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The Economics of Primary Health Care in Sri Lanka: Assessing Household Health Expenditures and Burden of Care: A Systematic Literature Review

Authors: K.T.A.R Samarasinghe & I.W Rathnayaka

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Amala de Silva & P.C.J Nayanalochana

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K.T.A.R Samarasinghe & I.W Rathnayaka

Department of Economics, University of Colombo
Corresponding Author: K.T A. R. Samarasinghe

Authors emails	apsararukmali5@gmail.com, wasana@econ.cmb.ac.lk
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K.T.A.R Samarasinghe & I.W Rathnayaka
Department of Economics, University of Colombo

Abstract

A Preferred Reporting Items for Systematic Reviews and Meta – Analyses (PRISMA),was conducted using seven data bases (ProQuest, Embase, PubMed, JSTOR, Google Scholar, EconLit, and Scopus) to analyze studies published between September 2005 and April 2025 on the economic impact of Primary Health Care in Sri Lanka. Thirty-five studies and one World Health Organization report were reviewed. Findings revealed that at the microeconomics level, rising out-of-pocket expenditures, inequities in rural-urban access, and hidden social cost (time, travel, caregiving) intensify household financial vulnerability. At the macroeconomic level, inefficiency and threaten fiscal sustainability. The review emphasized how crucial leadership, governance, policy frameworks and sustainable funding are to enhancing the primary health care. The majority of studies used secondary data, which emphasizes the need for empirical studies on social cost and financial sustainability. To achieve universal health coverage in Sri Lanka, it is essential to rural health infrastructures, optimizes resources, and strengthen financial protection.

Keywords-Primary Health Care, House-hold, Health Expenditures, Economic Burden, Systematic Literature review, Universal Health Coverage

Paper type-Research paper

JEL Classification- I10, I11, I13, I14, I15, H51

FOREWORD

The Department of Economics, University of Colombo is pleased to present this working paper, "*The Economics of Primary Health Care in Sri Lanka: Assessing Household Health Expenditures and Burden of Care: A Systematic Literature Review,*" as part of its Working Paper Series. This series aims to promote timely dissemination of ongoing and completed research, stimulate scholarly dialogue, and contribute to evidence-based policy discussions on pressing economic and social issues.

Primary Health Care remains a cornerstone of Sri Lanka's health system and a critical determinant of equity, efficiency, and sustainability in health outcomes. Despite notable achievements in health indicators, households continue to face significant financial and non-financial burdens in accessing primary health services. Understanding the dynamics of household health expenditures and the burden of care is therefore essential for informing policy reforms and strengthening health system resilience.

This working paper adopts a Systematic Literature Review (SLR) approach, following PRISMA guidelines, to synthesize 36 empirical evidences on the economics of primary health care in Sri Lanka. By critically examining patterns of out-of-pocket expenditure, caregiving burdens, and associated socio-economic determinants, the study offers valuable insights into gaps in current knowledge and highlights areas requiring further research and policy attention.

The Department of Economics hopes that this working paper will be useful to researchers, policymakers, practitioners, and students interested in health economics, public health policy, and development economics. As a working paper, the analysis and interpretations presented here are intended to encourage constructive feedback and academic exchange. We commend the authors for their contribution to the Working Paper Series and trust that this study will enrich ongoing debates on achieving equitable and financially protective Primary Health Care in Sri Lanka.

Amala de Silva & P.C.J Nayanalochana
Department of Economics,
University of Colombo

March 2026

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Abbreviation

PHC	Primary Health Care
UHC	Universal Health Coverage
SDG	Sustainable Development Goals
LMICs	Low- and Middle-Income Countries
WHO	World Health Organization
UNICEF	United Nations Children's Fund
OOP	Out-of-Pocket (Expenditure)
SLR	Systematic Literature Review
PRISMA	Preferred Reporting Items for Systematic Reviews and Meta-Analyses
PPP	Public–Private Partnership
NCD	Non-Communicable Diseases
GDP	Gross Domestic Product
SJR	Scimago Journal Rank

The Economics of Primary Health Care in Sri Lanka-Assessing Household Health Expenditures and Burden of Care: A systematic Literature Review

K.T.A.R Samarasinghe & I.W Rathnayaka

1. Introduction

The developing countries, 134 members of World Health Organization (WHO), signed the Alma Ata Declaration in 1978. The intention of this declaration was for the WHO's member nations to commit their governments to implement Primary Health Care (PHC) as national policy (Ahmed et al., 2024). PHC includes the fundamental component of integrated health services (Clarke et al., 2021). PHC is a pivotal determinant for strengthening Universal Health Coverage (UHC), and its included Sustainable Development Goals (SDG) 2 and 3.Through PHC, support to improve health for all under the declaration of Alma-Ata, the WHO, and the United Nations Children Fund (UNICEF) coordinated countries. Similarly, the Declaration of Astana (2028) renewed this commitment, stressing three key areas PHC should meet people's health needs, systematically address the broader determinants of health, and empower individuals to optimize their health (World Health Organization, 2021).

The Alma Ata Declaration defined PHC as 'essential healthcare based on practical, scientifically sound, and socially acceptable methods and technology made universally accessible to individuals and families in the community through their full participation and at a cost that the community and country can afford to maintain at every stage of their development in the spirit of self-reliance and self-determination' (Ahmed et al., 2024).In simple terms, the fundamentals of PHC emphasize that all people, everywhere, have the right to attain the highest possible standard of health (Alegre et al., 2024).Over the past four decades, PHC has exhibited a significant ability to improve access, expand coverage, enhance quality, and strengthen financial protection. There are three fundamental pillars of PHC: (i) universal access to quality health services (supported by essential public health functions) and equity of access to health care; (ii) empowered people and communities; and (iii) multi-sectorial policy and action for health (Assefa et al., 2020).

In Low-Middle-Income Countries (LMICs) strengthening PHC is emerging as the most cost-effective strategy to achieve sustainable UHC. In this context, PHC efficiency remains limited, and it serves as a critical safeguard against health shocks and fosters health and well-being for all people. Although 45 years have elapsed, the overall performance of PHC systems remains inadequate, and investment in PHC continues to be insufficient in LMICs, ultimately resulting in marginalized populations experiencing adverse health outcomes and increased vulnerability (Alegre et al., 2024).There are challenges to overcome, such as rising out-of-pocket (OOP) spending, especially for antenatal and routine care, which indicates gaps in financial protection despite the free public system (Gunarathna et al., 2024). However, Sri Lanka, an LMICs, has achieved strong health outcomes through a free public health system that provides services free at the point of delivery (Wijemunige et al., 2024). The demand on primary medical care units has increase, and there are still insufficient medications and other diagnostic resources available (Nair et al., 2024).Nevertheless, despite Sri Lanka's implementation of well-established reforms, there are still issues with underfunding, inequalities between urban and rural areas, inefficient use of resources, and vulnerable groups suffering disproportionately from shortage of medications and service bottlenecks (Rao et al., 2024; Sarkar, 2022).

The research question of this study is, what are the effects of PHC challenges on health care expenditures and the burden of care in Sri Lanka? The literature on the economics of PHC is expanding steadily, reflecting increasing attention to the financial aspects and challenges faced by PHC systems as part of the burden of care. Therefore, essential to synthesize the available evidence to minimize the risk of overlooking relevant studies a Systematic

Literature Review (SLR). To ensure methodological rigor and the quality, this review focuses on peer-reviewed journal articles indexed in Scimago Journal Rank (SJR) system and classified Q1- ranked journals which were published between September 2005 and April 2025.This review followed the PRISMA guidelines and established SLR selection criteria.

The most research published in peer-reviewed journals on PHC economics uses descriptive or observational data analysis. Although studies looking into investigating the economic consequences of PHC challenges have started to emerge, there is still limited evidence on how these challenges affect expenditures and the overall economic burden of care in Sri Lanka. In this context, there are several gaps that remain in the literature that require additional research to be filled in. Service delivery, lack of access to medications, rural disparities, social issues, inefficiencies, staffing shortages, infrastructural constraints, and policy interventions are primary health care challenges that affect the economy. When multilateral organizations and national governments reach a consensus on the basic principles of PHC, the application of these principles and the challenges that arise vary from country to country due to the specific characteristics of local health systems. In this context the investigation of PHC challenges in Sri Lanka and the examination of how health expenditures emerge as a burden of care stem from the rationale of this article.

In order to do so, it is important to provide a comprehensive overview of the available evidence and explore if there is any obvious omission in the current literature on the reliable estimate of the economic burden of care associated with PHC challenges with health expenditures. The study attempts to 1. Examine the main research approaches used in the literature on economic factors on primary health care in Sri Lanka, 2. Examine existing evidence on health expenditures and the burden of care associated with primary health care delivery, and 3. Determine research gaps and provide directions for future studies aimed at improving PHC efficiency and reducing economic burdens. This paper summarizes the important aspects of the PHC economics, including study design, measurement strategies, quality assessment techniques, and a narrative synthesis of the main findings. Additionally, it looks into the financial effects of PHC challenges in order to analyze the short- and long-term effects on health care costs and to inform policy decisions that aim to maximize resource allocation and minimize needless financial burden.

2. Methods

This study employed the Preferred Reporting Items for Systematic Reviews and Meta-Analysis (PRISMA) criteria to develop the SLR. The SLR method can effectively reduce subjective bias in literature retrieval and construct a knowledge framework for the target research field based on existing literature.

2.1.Literature search

The databases used were ProQuest, Embase, PubMed, JSTOR, Google Scholar, EconLit, and Scopus. This review drew on the estimations of the primary health care assessing expenditures and burden of care in the various geographical and socioeconomic settings, including Sri Lanka. The majority of published articles were peer-reviewed, and a small number were government reports. All studies were recently published papers that were based on the Q1-ranked journals within the time frame limited from September 2005 to April 2025.

