



Modified scoping review of the enablers and barriers to implementing primary health care in the COVID-19 context

Alexandra Edelman¹, Robert Marten², Hernán Montenegro³, Kabir Sheikh², Shannon Barkley³, Abdul Ghaffar², Suraya Dalil³ and Stephanie M Topp^{1,4,*}

¹College of Public Health, Medical and Veterinary Sciences, James Cook University, Townsville, QLD, Australia

²Alliance for Health Policy and Systems Research, World Health Organization, Switzerland

³Special Programme on Primary Health Care, World Health Organization, Geneva, Switzerland

⁴Nossal Institute for Global Health, University of Melbourne, VIC, Australia

*Corresponding author. College of Public Health, Medical and Veterinary Sciences, James Cook University, Building 41, Townsville Campus, Douglas, Townsville, QLD 4811, Australia. E-mail: globalstopp@gmail.com

Accepted on 10 June 2021

Abstract

Since the Alma Ata Declaration of 1978, countries have varied in their progress towards establishing and sustaining comprehensive primary health care (PHC) and realizing its associated vision of ‘Health for All’. International health emergencies such as the coronavirus-19 (COVID-19) pandemic underscore the importance of PHC in underpinning health equity, including via access to routine essential services and emergency responsiveness. This review synthesizes the current state of knowledge about PHC impacts, implementation enablers and barriers, and knowledge gaps across the three main PHC components as conceptualized in the 2018 Astana Framework. A scoping review design was adopted to summarize evidence from a diverse body of literature with a modification to accommodate four discrete phases of searching, screening and eligibility assessment: a database search in PubMed for PHC-related literature reviews and multi-country analyses (Phase 1); a website search for key global PHC synthesis reports (Phase 2); targeted searches for peer-reviewed literature relating to specific components of PHC (Phase 3) and searches for emerging insights relating to PHC in the COVID-19 context (Phase 4). Evidence from 96 included papers were analysed across deductive themes corresponding to the three main components of PHC. Findings affirm that investments in PHC improve equity and access, healthcare performance, accountability of health systems and health outcomes. Key enablers of PHC implementation include equity-informed financing models, health system and governance frameworks that differentiate multi-sectoral PHC from more discrete service-focussed primary care, and governance mechanisms that strengthen linkages between policymakers, civil society, non-governmental organizations, community-based organizations and private sector entities. Although knowledge about, and experience in, PHC implementation continues to grow, critical knowledge gaps are evident, particularly relating to country-level, context-specific governance, financing, workforce, accountability and service coordination mechanisms. An agenda to guide future country-specific PHC research is outlined.

Keywords: Primary health care, comprehensive, multi-sectoral, social determinants, community engagement, COVID-19

Introduction

The 2018 Astana Declaration on Primary Health Care positions primary health care (PHC) as the cornerstone of sustainable health systems, underpinning the achievement of universal health coverage and the health-related Sustainable Development Goals (SDGs) (WHO and UNICEF, 2018). PHC is a central component of the Global Action Plan for Healthy Lives and Well-being for All, in which PHC is an ‘accelerator’ for achievement of SDG 3 (‘ensure healthy lives and promote well-being for all at all ages’) (WHO, 2020a). The three main components of PHC are as follows: (1) primary care (as distinct from PHC, ‘primary care’ is understood as ‘a key process in the health system that supports first-contact, accessible, continued, comprehensive and coordinated patient-focused care’; WHO and UNICEF, 2018) and essential public health functions as the core of integrated health services; (2) multi-sectoral policy and action and (3)

empowered people and communities (Figure 1) (WHO and UNICEF, 2020). These components frame key priority areas of interest for the international policymaking community in the context of coronavirus-19 (COVID-19), which include scaling up and managing critical emergency services, continuing essential services, managing referral systems, engaging and communicating with communities effectively, broader health determinants and working multi-sectorally.

To enable successful implementation of PHC, the World Health Organization (WHO) PHC Operational Framework identifies four strategic levers: (1) political commitment and leadership; (2) governance and policy frameworks; (3) funding and allocation of resources and (4) engagement of communities and other stakeholders (WHO and UNICEF, 2020). These strategic levers are supported by 10 inter-related operational levers. As there are substantial differences between health system contexts, detailed assessment of localized needs

Key messages

- Since the Alma Ata Declaration of 1978, there has been variable country-level progress towards establishing and sustaining a comprehensive primary health care (PHC) or realizing its associated vision of 'Health for All'.
- This review synthesizes the current state of knowledge about PHC impacts, implementation enablers and barriers, and knowledge gaps across the three main PHC components of primary care as conceptualized in the 2018 Astana Framework.
- Key enablers of PHC implementation include equity-informed financing models, health system and governance frameworks that differentiate multi-sectoral PHC from more discrete service-focussed primary care, and governance mechanisms that strengthen linkages between policymakers, civil society, non-governmental organizations, community-based organizations and private sector entities.
- Although knowledge about PHC implementation continues to grow, critical knowledge gaps are evident, particularly relating to country-level, context-specific governance, financing, workforce, accountability and service coordination mechanisms.

and capacity is critical for implementation alongside ongoing monitoring and evaluation (WHO and UNICEF, 2020).

