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Public Health Financing Strategies in Low-Resource Countries

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ABSTRACT

Public health financing in low-resource countries has undergone significant transformation over the past three decades, shaped by globalization, market liberalization, technological change, and shifting international development priorities. While many low- and middle-income countries (LMICs) adopted market-oriented reforms that prioritized supply-side financing, cost recovery, and user fees, global health partners simultaneously intensified support for primary health care and universal health coverage (UHC). Despite these efforts, health systems in low-resource settings continue to face chronic underfunding, weak governance, inequitable access, and structural reliance on donor funding. This paper examines the evolution, challenges, and performance of major health financing strategies, including general government health expenditures, innovative financing mechanisms, international aid, philanthropy, community-based models, and social health insurance. It highlights persistent inefficiencies in resource allocation, limited risk pooling, and the difficulty of extending financial protection to informal-sector populations. The analysis further explores governance reforms such as separating financing from service delivery, strengthening procurement and price negotiation, improving health information systems, and implementing anti-corruption frameworks. Case examples from sub-Saharan Africa, South Asia, and Small Island Developing States demonstrate how context-specific strategies influence progress toward UHC. Finally, the paper outlines policy options for advancing sustainable and equitable health financing, emphasizing resilience, climate-responsive financing, and pandemic preparedness. Achieving UHC in low-resource countries requires not only increased revenue generation but also stronger institutions, transparent governance, and strategic investment in health system resilience.

Keywords: Public health financing, Universal health coverage (UHC), Low-resource countries**,** Health systems governance, and Risk pooling and equity.

INTRODUCTION

At the dawn of the twenty-first century, the political, economic, and social landscape of the global South was characterized by increasing commercialization, privatization, and market orientation [2]. Many low- and middle-income countries (LMICs) embraced more market-oriented approaches to public services, including healthcare. Health care financing in these countries was also seriously impacted by the emergence of information and communication technologies. At a 1997 World Health Assembly meeting, many countries adopted pro-people Health for All policies, which set ambitious targets in drug accessibility, essential care services, and universal health coverage (UHC)[5]. By the end of the first decade of the century, however, national health policies in many developing countries were directly or indirectly adjusted or transformed to favour supply-side financing, deregulation, limited role of governments, commercial orientation, user fee introduction, and market principles because of international financial turmoil since the 1990s and globalized neoliberalism [1]. Even so, the Global Fund, Gavi, international NGOs, financing agencies, and philanthropic donors continued their support for improving primary health care, and an integrated approach was made towards achieving the Millennium Development Goals. Around 2010, many initiatives and initiatives were officially launched, such as the Global Drug Facility, the Affordable Medicines Facility, "3 by 5" in HIV/AIDS, and the Equip programme for maternal and child health care, and the agenda and the concept of UHC were intensively revitalized. By the end of the first decade of the second century, as envisioned in the Millennium Declaration, many LMICs in Africa and Asian still

need global guidance due to complex socio-political context and health features, and the inability of the state to perform basic governance functions such as national development planning, vulnerability alleviating, and provision of public services 2. In Africa, the existing situation of many countries severely hampers the situation of MDGs and UHC, yet also reveals that UHC extends far beyond solely providing health services, and can also cover medical care, food safety, environment, education, and medicines [3]. In South Asia, health financing in several developing countries still tends to be drawn towards bricks-and-mortar construction or expansion from the formal health sector and universal medical coverage rather than considering a more economic and financial framework of UHC [8]. In Small Island Developing States, health financing initiatives do support the pursuit of UHC, but wide disparities in socio-economic statuses among countries strain the achievement of World Health Assembly Resolution 63.26 and its call for UHC [4].