The literature search was conducted using the following keywords: “Primary Health Care”, “challenges”, “expenditure”, “burden”, and “Sri Lanka” (Table 1). To ensure comprehensive coverage of relevant studies, synonyms and related terms were applied for each keyword. The search strategy was designed to capture both quantitative and qualitative evidence on the economic aspects and challenges of PHC in Sri Lanka. EndNote (X9) software was used to organize, manage, and de-duplicate the retrieved references efficiently.

2.1.1. Eligibility criteria

Journal articles included the following criteria: (1) The study was a peer-reviewed research article (including review papers) published in English. (2) The study examined economic factors influencing primary health care in Sri Lanka (3) The study explicitly reported the economic impact of primary health care**,** including health expenditures and the burden of care, using either quantitative or qualitative methods.

This review excluded studies that, although related to PHC, did not address the economic dimensions of expenditures or burden of care. Research that concentrated on PHC providers to respond to intimate partner violence, demand for emergency care and physician practice styles were excluded, as these primarily assessed structural or organizational outcomes rather than economic impact. In this review, research illustrated on workforce related topics, such as leadership positions was eliminated because it placed more emphasis on management and performance than on expenses or any financial strain. As well as, failed to capture the wider economic aspects of PHC, disease-specific studies like oral health integration, non-communicable disease management, and early cancer detection were not included. Similarly, they did not directly report on costs or financial burden, studies that evaluated patient expectations, community-based care models, or quality measurement instruments were not included. The review stayed focused on evidence that specifically addressed the financial and economic challenges of PHC in Sri Lanka.

2.1.2. Study selection and data extraction

The review searched relevant studies and filter out duplicates under the independent evaluation process. When eligibility was unclear from the titles and abstracts, the full text was reviewed to check the eligibility for inclusion. The excel forms were designed to identify review patterns among the heterogeneity of study characteristics and outcomes. The data of searched studies consisted of three parts: They were, general information (author/authors, year of publication, countries examined); study characteristics (type of the study, statistical methods, study area); and summary of findings (factors used and main findings).The research study was based on PRISMA 2020. The method included four stages: (1) identification of records via databases and registers; (2) selection of records; (3) review of qualifications; and (4) inclusion in the study (Page et al., 2021).

Table 1: Search terms used for different relationships (without synonyms)

Keywords	Operator	Keyword Grouping	Operator	Keywords
Primary Health Care	AND	Challenges OR Barriers OR Constraints OR Health System Performance	AND	Expenditure OR Cost OR Finance OR Health Spending OR Economic Burden OR Financial Burden
PHC OR Primary Healthcare	AND	Household Burden OR Service Burden OR Care Burden	AND	Sri Lanka
Primary Care	AND	Resource Allocation OR Staffing OR Infrastructure	AND	Cost OR Spending OR Economic Burden
Primary Care Providers	AND	Productivity OR Workload OR Service Delivery	AND	Economic Impact OR Expenditure

Source(s): Compiled by the researcher (2025)

Regardless of the design of the included study, the PRISMA 2020 statement has been created primarily for systematic reviews of studies that access the effects of health interventions (Page et al., 2021).Therefor, this study used PRISMA 2020 updated review for selecting eligibility studies. The data-charting forms were used to categories the full-text studies that were reviewed. These excel forms were designed to identify review patterns among the heterogeneity of study characteristics and outcomes. Forms were divided by the various relationships

available in terms of the research question and were used for data extraction by including relevant notes and keywords for each articles.

2.1.3. Quality assessment

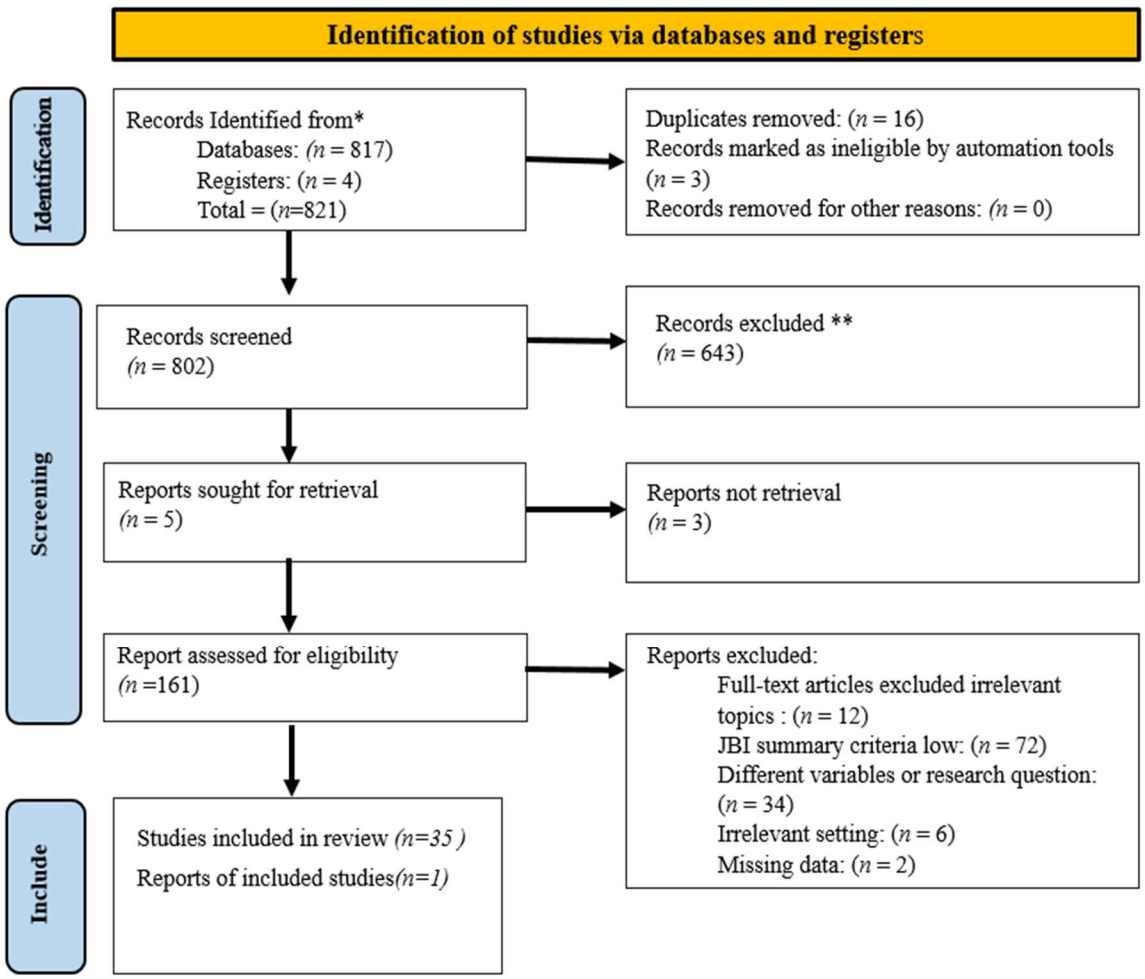
The quality of these 35 papers was selected using the methodological quality assessment and depth of reporting (Appendix 2). This made decisions on their eligibility and quality and disagreements that arose were solved through negotiations. This study excluded review articles, pilot studies, working papers, reports or unpublished PhD dissertations, books, symposiums, supplementary, prospective, or intervention studies, and those published in other languages.

3. Results

3.1.Identification of studies

In this review, a total of 821 articles were initially retrieved through database and register searches. Before the screening phase, 19 records were removed due to duplication (n=16) and ineligibility by automation tools (n=3). Consequently, 802 articles proceeded to the first phase of screening, which was based on titles and abstracts. There were 643 articles excluded, leaving 159 articles eligible for full-text retrieval. Out of these, 161 articles were successfully assessed for full-text eligibility, while a small number were not retrieved. Following detailed evaluation, 126 reports were excluded due to reasons such as low methodological quality, irrelevant variables, or unsuitable settings. Finally, 35 studies reported by the WHO that met the inclusion criteria were considered as eligible for this review *(see, Figure 1)*.

Figure 1: The Economics of Primary Health Care in Sri Lanka: Assessing Expenditures and Burden of Care PRISMA (2020) flow diagram



3.2. Study characteristics

In this review, 12 studies (34.3%) of 35 selected articles examined the economic impacts of PHC in terms of cost, expenditure, and efficiency. In contrast, 9 articles (25.7%) covered strengthening and reforms of the health system, and 5 studies (14.3%) analyzed human resource and workforce issues. Four studies (11.4%) targeted equity, access, and utilization of services, 4 other studies (11.4%) targeted conceptual and theoretical definition of PHC, relative to the Alma-Ata and Astana declarations and UHC. Few studies investigated public–private partnerships (2 studies, 5.7%), crisis and post-pandemic transformation impact (2 studies, 5.7%), and primary care quality and performance measurement (1 study, 2.9%).