International health emergencies such as pandemics, including COVID-19, are reminders of the importance of PHC as a foundation for not only routine essential services but also health system emergency responsiveness (WHO, 2020b). COVID-19 has created a window of opportunity to revisit the role of PHC, and more specifically, the multi-faceted health system issues that continue to challenge PHC 'implementation' and therefore full realization of the Astana Declaration in many countries (Ghebreyesus, 2020). Accordingly, the aim



Figure 1. The World Health Organization's three main components of primary health care (WHO and UNICEF, 2020)

of this review is to provide a synthesis of the PHC literature on impacts, implementation enablers and barriers, and knowledge gaps across the three main components of PHC and the strategic levers. Drawing on the main components of PHC as defined in the Astana Framework and adopted in the WHO's 'Operational framework for primary health care: transforming vision into action' (WHO and UNICEF, 2020), the review identifies the key enablers of, and barriers to, implementation of (1) primary care and essential public health functions as the central elements of integrated health services; (2) multi-sectoral policy and action and (3) empowered people and communities. Additionally, the review identifies emerging experiences and lessons from the COVID-19 pandemic relating to PHC. Drawing from the analysis of impacts, enablers, barriers and gaps relevant to PHC implementation and with reference to the COVID-19 context, the review offers a comprehensive agenda for future PHC-related research. The review findings and proposed research agenda therefore provide an entry point for policymakers and others thinking about where to invest in co-produced research that will inform and support current and future country-led PHC implementation.

Methods

Design

A scoping review design was adopted to summarize the evidence from a diverse body of literature relevant to PHC impacts, enablers and barriers. Scoping review methodologies are well-suited to broad enquiries about a body of knowledge that may be heterogeneous in methods or discipline, enabling questions to be posed such as follows: What is the nature of evidence in this field? and What is known about this concept/topic? The Preferred Reporting Items for Systematic reviews and Meta-Analyses (PRISMA) Extension for Scoping Reviews (Tricco *et al.*, 2018) was used to guide the review and reporting with a modification to accommodate the four phases of searching, screening and eligibility assessment described below.

Searching, screening and eligibility assessment

The searching, screening and eligibility assessment processes were undertaken in four phases between October and December 2020.

Phase 1: evidence syntheses and multi-country analyses on PHC

Phase 1 involved a database search in PubMed for literature reviews of any kind (e.g. scoping review and systematic review) and multi-country analyses containing 'primary health care' or 'primary care' or 'PHC' in the title or abstract. This approach enabled the review to leverage the substantial body of synthesis work produced within the recent decade (2010–20) and to concentrate the review on common issues and challenges relating to PHC impacts and implementation across countries. Additional papers were identified by searching of title–abstract records in a special issue of the Bulletin of the WHO on PHC published in November 2020. Included papers were peer-reviewed publications and grey literature published in English, with papers published prior to 2010 excluded to maximize the policy relevance

of the findings while ensuring adequate breadth. Following duplicate removal, title–abstract records were scanned and excluded if they clearly did not meet the inclusion criteria. Full-text papers were assessed for eligibility by one reviewer (SMT) with uncertainties (relating to five papers) resolved by consensus and discussion with at least one other reviewer. A small number of non-empirical policy analyses and commentaries were included through this process because of their direct examination of PHC implementation enablers and barriers.

Phase 2: seminal global synthesis reports on PHC

Recognizing that several key synthesis reports have been recently published and developed in relation to the Astana Conference and ‘PHC 2.0’ (Hone *et al.*, 2018), Phase 2 (undertaken in parallel to Phase 1) involved seeking these documents from WHO and United Nations websites. The reports were included if they related to the Astana Conference and offered a synthesis of evidence relating to PHC implementation. Documents were excluded if they were only tangentially related to PHC implementation, did not offer an evidence synthesis and/or did not reference the Astana Declaration.

Phase 3: targeted papers relating to the three main components of PHC

Phase 3 was undertaken after Phases 1 and 2 had been completed and involved targeted searches relating to key aspects of the main components of PHC and strategic levers, with a particular focus on governance and accountability, multi-sectoral collaboration, and community engagement and empowerment. Inclusion of the targeted papers in Phase 3 was judged on a case-by-case basis by two reviewers (ST and AE) for relevance to PHC policy and implementation. These papers were included to augment the exploration of broad conditions and mechanisms known to support PHC implementation in each theme. All papers deemed relevant on a case-by-case basis were included in this phase, leveraging the authors’ combined understanding of health system issues and connections with global policy networks.