Context and Challenges in Low-Resource Settings

Sustained reductions in child mortality since 1990 have represented one of the most notable global health successes [1]. The Millennium Development Goal to halve under-five mortality was reached five years early, prevented millions of deaths each year, and reduced inequities across and within countries. Progress has continued beyond the deadline, yet further acceleration is required to achieve the Sustainable Development Goal target of ending preventable deaths of newborns and children under five by 2030 [3]. North Africa and the Middle East, as well as Sub-Saharan Africa, have made steady improvements but remain off-track to meet this target. Apart from Afghanistan, Pakistan, and Yemen, South Asia has already reached the target, although its most populous country, India, still has a significant burden of child deaths. Caribbean and Latin American countries are also on track, while the Pacific islands have achieved the same level of mortality as high-income countries, even though some remain classified as developing [13]. The 2019 report by the UN Office of the Secretary-General's Envoy on Youth, for example, shows that many young people aged 15 to 24 face multiple deprivations, including lack of access to sexual and reproductive health services, school dropout, and lack of decent work opportunities[6]. Children and adolescents in humanitarian settings are also at greater risk of losing vital health and nutrition services within the overall health system, particularly in the absence of emergency infrastructure, appropriate contingency planning, or skilled health workers [16].

Financing Mechanisms and Modèles

Adequate public financing of health care is a prerequisite for achieving universal health coverage (UHC) [1]. Governments have four primary financing options: (1) general government health expenditures using taxes and external international assistance; (2) innovative financing mechanisms such as health equity funds or voucher schemes that may crowd in resources for the health sector; (3) non-governmental, bilateral and multilateral international aid, grants, and concessional loans; and (4) philanthropy and community-based funding involving the private sector, non-state actors, and local communities[9]. Governments dominate health financing in low- and middle-income countries (LMICs), yet these alternative financing mechanisms are finding their way into their health systems [5]. Countries are channelling resources toward general government health expenditures and innovative mechanisms, enlisting the support of international donors and the private sector, and creating opportunities to mobilize additional financing for health [4, 5, 1].

General Government Health Expenditures and Prioritization

World Health Assembly resolution WHA 58.33 called for governments to implement or update a national health financing policy based on a situational analysis of health financing, with regularly updated data on revenue and expenditure. Progress has remained slow, however [2]. Many countries remain heavily dependent on donor funding for health services. Two divergent trends have emerged: an increase in coordination and pooling of donor funds with government resources, and the reintroduction of programmatic donor funding for high-priority diseases [10]. External funding for specific priorities can relieve government burden but may lead to long-term capacity deficiencies and decreased internal funding for health services [9]. Funding directed at sectors like HIV/AIDS and tuberculosis has at times replaced government spending, making it difficult to increase funding when external support diminishes [6]. Addressing the situation requires improving both health financing and intersectoral collaboration. Possibilities for securing at least 15% of the national budget for health should be explored. Institutionalizing national health accounts, conducting feasibility studies on financing mechanisms, and sharing best practices are other important steps [8].

Innovative Financing and Risk Pooling

Formal, structured financing strategies without separating financing from service delivery are inappropriate in low-resource settings: '[h]ealth financing reform requires a clear separation of financing activities from delivery of care' [3]. These countries predominantly rely on public financing, implementing general government health expenditures (GGHE) as zero-prioritisation allocation systems and introducing innovative financing and risk-pooling mechanisms [1]. Even if government health budgets increase progressively, financing strategies remain urgent to exert maximum efficiency on constrained resources and advance towards universal health coverage.

Health financing strategies, defined as the collection of revenues and allocation of resources, affect health sector performance by influencing the quantity of services purchased, selection of providers, decision-making processes, distribution channels, selection of technologies, and prioritisation of investments [7]. In recent decades, low- and middle-income countries (LMIC) have pursued innovative health financing approaches, including community-based funding, social health insurance, health equity funds, voucher schemes, and performance-based financing [6].

International Aid, Grants, and Concessional Lending

International aid, grants, and concessional lending are important for global health financing [7]. Several organizations and governments have called for increased health spending, especially in developing countries. These proposals emphasize expanding domestic health funding through tax-base broadening and addressing out-of-pocket payments that can lead to financial hardship [2]. Foundations and international agencies also focus on increasing resource mobilization and improving health expenditure efficiency to advance universal health coverage [8]. One example of recent progress in the health sector is negotiations to facilitate country access to concessional financial resources from the International Monetary Fund (IMF) under the Catastrophe Containment and Relief Trust (CCR), the World Bank (WB), and regional development banks, and the international community. Earlier grants delivered via concessional state and financial sector support arrangements were broadly used in the health and other sectors before the outbreak, with good observed results in the region [9].