Table 2: Characteristics of the included studies (n =35)

Study area	*n*	Percentage	Sources
Economic impacts of PHC (costs, expenditures, efficiency)	12	34.3	*Clarke (2021); Elmusharaf (2024); Ouimet (2015); Sarkar (2022); Dibba (2025); Nair (2023); Kumar (2019); Espinosa-González (2019); Rao (2024); Ahmed (2024); Bitton (2019); Elmusharaf (2024)*
Health system strengthening & reforms	9	25.7	*Thekkur (2022); Bitton (2017); Perera (2024); Endalamaw (2023); Endalamaw (2024); Joudyian (2021); Doshmangir (2019); Alegre (2024); Gunarathna (2023)*
Human resources & workforce challenges	5	14.3	*Thekkur (2022); Endalamaw (2024); Kardakis (2013); Nair (2023); Gizaw (2022)*
Equity, access & service utilization	4	11.4	*Gizaw (2022); Ouimet (2015); Li (2020); Costa (2024)*
Public–private partnerships	2	5.7	*Kumar (2019); Joudyian (2021)*
Crisis impacts (economic crisis, post-pandemic reforms)	2	5.7	*Sarkar (2022); Alegre (2024)*
Primary care quality & performance evaluation	1	2.9	*Sathyananda (2018)*
Global conceptual & theoretical framing (PHC as foundation, Alma Ata, UHC links)	4	11.4	*Frenk (2009); De Maeseneer (2018); Starfield (2005); Assefa (2020)*
Study Setting			
Sri Lanka	5	14.3	
South Asia (incl. SL)	3	8.60	
Developing Countries (General)	2	5.70	
LMICs (Low- and Middle-Income Countries)	3	8.60	
Global / Multi-country	5	14.30	
Developed Countries	4	11.40	
Emerging / Regional (Other LMIC/Developing Contexts)	13	37.10	
Publication Year			
2005–2015	4	11.4	
2016–2020	9	25.7	
2021–2025	22	62.9	
Models / Tools			
Cost estimation frameworks	3	8.6	
Econometric / regression	2	5.7	
Policy analysis frameworks	2	5.7	
Conceptual frameworks (UHC, Alma Ata, PHC systems)	3	8.6	

Data sources	***n***	***%***
Secondary	30	85.7
Primary	5	14.3
Methodology		
Quantitative	16	45.7
Qualitative	6	17.1
Mixed	4	11.4
Literature-based / conceptual	9	25.7

As far as the study setting is concerned, 5 studies (14.3%) were Sri Lanka specific, and 3 studies (8.6%) were South Asia encompassing Sri Lanka. Two studies (5.7%) were general developing countries and 3 studies (8.6%) were conducted in LMICs. Five studies (14.3%) were global/multi-country analyses, and 4 (11.4%) were from developed countries, and the largest number (13 studies, 37.1%) were PHC in broader emerging or regional LMIC contexts.

The review spanned studies from the period 2005 to 2025, with evidence of a smooth rise in publication during the recent years. 4 articles (11.4%) were published in the 2005 to 2015 period, 9 (25.7%) were published in the 2016 to 2020 period, and 22 articles (62.9%) were published in the 2021 to 2025 period, reflecting the growing interest globally in the economics and performance of PHC during this decade.

With regard to the data sources, all but one study (30, 85.7%) used secondary data, whereas 5 (14.3%) relied on primary data. Methodologically, 16 (45.7%) applied quantitative approaches, 6 (17.1%) applied qualitative approaches, 4 (11.4%) applied mixed-methods, and 9 (25.7%) were conceptual or review of literature analysis.

Several models and tools were employed in analyzing PHC economics and system functioning. These included cost estimation models (3 studies, 8.6%), econometric or regression models (2 studies, 5.7%), policy analysis models (2 studies, 5.7%), and conceptual models of PHC, UHC, and Alma-Ata (3 studies, 8.6%).

Overall, the methodological range of studies included was moderate to high. IMRaD (Introduction, Materials/Methods, Results, and Discussion) fixed format was used the majority of the studies. Commonly used quantitative approaches, but qualitative, mixed-method, and conceptual research were also present. Table 2 above shows a summary of the characteristics of studies included.

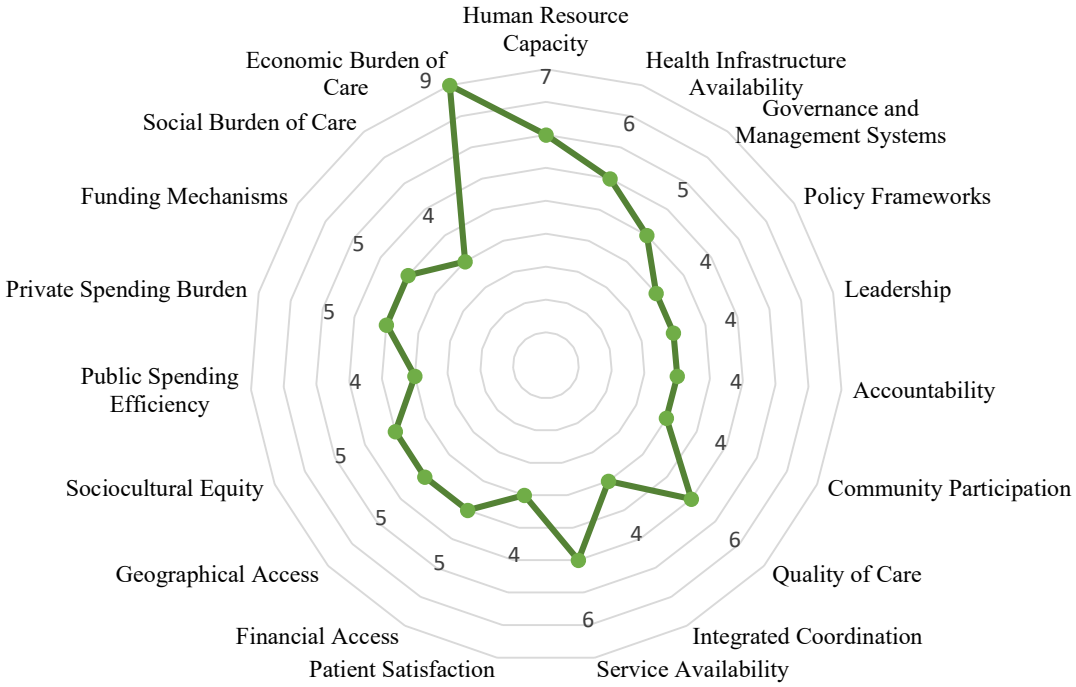
3.3. Summary of the key findings

All of the studies included in this review examined core health system factors that determine the economic burden and performance of PHC. Figure 2 illustrates the variables and their frequency across the reviewed literature. Out of 35 studies, economic burden of care was the most frequently discussed variable, highlighted in nine studies, followed by human resource capacity in seven studies. Health infrastructure availability, service availability, and quality of care were each examined in six studies. Governance and management systems, financial access, geographical access, private spending burden, and funding mechanisms appeared in five studies each. Variables such as policy frameworks, leadership, accountability, community participation, integrated coordination, patient satisfaction, public spending efficiency, and social burden of care were discussed in four studies each. Less frequently covered, but still relevant, were distribution inequities, facility availability, training and skills development, supply chains and e-health tools, equipment and diagnostics, leadership and decision-making, facility management, and stock management and supervision, appearing in three or four studies. Notably, most studies analyzed multiple variables simultaneously, underscoring the interrelated nature of PHC system performance and its impact on both economic and social burdens of care.

3.3.1. Impact of Human Resource Capacity on Primary Health Care

Representing seven studies, looked at how human resource capacity affected PHC performance. Four of these studies emphasized the lack of workers, three examined the unequal distribution of employees, and three examined skill development and training. The effects of these human resource shortages on household expenses and service efficiency, such as longer wait times, more frequent visits, and greater OOP expenses, were highlighted in five studies. Countries and regions like China, South Asia, Ethiopia, Sri Lanka, and other LMICs were included in the studies.

Figure 2: Factors examined and their frequencies in the included studies



Source : Compiled by the author (2025)

Sathyananda et al. (2018) stated that the health workforce capacity is the core determinant of the PHC performance in developing countries. Here, three common obstacles to efficient PHC delivery were found in all of the reviewed studies. Such as, a lack of staff, an unequal distribution of the health workforce, and inadequate training. Several challenges affect PHC services, including staff shortages, unequal distribution of health workers, and limited training opportunities. The author noted that these shortages increase patient workload at PHC centers, which can lead to longer waiting times, lower quality of care, more frequent visits, and a tendency for patients to seek private services. Consequently, households often face higher OOP expenses. Supporting this, Starfield et al. (2005) agueed that regions with adequate numbers of PHC professionals experience better population health outcomes, fewer hospitalizations, and reduced reliance on emergency care. Improved chronic disease management, lower direct and indirect household costs, and fewer inefficiencies and higher expenditures are all directly correlated with workforce competency and skill development among the PHC workforce. Both Endalamaw et al. (2023) and Clarke et al. (2021) stressed the value of having a diverse workforce in PHCs in rural areas to guarantee continuity of care, prevent unnecessary hospitalizations, and reduce systemic costs. According to Sheikh and Ghafar (2021) and Thekkur et al. (2022), patients in Sri Lanka's rural clinics avoid PHC access due to the PHC workforce's decline, which results in both direct and indirect financial burdens. Ahmed et al. (2024) found that the limited uneven distribution of the health workforce in South Asia affected the readiness of PHC systems to deliver services for non-communicable diseases. This shortage not only caused inefficiencies in service provision but also increased the financial burden on households relying on these services.

3.3.2. Impact of Health Infrastructure Availability on Primary Health Care

A total of six studies examined how the quality and availability of health infrastructures impact the effectiveness of PHC.Three studies emphasized facility availability, four highlighted the necessity of equipment and diagnostic capabilities, and three addressed supply chains and e-health technologies. Four studies concluded that

infrastructure has a direct impact on patient access and expenses. Sri Lanka, GCC countries, China, and other LMICs were all covered.

Strong PHC infrastructure, including physical facilities, diagnostic instruments, supply chains, and other medical device equipment, is necessary to provide effective care. Underinvestment in the health infrastructure and resources has been cited as a major obstacle in the majority of research. Endalamaw et al. (2023) and Dibba et al. (2025) noted that patients ended up visiting secondary or tertiary hospitals because they were unable to obtain necessary diagnostic equipment, and prompt treatment delivery is less effective and raises household expenses. According to Li et al. (2017), PHCs' lack of proper laboratory facilities increased the risk of delayed diagnoses, follow-up patient visits, and ultimately, greater cumulative costs become higher. Well-maintained infrastructures, reliable electricity, and other sanitation facilities were associated with increased patient satisfaction, improved treatment adherence, and lower indirect costs due to lost workdays (Li et al., 2020). Elmusharaf et al. (2024) highlighted the importance of stable supply chain for essential medications and vaccines, noting its impact on both health outcomes and household budgets. When PHC facilities maintain adequate pharmaceutical stocks, patients are less likely to purchase medications privately, which helps reduce their OOP expenses. Similarly, Alegre et al. (2024) found that implementing e- health tools, such as electronic patient records and inventory tracking, enhances resource efficiency, prevents stock outs, and improves the integration of services within PHC facilities. Finally, these improvements contribute to lower overall system costs.