Phase 4: papers reporting on PHC in the context of COVID-19

The ongoing COVID-19 pandemic is illuminating PHC capacity strengths and gaps across the world. This review seeks to synthesize emerging insights in the literature on early experiences relating to PHC in the context of the emergency pandemic response. The searching and selection process was ad hoc and involved members of the research team identifying articles relating to PHC and COVID-19 through peer networks and web searches. No papers identified by the research team as being relevant were excluded in this phase. The papers identified in Phase 4 offer an insight into early response experiences relating to PHC and are reported separately within the results section of this paper.

Data extraction

Data from all included papers were extracted to several phase-specific excel spreadsheets by one reviewer (AE) using the following fields: reference details, manuscript type, geographic focus, study aim, key impacts, key enablers, key

challenges/barriers and key knowledge gaps identified in the paper.

Analysis

Broad findings from the included papers were analysed against deductive themes corresponding to the three main components of PHC (Figure 1), incorporating an analysis of enablers and barriers within each theme. A further theme relating to impact was added to provide a comprehensive ‘picture’ of the evidence relating to PHC implementation. These findings, alongside key reported knowledge gaps extracted from included papers, form the basis of a comprehensive agenda for future PHC research as presented in the discussion. Consistent with the scoping review design, papers were not critically appraised, but information about study type and methods were collected as part of the data extraction process, enabling assessment of the type of the papers.

Results

Characteristics of the included papers

In total, 96 papers were included in the review following screening and eligibility assessment and 44 were identified through Phases 1 and 2 of the searching and selection process (Figure 2). Of the 44, 13 were various literature reviews (e.g. systematic review, scoping review and rapid evidence synthesis), 7 were literature reviews combined with empirical studies, 10 were empirical studies (without a literature review component) and 5 were global policy reports incorporating evidence syntheses. A further nine papers were non-empirical commentaries, conceptual analyses or descriptions of programmes. Table 1 shows the countries and regions that were the focus of these 44 papers. The additional 14 targeted papers identified and added in Phase 3 were predominantly literature reviews and policy analyses that addressed specific aspects of the three main components of PHC and that had a global or low- and middle-income country (LMIC) focus. Of the Phase 4 papers, 35 out of the 38 papers were non-empirical commentaries, conceptual analyses or policy reports, 2 were empirical studies and 1 was a policy report incorporating a literature review. Details of included studies identified in Phases 1 and 2 are in the data charting table in Appendix 1.

Key impacts of PHC in LMICs

The evidence of impact of public investment in PHC is wide-ranging and unambiguous (Table 2). Investments in PHC improve equity and access, healthcare performance, accountability of health systems and health outcomes (WHO, 2019a). Since the adoption of the SDGs in 2016, PHC has re-emerged as an essential strategy and accelerator for improving health and health systems, including effectiveness, responsiveness and efficiency (Bitton *et al.*, 2019; WHO, 2020a). The WHO reports that PHC reduces healthcare costs by preventing over-reliance on expensive, specialized care in secondary and tertiary health services (WHO, 2019b). Moreover, by improving health outcomes, PHC reduces overall demand on health systems, supporting efficient use of financial resources for health (WHO, 2019b).

Improved population health is one of the major reported achievements of PHC implementation (WHO, 2019a).

