messages arising from this work are sharpened.
- Variation and limitations in population scope and study scale: Many studies focus on specific population groups or examine a potentially national policy in a sub-national context, making it difficult to generalize findings to entire health systems or UHC goals. While some interventions may affect the broader population, their impacts outside of the target population are not always measured or reported, requiring careful interpretation.

Exclusion of grey literature in our review: A major limitation is the absence of grey literature, which would bring in a wider range of settings, interventions and results. This was the result of the large number of published studies identified and selected for inclusion. It will be useful to add a search and extraction of grey materials in the next phase, as there are likely reports, including country health system assessments, which will add important data and perspectives on this question.

- **Methodological limitations of included studies** (see section 5.1.2): The included studies varied widely in methodology, with most being observational (70%), some quasi-experimental (25%), and only a few experimental (5%). Common limitations included reliance on cross-sectional data, self-reported measures, small sample sizes, inadequate control for confounders, and limited intervention fidelity, all of which affect the reliability and generalizability of findings.
- OOPE, whilst commonly used as an indicator of financial protection, needs to be interpreted in context (see section 5.1.3 and 5.1.4): As the most frequently reported outcome in this review (74% of included studies), its meaning varies depending on how it is measured and reported. Household-level reductions in OOPE may not always indicate improved financial protection, as they could reflect foregone care rather than reduced financial hardship. Conversely, higher OOPE may accompany increased service utilisation, suggesting improved access rather than increased financial burden. Studies also differ in what costs are included (e.g., direct medical, non-medical, or indirect costs)

and whether insurance reimbursements are considered, making comparisons challenging. OOPE reductions at the country level may provide a clearer picture of systemic financial protection improvements, while OOPE as a percentage of total health expenditure offers a more meaningful measure than absolute spending alone. Given these complexities, this review reports OOPE findings alongside CHE, impoverishment, and service use where available to provide a more comprehensive understanding of financial protection.

7.8 NEXT STEPS

In order to deepen the findings and policy messages arising, we propose in the first instance that teams working on financial protection but using different methods and focusing on different aspects bring their findings together to identify coherence and areas for more in-depth study. In particular, a forthcoming paper which looks at health systems features and their relation to financial protection (Hsu forthcoming) is very complementary to our findings. Extracting from 128 eligible studies and using a qualitative comparative analysis approach, it highlights systems attributes which are protective of financial protection and validates a number of the domains in the WHO Health Financing Progress Matrix, such as the importance of public finance, redistribution and harmonisation across risk pools, and purchasing which both promotes service delivery but also controls costs. Population understanding of benefits, comprehensive benefits and protective design in terms of copayments also emerge as significant. Systemwide readiness and monitoring for accountability are significant on the system governance side.

A forthcoming systematic review on determinants of financial protection, which focuses on household characteristics (Guo, forthcoming), also adds important data and messaging. Extracting from 85 eligible studies, it identifies households in rural areas, with older members, lacking private insurance, or with inpatient or outpatient care utilisation as at higher risk of CHE and impoverishing health expenditure, though also notes challenges with the indicators and the fact that the incidence of financial hardship was generally higher among the general versus the poorer segments of the population.

In addition, future research could include: adding the grey literature to our analysis; deepening analysis of our data by study type and also with a focus on specific vulnerable populations; disaggregating mechanisms within interventions in a more granular way; developing in-depth case studies in contexts with promising approaches; analysing by specific contexts of interest, such as FCAS; looking at longitudinal experiences (like China's) to assess iterations and learning in the policy journey; adding more qualitative literature to examine contextual and explanatory factors behind results; and potentially triangulating with national and global UHC data. We would also encourage researchers to follow up on the study gaps highlighted at the start of this section.

8 CONCLUSION

The UHC financial protection goal (SDG 3.8.2) remains a global challenge. The latest UHC monitoring report (WHO, 2024) highlights the continuing dependence of LMICs in particular on OOPE to fund health care. It highlights that OOPE per capita was 3%–4% higher than before the pandemic in low and upper-middle income countries and 11% higher in lower-middle income countries. In 2022, OOPE was still the main financing scheme in 30 low and lower-middle income countries; in 20 of these, OOPE accounted for more than half of total health spending. As countries grapple with limited fiscal space, there remains an urgent need to identify ways of addressing SDG 3.8.2 alongside SDG 3.8.1 and the wider SDG goals.

This report brings together a large body of published studies which reported impacts of a range of interventions on financial protection outcome indicators, including OOPE, CHE, impoverishment, health care foregone for financial reasons and equity of these indicators. It adds value as an evidence review of financial protection policies and interventions that includes all intervention types, health services and LMICs. We highlight key policy messages while also acknowledging the importance of grounded assessment of needs, resources and systems capacities in each context.

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Yu, M., Zhong, J., Hu, R., Chen, X., Wang, C., Xie, K., Guzman, M., Gui, X., Kong, S.T.-J., Qu, T., Eggleston, K., 2021. The Impact of Catastrophic Medical Insurance in China: A five-year patient-level panel study. Lancet Reg Health West Pac 13, 100174. https://doi.org/10.1016/j.lanwpc.2021.100174

Yuan, S., Liu, Y., Li, N., Zhang, Y., Zhang, Z., Tao, J., Shi, L., Quan, H., Lu, M., Ma, J., 2014. Impacts of health insurance benefit design on percutaneous coronary intervention use and inpatient costs among patients with acute myocardial infarction in Shanghai, China. Pharmacoeconomics 32, 265–275. https://doi.org/10.1007/s40273-013-0079-9

Zhai, S., Yuan, S., Dong, Q., 2021. The impact of health insurance on poverty among rural older adults: an evidence from nine counties of western China. Int J Equity Health 20, 47. https://doi.org/10.1186/s12939-021-01379-5

Zhang, H., Ning, K., Wang, J., Fang, H., 2023. Research on the influence of patient cost-sharing on medical expenses and health outcomes: Taking patients with heart failure as an example. Front Public Health 11, 1121772. https://doi.org/10.3389/fpubh.2023.1121772

Zhang, L., Li, S., Yi, H., d'Intignano, L.M., Ding, Y., 2016. Correlation Between New Cooperative Medical Scheme Policy Design and Catastrophic Medical Payment: Evidence From 25 Counties in Rural China. Asia Pac J Public Health 28, 26–38. https://doi.org/10.1177/1010539515612907

Zhang, T., Liu, J., Wang, X., Liu, C., 2023. County Hospital Responses to Funding Reforms in Zhejiang, China: An Interrupted Time-Series Analysis. Health Syst Reform 9, 2258770. https://doi.org/10.1080/23288604.2023.2258770

Zhang, T., Lu, B., Yan, Z., Huang, X., Lu, W., 2022. Impacts of a New Episode-Based Payment Scheme on Volume, Expenditures, and Efficiency in Public Hospitals: A Quasi-Experimental Interrupted Time-Series Study in Jinhua, China. Risk Manag Healthc Policy 15, 1659–1669. https://doi.org/10.2147/RMHP.S376516

Zhang, Y., Dong, D., Xu, L., Miao, Z., Mao, W., Sloan, F., Tang, S., 2021. Ten-year impacts of China's rural health scheme: lessons for universal health coverage. BMJ Glob Health 6, e003714. https://doi.org/10.1136/bmjgh-2020-003714

Zhang, Y., Ma, Q., Chen, Y., Gao, H., 2017. Effects of Public Hospital Reform on Inpatient Expenditures in Rural China. Health Econ 26, 421–430. https://doi.org/10.1002/hec.3320

Zhao, S.-W., Zhang, X.-Y., Dai, W., Ding, Y.-X., Chen, J.-Y., Fang, P.-Q., 2020. Effect of the catastrophic medical insurance on household catastrophic health expenditure: evidence from China. Gac Sanit 34, 370–376. https://doi.org/10.1016/j.gaceta.2018.10.005

Zhong, Z., Jiang, J., Chen, S., Li, L., Xiang, L., 2021. Effect of critical illness insurance on the medical expenditures of rural patients in China: an interrupted time series study for universal health insurance coverage. BMJ Open 11, e036858. https://doi.org/10.1136/bmjopen-2020-036858

Zhou, Jingjing, Zhang, Y., Sha, Y., Zhou, Jianfang, Ren, H., Shen, X., Xu, H., 2022. The Effect of the "Triple-Layer Medical Security" Policy on the Vulnerability as Expected Poverty of Rural Households: Evidence from Yunnan Province, China. Int J Environ Res Public Health 19, 12936. https://doi.org/10.3390/ijerph191912936

Zhou, Q., Liu, G.G., Krumholz, S., 2017. Is Chinese National Health Insurance Effective in the Face of Severe Illness? A Perspective from Health Service Utilisation and Economic Burden. SOCIAL INDICATORS RESEARCH 132, 1307–1329. https://doi.org/10.1007/s11205-016-1330-5

Zhu, D., Shi, X., Chen, S., Ye, X., Nicholas, S., He, P., 2024. The role of primary health care in improving health status, financial protection and health equity in the context of China's health system reform. Int J Health Plann Manage 39, 311–328. https://doi.org/10.1002/hpm.3722

Zhu, Z., Wang, J., Sun, Y., Zhang, J., Han, P., Yang, L., 2022. The impact of zero markup drug policy on patients' healthcare utilisation and expense: An interrupted time series study. Front Med (Lausanne) 9, 928690. https://doi.org/10.3389/fmed.2022.928690

Zoidze, A., Rukhazde, N., Chkhatarashvili, K., Gotsadze, G., 2013. Promoting universal financial protection: health insurance for the poor in Georgia--a case study. Health Res Policy Syst 11, 45. https://doi.org/10.1186/1478-4505-11-45

ANNEX 1. SEARCH RESULTS

34 Cochrane Reviews matching:

reform OR policy OR program* OR intervention OR pilot OR trial in Title Abstract Keyword AND impact of OR evaluation OR effect* OR efficacy in Title Abstract Keyword AND Financial protection OR Financial risk protection OR Impoverish* OR Out of pocket OR out-of-pocket OR Catastrophic health expenditure OR financial hardship OR Foregone care OR household savings in Title Abstract Keyword - (Word variations have been searched)

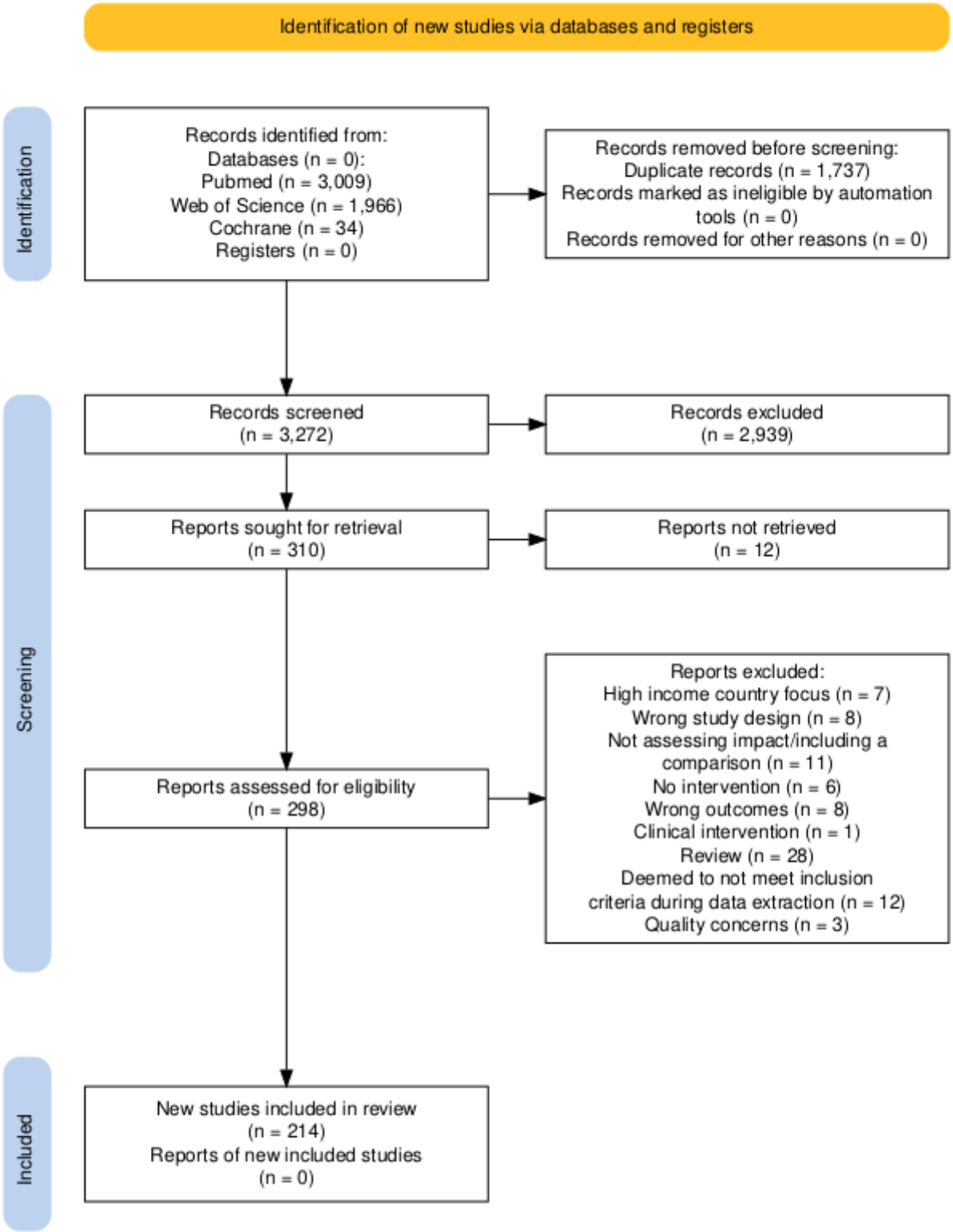
3009 records in Pubmed matching:

(("Financial protection"[Title/Abstract] OR "Financial risk protection"[Title/Abstract] OR "Impoverish*"[Title/Abstract] OR "Out of pocket"[Title/Abstract] OR "out-of-pocket"[Title/Abstract] OR "Catastrophic health expenditure"[Title/Abstract] OR "financial hardship"[Title/Abstract] OR "Foregone care"[Title/Abstract] OR "household savings"[Title/Abstract]) AND ("impact of"[Title/Abstract] OR "evaluation"[Title/Abstract] OR "effect*"[Title/Abstract] OR "efficacy"[Title/Abstract])) AND ("reform"[Title/Abstract] OR "policy"[Title/Abstract] OR "program*"[Title/Abstract] OR "intervention"[Title/Abstract] OR "pilot"[Title/Abstract] OR "trial"[Title/Abstract])

1966 records in Web of Science matching:

Limit to Abstract search: [((impact of) OR (evaluation) OR (effect* of) OR (efficacy)) AND (“financial protection” OR “financial risk protection” OR “Impoverish*” OR “out of pocket” OR “out-of-pocket” OR “Catastrophic health expenditure” OR “financial hardship” OR “foregone care” OR “household savings”) AND (reform OR policy OR program* OR intervention OR pilot OR trial))]

1. **Following automatic deduplication, 3,272 records were retained**
2. **Studies were excluded during title and abstract screening for the following reasons:**
    - Wrong outcome – 1245
    - Wrong population/HIC –1445
    - Wrong intervention type/No intervention – 457
    - Wrong study design/no comparison – 247
    - Background article – 69
3. **Studies were excluded during full text review for the following reasons:**
    a. High income country focus, 7;
    b. Wrong study design, 8;
    c. Not assessing impact/including a comparison, 11;
    d. No intervention, 6;
    e. Wrong outcomes, 8;
    f. Clinical intervention, 1;
    g. Review, 28;
    h. Deemed to not meet outcome or impact assessment criteria during data extraction, 12;
    i. Quality concerns, 3



Citation for creation of PRISMA Diagram: Haddaway, N. R., Page, M. J., Pritchard, C. C., & McGuinness, L. A. (2022). PRISMA2020: An R package and Shiny app for producing PRISMA 2020-compliant flow diagrams, with interactivity for optimised digital transparency and Open Synthesis Campbell Systematic Reviews, 18, e1230. https://doi.org/10.1002/cl2.1230
Download citation (.ris)

ANNEX 2. INCLUDED STUDIES

Full citation	Study aim	Primary intervention category/ies examined
Ahmed, S., Sarker, A.R., Sultana, M., Roth, F., Mahumud, R.A., Kamruzzaman, M., Hasan, M.Z., Mirelman, A.J., Islam, Z., Niessen, L.W., Rehnberg, C., Khan, A.A., Gyr, N., Khan, J.A.M., 2020. Do **employer-sponsored health insurance schemes affect the utilisation of medically trained providers and out-of-pocket payments among ready-made garment workers? A case-control study in Bangladesh. BMJ Open 10, e030298. https://doi.org/10.1136/bmjopen-2019-030298**	Estimated the effect of an employer-sponsored health insurance (ESHI) scheme on healthcare utilisation of medically trained providers and reduction of OOP expenditures among garment workers.	Insurance (VHI)
Hasan, M.Z., Ahmed, S., Mehdi, G.G., **Ahmed, M.W., Arifeen, S.E., Chowdhury, M.E., 2024. The effectiveness of a government-sponsored health protection scheme in reducing financial risks for the below-poverty-line population in Bangladesh. Health Policy Plan 39, 281–298. https://doi.org/10.1093/heapol/czad115**	Assessed the effect of Shasthyo Surokhsha Karmasuchi (SSK) on OOPE, CHE, and impoverishment for the enrolled population in Tangail District, Bangladesh.	Insurance (PFHI)
Nguyen, H.T.H., Hatt, L., Islam, M., Sloan, N.L., **Chowdhury, J., Schmidt, J.-O., Hossain, A., Wang, H., 2012. Encouraging maternal health service utili**sation**: an evaluation of the Bangladesh voucher program. Soc Sci Med 74, 989–996. https://doi.org/10.1016/j.socscimed.2011.11.030**	Evaluated the effects of a pilot voucher program on utilisation of maternal health services and associated OOP expenditures in Bangladesh.	Demand side financing
Rabbani, A., Mehareen, J., Chowdhury, I.A., Sarker, M., 2022. Mandatory employer-sponsored health financing scheme for semiformal workers in Bangladesh: An experimental assessment. Soc Sci Med 292, 114590. https://doi.org/10.1016/j.socscimed.2021.114590	Evaluated the impact of health insurance pilots (Health Security Scheme (HSS)) on utilisation, OOP expenditures, and well-being among rural women artisans in Bangladesh.	Insurance (SHI)
Witter, S., Boukhalfa, C., Cresswell, J.A., Daou, Z., Filippi, V., Ganaba, R., Goufodji, S., Lange, I.L., Marchal, B., Richard, F., 2016. Cost and impact of policies to remove and reduce fees for obstetric care in Benin, Burkina Faso, Mali and Morocco. Int J Equity Health 15, 123. https://doi.org/10.1186/s12939-016-0412-y	Analysed the cost and effects of national policies aimed at improving financial access to caesarean and facility deliveries.	User fee reforms
Aye, T.T., Nguyen, H.T., Brenner, S., Robyn, P.J., Tapsoba, L.D.G., Lohmann, J., Allegri, M.D., 2023. To What Extent Do Free Healthcare Policies and Performance-Based Financing Reduce Out-of-Pocket Expenditures for Outpatient services? Evidence From a Quasi-experimental Study in Burkina Faso. Int J Health Policy Manag 12, 6767. https://doi.org/10.34172/ijhpm.2022.6767	Assessed the effect of gratuité and PBF policies on facility-based OOPEs for outpatient services.	Provider payment reforms and User fee reforms

Full citation	Study aim	Primary intervention category/ies examined
Fink, G., Robyn, P.J., Sié, A., Sauerborn, R., 2013. Does health insurance improve health?: Evidence from a randomized community-based insurance rollout in rural Burkina Faso. J Health Econ 32, 1043–1056. **https://doi.org/10.1016/j.jhealeco.2013.08.003**	To evaluate the welfare and health impact of the insurance program.	Insurance (VHI)
Ridde, V., Agier, I., Jahn, A., Mueller, O., Tiendrebéogo, J., Yé, M., De Allegri, M., 2015. The impact of user fee **removal policies on household out-of-pocket spending: evidence against the inverse equity hypothesis from a population based study in Burkina Faso. Eur J Health Econ 16, 55–64. https://doi.org/10.1007/s10198-013-0553-5**	Evaluated the equity impact of the reduction and removal of user fees for the poorest on household OOP expenditures in Burkina Faso.	User fee reforms
Lambert-Evans, S., Ponsar, F., Reid, T., Bachy, C., Van Herp, M., Philips, M., 2009. Financial access to health care in Karuzi, **Burundi: a household-survey based performance evaluation. Int J Equity Health 8, 36. https://doi.org/10.1186/1475-9276-8-36**	Evaluated the exemption mechanism providing free healthcare for indigents in Karuzi province, Burundi.	User fee reforms
Ensor, T., Chhun, C., Kimsun, T., McPake, B., Edoka, I., 2017. Impact of health financing policies in Cambodia: A 20 year experience. Soc Sci Med 177, 118–126. https://doi.org/10.1016/j.socscimed.2017.01.034	Examined the impact of user fee formalisation policies and subsequent reforms on healthcare utilisation and OOPE over time.	Complex reform (Cambodian reforms)
Korachais, C., Ir, P., Macouillard, E., Meessen, B., 2019. The impact of reimbursed user fee exemption of health centre outpatient consultations for the poor in pluralistic health systems: lessons from a quasi-experiment in two rural health districts in Cambodia. Health Policy Plan 34, 740–751. https://doi.org/10.1093/heapol/czz095	Evaluated the impact of the extension of the Health Equity Fund (HEF) to health centre outpatient services on health-seeking behaviour and related health expenditure.	User fee reforms
Bousmah, M.-A.-Q., Nishimwe, M.L., Kuaban, C., Boyer, S., 2021. Free access to antiretroviral treatment and protection against the **risk of catastrophic health expenditure in people living with HIV: evidence from Cameroon. BMC Health Serv Res 21, 313. https://doi.org/10.1186/s12913-021-06331-5**	Explored the effects of free ART policy on CHE risk by socioeconomic status among PLHIV in Cameroon's ART access program.	User fee reforms
Atella, V., Brugiavini, A., Pace, N., 2015. The health care system reform in China: Effects on out-of-pocket expenses and saving. CHINA ECONOMIC REVIEW 34, 182–195. **https://doi.org/10.1016/j.chieco.2015.02.003**	Evaluated the impact of the 1998 Chinese health reform (Basic Insurance Scheme) on OOP and savings.	Insurance (SHI)

Full citation	Study aim	Primary intervention category/ies examined
Babiarz, K.S., Miller, G., Yi, H., Zhang, L., Rozelle, S., 2010. New evidence on the **impact of China's New Rural Cooperative Medical Scheme and its implications for rural primary healthcare: multivariate difference-in-difference analysis. BMJ 341, c5617. https://doi.org/10.1136/bmj.c5617**	Determined whether the New Rural Cooperative Medical Scheme (NCMS) and its attributes affected the operation and use of village health clinics.	Insurance (SHI)
Cai, L., Tao, T., Li, H., Zhang, Z., Zhang, L., Li, X., 2022. Impact of the national drug price negotiation policy on the **utili**sation**, cost, and accessibility of anticancer medicines in China: A controlled interrupted time series study. J Glob Health 12, 11016. https://doi.org/10.7189/jogh.12.11016**	To assess the impact of this policy on the utilisation, cost, and accessibility of 17 anticancer medicines	Reducing costs and increasing access to medicines
Cao, H., Xu, X., You, H., Gu, J., Hu, H., Jiang, S., 2022. Healthcare Expenditures among the Elderly in China: The Role of Catastrophic Medical Insurance. Int J Environ Res Public Health 19, 14313. https://doi.org/10.3390/ijerph192114313	Examined the effect of Catastrophic Medical Insurance (CMI) on healthcare expenditures among the elderly (65+).	Insurance (expanded benefits/enhanced compensation)
Chen, B.K., Yang, Y.T., **Eggleston, K., 2017. Patient Copayments, Provider Incentives and Income Effects: Theory and Evidence from the Essential Medications List under China's 2009 Healthcare Reform. World Med Health Policy 9, 24–44. https://doi.org/10.1002/wmh3.222**	Provided an empirical analysis of the demand- and supply-side effects of Shandong's implementation of the Essential Medications List (EML).	Reducing costs and increasing access to medicines
Chen, C., Pan, J., 2019. The effect of the health poverty alleviation project on financial risk protection for rural residents: evidence from Chishui City, China. Int J Equity Health 18, 79. https://doi.org/10.1186/s12939-019-0982-6	Explored the impact of health poverty alleviation on financial risk protection in rural households.	Complex reform (Health Poverty Alleviation Programme)
Chen, H., Ning, J., 2022. The impacts of long-term care insurance on health care utilisation **and expenditure: evidence from China. Health Policy Plan 37, 717–727. https://doi.org/10.1093/heapol/czac003**	This study aims to examine the policy treatment effect of long-term care insurance (LTCI) on health care utilisation and OOPE in China	Insurance (VHI)
Chen, L., Wu, C., Guo, Y., He, J., 2020. Impacts of the drug markup reduction policy on hospital expenditures of esophageal cancer surgery inpatients in Shanghai, China. Public Health 179, 118–126. https://doi.org/10.1016/j.puhe.2019.09.023	Evaluated the impacts of the drug markup reduction policy (DMRP) on hospital expenditure of esophageal cancer surgery inpatients	Reducing costs and increasing access to medicines
Chen, Y.-J., Zhang, X.-Y., Tang, X., Yan, J.-Q., Qian, M.-C., Ying, X.-H., 2023. How do inpatients' costs, length of stay, and quality of care vary across age groups after a new case-based payment reform in China? An interrupted time series analysis. BMC Health Serv Res 23, 160. https://doi.org/10.1186/s12913-023-09109-z	Evaluated the impact of China's Diagnosis-Intervention Packet (DIP) payment system on total costs, OOP payments, length of stay (LOS), and quality of care in hospitalized patients of different ages.	Provider payment reforms

Full citation	Study aim	Primary intervention category/ies examined
Chen, Y., Gao, G., Yuan, F., Zhao, Y., 2023. The impact of medical financial assistance on healthcare expenses and the medical financial burden: Evidence from rural China. Front Public Health 10, 1021435. https://doi.org/10.3389/fpubh.2022.1021435	Explored the enduring impact of Health Poverty Alleviation Program (HPAP) on poverty reduction and potential moral hazards.	Complex reform (Health Poverty Alleviation Programme)
Chu, S., Liu, X., Tang, D., 2023. Effects of Drug Price Changes on Patient Expenditure: Evidence from China's Zero Markup Drug Policy. HEALTH & SOCIAL CARE IN THE COMMUNITY 2023, 3285043. https://doi.org/10.1155/2023/3285043	To assess the effects of the ZMDP on patient expenditure,	Reducing costs and increasing access to medicines
Cui, C., Zhang, Y., Ding, R., He, P., 2024. Impact of the Essential Public Health Service program on financial protection and health outcomes among hypertensive patients: A quasi-experimental study in China. Soc Sci Med 345, 116705. https://doi.org/10.1016/j.socscimed.2024.116705	Evaluated the impact of the Essential Public Health Service (EPHS) program among hypertensive patients to provide evidence for program progress.	Shift in service delivery
Dai, T., Hu, H.-P., Na, X., Li, Y.-Z., Wan, Y.-L., Xie, L.-Q., 2016. Effects of New Rural Cooperative Medical Scheme on Medical Service Utilisation **and Medical Expense Control of Inpatients: A 3-year Empirical Study of Hainan Province in China. Chin Med J (Engl) 129, 1280–1284. https://doi.org/10.4103/0366-6999.182842**	Explored the impact of NCMS on medical service utilisation and medical expense of inpatients from 2012 to 2014	Insurance (expanded benefits/enhanced compensation)
Diao, Y., Lin, M., Xu, K., Huang, J., Wu, X., Li, M., Sun, J., Li, H., 2022. Impact of public health insurance coverage of novel anticancer medication on medical expenditure and patient affordability in a provincial medical centre of China: a propensity score-matching analysis with the quasi-experimental design. BMJ Open 12, e054713. https://doi.org/10.1136/bmjopen-2021-054713	Mimicked a quasi-experimental design to estimate the impact of the public health insurance coverage policy on all the indicated patients with a before,Äìafter comparison of the total breast cancer-associated direct medical expenditures for a standard course of treatment or maintenance treatment and the proportionate patient out-of-pocket (OOP) expenditure based on the real clinical data.	Reducing costs and increasing access to medicines
Ding, L., Wu, J., 2017. The Impact of China's National Essential Medicine Policy and Its Implications for Urban Outpatients: A Multivariate Difference-in-Differences Study. Value Health 20, 412–419. https://doi.org/10.1016/j.jval.2016.10.018	Assessed the effects of the National Essential Medicine Policy (NEMP) on outpatient service utilisation and expenditures.	Reducing costs and increasing access to medicines
Fang, K., Shia, B., Ma, S., 2012. Health insurance coverage and impact: a survey in three cities in China. PLoS One 7, e39157. https://doi.org/10.1371/journal.pone.0039157	Described the effect of insurance on the covered population, including coverage, gross and out-of-pocket spending, and coping mechanisms.	Insurance (SHI and VHI)