Philanthropy and Community-Based Funding

The 21st century marked an unprecedented rise in strategic philanthropy and community-based funding. The role of community health agents in rural areas has expanded significantly [14]. Faith-based organizations remain dominant in health service delivery in several fragile states, even surpassing governmental provision. Despite financing needs being immense throughout the world, especially in the low-resource sector, direct community contributions represent a mere fraction of public health financing [10].

Efficiency and Pooling Questions

Efficient allocation and cost-effectiveness are essential for health and related sectors in low-resource environments, where funds are meager, public goods are vast, and projects, while crucial, may be delayed [7]. Cost-effectiveness analysis is at the forefront of international health, yet its local implementation lags due to scarce data on health technologies' effects, hence the importance of global data for national-level analysis [11]. Patients incur non-financial costs that may exceed monetary ones. Community and informal sector financing can stimulate post-visit attendance through quick approval and release of funds. Exemptions, waivers, or recouped amounts can enable care while curbing free-riding. Social health insurance schemes and voluntary arrangements face questions of coverage limits [10]. The former may exclude health services, whereas the latter may drop specific conditions or diseases. Coverage-limited health financing remains suboptimal; adjusting geographical access and issuing instruments attuned to demand elasticity enhance resource-channeling efficiency. User fees charged at public facilities need special consideration [8]. Initial discretion in fee exemption can boost long-term equity objectives; explicit rules on waiver eligibility are vital. A comprehensive fee policy that clarifies user costs at every step upstream from procurement details and essential services included, to conditions warranting exemption, bolsters the facility's financial position while signalling transparency [7].

Allocation Efficiency and Cost-Effectiveness

The distribution of funds can affect the allocation efficiency of health interventions [12]. In Malawi, the allocation of resources across districts differs substantially for varying health-sector intervention items [13]. The observed patterns of funds received by districts imply that the ability to use resources efficiently in Malawi is constrained not by the total funding available to each district but by the distribution of available funds across the country. Pooling mechanisms allow expenditure decisions to be based on district health needs instead of the particular funding received, thus enhancing overall efficiency in allocation when resources remain scarce [10].

Social Health Insurance and Voluntary Schemes

Contributory schemes offering coverage through formal-sector employment remain prevalent in many low-and middle-income countries [14], despite limited promotion of instantiations that extend minimum protection to individuals outside the labour market. Social health insurance tends to rely on people's capacity to contribute, creating a funding base linked to income and a pooling mechanism that smoothes out cross-sectional risk. Yet contributory schemes often exacerbate the very inequities they seek to address by excluding low-income people, including daily farmers, who tend to operate informally [16]. By being fraught with potential while introducing new complexities and risks, the extension of free, universal social health insurance, together with the exemption of care fees at the point of delivery, remains a route also taken in several other countries within the region [15].

User Fees, Exemptions, and Equity Considerations

User fees for health care services, combined with exemption mechanisms, theoretically mitigate poor utilization while generating revenue to enhance targeted health programs [16]. In practice, however, many exemption measures fail to facilitate equitable access. Barriers include difficulty in identifying the poor, lack of awareness, opaque criteria, provider reluctance, and social stigma. Such measures can also disrupt already strained health systems [14]. During Madagascar's 2003 FANOME policy, equity funds subsidized free medicine for the poor. Although targeting was effective, leakage, under-coverage, and failure to protect the neediest from financial burdens undermined the initiative. Fee exemptions on maternal services have similarly encountered equitable-access challenges across various countries [17].