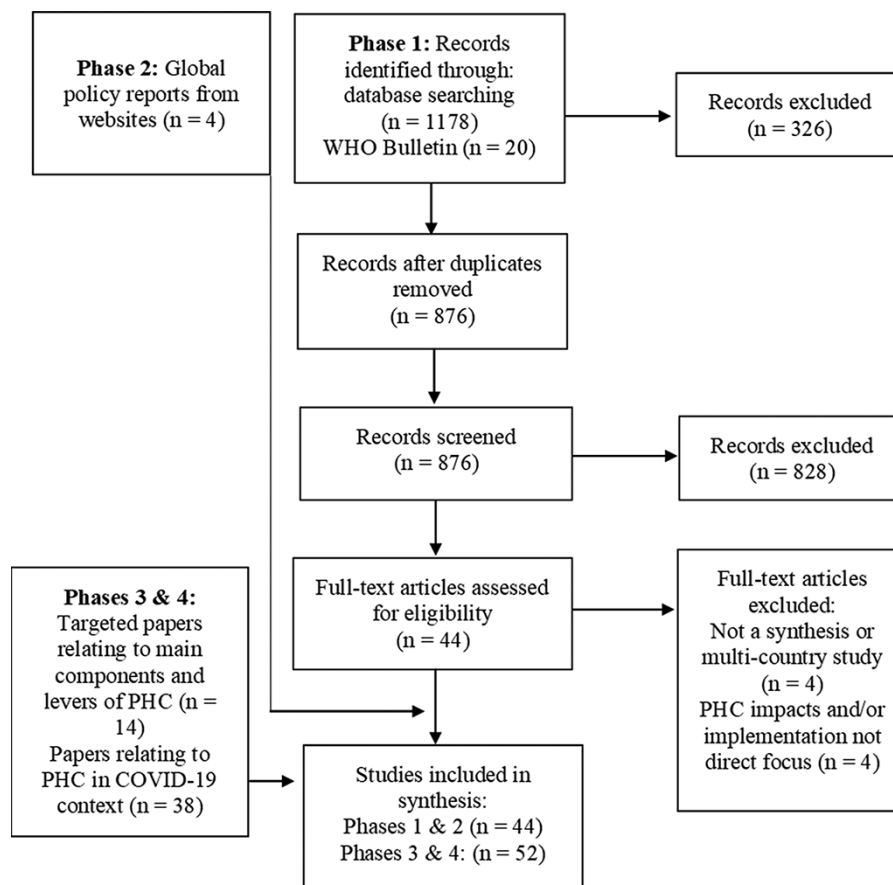


Figure 2. Flow of information through the scoping review across four phases

Table 1. Reported countries or regions of focus in papers identified in Phases 1 and 2 of the review

Countries/region of focus	Number of papers (n = 44)	References
Asia Pacific region	3	Angell <i>et al.</i> (2019), Dodd <i>et al.</i> (2019) and Palagyi <i>et al.</i> (2019)
Bangladesh, Haiti, Kenya, Malawi, Namibia, Nepal, Rwanda, Senegal, Uganda and the United Republic of Tanzania	1	Leslie <i>et al.</i> (2017)
Eastern Mediterranean	1	Fadlallah <i>et al.</i> (2019)
Ethiopia, Haiti, Kenya, Malawi, Namibia, Nepal, Rwanda, Senegal, Tanzania and Uganda	1	Macarayan <i>et al.</i> (2018)
European region	1	Espinosa-Gonzalez <i>et al.</i> (2019)
Global	15	Ben Charif <i>et al.</i> (2017), Bitton <i>et al.</i> (2019), Bitton <i>et al.</i> (2017), Bloom <i>et al.</i> (2018), Chotchoungchatchai <i>et al.</i> (2020), Kraef and Kallestrup (2019), Rasnathan and Evans (2020), Rifkin (2018), Rifkin (2020), Shadmi <i>et al.</i> (2014), United National General Assembly (2019), VanderZanden <i>et al.</i> (2019), WHO (2019a,b) and WHO and UNICEF (2018)
High-income countries	1	Gauld <i>et al.</i> (2012)
Low-income countries	1	Landes <i>et al.</i> (2019)
Low- and middle-income countries	19	Arsenault (2020), Asante <i>et al.</i> (2016), Colombini <i>et al.</i> (2017), Dugani <i>et al.</i> (2018), El-Jardali <i>et al.</i> (2019), (Goodyear-Smith <i>et al.</i> 2019a,b,c), Haque <i>et al.</i> (2020), Kruk <i>et al.</i> (2010), Lan- glois <i>et al.</i> (2020), Moresky <i>et al.</i> (2019), Munar <i>et al.</i> (2019), Munga and Mwangi (2013), Rule <i>et al.</i> (2014), Saif-Ur-Rahman <i>et al.</i> (2019), Stenberg <i>et al.</i> (2019), Vande Maele <i>et al.</i> (2019) and Veillard <i>et al.</i> (2017)
Southeast and East Asia	1	Du <i>et al.</i> (2019)

A systematic review of PHC implementation in LMICs from 1980 found that, in addition to improved access to health care at reasonably low cost, PHC initiatives

also reduced child mortality and wealth-based mortality disparities (Kruk *et al.*, 2010). Similarly, a review of PHC implementation from 1978 to 2018 found PHC led to