3.3.3. Impact of Governance and Management Systems on Primary Health Care

A total of five studies examined PHC's governance and management, with particular attention to leadership, decision-making, facility operations, stock monitoring, and resource allocation. Effective management directly affects service quality and overall system efficiency. According to these studies, which were carried out in Sri Lanka, Iran, Turkey, and other LMICs.

The performance of PHC systems depends on strong governance and management system. Poor governance can lead to resource misallocation and inefficient spending. Espinosa Gonzalez and Normand (2019) and Fitch (2009) suggested that centralized structured can enhance resource allocation and policy implementation as long as there is sufficient institutional oversight. Liu et al. (2008) stated that poor PHC facility management affects for the delays, stock outs, and uneven supervision, and raise patient costs. Clarke et al. (2021) also reported that enhancing leadership, accountability, and decision making within PHC management enhances both system efficiency and financial sustainability. Likewise, Thekkur et al. (2022) highlighted that strategies like enhancing PHC performance affects for the sustainable financing.

3.3.4. Impact of Policy Frameworks on Primary Health Care

Four studies explored policy frameworks in PHC, focusing on national initiatives, reform policies, resource integration, and economic efficiency. This context on Sri Lanka, South Asia, and other LMIC countries.

According to the Bitton et al. (2017) noted that putting reforms into integrated national plans can improve health system efficiency in LMICs, Thekkur et al. (2022) noted Sri Lanka's current policy frameworks have assisted in addressing the lack of human resources and enhancing information systems. According to Perera et al. (2024), clear PHC policies can lessen the financial burden on South Asian households. This is alien with Doshmangir et al. (2019), mentioned that in LMICs, the lack of integrated frameworks frequently results in inefficiencies and increased service delivery costs.

3.3.5. Impact of Leadership on Primary Health Care

Four studies examined leadership in PHC focusing on adaptive leadership, workforce collaboration, resource allocation, and cost reduction. Studies based on Sri Lanka, South Asia, and other LMICs.

According to Alegre et al. (2024). Wijemunige et al. (2024) found that leadership in Sri Lanka concerning PHC funding and workforce distribution, which led to inefficiencies and increased expenses. Endalamaw et al. (2023) stated that system cost can be decreased and unnecessary hospital referrals can be decreased with leadership support for a multidisciplinary workforce. Rao et al. (2024) further stated that strong leadership is crucial in South Asian PHC systems.

3.3.6. Impact of Accountability on Primary Health Care

Four studies examined accountability in PHC, based on monitoring Public-Private Partnerships (PPP), efficiency improvements, and cost reduction for households. Research from Sri Lanka and Turkey countries revealed that open and accountable governance support cost effective and equitable service delivery cause to PHC.

According to Clarke et al. (2021) mentioned that ineffective accountability makes PHC more inefficiency and it raises systems costs and puts more of financial burden on households. Joudyian et al. (2021) stated that, inadequate monitoring in public private partnerships frequently affects for the cost on to patients and undermining the objectives of financial protection. According to Kumar (2019), accountability gaps posed problem for UHC and economic sustainability. Espinosa-Gonzalez and Normand (2019) emphasized that in Turkey's PHC reforms increased expensed expenses and decreased reform efficacy due to accountability shortcomings.

3.3.7. Impact of Community Participation on Primary Health Care

Four studies examined community participation in PHC, mentioning the areas as service delivery, chronic disease management, and reducing financial burden based on Sri Lanka, Portugal, Australia, and Ethiopia, underscore the value of participatory approaches in improving access to care and health outcomes.

Starfield et al. (2005) found that for the PHC sector community integrating create better health outcomes at lower system costs. Similarly, De Maeseneer and Kendall (2018) observed that engaging community attending into PHC systems reduce chronic illness and house hold expenses. In Sri Lanka, Nair et al. (2023) reported that limited community participation in NCDs into PHC reforms reduced service uptake, leading patients to get private care and make higher OOP costs. Gizaw et al. (2022) similarly mentioned that specially in rural communities, community participation improved access and reduced financial barriers to care.

3.3.8. Impact of Quality of Care on Primary Health Care

Six studies focused on the quality of care in PHC, including clinical outcomes, adherence to treatment guidelines, patient satisfaction, and cost reduction based on Sri Lanka, Ethiopia, China and other LMICs.

Sathyananda et al. (2018) reported that poor quality care like misdiagnosis and inadequate follow up, led to repeated consultation and greater dependence on higher level hospitals, which increase public and private expenditures. Starfield et al. (2005) demonstrated that strong PHC quality reduces hospitals admissions and emergency visits and reduce the financial burden on health systems and households. Clarke et al. (2021) mentioned that through regular staff training and making strong to clinical guidelines enhance the management of PHC. Elmusharaf et al. (2024) observed that standardized care improved patient satisfaction and reduce avoidable costs. Sheikh and Ghafar (2021) noted that improvements in service quality reduced indirect cost. Endalamaw et al. (2023) emphasized that many LMICs, including Sri Lanka, with a persistent weak monitoring mechanisms, continue to lack of the cost-effectiveness and long-term sustainability of PHC.

3.3.9. Impact of Integrated Coordination on Primary Health Care

Four studies investigated integrated coordination on PHC including, continuity of treatment, referral networks, the use of electronic health records, and overall efficiency gains based on Sri Lanka and other LMICs.

Perera et al. (2024) observed that fragmented PHC services often led to repeated diagnostic tests and multiple referrals, which caused to increase household health expenditures. Similarly, Dibba et al. (2025) reported that weak coordination between PHC centers and hospitals created inefficiencies and patients led to visit privet hospitals. Bitton et al. (2017) mentioned that integrated coordination and referral system create efficiency by facilitating timely care, preventing duplication, and maximize resources. Furthermore, Endalamaw et al. (2023) noted that the maintain of electronic health records and standardized referral mechanism enhanced continuity of care, improved clinical outcomes, and reduced both direct and indirect economic burdens on families.

3.3.10. Impact of Service Availability on Primary Health Care

Six studies examined the service availability of PHC services by focusing on essential medicines, diagnostic facilities, NCD services, access, and house hold spending based on Sri Lanka, China, Portugal, and South Asian context.

Thekkur et al. (2022) defined in Sri Lankan context shortages of medicines, laboratory facilities, and health personnel, which often turn patients to bypass PHC centers and seek high level hospitals with higher health services charges. Nair et al. (2023) noted that gaps NCD service in Sri Lanka's PHC reforms increased added financial pressure on households. Li et al. (2017, 2020) mentioned that in China, limited service availability of PHC facilities and diverted patients to privet hospitals and increased healthcare expenditures. Clarke et al. (2021) and Elmusharaf et al. (2024) observed that inadequate service coverage created inefficiencies and increase cost systemically. Sarkar (2022) also emphasized that due to the recent economic crisis in Sri Lanka, experienced these service availability shortages and increasing OOP expenses on essential drugs and travel costs for distant care.

3.3.11. Impact of Patient satisfaction on Primary Health Care

Four studies have examined at patient satisfaction within PHC, focusing on treatment adherence, the use of health services, and the social and financial pressures faced by patients. This was focused countries from Sri Lanka and Australia.

According to the Starfield et al. (2005) stated that patients are more likely to adhere to treatment plans when they are happy with their acre, especially when lower the need for hospital stays. Reed et al. (2017) demonstrated that greater satisfaction levels helps to lower overall healthcare costs and improve the management of chronic conditions. Sheikh and Ghafar (2021) mentioned that patient are more likely to remain involved in their care when healthcare workers communicate effectively and considering cultural sensitivity, which lessens the financial and emotional burden. Supporting this, Assefa et al. (2020) mentioned that patient satisfaction depends on people perceive service accessibility, quality, and efficiency factors that ultimately influence how much they use health care and how much the system spend.

3.3.12. Impact of Financial Access on Primary Health Care

Five studies examined financial access to PHC, focusing on affordability, OOP costs, and household economic vulnerability. These based on researches from Sri Lanka, Ethiopia, and Gulf Cooperation Council countries context.

According to the Clarke et al. (2021) mentioned that people focused from public health services providers to private providers due to not affordable of PHC, household become more economically vulnerable, and limited public coverage pushes patients toward private providers and raising costs. Thekkur et al. (2022) and Nair et al. (2023) emphasized this view, though Sri Lanka's PHC system provides basic services free of charge, but shortages of medicines, diagnostics, and health personnel frequently drive patients to the private sector and raising both direct and indirect house hold expenses. Elmusharaf et al. (2024) emphasized that for identifying inefficiencies in PHC it's mostly important that, analyzing expenditure patterns for clinical services is essential since hidden or unmeasured costs often fall on households. Sarkar (2022) also mentioned that, in South Asian PHC systems lack

of prepayment options and gaps in financial protection caused to increase OOP expenditures among low-income households.

3.3.13. Impact of Geographical Access on Primary Health Care

Five studies explored the geographical distribution of PHC facilities, focusing on travel burdens and rural – urban inequities. Evidence from Sri Lanka, South Asia, and LMICs countries.

Sathyananda et al. (2018) mentioned that many developing countries, due to unequal placements of health care centers caused to long travel distances and under-utilization of PHC services. Thekkur et al. (2022) mentioned that in Sri Lanka rural and estate population face particularly challenges to take essential drugs. Since of this rural-urban disparities, Gizaw et al. (2022) mentioned that increasing physical availability and reducing travel distance of PHC facilities in rural areas substantially enhance both access and PHC utilization. Rao et al. (2024) highlighted that in South Asia impose additional time and transportation costs, reinforcing existing socio-economic inequalities due to difference facility density and staff distribution. Clarke et al. (2021) emphasized that balanced facility distribution and strong referral networks minimizing unnecessary hospital visits and reducing house hold financial burdens.