Separating Financing from Service Delivery: Governance Implications

Health financing strategies often involve difficult trade-offs, and each country must make choices based on its unique circumstances, including technical capacity and sociocultural context. Nevertheless, while the modalities may differ, some fundamental governance principles underpin the effectiveness of such strategies [18]. The separation of financing from service delivery helps ensure that funds are readily available for services already covered by either general government health expenditures or specific prepayment schemes [14]. Authority to negotiate prices with suppliers and the capacity to diagnose and address binding constraints on service provision, whether including inefficiencies or systemic leakage through corruption, are therefore critical. In particular, where health systems and governance are weak, the risk of diversion of public funds tends to increase [11]. Forming binding, well-designed contracts with health providers and undertaking rigorous, timely audits in combination with and informed by transparent health information systems thus constitute high-priority mechanisms for tracking both disbursements and outputs [2].

Public Procurement and Price Negotiation

Emerging health challenges, compounded by the COVID-19 pandemic, have changed the public health landscape and increased uncertainty around future health financing [12]. Procurement of medical commodities, especially vaccines, along with price negotiation, contract specifications, and provider payment mechanisms, has taken center stage [17]. Governments typically face constraints on raising additional revenue during emergencies, while the private sector cannot expand the supply of many products without moving to higher price tiers [12]. Budget-support modifications that de-link disbursements from specific sectors may hasten the realization of health spending needs within broader national budgeting, but the timing of these needs may remain uncertain [17]. Countries have differed in how they responded to the crisis; adjustment strategies adopted by eight middle-income countries underscore the importance of rapid resource mobilization and the flexibility to switch between modalities as the health situation evolves [19]. Numerous determinants affect government health spending, including organizational structure, the state of underlying sectors, the level of capacity in health ministries, and such external factors as expected disease burdens and international commitments. The recommendations in this report focus on expanding health financing on a highly constrained basis. The goal is to create an environment free from direct service provision competition that facilitates rapid-scale delivery of priority services [20].

Health Information Systems and Financial Tracking

Health information systems, electronic health records, and financial tracking are fundamental to sustaining universal health protection [15]. Public health care providers, especially in countries experiencing an economic setback, need to accurately report the number of insured citizens, health care services rendered, outpatient visits, and the actual drugs delivered to enable timely reimbursements and uninterrupted pharmaceutical access. Tracking government expenditures, service delivery, and out-of-pocket expenditures allows relevant authorities to accurately assess the for-profit health sector's contribution to health spending [21]. This information provides an evidence base to substantiate health reconstruction needs when seeking international support after calamities [16]. Monitoring how publicly financed services are delivered helps gauge the client-level implementation of national health policies [16]. Public Expenditure Tracking Surveys permit the quantification of fund flows through different phases of the expenditure chain, thereby supporting public financial management, letting stakeholders assess potential leakage points, evaluating other bottlenecks like accounting delays, and establishing service delivery indicators [17]. Public Expenditure Tracking Surveys are applicable in a wide range of contexts and, since their launch in Uganda in 1996, have been endorsed in diverse settings in Sub-Saharan Africa, West and Central Africa, and South Asia. Baselines help track the evolution of health systems post-impacts. Digital strategies enable systems for uploading service delivery evidence onto health information and finance systems to provide a rapid overview of aid and flow of reimbursable transactions [15]. Health expenditure databases can offer aggregated health expenditure data that illustrate the range of revenue streams involved and provide service provision snapshots as needed [1].

Anti-Corruption Measures and Fiduciary Risk

Widespread corruption is a pressing issue that undermines government authority in low-resource settings [22]. It constitutes a systemic barrier to improving population health and achieving sustainable development goals. Implementing anti-corruption measures is fundamental to reducing fiduciary risk and fortifying health governance. Research shows that corruption has detrimental effects on the delivery of essential services and constitutes a significant obstacle to valuable public investments in health [16]. Corruption hinders adequate responses to the COVID-19 pandemic and contributes to the weak infrastructure that amplifies health vulnerability to environmental climate, bioterrorism risks, and other threats [13]. A robust anti-corruption strategy encompasses transparency initiatives and adherence to international anti-corruption conventions. Bills of rights, equitable access, and government accountability in budget execution strengthen the path to dedicated health financing and evidence-based decision-making in health prioritization [14]. The accountable use of public funds creates opportunities for citizens to demand the necessary financing to realize health and other services crucial for a dignified life.