Full citation	Study aim	Primary intervention category/ies examined
Gao, C., Xu, F., Liu, G.G., 2014. Payment reform and changes in health care in China. Soc Sci Med 111, 10–16. https://doi.org/10.1016/j.socscimed.2014.03.035	Assessed the impact of capitation reform on out-of-pocket costs.	Provider payment reforms
Gu, H., Kou, Y., Yan, Z., Ding, Y., Shieh, J., Sun, J., Cui, N., Wang, Q., You, H., 2017. Income related inequality and influencing factors: a study for the incidence of catastrophic health expenditure in rural China. BMC Public Health 17, 727. https://doi.org/10.1186/s12889-017-4713-x	Measured the incidence of CHE, analysed the income-related inequality in CHE, and explored the role that the NCMS and adjustment of its reimbursement rates play in reducing rural residents' incidence of CHE	Insurance (SHI)
Guo, N., Iversen, T., Lu, M., Wang, J., Shi, L., 2016. Does the new cooperative medical scheme reduce inequality in catastrophic health expenditure in rural China? BMC Health Serv Res 16, 653. https://doi.org/10.1186/s12913-016-1883-7	This study aims to examine whether the NCMS and its recent expansion have reached the goal of reducing the risk and inequality of catastrophic health spending for rural residents in China	Insurance (SHI)
He, H., Nolen, P.J., 2019. The effect of health insurance reform: Evidence from China. CHINA ECONOMIC REVIEW 53, 168–179. https://doi.org/10.1016/j.chieco.2018.08.013	Examined the effect of UEBMI on insurance coverage, health service use, preventative care, and OOP expenditure.	Insurance (SHI)
He, R., Miao, Y., Ye, T., Zhang, Y., Tang, W., Li, Z., Zhang, L., 2017. The effects of global budget on cost control and readmission in rural China: a difference-in-difference analysis. J Med Econ 20, 903–910. https://doi.org/10.1080/13696998.2017.1336448	Analysed the effects of global budget reform in areas where it has been implemented in China.	Provider payment reforms
Hu, T.W., Ong, M., Lin, Z.H., Li, E., 1999. The effects of economic reform on health insurance and the financial burden for urban workers in China. Health Econ 8, 309–321. https://doi.org/10.1002/(sici)1099-1050(199906)8:4<309::aid-hec440>3.0.co;2-n	Analysed the impact of enterprise reform (expansion of Labour Medical Insurance System to include collective-owned enterprises (which are owned by local or district governments), in addition to state-owned enterprises) on workers' health care benefits and their financial burden due to medical expenses.	Insurance (SHI)
Huang, Y., Jiang, Y., Zhang, L., Mao, W., van Boven, J.F.M., Postma, M.J., Chen, W., 2018. Availability, use, and affordability of medicines in urban China under universal health coverage: an empirical study in Hangzhou and Baoji. BMC Health Serv Res 18, 218. https://doi.org/10.1186/s12913-018-2993-1	To examine the availability, use, and affordability of medicines in urban China following the 2009 Health Care System Reform that included implementation of universal health coverage (UHC)	Complex reform (New Health Care Reform)

Full citation	Study aim	Primary intervention category/ies examined
Huang, Y., Liu, Y., Yang, X., Li, J., Fang, P., 2016. Global budget payment system helps to reduce outpatient medical expenditure of hypertension in China. Springerplus 5, 1877. https://doi.org/10.1186/s40064-016-3565-7	Explored the effect of Global Budget Payment System (GBPS) on medical expenditure compared with Fee-for-Service (FFS).	Provider payment reforms
Huang, Y., Xiao, X., Wan, Y., Ye, Q., Yang, Z., Xu, L., Chen, S., Li, H., Wang, F., Chen, Y., Zhao, D., Zhang, Q., Zheng, J., Guo, G., Li, Y., 2023. Tracking progress towards equitable maternal and child health in Yunnan: a systematic assessment for the Health Programme for Poverty Alleviation in China during 2015-2020. BMJ Open 13, e070809. https://doi.org/10.1136/bmjopen-2022-070809	Assessed the changes in disparities in MCH service coverage and health outcomes between poor and non-poor areas at township level before and after MCH health poverty alleviation programmes.	Complex reform (Health Poverty Alleviation Programme)
Huo J, Hu M, Li S. The impact of urban-rural medical insurance integration on medical impoverishment: evidence from China. Int J Equity Health. 2023 Nov 23;22(1):245. doi: 10.1186/s12939-023-02063-6. PMID: 37996948; PMCID: PMC10668423.	Examined the effect of urban and rural medical insurance integration on medical impoverishment in China.	Insurance integration/overarching insurance
Jiang, H., Zhao, M., Tian, G., Zhao, Z., Ding, D., Yin, M., 2021. Perceived effect of financial risk protection by the Urban-Rural Resident Basic Medical Insurance Scheme: a mixed-methods study of rural residents in China. BMJ Open 11, e047699. https://doi.org/10.1136/bmjopen-2020-047699	To explore the perceived financial risk protection effect of the Urban Rural Resident Basic Medical Insurance Scheme (URRBMI) and its influencing factors to provide evidence to further improve the URRBMI	Insurance (SHI)
Jiang, J., Chen, S., Xin, Y., Wang, X., Zeng, L., Zhong, Z., Xiang, L., 2019. Does the critical illness insurance reduce patients' financial burden and benefit the poor more: a comprehensive evaluation in rural area of China. J Med Econ 22, 455–463. https://doi.org/10.1080/13696998.2019.1581620	Determined the impact of critical illness insurance on reducing financial burden and improving health equity.	Insurance (expanded benefits/enhanced compensation)
Jiang, W.-X., Long, Q., Lucas, H., Dong, D., Chen, J.-Y., Xiang, L., Li, Q., Huang, F., Wang, H., Elbers, C., Cobelens, F., Tang, S.-L., 2019. Impact of an innovative financing and payment model on tuberculosis patients' financial burden: is tuberculosis care more affordable for the poor? Infect Dis Poverty 8, 21. https://doi.org/10.1186/s40249-019-0532-x	Investigated changes in OOPE and financial burden on TB patients following implementation of case-based payment, focusing on differential impacts by income group.	Provider payment reforms
Jing, S., Yin, A., Shi, L., Liu, J., 2013. Whether New Cooperative Mmedical Schemes reduce the economic burden of chronic disease in rural China. PLoS One 8, e53062. https://doi.org/10.1371/journal.pone.0053062	Evaluated changes in household CHE before and after reimbursement policies for chronic diseases.	Insurance (expanded benefits/enhanced compensation)

Full citation	Study aim	Primary intervention category/ies examined
Lei, X., Lin, W., 2009. The New Cooperative Medical Scheme in rural China: does more coverage mean more service and better health? Health Econ 18, S25–S46. https://doi.org/10.1002/hec.1501	This study explores the impact of the New Cooperative Medical Scheme (NCMS), a newly adopted public health insurance program in rural China	Insurance (SHI)
Li, A., Shi, Y., Yang, X., Wang, Z., 2019. Effect of Critical Illness Insurance on Household Catastrophic Health Expenditure: The Latest Evidence from the National Health Service Survey in China. Int J Environ Res Public Health 16, 5086. https://doi.org/10.3390/ijerph16245086	Evaluated the extent of CHE in Jiangsu Province and the impact of Critical Illness Insurance (CII) on CHE and associated factors.	Insurance (expanded benefits/enhanced compensation)
Li, C., Hou, Y., Sun, M., Lu, J., Wang, Y., Li, X., Chang, F., Hao, M., 2015. An evaluation of China's new rural cooperative medical system: achievements and inadequacies from policy goals. BMC Public Health 15, 1079. https://doi.org/10.1186/s12889-015-2410-1	Evaluated the impact of NRCMS on impoverishment due to major health hazards, financial risks, and rural income equity.	Insurance (expanded benefits/enhanced compensation)
Li, H.-M., Chen, Y.-C., Gao, H.-X., Zhang, Y., Chen, L., Chang, J.-J., Su, D., Lei, S.-H., Jiang, D., Hu, X.-M., 2018. Effectiveness evaluation of quota payment for specific diseases under global budget: a typical provider payment system reform in rural China. BMC Health Serv Res 18, 635. https://doi.org/10.1186/s12913-018-3415-0	Assessed the quota payment system reform for specific diseases under a global budget in rural China, as part of the NRCMS.	Provider payment reforms
Li, H., Chen, Y., Gao, H., Chang, J., Su, D., Lei, S., Jiang, D., Hu, X., Tan, M., Chen, Z., 2019. Effect of an Integrated Payment System on the Direct Economic Burden and Readmission of Rural Cerebral Infarction Inpatients: Evidence from Anhui, China. Int J Environ Res Public Health 16, 1554. https://doi.org/10.3390/ijerph16091554	Evaluated the effect of integrated payment system reform, as part of the New Rural Cooperative Medical System (NRCMS), on economic burden and readmission rates for cerebral infarction inpatients.	Provider payment reforms
Li, J., Huang, Y., Nicholas, S., Wang, J., 2019. China's New Cooperative Medical Scheme's Impact on the Medical Expenses of Elderly Rural Migrants. Int J Environ Res Public Health 16, 4953. https://doi.org/10.3390/ijerph16244953	Investigated changes in the NCMS (benefit expansion to cover outpatient expenditure) on medical expenditures of elderly rural migrants.	Insurance (expanded benefits/enhanced compensation)
Li, L., Jiang, J., Xiang, L., Wang, X., Zeng, L., Zhong, Z., 2019. Impact of Critical Illness Insurance on the Burden of High-Cost Rural Residents in Central China: An Interrupted Time Series Study. Int J Environ Res Public Health 16, 3528. https://doi.org/10.3390/ijerph16193528	Evaluated the impact of Critical illness insurance (CII) on the burden of high-cost groups in central rural China.	Insurance (expanded benefits/enhanced compensation)

Full citation	Study aim	Primary intervention category/ies examined
Li, Y., Duan, G., Xiong, L., 2020. Analysis of the effect of serious illness medical insurance on relieving the economic burden of rural residents in China: a case study in Jinzhai County. BMC Health Serv Res 20, 809. https://doi.org/10.1186/s12913-020-05675-8	Analysed the effect of the implementation of serious illness medical insurance on alleviating the economic burden of rural residents in Jinzhai County.	Insurance (expanded benefits/enhanced compensation)
Li, Zhihui, Wang, H., Chen, S., Kong, Y., Xie, L., Zhang, X., Lu, C., Subramanian, S.V., Cohen, J.L., Atun, R., 2023. The association of a disability-targeted cash transfer programme with disability status and health-care access: a quasi-experimental study using a nationwide cohort of 43 million Chinese adults living with severe disabilities. Lancet Public Health 8, e933–e942. https://doi.org/10.1016/S2468-2667(23)00215-3	Investigated the association between China's disability-targeted cash transfer programme and disability status, as well as equitable access to rehabilitation and medical services.	Social protection
Li, Zhipeng, Chen, Y., Ding, J., 2023. Health Poverty Alleviation Project in Rural China: Impact on Poverty Vulnerability, Health Status, Healthcare Utilisation, Health Expenditures. Risk Manag Healthc Policy 16, 2685–2702. https://doi.org/10.2147/RMHP.S438352	Examined Health Poverty Alleviation Project's (HPAP) enduring impact on poverty reduction and potential moral hazard.	Complex reform (Health Poverty Alleviation Programme)
Liu, K., Liu, W., He, A.J., 2023. Evaluating health policies with subnational disparities: a text-mining analysis of the Urban Employee Basic Medical Insurance Scheme in China. Health Policy Plan 38, 83–96. https://doi.org/10.1093/heapol/czac086	To examine the impacts of China's Urban Employee Basic Medical Insurance (UEBMI) on individuals' OOPE.	Insurance (SHI)
Liu, K., Yang, J., Lu, C., 2017. Is the medical financial assistance program an effective supplement to social health insurance for low-income households in China? A cross-sectional study. Int J Equity Health 16, 138. https://doi.org/10.1186/s12939-017-0638-3	Investigated associations between MFA subvention for SHI enrollment, MFA cash aid and CHE, and SHI enrollment and CHE in low-income households.	Demand side financing and Insurance (SHI)
Liu, K., Zhang, Q., He, A.J., 2021. The impacts of multiple healthcare reforms on catastrophic health spending for poor households in China. Soc Sci Med 285, 114271. https://doi.org/10.1016/j.socscimed.2021.114271	Examined how multiple healthcare reforms affected catastrophic health spending of low- income households in China.	Complex reform (New Health Care Reform)
Liu, Y., Gou, L., Guo, Z., Wu, Z., He, Q., Feng, H., Hu, M., 2023. Evaluation of the implementation effect of hepatitis C medical insurance reimbursement policy in China: A RWS based on medical institutions. Front Public Health 10,	To evaluate the implementation effect of hepatitis C medical insurance reimbursement policy in China from the view of medical institutions.	Reducing costs and increasing access to medicines