3.3.14. Impact of Sociocultural Equity on Primary Health Care

Five studies examined sociocultural equity influencing including gender barriers, health literacy, cultural acceptability, and community engagement based on Sri Lanka, South Asia, and LMICs.

According to Sheikh and Ghafar (2021) mentioned that among marginalized and low-income groups have focused weak governance and limited attention to social determinants within PHC policy frameworks disparities. Ahmed et al. (2024) further demonstrated that, service delivery often prevent equitable access to NCD care in South Asia due to cultural stigma, discrimination, and the lack of gender sensitive service delivery. Bitton et al. (2019) mentioned that, despite ongoing PHC reforms in LMICs, persistent inequities arise from inadequate recognition of community preferences and patient perceptions of care quality. Perera et al. (2024) and Wijemunige et al. (2024) emphasized in Sri Lankan context, the importance of community participation and culturally adapted service delivery in improving trust and utilization of PHC services.

3.3.15. Impact of Public Spending Efficiency on Primary Health Care

Four studies examined the efficiency of public expenditure in PHC, with particular attention to fund allocation, cost – effectiveness, and waste reduction based on Sri Lanka, other LMICs, and Gulf Cooperation Council nations.

Clarke et al. (2021) mentioned that PHC services yield higher cost-effectiveness compared with hospital-centric investment. As in Sri Lanka, Thekkur et al. (2022) noted that, irregular drug supplies, fragmented information systems, and resource underutilization factors that contribute to hidden costs and it impacts of overall public investment. Bitton et al. (2017) stated that, by preventing avoidable hospitalizations and improving population health outcomes can achieve through countries with stronger PHC orientation with greater returns on investments. Elmusharaf et al. (2024) identified that, for identifying resources gaps and optimizing efficiency within PHC systems, it's essential to implement systematic cost and expenditure analyses.

3.3.16. Impact of Out-Of-Pocket expenditure (OOP) on Primary Health Care

Five studies examined economic implications of private health costs, focusing on OOP expenditures, dependence on private providers, and associated inequities. Evidence from Sri Lanka, Ethiopia, the Gulf Cooperation Council, and LMICs.

Sarkar (2022) noted that families experience OOP costs for medicines, diagnostics, and consultations, pushing vulnerable groups toward catastrophic health spending during periods of economic instability. Elmusharaf et al.

(2024) further emphasized that since of underfunding of public PHC services shifts the burden of care to the private sector, leaving lower income populations without adequate financial protection. Nair et al. (2023) and Thekkur et al. (2022) founded that, increasing both direct and indirect house hold costs due to the shortages of essential drugs and laboratory services public facilities compel patients to seek private alternatives. Joudyian et al. (2021) stated that, the absence of price control and referral coordination leads to inefficiency and overreliance on costly private services lead since of weak regulation of public-private interactions exacerbates financial disparities

3.3.17. Impact of Funding Mechanisms on Primary Health Care

Five Studies explored PHC financing mechanisms, focusing on PPPs, pooled funding models, sustainable financing, and equity in access. Evidence from Sri Lanka, Iran, South Asia, and LMICs.

While Liu et al. (2008) and Ouimet et al. (2015) founded that outsourcing and pooled funding mechanisms can improve efficiency and access to essential care, Kumar (2019) pointed out that PPPs can expand PHC funding in Sri Lanka by highlighting the strong regulatory frameworks to prevent inequities in access. According to Ahmed et al. (2024), PHC integration is still being hampered by fragmented NCD financing throughout South Asia, highlighting the need for coordination and pooled funding systems. Perera et al. (2024) mentioned that, for achieving sustainable UHC in Sri Lanka, need reorienting health financing towards PHC spending rather than hospital based spending.

3.3.18. Impact of Social Burden of Care on Primary Health Care

Four studies examined the social burden of PHC, including time costs, anxiety, and informal caregiving. Evidence from Sri Lanka, Ethiopia, and other LMICs underscore the hidden social and time related costs that households and communities bear when PHC systems are inadequate.

The social dimensions of care highlights how poorly resourced PHC affects patients' time, trust, and health-seeking behaviors. Sathyananda et al. (2018) noted that limited staffing and suboptimal services quality in PHC centers contributes to long wait timers, repeated visits, and patient dissatisfaction, eroding confidence in PHC as the first point of contact. Sheikh and Ghafar (2021) further emphasized that when communities perceive PHC services as under-resourced, they often bypass public facilities, delaying treatment or resorting to more expensive alternatives resulting in long term health and social consequence. In Sri Lanka, Thekkur et al. (2022) and Nair et al. (2023) reported that rural patients frequently avoid PHC clinics due to staff shortages and lack of essential medicines, generating both direct challenges and hidden social costs such a reliance on informal caregiving, travel stress, and lost productivity.

3.3.19. Impact of Economic Burden of Care on Primary Health Care

Nine studies examined the economic burden of care, including direct cost, lost productivity, and reliance on higher-level or private services. Evidence from Sri Lanka, Gulf Cooperation Council countries, and LMICs indicates that these pressures significantly affect both household and the sustainability of PHC systems.

The economic burden of acre is closely tied to OOP spending and opportunity costs arising from gaps in PHC service availability. Clarke et al. (2021) highlighted that poorly resourced PHC systems push patients towards secondary or private care, increasing household expenditures and reducing systems efficiency. Sarkar (2022) demonstrates that Sri Lanka's recent economic crisis has intensified this burden, with rising drug costs and limited access to affordable PHC. Elmusharaf et al. (2024) noted that underfunded PHC facilities in LMICs shift critical service costs onto households through private medication and diagnostics, while Starfield et al. (2005) showed that strong PHC systems can reduce economic strain by minimizing hospitalizations and emergency care. Thekkur et al. (2022) and Nair et al. (2023) reported that rural Sri Lankan households face repeated travel and medication costs due to drug and staff shortages, increasing both direct and indirect economic burdens. Joudyian et al. (2021)

emphasized that in contexts with weak public-private coordination, reliance on private providers elevates inequities and household financial stress. Perera et al. (2024) and Wijemunige et al. (2024) highlighted that households using under resourced PHC clinics often experience delayed treatment, repeat visits, and cumulative financial strain. Ahmed et al. (2024) showed that in South Asia, fragmented NCD services exacerbate reliance on OOP payments, adding to household vulnerability.

4. Discussion

This study focused from 2005 to 2025 researches which were analyzed through PHC's economics aspect in Sri Lanka (Appendix 1). This review looked at key determinants of PHC efficiency, the overall burden of care, and house hold and system-level expenses. It is essential to comprehend PHC's economic difficulties in addition to policy changes and funding sources for well-informed decision-making and efficient resource allocation. Evaluating PHC reforms and investments requires determining how funding practices and resource distribution determinants impact household spending and the performance of the national health system.

Evidence from Sri Lanka, Other LMICs, the regional South Asian context, and global PHC economic frameworks were based on for this review. Sri Lanka's PHC health system is significantly shaped by broader regional and global factors like donor funding, health worker migration, and macroeconomic constraints and as well as fiscal pressures and structural challenges have a significant impact on PHC performance in Sri Lanka.

A number of factors affected for the PHC's economic impact as included health spending by the government and households, the effectiveness of service delivery, OOP expenses, access equity, and the capacity of human resources (Clarke, 2021; Nair, 2023; Espinosa-González, 2019). Economic crises, a rise in the rate of chronic illness, and unequal service use are all contributing factors to the increasing social pressures on Sri Lanka's PHC system, according to the researched by Sarkar (2022) and Elmusharaf (2024). By increasing the gap between population health needs and available resources, these issues could the sustainability of PHC funding as well as the affordability of household health care.

Economic Impacts

According to the review, people frequently focused to the privet medical providers due to ongoing medication shortages, lack of diagnostic tools, and human resources, which raises OOP costs. This can worsen income inequality and divide the population between urban and rural areas since of this systematic financial burden on households. Sri Lanka's PHC system could serve as a buffer against economic and health shocks like as other LMICs, but systemic inefficiencies usually make households more financially vulnerable (Sarkar, 2022).

Economic Costs

In direct costs like travel expenses, lengthy wait times, repeated visits, and lost productivity further increase direct costs like prescription drugs and consultation fees. Therefore, patients frequently choose tertiary hospitals over local facilities in areas with inadequate PHC services, especially in rural areas, which raises overall costs (Sathyananda et al., 2018; Clarke et al., 2021).According to the data from global health system strong PHC networks can significantly reduce costs by preventing hospitalizations and medical emergencies (Starfield et al., 2005). If Sri Lanka's PHC system continues to be underfunded and inefficient, it could lose these advantages.

Efficiency and Resource Allocation

Efficiency emerged as a key challenge across all of the reviewed studies. Weak supply chains, under-utilized infrastructure, and irregular monitoring system were the constrained factors of return on public investments. Frequent stock-outs and recruitment delays are frequently reported, and inadequate governance and accountability systems also result in hidden costs (Espinosa-González & Normand, 2019). In order to maximize the impact of

the resources that are available, improving PHC delivery efficiency is therefore both an institutional and an economic priority.

Equity and Access

The economic burden of PHC is significantly shaped by socio-cultural and geographic disparities. Longer travel times, greater transportation expenses, and restricted access to necessary medications and diagnostic services are common problems in rural and estate communities. According to Ahmed et al. (2024) and Perera et al. (2024) mentioned that service utilization is further limited by socio cultural barriers like stigma, restrictive gender norms, and low health literacy. When these issues are combined, households become more dependent on alternative or higher-level medical services, which increases financial strains and lessens the equitable impact of publicly funded health care.