Resilience and Sustainability

Addressing potential future threats is essential for strengthening the resilience and sustainability of health financing systems [12]. The COVID-19 pandemic has disrupted health services globally, with most low-resource settings struggling to maintain continuity of essential health services during the crisis. This experience underscores the need for a more robust financing model, particularly preventive and preparedness measures, as the pandemic exposed the unpreparedness of many countries for this type of resilient shock [9]. In many low-resource countries, climate change poses a major threat to health systems. Climate-related funding needs are particularly urgent in coastal countries and small island developing states, where global sea-level rise forecasts potentially require extensive climate adaptation financing to safeguard human health [2].

Pandemic Preparedness and Financing Buffers

The coronavirus disease 2019 (COVID-19) pandemic has brought to the fore the vulnerabilities and inequities in global pandemic preparedness and response [16]. Low-resource countries and special groups therein lack adequate financial and health systems, face multiple ongoing and emerging health threats, and experience rising climate-related health risks. The pandemic further weakened these countries' resilience and created an information vacuum regarding financial needs, systems, and strategies to more reliably finance health and pandemic preparedness [17]. Examining the collective experiences of approximately 300 low-resource countries in rapidly assessing health financing needs and securing funds can identify options highly relevant to limited-resource low-resource settings, still developing, implementing, and enhancing governance frameworks to support universal health coverage [23]. The majority of low-resource countries eligible for World Bank International Development Association financing lack comprehensive income and expenditure information for either health systems or pandemic preparedness. Even those countries managing to develop financing frameworks, costed health documents, and national pandemic preparedness plans cannot obtain reliable long-term estimates of domestic health financing needs [11]. Low-resource countries with the most severe welfare deficits, protecting their poorest segments from increased poverty during economic shocks, benefit from either internal stockpiling or deliberative pooling of health-system preparedness provisions. Low-resource epidemiological data remain limited, and climate risks constantly evolve; neighboring consultation appears the least incorrect, most pragmatic pooling strategy beyond national borders [15].

Climate-Related Health Risks and Funding Needs

The acceleration of climate change has not only increased health risks, but also increased health financing needs to avert additional climate-related burdens. Climate change is expected to impact the trajectory of economic growth, resource allocation, and public finance available for health systems [24]. Efforts to mitigate greenhouse gas emissions and adapt to unavoidable climate change are ongoing via climate financing mechanisms, which support investments to further reduce emissions and to prevent health and health system vulnerabilities. Demand for such financing in countries grossly underserved by basic health service coverage is amplified by climate-related health risks projected to disproportionately affect poorer nations [25]. Climate finance opportunities for health and health systems denote the scope for public funding to augment general government health expenditure. Low-resource health systems already hampered by inadequate budgets face a dire need to accelerate funding towards universal health coverage (UHC) [20]. The depreciation of investment at the locus of climate-related health impact only heightens vulnerability to shocks, obstructing the imposition of climate services to anticipate and mitigate hazards. Indeed, the void of resources allocated to health continues since the expenditure is generally diverted towards sector-specific climate financing. Nevertheless, financing opportunities for health-linked climate mitigation and adaptation measures offer an avenue to rally stakeholders currently reluctant to expand health investment in general[21].