Table 2. Summary of key impacts of PHC

Improves health outcomes (Kruk <i>et al.</i> , 2010; WHO, 2019b)	PHC improves life expectancy, maternal and child health and control of communicable and vaccine-preventable diseases
Improves access and equity (Asante <i>et al.</i> , 2016; Bitton <i>et al.</i> , 2019; Haque <i>et al.</i> , 2020; Kruk <i>et al.</i> , 2010; WHO, 2019b)	Public spending on PHC promotes more equitable outcomes than spending on secondary care. PHC is also linked to improved healthcare access, including via financial protection and infrastructure investments that reduce socioeconomic barriers
Devolves decision-making and enhances accountability (Bitton <i>et al.</i> , 2019; Espinosa-Gonzalez <i>et al.</i> , 2019; WHO, 2019b)	PHC supports policy innovation and strengthens integration of services, investment in preventive activities and alignment of services with community need
Empowers individuals and communities (Bitton <i>et al.</i> , 2019; Espinosa-Gonzalez <i>et al.</i> , 2019; Haque <i>et al.</i> , 2020)	PHC promotes engagement and participation of individuals and communities as well as health sector and non-state actors at different levels
Creates space for innovations to improve frontline performance and service delivery (Espinosa-Gonzalez <i>et al.</i> , 2019; Kruk <i>et al.</i> , 2010)	PHC creates decentralized and disseminated decision-making spaces that enable and support responsive and networked service delivery across health and non-health sectors
Promotes efficient use of financial resources for health (Bitton <i>et al.</i> , 2019; WHO, 2019b)	PHC emphasizes preventive and primary care, reducing reliance on more costly specialty and secondary and tertiary services. Improved health outcomes also reduce overall demand on health systems

improved life expectancy, decreased incidence of communicable diseases and improved immunization coverage and control of vaccine-preventable diseases (WHO, 2019b). PHC also offers an effective platform to strengthen health systems, including frontline performance and service delivery (Kruk *et al.*, 2010). Relevant to the COVID-19 context, PHC has been shown to improve the responsiveness of health systems to acute threats and crises by providing integrated public health and primary care capabilities on the front line (Bitton *et al.*, 2019).

Implementing the three main components of PHC: key enablers and barriers

Primary care and essential public health functions

The ability to offer a continuum of care, supported by a well-trained health workforce, is key to successful implementation of essential PHC services in LMICs (Bitton *et al.*, 2019; WHO, 2019b). By the same token, poor coordination and accountability across different levels of government, non-state entities and implementing partners are major barriers to planning and implementation of PHC policy (WHO, 2019b). An analysis of the interactions between PHC functions and their impact on PHC delivery found that shared goals and clear accountability relationships between health system actors are key enabling processes in PHC policy implementation (Espinosa-Gonzalez *et al.*, 2019). Enactment of legal frameworks to support implementation is also a key facilitator,

enabling sustained support and clear linkage to overall health system reform (El-Jardali *et al.*, 2019).

However, provision of essential PHC services is often challenged by skewed allocation of public resources to hospital-based spending (Arsenault, 2020; Kraef and Kallestrup, 2019) and regressive financing models, wherein households with lower incomes contribute a higher share of their income towards health than do those with higher incomes (Asante *et al.*, 2016). A systematic review of progress towards equity in healthcare financing in LMICs showed that hospital-oriented healthcare financing models more often benefit wealthier populations, contributing to persisting gaps in healthcare access for poorer populations (Asante *et al.*, 2016). In general, hospital-based care models that over-emphasize the role of medical specialists increase out-of-pocket costs for patients and decrease healthcare access (WHO, 2019b). Excessive workforce specialization, alongside resource allocation models that favour curative services, impedes continuity of care and results in healthcare inefficiencies and inequities (WHO, 2019b). In the absence of financing models that enable comprehensive coverage, PHC also fails to protect populations from insecurity, conflicts and disease outbreaks (Kraef and Kallestrup 2019).

Accordingly, there is robust evidence that equity-informed financing models, which aim to distribute government resources based on need, are necessary to underpin provision of essential PHC services (Anselmi *et al.*, 2015; Asante *et al.*, 2016). Equitable financing systems require payment for health care to be based on 'ability to pay' and fair distribution of cost burden and of benefits according to need (Asante *et al.*, 2016). These mechanisms have been shown to improve access to health care across different socioeconomic groups and to incentivize coordination of care (Asante *et al.*, 2016; Bitton *et al.*, 2019). Asante *et al.* (2016) demonstrate that 'pro-poor' investments, meaning targeting of PHC investments to lower-income populations and shifting resources away from in-patient hospital services, are urgently needed to enhance the achievement of UHC in LMICs. In a multi-country assessment of PHC performance in LMICs, Langlois *et al.* (2020) demonstrate that PHC resourcing systems need to be adaptive, involving a capacity for funding to be scaled up as domestic resources become available. In addition, to support ongoing evaluation and monitoring of PHC expenditure, a clearer operational definition of PHC is needed to establish parameters for systematic examination using System of Health Accounts classifications (Vande Maele *et al.*, 2019).