Full citation	Study aim	Primary intervention category/ies examined
1072493. https://doi.org/10.3389/fpubh.2022.1072493		
Ma, G., Xu, K., 2022. Value-Based Health Care: Long-Term Care Insurance for Out-of-Pocket Medical Expenses and Self-Rated Health. Int J Environ Res Public Health 20, 192. https://doi.org/10.3390/ijerph20010192	Examined whether LTCI reduces OOPE and aligns with value-based healthcare.	Insurance (VHI)
Ma, J., Xu, J., Zhang, Z., Wang, J., 2016. New cooperative medical scheme decreased financial burden but expanded the gap of income-related inequity: evidence from three provinces in rural China. Int J Equity Health 15, 72. https://doi.org/10.1186/s12939-016-0361-5	Examined the protection effectiveness of NCMS by analysing the health care utilisation medical expenditures, and investigated the protection fairness by comparing the changes in the prevalence of CHE and its concentration indices among different income-level household groups, between pre- and post-NCMS reimbursement	Insurance (SHI)
Ma, M., Tian, W., Kang, J., Li, Yuze, Xia, Q., Wang, N., Miao, W., Zhang, X., Zhang, Y., Shi, B., Gao, H., Sun, T., Fu, X., Hao, Y., Li, H., Shan, L., Wu, Q., Li, Ye, 2021. Does the medical insurance system play a real role in reducing catastrophic economic burden in elderly patients with cardiovascular disease in China? Implication for accurately targeting vulnerable characteristics. Global Health 17, 36. https://doi.org/10.1186/s12992-021-00683-7	Estimated the economic burden of cardiovascular disease and identified weaknesses in the design of medical insurance.	Insurance (SHI)
Meng, Z., Zhu, M., Cai, Y., Cao, X., Wu, H., 2019a. Effect of a typical systemic hospital reform on inpatient expenditure for rural population: the Sanming model in China. BMC Health Serv Res 19, 231. https://doi.org/10.1186/s12913-019-4048-7	Analysed the systemic reform's impact on the financial burden and length of stay for the rural population in Sanming.	Provider payment reforms
Meng, Z., Zou, K., Ding, N., Zhu, M., Cai, Y., Wu, H., 2019b. Cesarean delivery rates, costs and readmission of childbirth in the new cooperative medical scheme after implementation of an episode-based bundled payment (EBP) policy. BMC Public Health 19, 557. https://doi.org/10.1186/s12889-019-6962-3	Investigated the effects of episode-based bundled payment on cesarean delivery rates and childbirth costs in rural China.	Provider payment reforms
Meng, Z., Zou, K., Song, S., Wu, H., Han, Y., 2022. Associations of Chinese diagnosis-related group systems with inpatient expenditures for older people with hip fracture. BMC Geriatr 22, 169. https://doi.org/10.1186/s12877-022-02865-3	Evaluated the associations of the Chinese diagnosis-related group system with inpatient expenditures for older adults with hip fractures.	Provider payment reforms

Full citation	Study aim	Primary intervention category/ies examined
Miao, Y., Gu, J., Zhang, L., He, R., Sandeep, S., Wu, J., 2018. Improving the performance of social health insurance system through increasing outpatient expenditure reimbursement ratio: a quasi-experimental evaluation study from rural China. Int J Equity Health 17, 89. https://doi.org/10.1186/s12939-018-0799-8	Estimated the effects of SHI reforms on medical utilisation, expenditures, reimbursement, and health outcomes.	Insurance (expanded benefits/enhanced compensation)
Pan, Y., Zhong, W.-F., Yin, R., Zheng, M., Xie, K., Cheng, S.-Y., Ling, L., Chen, W., 2022. Does direct settlement of intra-province medical reimbursements improve financial protection among middle-aged and elderly population in China? Evidence based on CHARLS data. Soc Sci Med 308, 115187. https://doi.org/10.1016/j.socscimed.2022.115187	Evaluated the impact of China's policy on direct settlement of intra-provincial medical reimbursements on financial protection for people aged 45+.	Demand side financing
Peng, Z., Zhu, L., 2021. The impacts of health insurance on financial strain for people with chronic diseases. BMC Public Health 21, 1012. https://doi.org/10.1186/s12889-021-11075-2	Compared the impacts of public and private health insurance on financial barriers for people with chronic diseases.	Insurance (SHI and VHI)
Qiu, Q., Li, Y., Duan, X., Yang, L., Chen, Y., Li, H., Wang, L., Duan, Z., 2014. Impact of a new reimbursement program on hepatitis B antiviral medication cost and utilisation in Beijing, China. PLoS One 9, e109652. https://doi.org/10.1371/journal.pone.0109652	Described medical costs and utilisation rates of antiviral therapy for chronic hepatitis B (CHB) patients and explored the impact of a partial reimbursement policy.	Reducing costs and increasing access to medicines
Shi, W., Chongsuvivatwong, V., Geater, A., Zhang, J., Zhang, H., Brombal, D., 2010. The influence of the rural health security schemes on health utilisation and household impoverishment in rural China: data from a household survey of western and central China. Int J Equity Health 9, 7. https://doi.org/10.1186/1475-9276-9-7	Documented NCMS and Medical Financial Assistance (MFA) coverage and assessed their effects on access to care and financial protection.	Demand side financing and Insurance (SHI)
Sun, C.-Y., Shi, J.-F., Fu, W.-Q., Zhang, X., Liu, G.-X., Chen, W.-Q., He, J., 2021. Catastrophic health expenditure and its determinants in households with lung cancer patients in China: a retrospective cohort study. BMC Cancer 21, 1323. https://doi.org/10.1186/s12885-021-09030-w	Assessed medical expenditure and CHE among households with lung cancer patients in China following implementation of URBMI and NCMS.	Insurance (SHI)
Sun, J., Liabsuetrakul, T., Fan, Y., McNeil, E., 2015. Protecting patients with cardiovascular diseases from catastrophic health expenditure and impoverishment by health finance reform. Trop Med Int Health 20, 1846–1854. https://doi.org/10.1111/tmi.12611	Compared the risk protection of NCMS alone vs. NCMS + NEMS for patients with cardiovascular diseases in rural China.	Reducing costs and increasing access to medicines

Full citation	Study aim	Primary intervention category/ies examined
Sun, M., Shen, J.J., Li, C., Cochran, C., Wang, Y., Chen, F., Li, P., Lu, J., Chang, F., Li, X., Hao, M., 2016. Effects of China's New Rural Cooperative Medical Scheme on reducing medical impoverishment in rural Yanbian: An alternative approach. BMC Health Serv Res 16, 422. https://doi.org/10.1186/s12913-016-1660-7	Measured poverty headcount ratio and poverty gap to examine whether NCMS alleviated medical impoverishment in rural Yanbian.	Insurance (SHI)
Sun, X., Jackson, S., Carmichael, G., Sleigh, A.C., 2009. Catastrophic medical payment and financial protection in rural China: evidence from the New Cooperative Medical Scheme in Shandong Province. Health Econ 18, 103–119. https://doi.org/10.1002/hec.1346	Measured the impact of NCMS on catastrophic payments among rural households in Shandong Province.	Insurance (SHI)
Tan, S.Y., Wu, X., Yang, W., 2019. Impacts of the type of social health insurance on health service utilisation and expenditures: implications for a unified system in China. Health Econ Policy Law 14, 468–486. https://doi.org/10.1017/S174413311800018X	Examined the impact of social health insurance generosity on healthcare utilisation and costs.	Insurance (SHI)
Tang, H., Li, M., Liu, L.Z., Zhou, Y., Liu, X., 2023. Changing inequity in health service utilisation and financial burden among patients with hypertension in China: evidence from China Health and Retirement Longitudinal Study (CHARLS), 2011-2018. Int J Equity Health 22, 246. https://doi.org/10.1186/s12939-023-02062-7	Evaluated whether the health system reform improved equity in utilisation and financial burden of health services among patients with hypertension in China	Complex reform (New Health Care Reform)
Tsuei, S.H.-T., Yip, W.C.-M., 2024. How hospital autonomy affects provider payment reform effectiveness. Int J Health Plann Manage. https://doi.org/10.1002/hpm.3806	Assessed how automony through changed payment system moderated the intervention's effect.	Provider payment reforms
Wagstaff, A., Lindelow, M., Jun, G., Ling, X., Juncheng, Q., 2009. Extending health insurance to the rural population: an impact evaluation of China's new cooperative medical scheme. J Health Econ 28, 1–19. https://doi.org/10.1016/j.jhealeco.2008.10.007	Estimated the impacts of a health reform project combining supply-side interventions with demand-side measures like MFA for the poorest.	Insurance (SHI)
Wagstaff, A., Yu, S., 2007. Do health sector reforms have their intended impacts? The World Bank's Health VIII project in Gansu province, China. J Health Econ 26, 505–535. https://doi.org/10.1016/j.jhealeco.2006.10.006	Assessed the impact of NCMS on health expenditures in rural China.	Insurance (SHI)
Wang, H., Li, Z., Chen, S., Qin, W., Xie, L., Kong, Y., Cohen, J., Lu, C., Liang, W., 2023. The effect of a disability-targeted cash transfer program on universal health coverage and universal access to education: a nationwide cohort study of Chinese children and adolescents with disabilities. Lancet Reg Health West Pac 31, 100635. https://doi.org/10.1016/j.lanwpc.2022.100635	Estimated the impact of modifications to China's New Cooperative Medical Scheme (NCMS) on financial protection against chronic disease (breast cancer treatment costs and OOPE) in rural areas.	Insurance (expanded benefits/enhanced compensation)

Full citation	Study aim	Primary intervention category/ies examined
Wang, J., Chen, L., Ye, T., Zhang, Z., Ma, J., 2014. Financial protection effects of modification of China's New Cooperative Medical Scheme on rural households with chronic diseases. BMC Health Serv Res 14, 305. https://doi.org/10.1186/1472-6963-14-305	Evaluated the impact of social health insurance on healthcare utilisation and costs among middle-aged and elderly adults in China.	Insurance (SHI)
Wang, J., Zhu, H., Liu, H., Wu, K., Zhang, X., Zhao, M., Yin, H., Qi, X., Hao, Y., Li, Y., Liang, L., Jiao, M., Xu, J., Liu, B., Wu, Q., Shan, L., 2020. Can the reform of integrating health insurance reduce inequity in catastrophic health expenditure? Evidence from China. Int J Equity Health 19, 49. https://doi.org/10.1186/s12939-020-1145-5	Assessed whether the URRBMI policy intervention (integrating URBMI and NCMS) reduces inequity in CHE and identify key determinants of CHE inequity in China	Insurance integration/overarching insurance
Wang, Y., Zhu, Y., Shi, H., Sun, X., Chen, N., Li, X., 2019. The Effect of the Full Coverage of Essential Medicines Policy on Utilisation and Accessibility of Primary Healthcare Service for Rural Seniors: A Time Series Study in Qidong, China. Int J Environ Res Public Health 16, 4316. https://doi.org/10.3390/ijerph16224316	Examined the long-term effects of the introduction of the Full Coverage of Essential Medicines Policy on the utilisation and accessibility of primary healthcare service for elderly beneficiaries	Reducing costs and increasing access to medicines
Wang, Z., Li, X., Chen, M., Si, L., 2018. Social health insurance, healthcare utilisation, and costs in middle-aged and elderly community-dwelling adults in China. Int J Equity Health 17, 17. https://doi.org/10.1186/s12939-018-0733-0	Investigated whether a disability-targeted cash transfer (CT) program is associated with improved access to healthcare and education for children and adolescents with disabilities	Social protection
Wu, J., He, X., Feng, X.L., 2022. Can case-based payment contain healthcare costs? - A curious case from China. Soc Sci Med 312, 115384. https://doi.org/10.1016/j.socscimed.2022.115384	Examined the expansion of private health insurance within China's social health insurance (SHI) system and its impact on inequities in healthcare utilisation, including the extent to which PHI contributes to horizontal and geographical health inequities and how the prevalence of PHI affects healthcare utilisation in the wider community.	Insurance (VHI)
Wu, R., Ercia, A., 2021. Analysing the impact of private health insurance on inequities in health care utilisation: a longitudinal study from China. Health Policy Plan 36, 1593–1604. https://doi.org/10.1093/heapol/czab107	Evaluated the impact of a case-based payment pilot on hospital admissions, treatment patterns, and costs for coronary heart diseases.	Provider payment reforms
Xiang, L., Pan, Y., Hou, S., Zhang, H., Sato, K.D., Li, Q., Wang, J., Tang, S., 2016. The impact of the new cooperative medical scheme on financial burden of tuberculosis patients: evidence from six counties in China. Infect Dis Poverty 5, 8. https://doi.org/10.1186/s40249-015-0094-5	Measured reimbursement for TB services under the New Cooperative Medical Scheme (NCMS) in rural China and to evaluate changes in CHE caused by the reimbursement policies	Insurance (expanded benefits/enhanced compensation)