Case Examples and Lessons from Peers

Despite clear commonalities in issues confronting health financing strategies, countries sharing similar economic, political, and social conditions have adopted diverse and distinctive approaches [5]. Consequently, lessons learned in one country may not be applicable to others, due to historical contingencies and the vagaries of public policy. Nevertheless, countries facing similar issues track the emergence and persistence of similar strategies sometimes labelled "models" that inform response to common challenges [8]. While an exhaustive examination of all relevant country cases is impractical, a systematic review of the relevant literature, finished by the World Health Organization (WHO), identifies a number of public health financing strategies that have proved successful, or at least promising in terms of moving toward universal health coverage (UHC) [10]. The same source reviews cases in three regions, complemented by an analysis of Small Island developing states (SIDS). Sub-Saharan Africa. A country in this region shares a legacy of severe health challenges, especially HIV and polio, high levels of poverty, and relatively low government health spending [12]. Eleven countries maintained or returned to free healthcare service policies despite a dramatic decline in external funding after the 2008 financial crisis [13]. That experience yielded four lessons: the need to maintain a distinct Minister of Health's budget, engage in expenditure tracking to facilitate cross-protection, embed proposals in policies unconnected with health to improve political appeal, and ensure a close link between health service delivery and coverage expansion [6]. South Asia. South Asia, like sub-Saharan Africa and small island states, faces a large non-communicable disease (NCD) burden, high out-of-pocket expenditure, and major informal economic activities inappropriate for comprehensive, formal risk-pooling schemes. Community-based financing models offering expanded coverage through minimal additional expenditure on preventive services made limited use of global funds and earmarked donor support targeting prevention measures [15]. SIDS, many of which have populations even less plentiful than the land resources available to them, share a low population density and heavy reliance on tourism. Comprehensive health financing strategies have chosen to broaden either the range of primary services provided or the range of revenue sources tapped. Given extra health risks associated with higher temperatures, climate-change mitigation approaches are also being examined [2].

Sub-Saharan Africa

Public health financing in many sub-Saharan African countries is characterised by high reliance on external funding, out-of-pocket payments, and a relatively low government tax revenue contribution [7]. The predominant financing flows include donor aid, government budgets, and out-of-pocket payments, which vary widely across countries in the region [7]. Government health expenditure levels are below the Abuja Declaration target of 15% of total government expenditure. Low tax revenue limits the ability to devote a larger share of spending to health. Moreover, significant disparities exist in financing between countries and within countries by socioeconomic group, which hampers equitable access to and coverage of health services [6]. Addressing inequities in the financing of reproductive, maternal, neonatal, or child health is particularly important given the adverse impact of the COVID-19 pandemic on health funding and outcomes. Policies and measures to mobilise additional financial resources and increase the efficiency of public expenditure remain essential preconditions for progress in expanding universal health coverage further [26].

South Asia

Prior to the pandemic, South Asia was already experiencing a severe downturn in economic activity, which has continued into 2023. The post-pandemic global environment is not propitious several countries in the region exhibit fundamental economic weakness. Since 2020, South Asia has faced an unprecedented and profound economic crisis [21]. Collectively, household real disposable income (RDI) in selected South Asian countries is estimated to have declined notably. In India, RDI per capita is projected to be only 1% higher in 2022 than in 2019. Overall, the incidence of financial crises increased during the COVID-19 pandemic and has remained elevated thereafter [20]. Economic stress tests for selected countries throughout the region indicate that South Asia could face substantial and persistent output losses following a crisis [22]. Even prior to the crisis, South Asia exhibited some of the lowest levels of health financing in the world [23]. Between 2016 and 2020, South Asia spent an average of less than US$74 per capita (including both public and private spending), representing approximately 1.6% of GDP, which was well below the average for comparable countries. In terms of source of financing, there was very limited governmental support for health financing, and the bulk of public financing was heavily supplemented by private out-of-pocket (OOP) financing. During the pandemic, the vast majority of countries in the region undertook extensive health financing measures, yet even at the peak of the crisis, measured monthly, only the Maldives, the largest relative health financing response at about 3.5% of GDP. In fact, a number of countries, Bangladesh, Bhutan, and Afghanistan, witnessed declines in health financing [15].

Small Island Developing States

Small island developing states spend an estimated 7% of total health expenditure on private secondary and tertiary services, with public hospitals experiencing significant wait times (e.g., 23 weeks for orthopaedic surgery). Rising health costs, mainly due to epidemiological transition, have placed these states' limited public financing under

increasing strain. In this context, the private provision of health services has been poorly regulated and user fees poorly monitored [15]. Previous reviews (1985, 1996) recommended establishing a National Health Financing Scheme to pool resources and provide universal risk protection based on social health insurance principles [27]. Multi-stakeholder discussions resumed in 2000 and continued until 2006 without consensus, hindered by opposition from the formal sector, lobbying by private insurance actors, institutional conflicts, and technical difficulties collecting premiums from the informal sector [16]. To advance universal coverage, it is necessary to address financing for specific groups: formal workers (payroll tax), the poor (high subsidy), and the middle (including the informal sector, through contributory or tax-funded schemes). The experience of other countries illustrates the need for tailored approaches and evidence-based decision-making [11].