Inadequate infrastructure and health workforce shortages have also been identified as major barriers to delivery of essential PHC services and scale-up of evidence base practices (Ben Charif *et al.*, 2017; El-Jardali *et al.*, 2019; Landes *et al.*, 2019; Leslie *et al.*, 2017). Insufficient or poorly distributed infrastructure is a major barrier to healthcare access: inadequate transport services, for example, have been found to inhibit access to referral services in LMICs (El-Jardali *et al.*, 2019). In terms of workforce, a study estimating resource needs of key PHC investments in 67 LMICs shows that LMICs need to increase their health workforces from 5.6 to 6.7 per 1000 population to provide basic functioning PHC systems, requiring substantial additional workforce investments (Stenberg *et al.*, 2019). Workforce shortages are compounded by inadequate support systems that de-motivate essential health workforce cadres such as community health workers (CHWs); this diminishes the responsiveness of front-

line services to community needs and emerging threats (Kraef and Kallestrup, 2019). There is widespread consensus that gaps in workforce capacity can significantly hamper PHC responsiveness (Bhaumik *et al.*, 2020; Bitton *et al.*, 2019; Boyce and Katz, 2019; Kraef and Kallestrup, 2019). Major disasters and conflicts can also drive large-scale emigration of health workforce, compounding existing gaps and further reducing surge capacity (Kraef and Kallestrup, 2019). As such, addressing workforce gaps is critically important for scaling up and managing emergency services (Bhaumik *et al.*, 2020; Boyce and Katz, 2019).

In addition to health workforce shortages, several papers report on workforce training gaps (Du *et al.*, 2019; Fadlallah *et al.*, 2019; Shadmi *et al.*, 2014). One study found a widespread lack of skills, confidence and adequate training among primary care nurses in Southeast and East Asian countries in areas such as safe water and sanitation, nutritional promotion, endemic diseases prevention and essential drugs, which inhibit their ability to assess and manage patients' needs, demonstrating an urgent need for enhanced provider training (Du *et al.*, 2019). Shadmi *et al.* (2014) report an industry consensus that speciality-driven disease-focused models of care should be countered by training programmes for general practitioners that are framed by overarching health equity goals.

Building PHC workforce capacity requires an inter-sectoral approach to workforce planning, commencing with a multi-dimensional and comprehensive view of health system needs

(Munga and Mwangi, 2013). Bitton *et al.*, (2017) report a framework developed by the Primary Health Care Performance Initiative to provide guidance to policymakers on how to improve assessment of strengths and gaps in PHC delivery. The framework links key financing, workforce and supply inputs with core PHC functions—first-contact accessibility, comprehensiveness, coordination, continuity and person-centredness (Bitton *et al.*, 2017). More specific enablers of workforce capacity development are also reported, with several papers highlighting the critical role of CHWs in delivering essential primary care and public health functions. In contexts of clinician scarcity, task shifting to CHWs is successful when supported by training and integration efforts and aligned with human resources for health (HRH) policies (Bitton *et al.*, 2019; Bloom *et al.*, 2018). CHW integration into multidisciplinary teams also improves patient access to care and health equity (Bitton *et al.*, 2017). Bhaumik *et al.* (2020) and Boyce and Katz, (2019) also demonstrate that CHWs are essential for pandemic preparedness because they perform critical services such as distribution of critical health information, syndromic surveillance, filling health service gaps and contact tracing. To improve healthcare policy and coordination between primary and secondary care, investment is also needed in increasing leadership capacity, including managerial capacity within governments (WHO, 2019b). Across all health workforce cadres, addressing provider burnout through reducing job stresses and improving organizational support is critical (Dugani *et al.*, 2018).

Table 3. Illustrative examples of emerging PHC-related implementation barriers and enablers in COVID-19 pandemic responses