Full citation	Study aim	Primary intervention category/ies examined
Xiang, X., Dong, L., Qi, M., Wang, H., 2024. How does diagnosis-related group payment impact the health care received by rural residents? Lessons learned from China. Public Health 232, 68–73. https://doi.org/10.1016/j.puhe.2024.04.021	Examined the impact of DRG payments on healthcare received by rural residents and informed policymakers on implementation strategies in LMICs.	Provider payment reforms
Xin, Y.-J., Xiang, L., Jiang, J.-N., Lucas, H., Tang, S.-L., Huang, F., 2019. The impact of increased reimbursement rates under the new cooperative medical scheme on the financial burden of tuberculosis patients. Infect Dis Poverty 8, 67. https://doi.org/10.1186/s40249-019-0575-z	Explored how financial reform affects the financial burden on TB patients through comparison with baseline data.	Provider payment reforms
Xiong, X., Zhang, Z., Ren, J., Zhang, J., Pan, X., Zhang, L., Gong, S., Jin, S., 2018. Impact of universal medical insurance system on the accessibility of medical service supply and affordability of patients in China. PLoS One 13, e0193273. https://doi.org/10.1371/journal.pone.0193273	Analysed the impact of Universal Medical Insurance System (UMIS) on medical supply, economic burden, and patient care-seeking behavior.	Insurance (SHI)
Xu, Y., Garrib, A., Zhou, Z., Wang, D., Gao, J., Yang, X., Fan, X., Chen, G., 2019. New Health Care Reform and Impoverishment among Chronic Households in China: A Random-Intercept Approach. Int J Environ Res Public Health 16. https://doi.org/10.3390/ijerph16061074	Investigated the occurrence of impoverishment in urban and rural areas before and after NHCR (in which PHCs were directed to prescribe drugs only from the National Essential Medicines List (NEML) and the supplementary provincial essential medicines list), and its determinants.	Reducing costs and increasing access to medicines
Xu, Y., Ma, J., Wu, N., Fan, X., Zhang, T., Zhou, Z., Gao, J., Ren, J., Chen, G., 2018. Catastrophic health expenditure in households with chronic disease patients: A pre-post comparison of the New Health Care Reform in Shaanxi Province, China. PLoS One 13, e0194539. https://doi.org/10.1371/journal.pone.0194539	Examined the effect of the New Health Care Reform (NHCR) reform on CHE by comparing the occurrence and inequality of CHE among households with chronic diseases patients before and after the reform	Complex reform (New Health Care Reform)
Xue, Q., Witvorapong, N., 2023. Impacts of health insurance on health care utilisation **and health behaviors among older people in China. CHINA ECONOMIC JOURNAL 16, 80–99. https://doi.org/10.1080/17538963.2022.2094585**	Investigated the effect of health insurance on healthcare utilisation and health behaviors of older people in China.	Insurance (SHI)
Yang, F., Chen, M., Si, L., 2022. What can we learn from China's health insurance reform to improve the horizontal equity of healthcare financing? Int J Equity Health 21, 170. https://doi.org/10.1186/s12939-022-01793-3	Examined the horizontal equity of healthcare finance in 2002 and 2007 in a Chinese province.	Insurance (SHI)

Full citation	Study aim	Primary intervention category/ies examined
Yang, W., Wu, X., 2015. Paying for outpatient care in rural China: cost escalation under China's New Co-operative Medical Scheme. Health Policy Plan 30, 187–196. https://doi.org/10.1093/heapol/czt111	Investigated the impact of NCMS outpatient service coverage expansion on outpatient costs.	Insurance (expanded benefits/enhanced compensation)
Yang, Y., Zhang, Y., Wagner, A.K., Li, H., Shi, L., Guan, X., 2023. The impact of government reimbursement negotiation on targeted anticancer medicines use and cost in China: A cohort study based on national health insurance data. J Glob Health 13, 04083. https://doi.org/10.7189/jogh.13.04083	Examined how national price negotiation and reimbursement policy affect the accessibility of targeted anticancer medicines (TAMs) for cancer patients	Reducing costs and increasing access to medicines
You, H., Gu, H., Ning, W., Zhou, H., Dong, H., 2016. Comparing Maternal Services Utilisation and Expense Reimbursement before and after the Adjustment of the New Rural Cooperative Medical Scheme Policy in Rural China. PLoS One 11, e0158473. https://doi.org/10.1371/journal.pone.0158473	Examined the association between the NCMS maternal-services policy adjustment and expense reimbursement in Yuyao, China.	Insurance (expanded benefits/enhanced compensation)
Yu, B., Zhang, X., Wang, G., 2013. Full coverage for hypertension drugs in rural communities in China. Am J Manag Care 19, E22–E27.	Evaluated the impact of full coverage for hypertension drugs on adherence to medication, medical costs, and hypertension control in Shandong Province, China	Reducing costs and increasing access to medicines
Yu, M., Zhong, J., Hu, R., Chen, X., Wang, C., Xie, K., Guzman, M., Gui, X., Kong, S.T.-J., Qu, T., Eggleston, K., 2021. The Impact of Catastrophic Medical Insurance in China: A five-year patient-level panel study. Lancet Reg Health West Pac 13, 100174. https://doi.org/10.1016/j.lanwpc.2021.100174	Studied the impact of Catastrophic Medical Insurance (CMI) on patients' OOPE and health expenditure.	Insurance (expanded benefits/enhanced compensation)
Yuan, S., Liu, Y., Li, N., Zhang, Y., Zhang, Z., Tao, J., Shi, L., Quan, H., Lu, M., Ma, J., 2014. Impacts of health insurance benefit design on percutaneous coronary intervention use and inpatient costs among patients with acute myocardial infarction in Shanghai, China. Pharmacoeconomics 32, 265–275. https://doi.org/10.1007/s40273-013-0079-9	Examined health insurance benefit design impacts on PCI, stent use, inpatient costs, and OOPE for AMI patients.	Insurance (expanded benefits/enhanced compensation)
Zhai, S., Yuan, S., Dong, Q., 2021. The impact of health insurance on poverty among rural older adults: an evidence from nine counties of western China. Int J Equity Health 20, 47. https://doi.org/10.1186/s12939-021-01379-5	Assessed the impact of New Rural Cooperative Medical Scheme on alleviating poverty among rural older adults based on a survey in nine representative counties in western China	Insurance (SHI)

Full citation	Study aim	Primary intervention category/ies examined
Zhang, H., Ning, K., Wang, J., Fang, H., 2023. Research on the influence of patient cost-sharing on medical expenses and health outcomes: Taking patients with heart failure as an example. Front Public Health 11, 1121772. https://doi.org/10.3389/fpubh.2023.1121772	Assessed the impact of changes in patient cost-sharing on medical expenses and health outcomes of heart failure patients in Zhejiang province.	Insurance (expanded benefits/enhanced compensation)
Zhang, L., Li, S., Yi, H., d'Intignano, L.M., Ding, Y., 2016. Correlation Between New Cooperative Medical Scheme Policy Design and Catastrophic Medical Payment: Evidence From 25 Counties in Rural China. Asia Pac J Public Health 28, 26–38. https://doi.org/10.1177/1010539515612907	Investigated the association between NCMS policy design and its effectiveness in providing financial protection to rural residents.	Insurance (SHI)
Zhang, T., Liu, J., Wang, X., Liu, C., 2023. County Hospital Responses to Funding Reforms in Zhejiang, China: An Interrupted Time-Series Analysis. Health Syst Reform 9, 2258770. https://doi.org/10.1080/23288604.2023.2258770	Assessed the effects of a two-stage funding reform on service volume and expenditure at county hospitals in Zhejiang province.	Provider payment reforms
Zhang, T., Lu, B., Yan, Z., Huang, X., Lu, W., 2022. Impacts of a New Episode-Based Payment Scheme on Volume, Expenditures, and Efficiency in Public Hospitals: A Quasi-Experimental Interrupted Time-Series Study in Jinhua, China. Risk Manag Healthc Policy 15, 1659–1669. https://doi.org/10.2147/RMHP.S376516	Investigated the impacts of a new payment method on volume, expenditures, and efficiency in Chinese public hospitals.	Provider payment reforms
Zhang, Y., Dong, D., Xu, L., Miao, Z., Mao, W., Sloan, F., Tang, S., 2021. Ten-year impacts of China's rural health scheme: lessons for universal health coverage. BMJ Glob Health 6, e003714. https://doi.org/10.1136/bmjgh-2020-003714	Assessed the impact of changing NCMS policies on NCMS enrollees' service utilisation, medical financial burden and equity between 2003 and 2013.	Insurance (expanded benefits/enhanced compensation)
Zhang, Y., Ma, Q., Chen, Y., Gao, H., 2017. Effects of Public Hospital Reform on Inpatient Expenditures in Rural China. Health Econ 26, 421–430. https://doi.org/10.1002/hec.3320	Evaluated the effects of a public hospital pilot project in Hubei province on inpatient spending.	Shift in service delivery
Zhao, S.-W., Zhang, X.-Y., Dai, W., Ding, Y.-X., Chen, J.-Y., Fang, P.-Q., 2020. Effect of the catastrophic medical insurance on household catastrophic health expenditure: evidence from China. Gac Sanit 34, 370–376. https://doi.org/10.1016/j.gaceta.2018.10.005	Assessed the effect of catastrophic medical insurance on relieving CHE and impoverishment from catastrophic illnesses in urban and rural China.	Insurance (expanded benefits/enhanced compensation)
Zhong, Z., Jiang, J., Chen, S., Li, L., Xiang, L., 2021. Effect of critical illness insurance on the medical expenditures of rural patients in China: an interrupted time series study for universal health insurance coverage. BMJ Open 11, e036858. https://doi.org/10.1136/bmjopen-2020-036858	Examined whether critical illness insurance (CII) reduces OOP medical expenditures and improves the effective reimbursement rate in rural China.	Insurance (expanded benefits/enhanced compensation)

Full citation	Study aim	Primary intervention category/ies examined
Zhou, Jingjing, Zhang, Y., Sha, Y., Zhou, Jianfang, Ren, H., Shen, X., Xu, H., 2022. The Effect of the "Triple-Layer Medical Security" Policy on the Vulnerability as Expected Poverty of Rural Households: Evidence from Yunnan Province, China. Int J Environ Res Public Health 19, 12936. https://doi.org/10.3390/ijerph191912936	Examined the effect of Triple Medical Security (TMS) (which combines basic medical insurance, critical illness insurance, and medical assistance, targeting the poor with enhanced reimbursement rates and financial support) on vulnerability as expected poverty (VEP) in households.	Insurance integration/overarching insurance
Zhou, Q., Liu, G.G., Krumholz, S., 2017. Is Chinese National Health Insurance Effective in the Face of Severe Illness? A Perspective from Health Service Utilisation and Economic Burden. SOCIAL INDICATORS RESEARCH 132, 1307–1329. https://doi.org/10.1007/s11205-016-1330-5	Assessed the effect of national health insurance on service use and economic burden in urban areas.	Insurance (SHI)
Zhu, D., Shi, X., Chen, S., Ye, X., Nicholas, S., He, P., 2024. The role of primary health care in improving health status, financial protection and health equity in the context of China's health system reform. Int J Health Plann Manage 39, 311–328. https://doi.org/10.1002/hpm.3722	Investigated whether strengthening of primary healthcare (PHC) improved health outcomes, financial risk protection, and benefited impoverished groups.	Shift in service delivery
Zhu, Z., Wang, J., Sun, Y., Zhang, J., Han, P., Yang, L., 2022. The impact of zero markup drug policy on patients' healthcare utilisation and expense: An interrupted time series study. Front Med (Lausanne) 9, 928690. https://doi.org/10.3389/fmed.2022.928690	Evaluated the impact of the zero-markup drug policy (ZMDP) on healthcare expenditures and utilisation for inpatients.	Reducing costs and increasing access to medicines
Ruiz, F., Amaya, L., Venegas, S., 2007. Progressive segmented health insurance: Colombian health reform and access to health services. Health Econ 16, 3–18. https://doi.org/10.1002/hec.1147	This study was designed to collect and discuss empirical evidence of the effects of the social insurance policy adopted in the Colombian health reform.	Insurance integration/overarching insurance
Peresu, E., De Graeve, D., Heunis, J.C., Kigozi, N.G., 2024. Cost-consequence analysis of ambulatory clinic- and home-based multidrug-resistant tuberculosis management models in Eswatini. PLoS One 19, e0301507. https://doi.org/10.1371/journal.pone.0301507	Assessed costs and treatment success of clinic-based versus home-based MDR-TB care strategies.	Shift in service delivery
Mebratie, A.D., Sparrow, R., Yilma, Z., Abebaw, D., Alemu, G., Bedi, A.S., 2019. The impact of Ethiopia's pilot community based health insurance scheme on healthcare utilisation and cost of care. Soc Sci Med 220, 112–119. https://doi.org/10.1016/j.socscimed.2018.11.003	Identified the impact of a voluntary CBHI scheme on healthcare utilisation, cost of care and out-of-pocket expenditure.	Insurance (VHI)
Bauhoff, S., Hotchkiss, D.R., Smith, O., 2011. The impact of medical insurance for the poor in Georgia: a regression discontinuity approach. Health Econ 20, 1362–1378. https://doi.org/10.1002/hec.1673	Evaluated the impact of the Medical Insurance Program for the Poor (MIP) on utilisation, financial risk protection, and health behavior and management.	Insurance (PFHI)

Full citation	Study aim	Primary intervention category/ies examined
Gotsadze, G., Murphy, A., Shengelia, N., Zoidze, A., 2015a. Healthcare utilisation and expenditures for chronic and acute conditions in Georgia: does benefit package design matter? BMC Health Serv Res 15, 88. https://doi.org/10.1186/s12913-015-0755-x	Explore whether MIP affects utilisation and costs differently among chronic patients compared to those with acute health needs.	Insurance (PFHI)
Gotsadze, G., Zoidze, A., Rukhadze, N., Shengelia, N., Chkhaidze, N., 2015b. An impact evaluation of medical insurance for poor in Georgia: preliminary results and policy implications. Health Policy Plan 30, i2–i13. https://doi.org/10.1093/heapol/czu095	Assess the impact of the new health financing reform in Georgia, "Medical Insurance for the Poor (MIP)," on service utilisation and financial protection.	Insurance (PFHI)
Zoidze, A., Rukhazde, N., Chkhatarashvili, K., Gotsadze, G., 2013. Promoting universal financial protection: health insurance for the poor in Georgia--a case study. Health Res Policy Syst 11, 45. https://doi.org/10.1186/1478-4505-11-45	Assessed the impact of MIP on equity of access to essential health services and financial protection for MIP-targeted and general populations.	Insurance (PFHI)
Abrokwah, S.O., Moser, C.M., Norton, E.C., 2014. The effect of social health insurance on prenatal care: the case of Ghana. Int J Health Care Finance Econ 14, 385–406. https://doi.org/10.1007/s10754-014-9155-8	Studied how NHIS affects prenatal care use and expenditures, utilising district-level rollout as exogenous variation.	Insurance (SHI)
Aryeetey, G.C., Westeneng, J., Spaan, E., Jehu-Appiah, C., Agyepong, I.A., Baltussen, R., 2016. Can health insurance protect against out-of-pocket and catastrophic expenditures and also support poverty reduction? Evidence from Ghana's National Health Insurance Scheme. Int J Equity Health 15, 116. https://doi.org/10.1186/s12939-016-0401-1	Analysed the effect of health insurance on household OOPE, CHE, and poverty.	Insurance (SHI)
Brugiavini, A., Pace, N., 2016. Extending health insurance in Ghana: effects of the National Health Insurance Scheme on maternity care. Health Econ Rev 6, 7. https://doi.org/10.1186/s13561-016-0083-9	Investigated how NHIS affects utilisation of maternal health services and OOPE	Insurance (SHI)
Fiestas Navarrete, L., Ghislandi, S., Stuckler, D., Tediosi, F., 2019. Inequalities in the benefits of national health insurance on financial protection from out-of-pocket payments and access to health services: cross-sectional evidence from Ghana. Health Policy Plan 34, 694–705. https://doi.org/10.1093/heapol/czz093	Tested the impact of NHIS on utilisation and financial risk protection compared with non-enrollment.	Insurance (SHI)