Governance, Leadership, and Accountability

The effectiveness of the PHC system has continuously found to be largely influenced by leadership and accountability. Adaptive leadership, transparent resource allocation, and effective monitoring have been shown to help reduce inefficiencies and prevent households from unwanted financial burdens (Alegre et al., 2024; Endalamaw et al., 2023).On the other hand, inadequate accountability, especially in PPP management, can cause costs to be passed on to patients and risk the health system's ability to remain economically feasible (Kumar, 2019; Joudyian et al., 2021).

Policy and Financing Mechanisms

Leadership and accountability have consistently been found to have a significant impact on the PHC system's effectiveness. It has been demonstrated that effective monitoring, transparent resource allocation, and adaptive leadership can help cut down on inefficiencies and protect households from unnecessary financial burdens (Alegre et al., 2024; Endalamaw et al., 2023).However, insufficient accountability, particularly in PPP management, can result in cost being passed on to patients and threaten the health system's continued sustainability from economic perspective (Kumar, 2019; Joudyian et al., 2021).

Social and Household Burden of Care

According to the literature, difficulties in PHC result in hidden costs such as anxiety from frequent treatment delays, depending on informal providers, and time spent travelling and waiting (Sheikh & Ghafar, 2021; Thekkur et al., 2022). These burdens increase inequality by particularly affecting rural and low income communities. By enhancing treatment responsiveness and particularly affecting rural and poor communities. By enhancing treatment responsiveness and persistence, community engagement and patient center approaches have been identified as successful strategies for reducing these burdens (Starfield et al., 2005; De Maeseneer & Kendall, 2018).

Together, these findings highlighted two issues facing Sri Lanka's PHC systems, protecting households from growing financial strains while also improving healthcare equity and efficiency. PHC must address these problems in order to carry out its fundamental responsibility of achieving UHC.

Contribution to the Literature

This review contributed significantly to the expanding literature of research on PHC economics. It placed the findings in a larger South Asian and LMICs context by methodologically synthesizing data on costs, effectiveness, and the burden of care in Sri Lanka. By doing this, it offered a methodological and easily comprehensible framework for how PHC issues influenced economic results at the household and system levels.

The review also highlights critical knowledge gap in exiting research. It reveals a shortage of Sri Lanka, specific empirical studies, heavy reliance on secondary data, and inconsistencies in measuring the economic burden including direct, indirect, and social costs. By mapping these interrelated dimensions, the study equity collectively influence national health spending and house hold vulnerability.

The evidence further shows that underinvestment in PHC not only increases OOP costs and system inefficiencies but also deepens the social and economic burdens borne by households. These effects are particularly pronounced among rural and low income groups, emphasizing that equity in PHC both a social justice and economic priority.

Finally, the review identifies areas that warrant further investigation. Few studies have comprehensively examined the long term financial sustainability of Sri Lanka's PHC systems aimed fiscal constraints and the growing burden of chronic diseases. Similarly, there is limited exploration of innovative financing mechanisms such as pooled funding and well regulated PPPs that could reduce household vulnerability. Addressing these research gaps will be vital to informing future reforms and ensuring that PHC remains the cornerstone of UHC in Sri Lanka.

Limitations

Several limitations in the evidence reviewed should be acknowledged. First, the majority studies relied on secondary data and descriptive or observational designs, limiting causal interpretation and increasing the potential for bias. Only few investigations used primary data, leading to notable geographic and contextual gaps in the evidence. Second, measurement approaches varied widely some focused solely on direct expenditures, while others incorporated broader factors such as time costs, travel, or productivity loss making it difficult to compare finding across studies. Third, there remains a shortage of Sri Lanka specific research, with much of the evidence drawn from broader South Asia or LMICs contexts. While these comparative insights are valuable, they may not fully reflect Sri Lanka's distinct fiscal, institutional, and policy realties.

5. Conclusion

PHC in Sri Lanka has long been central to achieving strong population health outcomes, supported by the country's policy of providing free public services at the point of delivery. However, this review shows that persistent economic challenges such as underfunding, inefficiencies, workforce shortages, and increasing OOP expenses continue to place significant strain on both households and the national health system. The interconnected nature of these challenges underscore the need to view PHC not only as health service delivery concern but also an economic imperative for sustainable development.

The review contributes to the multidisciplinary understanding of PHC economics in Sri Lanka by combining data from 2005 to 2025. Inadequate PHC coverage raised household vulnerability and financial hardship, illustrating the close relationships between expenditure, efficiency, equity, and social burden. According to the evidence, rural and low-income communities were disproportionately affected by inequities, making equitable access to care both a social issue and practical necessity.

The results highlighted a number of areas that need reform. Households can be protected from catastrophic health spending by strengthening financial protection mechanisms through prepayment plans, targeted subsidies, and expanded social health insurance. It is equally important to increase efficiency through digital innovation, less service duplication, and optimal workforce distribution. To guarantee that resources are used efficiently, stronger frameworks for accountability, transparency, and leadership are required. Equity in access can also be promoted by funding community-based projects, mobile health services, and infrastructure development in rural and underutilized areas. During times of financial constraint, innovative financing mechanisms like pooled funding and strictly regulated PPPs may also improve system resilience.

The effectiveness of new financing models, the measurement of indirect and social costs of care, and long-term sustainability of PHC financing under economic pressures should all be the focus of future research. Closing these knowledge gaps will be essential to creating evidence-based reforms that improve Sri Lanka's health system's equity and efficiency.

Finally, PHC ought to be acknowledged as the cornerstone of UHC as well as a calculated investment in social security and economic stability. Therefore, strengthening PHC is a priority for health policy as well as a means of achieving long-term social and economic resilience in Sri Lanka.

References

1. Ahmed, S. M., Krishnan, A., Karim, O., Shafique, K., Naher, N., Srishti, S. A., Raj, A., Ahmed, S., Rawal, L., & Adams, A. (2024). Delivering non-communicable disease services through primary health care in selected South Asian countries: Are health systems prepared? *The Lancet Global Health, 12*, e1706–e1719. https://doi.org/10.1016/S2214-109X(24)00234-5
2. Alegre, J. C., Sharma, S., Cleghorn, F., & Avila, C. (2024). Strengthening primary health care in low- and middle-income countries: Furthering structural changes in the post-pandemic era. *Frontiers in Public Health, 11*, 1270510. https://doi.org/10.3389/fpubh.2024.1270510
3. Assefa, Y., Hill, P. S., Gilks, C. F., Admassu, M., Tesfaye, D., & Van Damme, W. (2020). Primary health care contributions to universal health coverage in Ethiopia. *Bulletin of the World Health Organization, 98*, 894–905A. https://doi.org/10.2471/BLT.19.245670
4. Bitton, A., Fifield, J., Ratcliffe, H., Karlage, A., Wang, H., Veillard, J. H., Schwarz, D., & Hirschhorn, L. R. (2019). Primary healthcare system performance in low-income and middle-income countries: A scoping review of the evidence from 2010 to 2017. *BMJ Global Health, 4*, e001551. https://doi.org/10.1136/bmjgh-2018-001551
5. Bitton, A., Ratcliffe, H. L., Veillard, J. H., Kress, D. H., Barkley, S., Kimball, M., Secci, F., Wong, E., Basu, L., Taylor, C., Bayona, J., Wang, H., Lagomarsino, G., & Hirschhorn, L. R. (2017). Primary health care as a foundation for strengthening health systems in low- and middle-income countries. *Journal of General Internal Medicine, 32*(5), 566–571. https://doi.org/10.1007/s11606-016-3940-7
6. Bonfim, D., Belotti, L., Yamawaka de Almeida, L., Eshriqui, I., Maito Velasco, S. R., Monteiro, C. N., & Jantsch, A. G. (2023). Challenges and strategies for conducting research in primary health care practice: An integrative review. *BMC Health Services Research, 23*, 1380. https://doi.org/10.1186/s12913-023-09911-0
7. Clarke, L., Anderson, M., Anderson, R., Klausen, M. B., Forman, R., Kerns, J., Rabe, A., Kristensen, S. R., Theodorakis, P., Valderas, J., Kluge, H., & Mossialos, E. (2021). Economic aspects of delivering primary care services: An evidence synthesis to inform policy and research priorities. *The Milbank Quarterly, 99*(4), 974–1023. https://doi.org/10.1111/1468-0009.12503
8. Costa, E., Pestana, J., & Barros, P. P. (2024). Primary health care coverage in Portugal: The promise of a general practitioner for all. *Human Resources for Health, 22*, 55. https://doi.org/10.1186/s12960-024-00925-2
9. De Maeseneer, J., & Kendall, S. (2018). Primary health care 40 years after Alma Ata 1978: Addressing new challenges in a changing society. *The European Journal of Public Health, 28*(6), 983–987. https://doi.org/10.1093/eurpub/cky102
10. Dibba, Y., Boima, F., Jerome, J. G., et al. (2025). Patient satisfaction and its associated factors in selected primary healthcare facilities in Kono District, Sierra Leone: A cross-sectional study. *BMJ Open, 15*, e093501. https://doi.org/10.1136/bmjopen-2024-093501