Implementation barriers	Implementation enablers
<p>Primary care and essential public health functions</p> <ul style="list-style-type: none"> • Uneven distribution of PHC facilities and poorly equipped clinical infrastructure (Basu, 2020; Basu, 2020; Hamaguchi <i>et al.</i>, 2020) • Reductions in essential public health and clinical interventions as a result of widespread lockdowns (Cash and Patel, 2020; Gopal, 2020; Jones <i>et al.</i>, 2020), despite telehealth expansion (Julia <i>et al.</i>, 2020; Majeed <i>et al.</i>, 2020) • Limited connection of citizens to PHC services (Harzheim <i>et al.</i>, 2020) • Lack of nation-wide guidelines for PHC services relating to the COVID-19 response (Lotta <i>et al.</i>, 2020; Souza <i>et al.</i>, 2020) <p>Multi-sectoral policy and action</p> <ul style="list-style-type: none"> • System emphasis on hospital-based care models (Baru, 2020), including over-emphasis on hospitals and intensive care units in the pandemic response (Pikoulis <i>et al.</i>, 2020) • Omission of experts on non-COVID-19 health, social and societal consequences of pandemic response measures in key decision-making bodies (Rajan <i>et al.</i>, 2020) • Failure of large-scale implementation of teleconsultations to take account of language barriers, poor internet access and low levels of digital literacy (Julia <i>et al.</i>, 2020) <p>Empowered people and communities</p> <ul style="list-style-type: none"> • Poorly managed risk communication resulting in spread of misleading and false information (Armitage <i>et al.</i>, 2020) • Support for 'community engagement' often rhetorical and solely about compliance to centrally defined and imposed measures, eroding social participation and trust (Loewenson <i>et al.</i>, 2020a) 	<ul style="list-style-type: none"> • Well-prepared general practice clinics (Lim and Wong, 2020) and multiple clinical response tiers from community screening stations to walk-in clinics, specialized COVID-19 clinics and referral centres for confirmed and serious cases (Chang and Chiu, 2020) • Well-defined workflows, protocols and information linkages between services and providers (Sarti <i>et al.</i>, 2020) • Expansion of telehealth services, including for vulnerable populations and in remote areas (Ariadne Labs, 2020; Giannopoulou and Tsobanoglou, 2020) • Rapid deployment of frontline mental healthcare workers (Wang <i>et al.</i>, 2020) • Whole-of-system governance models underpinned by well-connected system-wide communication mechanisms permitting rapid data sharing and quick implementation (Aguilar-Guerra and Reed, 2020) • Data-driven leadership and openness to innovation Kim <i>et al.</i>, 2020a,b; Oh <i>et al.</i>, 2020) • Medication delivery systems mobilizing primary care pharmacies, local non-profit organizations and community health workers (Brey <i>et al.</i>, 2020) • Training and health workforce models oriented towards community-based prevention (Jenkins <i>et al.</i>, 2020) and inclusion of community health workers as key part of response workforce (Lotta <i>et al.</i>, 2020) • Effective mechanisms for meaningful engagement of communities to develop integrated responses and build trust (Loewenson <i>et al.</i>, 2020a; Marston <i>et al.</i>, 2020)

Emerging insights from the COVID-19 context

Several countries and regions have shown effective mobilization of their PHC systems during the pandemic, offering important lessons for others. In contrast, some countries where PHC capacity is less robust or variable across states and districts experienced substantially greater challenges in responding to COVID-19. A vast body of literature is also emerging on telehealth responses during COVID-19, which highlight both the benefits and disadvantages of these models for PHC as well as implementation challenges. Table 3 shows some illustrative early experiences reported in some countries. Overall, experiences of the COVID-19 pandemic demonstrate that a base level of PHC capacity is critical for countries to simultaneously manage the pandemic response and maintain routine health care. Learnings from the COVID-19 response, including understanding of the implications for health systems, continue to develop alongside understanding of the disease itself (Harskamp *et al.*, 2020; Kumar *et al.*, 2020; Mash, 2020).

Multi-sectoral policy and action

The literature strongly demonstrates a need for public sector governance to differentiate multi-sectoral 'PHC' from more discrete service-focussed 'primary care' (Espinosa-Gonzalez *et al.*, 2019; Goodyear-Smith *et al.*, 2019a,b,c). There is a growing emphasis globally on multi-sectoral approaches, involving awareness of the need to address the social determinants of health (Bennett *et al.*, 2018; United National General Assembly, 2019; WHO and UNICEF, 2018). Since Alma Ata in 1978, several multi-sectoral approaches have been implemented for PHC, including 'whole of society' and 'Health in All Policies' (HiAP) approaches (WHO, 2019b). HiAP approaches include consideration of health impacts in the development of all (not just health) policy and legislation, requiring formal and sustained governance structures and mechanisms to ensure that policies in non-health sectors impact positively on population health (Khayat-zadeh-Mahani *et al.*, 2019; WHO, 2019b).

Multi-sectoral action is an essential enabler of disaster preparedness and response, including society-wide pandemic preparedness, which requires active coordination of policy across sectors (WHO, 2019b). Action in areas such as food and nutrition, environmental health and childhood immunization, for example, requires horizontal collaboration and coordination between government departments (WHO, 2019b). Intersectoral service coordination is also critical for ensuring a continuum of care across the primary–secondary care interface (El-Jardali *et al.*, 2019). Intersectoral approaches are enabled by high-level, non-partisan commitments, incentives for collaboration rather than competition and common understanding among policy actors of the problem to be addressed (Bennett *et al.*, 2018). Skillful leadership is essential for managing the complex processes required to enable work that crosses organizational, network or constituency boundaries (Colombini *et al.*, 2017; Emerson, 2018).