Full citation	Study aim	Primary intervention category/ies examined
Frimpong, A.O., Amporfu, E., Arthur, E., 2021. Effect of the Ghana National Health Insurance Scheme on exit time from catastrophic healthcare expenditure. AFRICAN DEVELOPMENT REVIEW-REVUE AFRICAINE DE DEVELOPPEMENT 33, 492–505. https://doi.org/10.1111/1467-8268.12585	Estimated the average exit time from CHE and examined the effect of NHIS on exit time.	Insurance (SHI)
Kanmiki, E.W., Bawah, A.A., Phillips, J.F., Awoonor-Williams, J.K., Kachur, S.P., Asuming, P.O., Agula, C., Akazili, J., 2019. Out-of-pocket payment for primary healthcare in the era of national health insurance: Evidence from northern Ghana. PLoS One 14, e0221146. https://doi.org/10.1371/journal.pone.0221146	Assessed the impact of Ghana's national health insurance scheme (NHIS) on OOP payments.	Insurance (SHI)
Nguyen, H.T., Rajkotia, Y., Wang, H., 2011. The financial protection effect of Ghana National Health Insurance Scheme: evidence from a study in two rural districts. Int J Equity Health 10, 4. https://doi.org/10.1186/1475-9276-10-4	Evaluated the impact of the NHIS on household OOP and CHE.	Insurance (SHI)
Okoroh, J., Sarpong, D.O.-B., Essoun, S., Riviello, R., Harris, H., Weissman, J.S., 2020. Does insurance protect individuals from catastrophic payments for surgical care? An analysis of Ghana's National Health Insurance Scheme at Korle-Bu teaching Hospital. BMC Health Serv Res 20, 45. https://doi.org/10.1186/s12913-020-4887-2	Tested the hypothesis that insurance protects surgical patients from financial catastrophe.	Insurance (SHI)
Sarkodie, A.O., 2021. Effect of the National Health Insurance Scheme on Healthcare Utilisation and Out-of-Pocket Payment: Evidence from GLSS 7. HUMANITIES & SOCIAL SCIENCES COMMUNICATIONS 8, 293. https://doi.org/10.1057/s41599-021-00984-7	Investigated the effect of NHIS on healthcare utilisation and out-of-pocket payments from providers' perspectives.	Insurance (SHI)
Aashima, Sharma, R., 2024. Is health insurance really benefitting Indian population? Evidence from a nationally representative sample survey. Int J Health Plann Manage 39, 293–310. https://doi.org/10.1002/hpm.3716	Assessed the impact of health insurance on inpatient care utilisation, OOPE, CHE, and impoverishment in India.	Insurance (SHI, VHI, and Insurance integration/overarching insurance)
Aggarwal, A., 2010. Impact evaluation of India's "Yeshasvini" community-based health insurance programme. Health Econ 19, 5–35. https://doi.org/10.1002/hec.1605	Evaluated the health and economic impacts of the Yeshasvini community-based health insurance program on health and economic outcomes.	Insurance (VHI)
Ahmed, S., Mahapatro, S.R., 2023. Examining the Effectiveness of Financial Protection Schemes in Reducing Health Inequality. Int J Soc Determinants Health Health Serv 53, 444–454. https://doi.org/10.1177/27551938231179046	Analysed the effect of insurance coverage on OOPE and assessed subsidy distribution across income groups.	Insurance integration/overarching insurance

Full citation	Study aim	Primary intervention category/ies examined
Bose, M., Dutta, A., 2018. Health financing strategies to reduce out-of-pocket burden in India: a comparative study of three states. BMC Health Serv Res 18, 830. https://doi.org/10.1186/s12913-018-3633-5	To study utilisation patterns of public inpatient care facilities, effectiveness of strategies to reduce OOPE, and equity in services in Indian states	Reducing costs and increasing access to medicines
Choudhary, T.S., Mazumder, S., Haaland, O.A., Taneja, S., Bahl, R., Martines, J., Bhan, M.K., Norheim, O.F., Sommerfelt, H., Bhandari, N., Johansson, K.A., 2022. Effect of kangaroo mother care initiated in community settings on financial risk protection of low-income households: a randomised controlled trial in Haryana, India. BMJ Glob Health 7, e010000. https://doi.org/10.1136/bmjgh-2022-010000	Assessed the effect of community-initiated Kangaroo Mother Care on financial risk protection for low birthweight infants.	Behaviour change
Dror, D.M., Chakraborty, A., Majumdar, A., Panda, P., Koren, R., 2016. Impact of community-based health insurance in rural India on self-medication & financial protection of the insured. Indian J Med Res 143, 809–820. https://doi.org/10.4103/0971-5916.192075	Analysed the impact of CBHI on self-medication and financial position in rural Uttar Pradesh and Bihar.	Insurance (VHI)
Fan, V.Y., Karan, A., Mahal, A., 2012. State health insurance and out-of-pocket health expenditures in Andhra Pradesh, India. Int J Health Care Finance Econ 12, 189–215. https://doi.org/10.1007/s10754-012-9110-5	Evaluated the impact of the Aarogyasri health insurance program on the reduction of CHE in households below the poverty line.	Insurance (PFHI)
Garg, S., Bebarta, K.K., Tripathi, N., 2020. Performance of India's national publicly funded health insurance scheme, Pradhan Mantri Jan Arogaya Yojana (PMJAY), in improving access and financial protection for hospital care: findings from household surveys in Chhattisgarh state. BMC Public Health 20, 949. https://doi.org/10.1186/s12889-020-09107-4	Examined the effect of enrollment under PMJAY on hospital utilisation and financial protection in Chhattisgarh.	Insurance (PFHI)
Garg, S., Bebarta, K.K., Tripathi, N., 2022a. Household expenditure on non-Covid hospitalisation care during the Covid-19 pandemic and the role of financial protection policies in India. Arch Public Health 80, 108. https://doi.org/10.1186/s13690-022-00857-8	Examined the change in access and financial protection for non-Covid hospitalisations during the Covid-19 pandemic in Chhattisgarh state and examined the performance of PFHI (publicly funded health insurance) in this context.	Insurance (PFHI)
Garg, S., Bebarta, K.K., Tripathi, N., 2022b. Role of publicly funded health insurance in financial protection of the elderly from hospitalisation expenditure in India-findings from the longitudinal aging study. BMC Geriatr 22, 572. https://doi.org/10.1186/s12877-022-03266-2	Examined the effects of PFHI on financial protection among the elderly.	Insurance (PFHI)

Full citation	Study aim	Primary intervention category/ies examined
Garg, S., Chowdhury, S., Sundararaman, T., 2019. Utilisation and financial protection for hospital care under publicly funded health insurance in three states in Southern India. BMC Health Serv Res 19, 1004. https://doi.org/10.1186/s12913-019-4849-8	Examined the performance of PFHI in providing financial protection for the elderly in India.	Insurance (PFHI)
Gopalan, S.S., Durairaj, V., 2012. Addressing maternal healthcare through demand side financial incentives: experience of Janani Suraksha Yojana program in India. BMC Health Serv Res 12, 319. https://doi.org/10.1186/1472-6963-12-319	Explored the impact of the Janani Suraksha Yojana (JSY) program on financial access to maternal healthcare, OOPS, and provider motivations.	Demand side financing
Kundu, D., Sharma, N., Chadha, S., Laokri, S., Awungafac, G., Jiang, L., Asaria, M., 2018. Analysis of multi drug resistant tuberculosis (MDR-TB) financial protection policy: MDR-TB health insurance schemes, in Chhattisgarh state, India. Health Econ Rev 8, 3. https://doi.org/10.1186/s13561-018-0187-5	Investigated the implementation gap between policy and practice of MDR-TB benefit packages in Chhattisgarh, focusing on equity.	Insurance (expanded benefits/enhanced compensation)
Maroof, S.A.U., Sangmi, M.-D., 2021. Assessing financial impact of a health intervention program and controlling spillover effects. DECISION 48, 15–25. https://doi.org/10.1007/s40622-020-00257-3	Assessed the impact of Rashtriya Swasthya Bima Yojana (RSBY), launched in 2008, on providing subsidized healthcare access for the poor.	Insurance (PFHI)
Mukherjee, S., Singh, A., 2018. Has the Janani Suraksha Yojana (a conditional maternity benefit transfer scheme) succeeded in reducing the economic burden of maternity in rural India? Evidence from the Varanasi district of Uttar Pradesh. J Public Health Res 7, 957. https://doi.org/10.4081/jphr.2018.957	Examined the extent to which JSY reduces catastrophic expenditure on maternity care and the adequacy of incentives to cover household costs.	Demand side financing
Parmar, D., Strupat, C., Srivastava, S., Brenner, S., Parisi, D., Ziegler, S., Neogi, R., Walsh, C., De Allegri, M., 2023. Effects of the Indian National Health Insurance Scheme (PM-JAY) on Hospitalisations, Out-of-pocket Expenditures and Catastrophic Expenditures. Health Syst Reform 9, 2227430. https://doi.org/10.1080/23288604.2023.2227430	Examined how PM-JAY has affected hospitalisations and OOPE across public and private facilities.	Insurance (PFHI)
Ranjan, A., Dixit, P., Mukhopadhyay, I., Thiagarajan, S., 2018. Effectiveness of government strategies for financial protection against costs of hospitalisation Care in India. BMC Public Health 18, 501. https://doi.org/10.1186/s12889-018-5431-8	Assessed the coverage and effectiveness of government purchasing through insurance and tax-funded care for financial protection, PFHI's role in reducing CHE, and the equity dimensions of these strategies.	Insurance (PFHI)

Full citation	Study aim	Primary intervention category/ies examined
Raza, W.A., van de Poel, E., Bedi, A., Rutten, F., 2016. Impact of Community-based Health Insurance on Access and Financial Protection: Evidence from Three Randomized Control Trials in Rural India. Health Econ 25, 675–687. https://doi.org/10.1002/hec.3307	Evaluated the effects of three CBHI schemes on healthcare utilisation and expenditure.	Insurance (VHI)
Savitha, B., K B, K., 2015. Microhealth insurance and the risk coping strategies for the management of illness in Karnataka: a case study. Int J Health Plann Manage 30, 145–163. https://doi.org/10.1002/hpm.2216	Assessed the effect of the Sampoorna Suraksha Programme (SSP) on financial protection, including OOPE and CHE.	Insurance (VHI)
Savitha, S., Kiran, K.B., 2015. Effectiveness of micro health insurance on financial protection: Evidence from India. Int J Health Econ Manag 15, 53–71. https://doi.org/10.1007/s10754-014-9158-5	Evaluated the impact of Sampoorna Suraksha Program and the risk coping strategies of households faced with medical illness in Karnataka state, India	Insurance (VHI)
Sood, N., Bendavid, E., Mukherji, A., Wagner, Z., Nagpal, S., Mullen, P., 2014. Government health insurance for people below poverty line in India: quasi-experimental evaluation of insurance and health outcomes. BMJ 349, g5114. https://doi.org/10.1136/bmj.g5114	Evaluated the effects of Karnataka's Vajpayee Arogyashree tertiary care insurance program on OOPE, hospital use, and mortality.	Insurance (PFHI)
Sriram, S., Khan, M.M., 2020. Effect of health insurance program for the poor on out-of-pocket inpatient care cost in India: evidence from a nationally representative cross-sectional survey. BMC Health Serv Res 20, 839. https://doi.org/10.1186/s12913-020-05692-7	Examined the effect of Public Health Insurance Programs for the Poor on hospitalisations and inpatient OOP.	Insurance (PFHI)
Tripathi, N., Saini, S.K., Prinja, S., 2014. Impact of Janani Shishu Suraksha Karyakram on Out-of-pocket Expenditure among Urban Slum Dwellers in Northern India. Indian Pediatr 51, 475–477. https://doi.org/10.1007/s13312-014-0430-z	Assessed the impact of Janani Shishu Suraksha Karyakram (JSSK) on OOPE for childbirth among urban slum dwellers.	User fee reforms
Aji, B., De Allegri, M., Souares, A., Sauerborn, R., 2013. The impact of health insurance programs on out-of-pocket expenditures in Indonesia: an increase or a decrease? Int J Environ Res Public Health 10, 2995–3013. https://doi.org/10.3390/ijerph10072995	Investigated the impact of health insurance programs on reducing OOPE.	Insurance (PFHI and SHI)
Sparrow, R., Suryahadi, A., Widyanti, W., 2013. Social health insurance for the poor: Targeting and impact of Indonesia's Askeskin programme. Soc Sci Med 96, 264–271. https://doi.org/10.1016/j.socscimed.2012.09.043	Analysed the impact and targeting effectiveness of the Askeskin subsidized social health insurance program.	Insurance (SHI)