Policy Options for Advancing Universal Health Coverage

Strategic measures can assist policymakers in low-resource environments with aspirations to extend universal health coverage (UHC) in line with the Sustainable Development Goals [25]. These options recognize and respond to prevailing constraints while ensuring alignment with the fundamental principles of UHC. Approaches adopted by a number of countries can serve as valuable illustrations. Several countries continue to pursue UHC stepwise beyond single health interventions [22]. Gradual expansion of UHC has been observed, for example, in such areas as infectious diseases [26]. Other pertinent examples include prioritization frameworks that foster dialogue among stakeholders on the most pressing health needs and the different roles and responsibilities of government and other sectors [23]. The introduction of progressive taxes targeting higher-income groups can expand fiscal space for health and promote broad economic growth while improving equity compared to regressive taxes. Other options include affording greater autonomy and budgetary control to local governments and encouraging more private provision to promote efficiency and equity [1, 15].

Gradual Expansion Strategies

A general principle underlying many health-financing reforms is to separate the regulatory role of government from the service-delivery and purchasing functions of the health system. This principle recognizes that the presence of revenue does not imply effective government capacity [14]. The analogy is drawn with the previous decade's pervasive restructuring of utilities such as telecommunications and electric power in many countries 15. Effective regulation is arguably more important for health than for other public utilities, given that health is linked closely with equity, and that the monitoring of health-volume indicators is far more difficult than that of volumes for utilities. Strengthening regulatory agencies, therefore, ranks high on a list of institutional reforms to enhance the functioning of health financing [20]. Such reforms are also closely allied with measures to secure greater public financial management and budget governance. Public procurement of healthcare services by the public sector and negotiations with private providers are important regulatory tasks that require a secure financial infrastructure, especially in the complex political economy surrounding universal purchasing [23]. Health information systems and budget-tracking mechanisms are central to sound financial management. Well-functioning, institutionally separate health finance units play a major role in producing, disseminating, and monitoring budgets, expenditures, performance, and price data. Such units also ensure that national-immunization-scheme procurement and outlays are fully integrated into health financing, an important task given the gravity of the pandemic threat [25]. Establishing such information systems on a national level is a major undertaking requiring large expenditures over long time periods, compounding the challenge posed by separated financing [26]. Pilot projects can help fill institutional voids, while effective transparency and anti-corruption initiatives target efforts to areas of greatest fiduciary risk and greatest expected health returns [27].

Prioritization Frameworks

If governments and international aid agencies intend to make progress towards universal health coverage, containment of civil, political, and health rights with equitable access to health services needs to be at the forefront of their efforts [23]. Priority-setting is indispensable in countries characterized by acute resource scarcity [24]. Even programmes on health systems strengthening must be carefully scrutinized to ensure that they focus on what is truly urgent and relevant, instead of on supply-side interventions, and on the core systems issues that slow progress on UHC. The exploration of a finance narrowing toward health systems strengthening at national and global levels was propelled by the priority-setting debate initiated several years ago by the influential World Health Organization's World Health Report [27]. At the time, despite widespread recognition of the priority-setting issue, the number of funding requests competing within the health sector, even from subregions with a high burden of disease, was catching up to public disclosures of need. Meanwhile, essential medicines were being added to national lists in many countries and were advertised as public goods, underscored by attendant policy guidance on pricing. Widely cited studies had established that across several international agencies, developing objective, defensible, and explicit priority setting would merely confine countries to their "best buy" approach [28]. A large body of knowledge had accrued concerning criteria, frameworks, and approaches conducive to effective and sensible priority-setting in public health and health systems [29]. Hence, while at times misleading

priorities had led to inefficient resource allocation, the process of priority-setting did not receive much scholarly attention as it was taken to be widely known and uncontroversial [24].