11. Doshmangir, L., Moshiri, E., Mostafavi, H., Alipouri Sakha, M., & Assan, A. (2019). Policy analysis of the Iranian Health Transformation Plan in primary healthcare. *BMC Health Services Research, 19*, 670. https://doi.org/10.1186/s12913-019-4524-x
12. Elmusharaf, K., Poix, S., Grafton, D., Jung, J. S., Gribble, R., Stanton, R., Mahmoud, L., Al Asfoor, D. H., Alawadi, T., Mustafa, M., et al. (2024). Economics of primary healthcare: Cost estimation of clinical services at primary care facilities in the six countries of the Gulf Cooperation Council. *BMJ Open, 14*, e079332. https://doi.org/10.1136/bmjopen-2023-079332
13. Endalamaw, A., Khatri, R. B., Erku, D., Nigatu, F., Zewdie, A., Wolka, E., & Assefa, Y. (2023). Successes and challenges towards improving quality of primary health care services: A scoping review. *BMC Health Services Research, 23*, 893. https://doi.org/10.1186/s12913-023-09021-2
14. Endalamaw, A., Khatri, R. B., Erku, D., Zewdie, A., Wolka, E., Nigatu, F., & Assefa, Y. (2024). Barriers and strategies for primary health care workforce development: Synthesis of evidence. *BMC Primary Care, 25*, 99. https://doi.org/10.1186/s12875-024-02005-1
15. Espinosa-González, A. B., & Normand, C. (2019). Challenges in the implementation of primary health care reforms: A qualitative analysis of stakeholders' views in Turkey. *BMJ Open, 9*, e027492. https://doi.org/10.1136/bmjopen-2018-027492
16. Frenk, J. (2009). Reinventing primary health care: The need for systems integration. *The Lancet, 374*(9684), 170–173. https://doi.org/10.1016/S0140-6736(09)60254-3
17. Gizaw, Z., Astale, T., & Kassie, G. M. (2022). What improves access to primary healthcare services in rural communities? A systematic review. *BMC Primary Care, 23*, 313. https://doi.org/10.1186/s12875-022-01861-x
18. Gunarathna, S. P., Wickramasinghe, N. D., Agampodi, T. C., Prasanna, I. R., & Agampodi, S. B. (2023). Global Health: Science and Practice, 11(5), e2300066. https://doi.org/10.9745/GHSP-D-23-00066
19. Joudyian, N., Doshmangir, L., Mahdavi, M., Tabrizi, J. S., & Gordeev, V. S. (2021). Public-private partnerships in primary health care: A scoping review. *BMC Health Services Research, 21*, 4. https://doi.org/10.1186/s12913-020-06000-5
20. Kardakis, T., Weinehall, L., Jerden, L., Nyström, M. E., & Johansson, H. (2013). Lifestyle interventions in primary health care: Professional and organizational challenges. *European Journal of Public Health, 24*(1), 79–84. https://doi.org/10.1093/eurpub/cks029
21. Kumar, R. (2019). Public–private partnerships for universal health coverage? The future of "free health" in Sri Lanka. In *The Political Origins of Health Inequities and Universal Health Coverage* (pp. 75). Globalization and Health, 15(Suppl 1). https://doi.org/10.1186/s12992-019-0492-x
22. Li, X., Krumholz, H. M., Yip, W., Cheng, K. K., De Maeseneer, J., Meng, Q., Mossialos, E., Li, C., Lu, J., Su, M., Zhang, Q., Xu, D. R., Li, L., Normand, S.-L. T., Peto, R., Li, J., Wang, Z., Yan, H., Gao, R., Chunharas, S., Gao, X., Guerra, R., Ji, H., Ke, Y., Pan, Z., Wu, X., Xiao, S., Xie, X., Zhang, Y., Zhu, J., Zhu, S., & Hu, S. (2020). Quality of primary health care in China: Challenges and recommendations. *The Lancet, 395*(10239), 1802–1812. https://doi.org/10.1016/S0140-6736(20)30713-0
23. Li, X., Lu, J., Hu, S., Cheng, K. K., De Maeseneer, J., Meng, Q., Mossialos, E., Xu, D. R., Yip, W., Zhang, H., Krumholz, H. M., Jiang, L., & Hu, S. (2017). The primary health-care system in China. *The Lancet, 390*(10112), 2584–2594. https://doi.org/10.1016/S0140-6736(17)33109-5
24. Liu, X., Hotchkiss, D. R., & Bose, S. (2008). The effectiveness of contracting-out primary health care services in developing countries: A review of the evidence. *Health Policy and Planning, 23*(1), 1–13. https://doi.org/10.1093/heapol/czm044
25. Nair, D., Thekkur, P., Fernando, M., Kumar, A. M. V., Satyanarayana, S., Chandraratne, N., Chandrasiri, A., Attygalle, D. E., Higashi, H., Bandara, J., et al. (2023). Outcomes and challenges in noncommunicable disease

care provision in health facilities supported by primary health care system strengthening project in Sri Lanka: A mixed-methods study. *Healthcare, 11*(202). https://doi.org/10.3390/healthcare11020202

26. Ouimet, M.-J., Pineault, R., Prud'homme, A., Provost, S., Fournier, M., & Levesque, J.-F. (2015). The impact of primary healthcare reform on equity of utilization of services in the province of Quebec: A 2003–2010 follow-up. *International Journal for Equity in Health, 14*, 139. https://doi.org/10.1186/s12939-015-0271-4
27. Perera, S., Ramani, S., Joarder, T., Shukla, R. S., Zaidi, S., Wellappuli, N., Ahmed, S. M., Neupane, D., Prinja, S., Amatya, A., & Rao, K. D. (2024). Reorienting health systems towards primary health care in South Asia. *The Lancet Regional Health – Southeast Asia, 28*, 100466. https://doi.org/10.1016/j.lansea.2024.100466
28. Rao, K. D., Prinja, S., Masud, S., Afsana, K., Perera, S., Ramani, S., & Weerasinghe, M. C. (2024). Primary health care in South Asia: A time for reform. *The Lancet Regional Health – Southeast Asia, 28*, 100467. https://doi.org/10.1016/j.lansea.2024.100467
29. Reed, R. L., McIntyre, E., Jackson-Bowers, E., & Kalucy, L. (2017). Pathways to research impact in primary healthcare: What do Australian primary healthcare researchers believe works best to facilitate the use of their research findings? *Health Research Policy and Systems, 15*, 17. https://doi.org/10.1186/s12961-017-0171-1
30. Sarkar, S. (2022). Impact of the economic crisis in Sri Lanka on health and healthcare services. *Epilepsy & Behavior, 131*, 107550. https://doi.org/10.1016/j.yebeh.2022.107550
31. Sathyananda, R. B., de Rijk, A., Manjunath, U., Krumeich, A., & van Schayck, C. P. (2018). Primary health centres' performance assessment measures in developing countries: Review of the empirical literature. *BMC Health Services Research, 18*, 627. https://doi.org/10.1186/s12913-018-3462-8
32. Sheikh, K., & Ghafar, A. (2021). A health policy and systems research approach for the assessment of country primary health care systems. *Health Research Policy and Systems, 19*, 31. https://doi.org/10.1186/s12961-021-00707-1
33. Starfield, B., Shi, L., & Macinko, J. (2005). Primary care contributions to health systems effectiveness. *The Milbank Quarterly, 83*(3), 457–502. https://doi.org/10.1111/j.1468-0009.2005.00409.x
34. Thekkur, P., Fernando, M., Nair, D., Kumar, A. M. V., Satyanarayana, S., Chandraratne, N., Chandrasiri, A., Attygalle, D. E., Higashi, H., Bandara, J., & Harries, A. D. (2022). Primary Health Care System Strengthening Project in Sri Lanka: Status and challenges with human resources, information systems, drugs and laboratory services. *Healthcare, 10*(11), 2251. https://doi.org/10.3390/healthcare10112251
35. Wijemunige, N., van Baal, P., Rannan-Eliya, R. P., & O'Donnell, O. (2024). Health outcomes and healthcare utilization associated with four undiagnosed chronic conditions: Evidence from nationally representative survey data in Sri Lanka. *BMC Global and Public Health, 2*, 45. https://doi.org/10.1186/s44158-024-00045-8
36. World Health Organization. (2019). Universal health coverage primary health care towards universal health coverage. WHA 72/12. https://apps.who.int/gb/e/e_wha72.html

Appendix 1: Included studies on The Economics of Primary Health Care in Sri Lanka Assessing Expenditures and Burden of Care

Source	Countries examined	Method	Findings	
			Objective	Main finding
Ahmed et al. (2024)	Selected South Asian countries (incl. Sri Lanka)	Comparative analysis / review	Assess preparedness of PHC to deliver NCD services	PHC systems in South Asia are underprepared for NCDs; workforce and resource gaps constrain service delivery and increase household costs.
Alegre et al. (2024)	LMICs (comparative)	Policy / conceptual analysis	Examine post-COVID PHC structural reforms	Strengthening PHC post-pandemic requires leadership and structural change to improve resilience and efficiency.
Assefa et al. (2020)	Ethiopia (case study)	Descriptive / program analysis	Examine PHC contributions to UHC	PHC contributes substantially to UHC when supported by public health functions and equity-focused policies.
Bitton et al. (2019)	LMICs (global review)	Scoping review	Review PHC system performance 2010–2017	PHC-oriented systems improve outcomes and efficiency, but reforms face persistent equity and implementation gaps.
Bitton et al. (2017)	Multi-country (LMICs)	Evidence synthesis	Argue for PHC as foundation for health systems	Reorienting spending toward PHC yields better population health and cost-effectiveness than hospital-centric models.
Bonfim et al. (2023)	Global PHC settings	Integrative review	Identify research challenges/strategies in PHC research	Conducting PHC research faces methodological and operational challenges; stronger primary-care research capacity is needed.
Clarke et al. (2021)	Global (incl. Sri Lanka)	Evidence synthesis	Synthesize economic aspects of delivering primary care	Inefficient PHC increases OOP expenditures; better PHC financing and quality can reduce downstream costs.
Costa et al. (2024)	Portugal	Policy / workforce study	Explore GP coverage and PHC access	Expanding GP coverage increases PHC responsiveness and may reduce hospital use.
De Maeseneer & Kendall (2018)	Europe / global	Policy commentary / review	Reflect on 40 years after Alma-Ata	Community engagement and comprehensive PHC approaches reduce household burden and improve equity.
Dibba et al. (2025)	Sierra Leone (Kono District)	Cross-sectional survey	Measure patient satisfaction in PHC facilities	Patient satisfaction correlates with service availability; gaps reduce utilization and increase bypass to costlier care.
Doshmangir et al. (2019)	Iran	Policy analysis	Evaluate Iranian Health Transformation Plan impacts on PHC	Reforms altered PHC delivery but implementation gaps affected equity and financial protection.