Full citation	Study aim	Primary intervention category/ies examined
Ahmadnezhad, E., Dastan, I., Alvandi, R., Abdi, Z., 2023. The impact of health reform on poverty estimates in Iran: Implications for monitoring the first goal of Sustainable Development Goals. Int J Health Plann Manage 38, 747–758. https://doi.org/10.1002/hpm.3622	Investigated impoverishment due to OOP payments and the impact on poverty pre- and post-HTP.	Complex reform (Health Transformation Plan)
Ahmadnezhad, E., Murphy, A., Alvandi, R., Abdi, Z., 2019. The impact of health reform in Iran on catastrophic health expenditures: Equity and policy implications. Int J Health Plann Manage 34, e1833–e1845. https://doi.org/10.1002/hpm.2900	Investigated the impact of the Health Transformation Plan (HTP) on the level and pattern of OOPE and CHE.	Complex reform (Health Transformation Plan)
Assari Arani, A., Atashbar, T., Antoun, J., Bossert, T., 2018. Iran's Health Reform Plan: Measuring Changes in Equity Indices. Iran J Public Health 47, 390–396.	Evaluated the effects of two years of implementation of the Health Sector Evolution Plan (HSEP) on health equity indices.	Complex reform (Health Transformation Plan)
Darvishi, B., Behzadifar, Masoud, Ghanbari, M.K., Ehsanzadeh, S.J., Bakhtiari, A., Behzadifar, Meysam, Azari, S., Bragazzi, N.L., 2021. Financial Protection Indexes and the Iranian Health Transformation Plan: A Systematic Review. Yale J Biol Med 94, 465–476.	Systematically investigated the impact of HTP on OOPE and CHE after implementation.	Complex reform (Health Transformation Plan)
Esmaeili, R., Rouhani, S., Yazdani Charati, J., Khandehroo, M., 2021. Change in health spending after implementation of a health transformation plan in Iran: an interrupted time series analysis. Cost Eff Resour Alloc 19, 32. https://doi.org/10.1186/s12962-021-00286-4	Evaluated the impact of HTP on health spending in Iran.	Complex reform (Health Transformation Plan)
Homaie Rad, E., Delavari, S., Aeenparast, A., Afkar, A., Farzadi, F., Maftoon, F., 2017. Does Economic Instability Affect Healthcare Provision? Evidence Based on the Urban Family Physician Program in Iran. Korean J Fam Med 38, 296–302. https://doi.org/10.4082/kjfm.2017.38.5.296	Evaluated the effects of Iran's urban family physician plan during a period of national economic instability, examining the effect of an economic crisis on the healthcare program.	Shift in service delivery
Joshani Kheibari, M., Esmaeili, R., Kazemian, M., 2019. Impacts of Health Reform Plan in Iran on Health Payments Distributions and Catastrophic Expenditure. Iran J Public Health 48, 1861–1869.	Evaluated the 2014-2016 health system reform on health payment distribution trends from 2010-2016.	Complex reform (Health Transformation Plan)
Malekroudi, S.M.H., Mohtasham-Amiri, Z., Rad, E.H., 2023. Iranian Health Transformation Plan in Physiotherapy Services: Comparison of Household Based Financial Outcomes. JOURNAL OF HEALTH RESEARCH 37, 163–168. https://doi.org/10.56808/2586-940X.1012	Researched HTP's effects on financial outcomes of physiotherapy services, including OOP payments and CHE.	Complex reform (Health Transformation Plan)

Full citation	Study aim	Primary intervention category/ies examined
Mohammadzadeh, Y., Sheikhmali, A., Yahyavi Dizaj, J., Mosadeghrad, A.M., Yusefzadeh, H., Refah Kahriz, A., 2023. The impact of government subsidy programs on equity in health financing. Cost Eff Resour Alloc 21, 54. https://doi.org/10.1186/s12962-023-00460-w	Examined the impact of government subsidy programs (HTP and energy subsidy reform) on equity in health financing.	Complex reform (Health Transformation Plan)
Nemati, E., Khezri, A., Nosratnejad, S., 2020. The Study of Out-of-pocket Payment and the Exposure of Households with Catastrophic Health Expenditures Following the Health Transformation Plan in Iran. Risk Manag Healthc Policy 13, 1677–1685. https://doi.org/10.2147/RMHP.S264943	Assessed OOP payments and CHE exposure among households in Tabriz after the HTP implementation.	Complex reform (Health Transformation Plan)
Obare, F., Warren, C., Kanya, L., Abuya, T., Bellows, B., 2015. Community-level effect of the reproductive health vouchers program on out-of-pocket spending on family planning and safe motherhood services in Kenya. BMC Health Serv Res 15, 343. https://doi.org/10.1186/s12913-015-1000-3	Examined changes in the likelihood of paying OOP and amounts paid for family planning, antenatal care, delivery, and postnatal care services at health facilities over time among women in voucher and non-voucher sites.	Demand side financing
Oyando, R., Were, V., Koros, H., Mugo, R., Kamano, J., Etyang, A., Murphy, A., Hanson, K., Perel, P., Barasa, E., 2023. Evaluating the effectiveness of the National Health Insurance Fund in providing financial protection to households with hypertension and diabetes patients in Kenya. Int J Equity Health 22, 107. https://doi.org/10.1186/s12939-023-01923-5	Measured the share of household expenditure on healthcare, incidence of CHE, and effectiveness of NHIF in protecting households with hypertension/diabetes in Kenya.	Insurance (expanded benefits/enhanced compensation)
Alkenbrack, S., Lindelow, M., 2015. The impact of community-based health insurance on utilisation and out-of-pocket expenditures in Lao People's Democratic Republic. Health Econ 24, 379–399. https://doi.org/10.1002/hec.3023	Estimate the impact of community-based health insurance on health service utilisation and OOP in Lao PDR.	Insurance (VHI)

Full citation	Study aim	Primary intervention category/ies examined
Bodhisane, S., Pongpanich, S., 2019. The impact of National Health Insurance upon accessibility of health services and financial protection from catastrophic health expenditure: a case study of Savannakhet province, the Lao People's Democratic Republic. Health Res Policy Syst 17, 99. https://doi.org/10.1186/s12961-019-0493-3	This study aims to assess the effectiveness of the NHI in terms of its accessibility and in providing financial protection from catastrophic health expenditure as compared with the existing CBHI scheme	Insurance integration/overarching insurance
Bodhisane, S., Pongpanich, S., 2022. The influence of the National Health Insurance scheme of the Lao People's Democratic Republic on healthcare access and catastrophic health expenditures for patients with chronic renal disease, and the possibility of integrating organ transplantation int. Health Res Policy Syst 20, 71. https://doi.org/10.1186/s12961-022-00869-4	This study aims to analyse the effects of the Lao NHI on issues of accessibility and the possibility of encountering catastrophic health expenditures for patients with chronic kidney disease	Insurance integration/overarching insurance
Honda, A., Hanson, K., 2013. Do equity funds protect the poor? Case studies from north-western Madagascar. Health Policy Plan 28, 75–89. https://doi.org/10.1093/heapol/czs027	Assessed the equity funds in Madagascar from three perspectives: accuracy of targeting; improvement in health care access for the poor; and reduction in financial burden on the poor.	Reducing costs and increasing access to medicines
Dickerson, S., Baranov, V., Bor, J., Barofsky, J., 2020. Treatment as insurance: HIV antiretroviral therapy offers financial risk protection in Malawi. Health Policy Plan 35, 676–683. https://doi.org/10.1093/heapol/czaa023	Investigated the impact of treatment access on medical spending, capacity to pay and catastrophic health expenditures.	User fee reforms
Ng, R.J., Choo, W.Y., Ng, C.-W., Hairi, N.N., 2024. Effect of supplementary private health insurance on out-of-pocket inpatient medical expenditure: evidence from Malaysia. Health policy and planning 39, 268–280. https://doi.org/10.1093/heapol/czae004	Investigated the effect of supplementary PHI on OOPE for inpatient care in Malaysia.	Insurance (VHI)

Full citation	Study aim	Primary intervention category/ies examined
Celhay, P., Martinez, S., Muñoz, M., Perez, M., Perez-Cuevas, R., 2019. Long-term effects of public health insurance on the health of children in Mexico: a retrospective study. Lancet Glob Health 7, e1448–e1457. https://doi.org/10.1016/S2214-109X(19)30326-2	Examined the effects of Mexico's public health-care insurance scheme, Seguro Popular, on health outcomes and financial protection for Mexico's children using multiple nationally representative surveys and administrative data sources spanning 2001-2006.	Insurance (PFHI)
Garcia-Diaz, R., Sosa-Rubí, S.G., Lozano, R., Serván-Mori, E., 2023. Equity in out-of-pocket health expenditure: Evidence from a health insurance program reform in Mexico. J Glob Health 13, 04134. https://doi.org/10.7189/jogh.13.04134	Analysed the long-term effects of the Seguro Popular (SP) voluntary health insurance program, recently phased out and replaced by the Health Institute for Welfare (Instituto de Salud para el Bienestar (INSABI)), on OOP equity in the poor Mexican population.	Insurance (PFHI)
Grogger, J., Arnold, T., León, A.S., Ome, A., 2015. Heterogeneity in the effect of public health insurance on catastrophic out-of-pocket health expenditures: the case of Mexico. Health Policy Plan 30, 593–599. https://doi.org/10.1093/heapol/czu037	Estimate differences in the effect of SP within rural areas according to the type of health-care facility to which beneficiaries have access and the effect of SP on catastrophic health spending in urban areas	Insurance (PFHI)

Full citation	Study aim	Primary intervention category/ies examined
Knaul, F.M., Arreola-Ornelas, H., Wong, R., Lugo-Palacios, D.G., Méndez-Carniado, O., 2018. The effect of Seguro Popular de Salud on catastrophic and impoverishing expenditures in Mexico, 2004-2012. Salud Publica Mex 60, 130–140. https://doi.org/10.21149/9064	To determine the impact of Seguro Popular (SPS) on catastrophic and impoverishing household expenditures and on the financial protection of the Mexican health system	Insurance (PFHI)
Martínez-García, M., Vargas-Barrón, J., Bañuelos-Téllez, F., González-Pacheco, H., Fresno, C., Hernández-Lemus, E., Martínez-Ríos, M.A., Vallejo, M., 2018. Public insurance program impact on catastrophic health expenditure on acute myocardial infarction. Public Health 158, 47–54. https://doi.org/10.1016/j.puhe.2018.01.025	The study aimed to evaluate the impact of the Popular Insurance (PI) program in Mexico on catastrophic medical expenses associated with ST-segment elevation myocardial infarction (STEMI). It is desirable to study the effects of PI to improve our understanding of how the reduction of out-of-pocket spending impacts people's lives. Here, we analysed the impact of the PI in three areas: (1) hospital care management, (2) costs associated with treatment, and (3) main outcomes such as hospital readmission, mortality, and therapeutic adherence. This study aims to address the extent and effect of this governmental strategy to cover STEMI catastrophic expenses at the National Institute of Cardiology, Mexico.	Insurance (PFHI)
Nikoloski, Z., Mossialos, E., 2018. Membership In Seguro Popular In Mexico Linked To A Small Reduction In Catastrophic Health Expenditure. Health Aff (Millwood) 37, 1169–1177. https://doi.org/10.1377/hlthaff.2017.1510	To analyse the medium and longer-range effects of Seguro Popular on out-of-pocket healthcare spending, catastrophic spending, and impoverishment. To analyse the effect of social security programs on these factors	Insurance (PFHI)
Riumallo-Herl, C., Aguila, E., 2019. The effect of old-age pensions on health care utilisation patterns and insurance uptake in Mexico. BMJ Glob Health 4, e001771. https://doi.org/10.1136/bmjgh-2019-001771	To examine the effects of supplemental income to older adults on healthcare use patterns, expenditures and insurance uptake in Yucatan, Mexico	Social protection

Full citation	Study aim	Primary intervention category/ies examined
Serván-Mori, E., Gómez-Dantés, O., Contreras, D., Flamand, L., Cerecero-García, D., Arreola-Ornelas, H., Knaul, F.M., 2023. Increase of catastrophic and impoverishing health expenditures in Mexico associated to policy changes and the COVID-19 pandemic. J Glob Health 13, 06044. https://doi.org/10.7189/jogh.13.06044	Examined the impact of health policy changes (dismantling of Seguro Popular and introduction of INSABI) and the COVID-19 pandemic on financial risk protection in Mexico (2018-2020).	Insurance (PFHI)
Sosa-Rubí, S.G., Salinas-Rodríguez, A., Galárraga, O., 2011. [Impact of "Seguro Popular" on catastrophic and out-of-pocket health expenditures in rural and urban Mexico, 2005-2008]. Salud Publica Mex 53, S425–S435.	To estimate the effect of ‚ÄúSeguro Popular‚Äù (SP) on the incidence of CHE and OOPE in the medium term (6 years after implementation)	Insurance (PFHI)
Thein, S.T., Thet, M.M., Aung, Y.K., 2021. Effects of a new health financing scheme on out-of-pocket health expenditure: findings from a longitudinal household study in Yangon, Myanmar. Health Policy Plan 36, i33–i45. https://doi.org/10.1093/heapol/czab083	Assessed the effect of a new capitation-based health financing scheme (Strategic Purchasing clinics) on health service expenditure and financial burden of beneficiary households in Myanmar.	Provider payment reforms
Sunny, A.K., Basnet, O., Acharya, A., Poudel, P., Malqvist, M., Kc, A., 2021. Impact of free newborn care service package on out of pocket expenditure-evidence from a multicentric study in Nepal. BMC Health Serv Res 21, 128. https://doi.org/10.1186/s12913-021-06125-9	To evaluate the change in the OOPE for treatment of sick newborns at hospitals before and after implementation of the FNC program.	User fee reforms
Thornton, R.L., Hatt, L.E., Field, E.M., Islam, M., Diaz, F.S., González, M.A., 2010. Social security health insurance for the informal sector in Nicaragua: a randomized evaluation. Health Econ 19, 181–206. https://doi.org/10.1002/hec.1635	To evaluate determinants of enrollment in a voluntary health insurance program for informal sector workers and causal effects on expenditures and utilisation.	Insurance (VHI)
Bonfrer, I., Van de Poel, E., Gustafsson-Wright, E., van Doorslaer, E., 2018. Voluntary health insurance in Nigeria: Effects on takers and non-takers. Soc Sci Med 205, 55–63. https://doi.org/10.1016/j.socscimed.2018.03.035	Estimated the effects of the Kwara State Health Insurance program (subsidized low-cost VHI and facility upgrades) on insured and uninsured populations in Nigeria.	Insurance (VHI) and Upgraded health facilities
Okunogbe, A., Hähnle, J., Rotimi, B.F., Akande, T.M., Janssens, W., 2022. Short and longer-term impacts of health insurance on catastrophic health expenditures in Kwara State, Nigeria. BMC Health Serv Res 22, 1557. https://doi.org/10.1186/s12913-022-08917-z	Examined short- and long-term effects of a health insurance program in Kwara State on CHE.	Insurance (VHI)