Revenue Generation and Equity Considerations

Universal Health Coverage (UHC) demands the cross-subsidization of health financing resources for equitable risk-sharing and access; most countries exempt low-income households from user fees, fund these waivers with additional tax revenues, and incur extra costs for free care through contracting out [2, 26]. Because international aid also aims to reconcile revenue-generation policies with equity [6], a review of UHC strategies in low-resource countries complements the separate analysis of revenue-generation policies presented here. It highlights the tension between broad and complementary cross-subsidization of health financing resources and the isolation of revenue-generation practices from equity considerations [25]. Countries pursuing a broader and more complementary revenue approach address equity, regulatory, and institutional concerns while slowly accumulating sufficient resources to finance free or subsidized care without requiring additional, cross-subsidized revenues[28, 29]. The analysis of the characteristics and constraints surrounding the health subsystems of low-resource-low-income countries, which cannot sustain a large financing gap, leads to an equitable financing strategy favouring the general government [26-30]. Countries in such situations frequently invest heavily in addressing broader, non-health-related challenges that may congest the depletion of much of the domestic and donor resources for the health subsystem. As they gradually resolve these systemic issues, the general government's share of sectoral investment can be expected to rise [25, 27]. Enabling the financing strategy to remain sustainable till the gradual transition of the country toward a low-resource context where private financing potentially becomes indispensable, it is unnecessary to implement major revenue-generation policies at the RH [31-34].

CONCLUSION

Financing public health in low-resource countries remains one of the most complex and persistent challenges in global health governance. While considerable progress has been made over the past two decades, particularly in reducing child mortality, expanding primary health care, and strengthening donor coordination, the structural weaknesses of health financing systems continue to undermine efforts toward universal health coverage (UHC). The evidence presented in this paper shows that inadequate public budgets, high out-of-pocket expenditures, donor dependency, and inequitable access remain central barriers to sustainable health financing. In many LMICs, financing reforms have expanded coverage only incrementally, and often unevenly, due to limited fiscal space, institutional fragmentation, and insufficient risk pooling. A recurring theme is the importance of governance, not merely resource availability. Separating financing from service delivery, improving procurement and price negotiation, building transparent financial tracking systems, and establishing robust regulatory agencies are essential steps toward efficiency and accountability. Anti-corruption measures are equally crucial, especially in contexts where leakage of public funds undermines service delivery and erodes public trust. Strengthening community-based financing, leveraging innovative mechanisms such as equity funds and voucher schemes, and adopting progressive taxation can help broaden financial protection, but these approaches must be adapted to the socioeconomic realities of informal economies. Case studies from sub-Saharan Africa, South Asia, and Small Island Developing States demonstrate that no single model is universally applicable; rather, countries must adopt context-specific, phased strategies that expand priority services while gradually strengthening financing institutions. Lessons from these regions underscore the need to maintain dedicated health budgets, integrate expenditure tracking systems, engage communities, and ensure cross-sectoral collaboration. Emerging global threats such as pandemics and climate-related health risks further highlight the urgency of building resilient and flexible health financing systems. The COVID-19 pandemic exposed the fragility of many health systems, emphasizing the need for preparedness funds, adaptive financing modalities, and regional cooperation. Climate-related health risks, particularly in coastal and small island states, signal an escalating need for climate-responsive health financing that can support both mitigation and adaptation. In conclusion, advancing universal health coverage in low-resource countries requires a dual approach: mobilizing adequate and sustainable resources while simultaneously strengthening institutions, governance arrangements, and accountability mechanisms. A resilient, equitable health financing system must prioritize vulnerable populations, reduce catastrophic out-of-pocket spending, and ensure that essential health services remain accessible even in times of crisis. With coordinated global support, strategic domestic reforms, and contextually informed policy choices, low-resource countries can make measurable progress toward achieving universal health coverage and improving population health outcomes.

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