Source	Countries examined	Method	Findings	
			Objective	Main finding
Elmusharaf et al. (2024)	GCC countries (6 countries)	Cost estimation / economic study	Estimate PHC clinical service costs	Weak supply chains and service gaps increase household OOP; e-health and better costing can reduce inefficiencies.
Endalamaw et al. (2023)	LMICs (systematic / scoping)	Scoping review	Review successes & challenges in PHC quality	Workforce development and integrated services improve quality and reduce repeated visits and costs.
Endalamaw et al. (2024)	LMICs	Evidence synthesis	Barriers & strategies for PHC workforce development	Major barriers: training, distribution, retention; addressing these reduces inefficiencies and household burden.
Espinosa-González & Normand (2019)	Turkey (comparative lessons)	Qualitative stakeholder analysis	Explore PHC reform implementation challenges	Weak implementation and accountability increased inefficiency and unintended cost shifts.
Frenk (2009)	Global commentary	Commentary / conceptual	Advocate system integration for PHC	Calls for integrating PHC into broader systems to improve efficiency and equity.
Gizaw et al. (2022)	Rural communities (systematic)	Systematic review	Identify factors improving rural PHC access	Reducing travel distance and improving facility availability increases utilization and lowers indirect costs.
Gunarathna et al. (2023)	Global / Sri Lanka examples	Commentary / policy note	Discuss PHC service pressures & costs	Evidence of rising OOP for antenatal/routine care despite nominally free services.
Joudyian et al. (2021)	LMICs (review)	Scoping review	Review PPPs in PHC	PPPs can extend services but weak oversight often shifts costs to patients and raises inequity.
Kardakis et al. (2013)	European primary care	Review	Examine organizational challenges in lifestyle interventions	Organizational and professional barriers limit PHC delivery of preventive interventions, raising downstream costs.
Kumar (2019)	Sri Lanka	Policy commentary / analysis	Analyze PPPs and future of free health in Sri Lanka	PPP expansion risks equity loss unless strongly regulated and aligned with UHC goals.
Li et al. (2017)	China	Review / case analysis	Describe China's PHC system and challenges	Inadequate PHC labs/diagnostics led to repeat visits and higher system/household costs.
Li et al. (2020)	China	Analysis of quality	Analyze PHC quality and recommendations	Strengthening clinical quality and diagnostics improves outcomes and reduces unnecessary referrals.
Liu et al. (2008)	Developing countries (review)	Review of contracting-out evidence	Assess contracting-out effectiveness for PHC	Contracting can expand access but quality, equity, and cost outcomes depend on design and oversight.

Source	Countries examined	Method	Findings	
			Objective	Main finding
Nair et al. (2023)	Sri Lanka	Mixed-methods study	Evaluate NCD service provision under PHC strengthening	Inadequate NCD services in PHC lead to reliance on private care and increased household expenditure.
Ouimet et al. (2015)	Quebec, Canada	Longitudinal analysis	Assess PHC reform impact on equity of utilization	Reforms improved equity when PHC access was strengthened; financing orientation matters for distributional effects.
Perera et al. (2024)	South Asia (incl. Sri Lanka)	Policy analysis / review	Recommend reorienting systems toward PHC	Integrated PHC frameworks reduce household burden and improve equity when implemented coherently.
Rao et al. (2024)	South Asia	Policy review	Call for PHC reforms across South Asia	Leadership, financing, and workforce integration are essential to strengthen PHC and protect households.
Reed et al. (2017)	Australia	Qualitative study	Explore pathways to research impact in PHC	Translational strategies improve PHC uptake and can optimize resource use and reduce costs.
Sarkar (2022)	Sri Lanka	Case analysis	Assess impact of economic crisis on health services	Economic crisis increased medicine shortages and OOP spending, heightening household vulnerability.
Sathyananda et al. (2018)	Developing countries	Review of empirical literature	Assess PHC performance measurement	Workforce shortages and distribution inequities increase waiting times, repeat visits, and household costs.
Sheikh & Ghafar (2021)	Country PHC systems (methodology)	Health policy & systems research	Propose HPSR approach for PHC assessment	HPSR approach identifies governance/workforce gaps that drive inefficiencies and economic burden.
Starfield et al. (2005)	Global evidence	Evidence synthesis	Examine primary care contributions to system effectiveness	Strong primary care reduces hospitalizations and emergency use, lowering overall expenditures.
Thekkur et al. (2022)	Sri Lanka	Mixed-methods program evaluation	Evaluate PHC System Strengthening Project components	Drug, lab and HR shortages in PHC increase bypassing and household spending.
Wijemunige et al. (2024)	Sri Lanka	Survey analysis / econometric	Link health outcomes to undiagnosed chronic conditions	Undiagnosed conditions and service gaps increase utilization and costs; leadership/Gov gaps worsen efficiency.

Appendix 2: Methodological quality assessment and depth of reporting

Study	Background / Rationale	Objective Setting	Eligibility of Participants	Variables	Data Sources / Measurement	Study Size	Quantitative Variables	Statistical Methods (with	Participant Number	Descriptive Data	Main Results	Category of Continuous Variables	Key Results	Limitations	Interpretation	Funding
Ahmed et al. (2024)	y	y	y	y	y	y	y	y	y	y	y	y	y	y	y	y
Alegre et al. (2024)	y	y	y	y	y	y	y	y	n	y	y	y	y	y	y	y
Assefa et al. (2020)	y	y	y	y	y	y	y	y	y	y	y	y	y	y	y	y
Bitton et al. (2019)	y	y	n/a	y	y	y	y	y	n/a	y	y	n/a	y	y	y	y
Bitton et al. (2017)	y	y	n/a	y	y	y	y	y	n/a	y	y	n/a	y	y	y	y
Bonfim et al. (2023)	y	y	y	y	y	y	n	n	n	y	y	y	y	y	y	y
Clarke et al. (2021)	y	y	y	y	y	y	y	y	y	y	y	y	y	y	y	y
Costa et al. (2024)	y	y	y	y	y	y	y	y	n	y	y	y	y	y	y	y
De Maeseneer & Kendall (2018)	y	y	n/a	y	y	n/a	n	n/a	n/a	y	y	n/a	y	y	y	n
Dibba et al. (2025)	y	y	y	y	y	y	y	y	y	y	y	y	y	y	y	y
Doshmangir et al. (2019)	y	y	y	y	y	y	y	y	y	y	y	y	y	y	y	y
Elmusharaf et al. (2024)	y	y	y	y	y	y	y	y	y	y	y	y	y	y	y	y
Endalamaw et al. (2023)	y	y	n/a	y	y	n/a	n	n	n/a	y	y	n/a	y	y	y	y
Endalamaw et al. (2024)	y	y	n/a	y	y	n/a	n	n	n/a	y	y	n/a	y	y	y	y
Espinosa-González & Normand (2019)	y	y	y	y	y	n	n	n	y	y	y	y	y	y	y	y
Frenk (2009)	y	y	n/a	y	y	n/a	n	n/a	n/a	y	y	n/a	y	y	y	n
Gizaw et al. (2022)	y	y	y	y	y	y	y	y	y	y	y	y	y	y	y	y
Gunarathna et al. (2023)	y	y	y	y	y	y	y	y	y	y	y	y	y	y	y	y
Joudyian et al. (2021)	y	y	y	y	y	y	y	y	n	y	y	y	y	y	y	y

Study	Background / Rationale	Objective Setting	Eligibility of Participants	Variables	Data Sources / Measurement	Study Size	Quantitative Variables	Statistical Methods (with	Participant Number	Descriptive Data	Main Results	Category of Continuous Variables	Key Results	Limitations	Interpretation	Funding
Kardakis et al. (2013)	y	y	y	y	y	y	y	y	y	y	y	y	y	y	y	y
Kumar (2019)	y	y	n/a	y	y	n/a	n	n	n/a	y	y	n/a	y	y	y	n
Li et al. (2020)	y	y	y	y	y	y	y	y	y	y	y	y	y	y	y	y
Li et al. (2017)	y	y	y	y	y	y	y	y	y	y	y	y	y	y	y	y
Liu et al. (2008)	y	y	y	y	y	y	y	y	n	y	y	y	y	y	y	y
Nair et al. (2023)	y	y	y	y	y	y	y	y	y	y	y	y	y	y	y	y
Ouimet et al. (2015)	y	y	y	y	y	y	y	y	y	y	y	y	y	y	y	y
Perera et al. (2024)	y	y	y	y	y	y	y	y	n	y	y	y	y	y	y	y
Rao et al. (2024)	y	y	y	y	y	y	y	y	n	y	y	y	y	y	y	y
Reed et al. (2017)	y	y	n/a	y	y	n/a	n	n	n/a	y	y	n/a	y	y	y	y
Sarkar (2022)	y	y	y	y	y	y	n	n	n	y	y	y	y	y	y	y
Sathyananda et al. (2018)	y	y	y	y	y	y	y	y	n	y	y	y	y	y	y	y
Sheikh & Ghafar (2021)	y	y	n/a	y	y	n/a	n	n	n/a	y	y	n/a	y	y	y	y
Starfield et al. (2005)	y	y	n/a	y	y	n/a	n	n/a	n/a	y	y	n/a	y	y	y	n
Thekkur et al. (2022)	y	y	y	y	y	y	y	y	y	y	y	y	y	y	y	y
Wijemunige et al. (2024)	y	y	y	y	y	y	y	y	y	y	y	y	y	y	y	y
	100	100	91	100	100	97	91	86	83	100	97	91	100	91	100	91

Note(s): y: present: not present n/a: not applicable

Source(s): *Rana et al. (2020*)

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