Full citation	Study aim	Primary intervention category/ies examined
Neelsen, S., O'Donnell, O., 2017. Progressive universalism? The impact of targeted coverage on health care access and expenditures in Peru. Health Econ 26, e179–e203. https://doi.org/10.1002/hec.3492	Study analyses the impact of granting the poor entitlement to tax-financed basic care without charge by comparing changes in utilisation with those already covered through employment-based insurance.	User fee reforms
Caballes, A.B., Söllner, W., Nañagas, J., 2012. Financial protection mechanisms for inpatients at selected Philippine hospitals. Soc Sci Med 75, 1820–1827. https://doi.org/10.1016/j.socscimed.2012.07.027	Assessed the ability of PhilHealth vs. institutional discounts to offer financial protection for indigent hospitalized patients.	Insurance (PFHI and SHI) and Demand side financing
Koch, R., Nkurunziza, T., Rudolfson, N., Nkurunziza, J., Bakorimana, L., Irasubiza, H., Sonderman, K., Riviello, R., Hedt-Gauthier, B.L., Shrime, M., Kateera, F., 2022. Does community-based health insurance protect women from financial catastrophe after cesarean section? A prospective study from a rural hospital in Rwanda. BMC Health Serv Res 22, 717. https://doi.org/10.1186/s12913-022-08101-3	Measured the economic burden of cesarean sections and the financial protection provided by CBHI.	Insurance (SHI)
Lu, C., Chin, B., Lewandowski, J.L., Basinga, P., Hirschhorn, L.R., Hill, K., Murray, M., Binagwaho, A., 2012. Towards Universal Health Coverage: An Evaluation of Rwanda Mutuelles in Its First Eight Years. PLoS One 7, e39282. https://doi.org/10.1371/journal.pone.0039282	Evaluated the impact of Mutuelles on achieving universal healthcare coverage and financial risk protection in its first eight years.	Insurance (SHI)
Bousmah, M.-A.-Q., Diakhaté, P., Toulao, G.À.D., Le Hesran, J.-Y., Lalou, R., 2022. Effects of a free health insurance programme for the poor on health service utilisation and financial protection in Senegal. BMJ global health 7, e009977. https://doi.org/10.1136/bmjgh-2022-009977	Assessed the effects of the Programme National de Bourses de Securite Familiale (PNBSF) on health service utilisation and financial protection in Senegal.	Insurance (VHI)
Ly, M.S., Faye, A., Ba, M.F., 2022. Impact of community-based health insurance on healthcare utilisation and out-of-pocket expenditures for the poor in Senegal. BMJ Open 12, e063035. https://doi.org/10.1136/bmjopen-2022-063035	Assessed the impact of subsidized community health insurance in Senegal, particularly on the poor.	Insurance (PFHI and VHI)
Taverne, B., Laborde-Balen, G., Diaw, K., Gueye, M., Have, N.-N., Etard, J.-F., Sow, K., 2021. Does universal health coverage reduce out-of-pocket expenditures for medical consultations for people living with HIV in Senegal? An exploratory cross-sectional study. BMJ Open 11, e046579. https://doi.org/10.1136/bmjopen-2020-046579	Assessed the capacity of Senegal's health coverage system to reduce health expenditures for PLHIV.	Insurance (SHI)
Edoka, I., Ensor, T., McPake, B., Amara, R., Tseng, F.-M., Edem-Hotah, J., 2016. Free health care for under-fives, expectant and recent mothers? Evaluating the impact of Sierra Leone's free	Evaluated the impact of the Free Health Care Initiative (FHCI) on maternal and child healthcare utilisation and OOP payments.	User fee reforms

Full citation	Study aim	Primary intervention category/ies examined
health care initiative. Health Econ Rev 6, 19. https://doi.org/10.1186/s13561-016-0096-4		
van Duinen, A.J., Westendorp, J., Ashley, T., Hagander, L., Holmer, H., Koroma, A.P., Leather, A.J.M., Shrime, M.G., Wibe, A., Bolkan, H.A., 2021. Catastrophic expenditure and impoverishment after caesarean section in Sierra Leone: An evaluation of the free health care initiative. PloS one 16, e0258532. https://doi.org/10.1371/journal.pone.0258532	Investigated CHE and impoverishment related to caesarean sections in Sierra Leone, assessing impact of user fee removal for C-sections.	User fee reforms
Karunaratna, S., Ranasinghe, T., Chandraratne, N., De Silva, A., 2019. The Social Health Insurance Scheme for Pubic Sector Employees in Sri Lanka and Its Effect on Reducing the Financial Burden of Illness. Asia Pac J Public Health 31, 584–593. https://doi.org/10.1177/1010539519862422	Examined healthcare utilisation patterns among public sector employees and analysed the impact of Agrahara SHI on reducing illness-related financial burden.	Insurance (SHI)
Anselmi, L., Binyaruka, P., Borghi, J., 2017. Understanding causal pathways within health systems policy evaluation through mediation analysis: an application to payment for performance (P4P) in Tanzania. Implement Sci 12, 10. https://doi.org/10.1186/s13012-016-0540-1	Tested the causal pathways through which P4P schemes influence maternal care outcomes, focusing on institutional deliveries and uptake of antimalarial drugs during pregnancy.	Provider payment reforms
Binyaruka, P., Patouillard, E., Powell-Jackson, T., Greco, G., Maestad, O., Borghi, J., 2015. Effect of Paying for Performance on Utilisation, Quality, and User Costs of Health Services in Tanzania: A Controlled Before and After Study. PLoS One 10, e0135013. https://doi.org/10.1371/journal.pone.0135013	Examined the effect of a government P4P scheme on the utilisation, quality, and user costs of health services.	Provider payment reforms
Damrongplasit, K., Atalay, K., 2021. Payment mechanism and hospital admission: New evidence from Thailand healthcare reform. Soc Sci Med 291, 114456. https://doi.org/10.1016/j.socscimed.2021.114456	Quantified the effects of DRG-based payment reform on hospital admissions, length of stay, and OOPE.	Provider payment reforms
Somkotra, T., Lagrada, L.P., 2008. Payments for health care and its effect on catastrophe and impoverishment: experience from the transition to Universal Coverage in Thailand. Soc Sci Med 67, 2027–2035. https://doi.org/10.1016/j.socscimed.2008.09.047	Measured household OOPE for healthcare and examined financial catastrophe and impoverishment during the transition to Universal Coverage.	Insurance (SHI)
Erus, B., 2020. Out of pocket health expenditures in Turkey following introduction of co-payments along with improved primary care services. Int J Health Plann Manage 35, 433–440. https://doi.org/10.1002/hpm.2915	Assessed changes in OOPE following co-payment policies and the extension of primary care services.	Shift in service delivery
Erus, B., Aktakke, N., 2012. Impact of healthcare reforms on out-of-pocket health expenditures in Turkey for public insurees. Eur J Health Econ 13,	Analysed the impact of health financing reforms on OOPE for public insurees.	Provider payment reforms

Full citation	Study aim	Primary intervention category/ies examined
337–346. https://doi.org/10.1007/s10198-011-0306-2		
Tirgil, A., Altun, A., Yanikkaya, H., 2023. Does family medicine reduce household health expenditures: evidence from Türkiye. J Public Health Policy 44, 75–89. https://doi.org/10.1057/s41271-022-00391-5	Assessed the impact of the family medicine program on healthcare expenditures, doctor visits, and hospitalisation costs.	Shift in service delivery
Tirgil, A., Dickens, W.T., Atun, R., 2019. Effects of expanding a non-contributory health insurance scheme on out-of-pocket healthcare spending by the poor in Turkey. BMJ Glob Health 4, e001540. https://doi.org/10.1136/bmjgh-2019-001540	Studied the effects of Green Card scheme expansion on OOP healthcare expenditures among low-income households.	Insurance (PFHI)
Yardim, M.S., Cilingiroglu, N., Yardim, N., 2014. Financial protection in health in Turkey: the effects of the Health Transformation Programme. Health Policy Plan 29, 177–192. https://doi.org/10.1093/heapol/czt002	Evaluated financial protection and the effects of health reforms on OOP payments during 2003–2009.	Insurance (PFHI)
Nannini, M., Biggeri, M., Putoto, G., 2021. Financial protection and coping strategies in rural Uganda: an impact evaluation of community-based zero-interest healthcare loans. Health Policy Plan 36, 1090–1102. https://doi.org/10.1093/heapol/czab073	Assessed the impact of a CHF pilot with zero-interest loans on health expenditures in rural Uganda.	Demand side financing
Axelson, H., Bales, S., Minh, P.D., Ekman, B., Gerdtham, U.-G., 2009. Health financing for the poor produces promising short-term effects on utilisation and out-of-pocket expenditure: evidence from Vietnam. Int J Equity Health 8, 20. https://doi.org/10.1186/1475-9276-8-20	Evaluated the impact of the Health Care Fund for the Poor on healthcare utilisation and expenditures during its initial implementation period.	Insurance (SHI)
Jowett, M., Contoyannis, P., Vinh, N.D., 2003. The impact of public voluntary health insurance on private health expenditures in Vietnam. Soc Sci Med 56, 333–342. https://doi.org/10.1016/s0277-9536(02)00031-x	Compared OOP expenditures between members and eligible non-members of the voluntary health insurance scheme.	Insurance (VHI)
Nguyen, B.T., Lo Sasso, A.T., 2019. The effect of universal health insurance for children in Vietnam. Health Econ Policy Law 14, 299–314. https://doi.org/10.1017/S1744133117000159	Investigated the effects of the 2005 universal health insurance program for children under age 6 on healthcare utilisation, OOPE, and health outcomes.	Insurance (SHI)
Nguyen, C., 2016. The impact of health insurance programs for children: evidence from Vietnam. Health Econ Rev 6, 34. https://doi.org/10.1186/s13561-016-0111-9	Examined the impact of student health insurance and free health insurance on the health care utilisation and health expenditures of children from 6 to 14 years old in Vietnam.	Insurance (PFHI and VHI)
Nguyen, C.M., Nguyen, M.P., Luc, L.D.P., 2023. How public health insurance expansion affects healthcare utilisations in middle and low-income	Examined mechanisms under which an amendment expanding PHI eligibility affected enrollment,	Insurance (SHI)

Full citation	Study aim	Primary intervention category/ies examined
households: an observational study from national cross-section surveys in Vietnam. BMC Public Health 23, 624. https://doi.org/10.1186/s12889-023-15500-6	healthcare utilisation, and OOPE by middle- and low-income households in this transitioning process.	
Nguyen, H., Wang, W., 2013. The effects of free government health insurance among small children--evidence from the free care for children under six policy in Vietnam. Int J Health Plann Manage 28, 3–15. https://doi.org/10.1002/hpm.2114	Evaluated the effects of the Free Care for Children Under Six (FCCU6) policy on healthcare utilisation, OOP expenditures, and health outcomes.	Insurance (SHI)
Nguyen, K.T., Khuat, O.T.H., Ma, S., Pham, D.C., Khuat, G.T.H., Ruger, J.P., 2012. Impact of health insurance on health care treatment and cost in Vietnam: a health capability approach to financial protection. Am J Public Health 102, 1450–1461. https://doi.org/10.2105/AJPH.2011.300618	Assessed the effects of reformed health insurance schemes on healthcare treatment and costs for households.	Insurance (SHI, PFHI, and VHI)
Nguyen, M.T., 2020. Re-examining the effects of public health insurance: The case of nonpoor children in Vietnam. Health Econ 29, 294–305. https://doi.org/10.1002/hec.3980	Evaluated the effects of public health insurance expansion on healthcare utilisation, OOP expenditures, and health outcomes in nonpoor young children in Vietnam.	Insurance (SHI)
Thuong, N.T.T., Huy, T.Q., Tai, D.A., Kien, T.N., 2020. Impact of Health Insurance on Health Care Utilisation and Out-of-Pocket Health Expenditure in Vietnam. Biomed Res Int 2020, 9065287. https://doi.org/10.1155/2020/9065287	Examined the impact of voluntary health insurance and heavily subsidized health insurance on healthcare utilisation and OOPE in Vietnam.	Insurance (SHI and VHI)
Fontanet, C.P., Kaiser, J.L., Fong, R.M., Ngoma, T., Lori, J.R., Biemba, G., Munro-Kramer, M., Sakala, I., McGlasson, K.L., Vian, T., Hamer, D.H., Rockers, P.C., Scott, N.A., 2021. Out-of-Pocket Expenditures for Delivery for Maternity Waiting Home Users and Non-users in Rural Zambia. Int J Health Policy Manag 11, 1542–1549. https://doi.org/10.34172/ijhpm.2021.61	Assessed delivery-related expenditure for women using maternity waiting homes versus rural health facilities.	Shift in service delivery
Lépine, A., Lagarde, M., Le Nestour, A., 2018. How effective and fair is user fee removal? Evidence from Zambia using a pooled synthetic control. Health Econ 27, 493–508. https://doi.org/10.1002/hec.3589	Evaluated the impact of user fee removal on healthcare utilisation and OOP expenditures.	User fee reforms
Masiye, F., Kaonga, O., Kirigia, J.M., 2016. Does User Fee Removal Policy Provide Financial Protection from Catastrophic Health Care Payments? Evidence from Zambia. PLoS One 11, e0146508. https://doi.org/10.1371/journal.pone.0146508	Examined financial protection from fees following the decision to abolish user fees in public primary healthcare facilities.	User fee reforms
Mori, A.T., Mudenda, M., Robberstad, B., Johansson, K.A., Kampata, L., Musonda, P.,	Evaluated the impact of cash support programs on healthcare	Social protection

Full citation	Study aim	Primary intervention category/ies examined
Sandoy, I., 2024. Impact of cash transfer programs on healthcare utilisation **and catastrophic health expenditures in rural Zambia: a cluster randomized controlled trial. Front Health Serv 4, 1254195. https://doi.org/10.3389/frhs.2024.1254195**	utilisation and CHE among households participating in a cluster-randomized controlled trial focusing on adolescent childbearing in rural Zambia.	