Despite the widespread commitments to multi-sectoral action, many challenges in the implementation of intersectoral governance exist (Bennett *et al.*, 2018). Low levels of trust, legitimacy and goal consensus among collaborating entities can impede networking arrangements between health and non-health actors (Emerson, 2018; Khayat-zadeh-Mahani *et al.*, 2019). Achieving consensus among diverse

stakeholders on complex intersectoral issues can be particularly challenging where 'divergent framings' of problems are apparent (Okeyo *et al.*, 2020). As a core component of PHC implementation, intersectoral collaboration requires more than just inter-ministerial communication and extends to collaboration between multiple sectors of society, different levels of government and public administration (WHO, 2019b). Engagement of non-state actors (such as private sector organizations and civil society) is particularly important to ensure a partnership approach to achieving shared systems-level goals (WHO, 2019a,b). However, these complex forms of collaboration, involving collaborative governance arrangements, are challenging and resource-intensive to implement (Emerson, 2018; WHO, 2019b). In addition, weak public institutions, hampered by limited funding, low salaries and workforce shortages, compound the challenges involved in implementing multi-sectoral initiatives in many LMICs (Bennett *et al.*, 2018). The ongoing gap between the vision of PHC and actual status of PHC in many high-income countries is attributed to limited intersectoral activity and lack of integration of primary and hospital care, which are linked to funding complexities (Gauld *et al.*, 2012).

A key barrier to implementation, including scale-up of critical emergency responses, is the historical dominance in health systems planning and financing of 'vertical' disease-specific programmes (Bitton *et al.*, 2019; Rifkin, 2018). The dominance of vertical disease programmes and primary care (rather than PHC) mediates against multi-sectoral approaches by undervaluing the social, economic and political factors that influence health improvements (Rifkin, 2018). Despite the aspirations of the Alma Ata Declaration, the focus in health governance and financing over the last 40 years has tended to be on addressing health challenges in silos, with a disproportionate emphasis on 'measurable quick-fix solutions' to disease-oriented problems (Kraef and Kallestrup, 2019; Rifkin, 2020; Shadmi *et al.*, 2014). The spread of vertical initiatives has competed with comprehensive PHC models for resources and political commitment, hampering responses to global crises (Hone *et al.*, 2018; Kraef and Kallestrup, 2019). Rifkin (2020) urges a paradigm shift to view PHC policy as a dynamic, iterative process that includes social, political and economic factors, which will help countries to prepare and respond to ongoing threats including disease outbreaks and conflicts. To this end, Rasnathan and Evans (2020) argue that PHC goals are unlikely to be realized without contextualized and more specific definitions of PHC that acknowledge and respond to persisting implementation barriers.

Emerging insights from the COVID-19 context

The COVID-19 pandemic highlights the complexities inherent in successfully integrating public health and primary care in the face of widespread PHC deficiencies (Rechel, 2020). Li *et al.* (2020) argue that the COVID-19 pandemic has underscored the importance of functional coordination between primary care services, local hospitals and centres for disease control to improve screening, triage and monitoring. However, some early responses to the pandemic involved a trade-off between hospital-focussed versus population health approaches, exposing gaps in integrative capacity. For example, Ballantyne *et al.* (2020) observe that the dominant focus on intensive care unit (ICU) admissions in the early stages of the pandemic shifted the focus of policymakers away from

other important aspects of COVID-19 care where there is arguably greater opportunity for mitigating suffering and enhancing healthcare equity. To address this, [Pikoulis et al. \(2020\)](#) argue that the initial focus on hospitals and ICUs in the pandemic should rapidly give way to attention to and investment in future PHC responsiveness.

The importance of addressing non-health social services has also been highlighted by the COVID-19 pandemic ([Clapp et al., 2020](#)). Revealing widespread gaps in inter-sectoral capacity, an analysis of 24 countries' COVID-19 taskforce compositions found that these critical decision-making bodies mostly did not include experts on non-COVID-19 health and societal consequences of pandemic response measures ([Rajan et al., 2020](#)). Adopting a global perspective, [Cash and Patel \(2020\)](#) criticize the 'one-size-fits-all' model that was apparent in the early stages of the pandemic, wherein richer countries dispensed guidance to poorer countries with vastly different population structures, population health needs, fewer healthcare resources and fragile economies.

Empowered people and communities

A key supportive governance mechanism for PHC is participatory models that strengthen linkages between policymaking and community engagement ([Rajan et al., 2017](#); [Sacks et al., 2020](#)). As such, the WHO reports that engagement of government with civil society, non-governmental organizations (NGOs), community-based organizations and private sector entities are key enablers ([WHO, 2019b](#)). Responsible engagement of NGOs, for example, can improve healthcare access among vulnerable and marginalized populations ([Landes et al., 2019](#)). In addition, [Molyneux et al. \(2012\)](#) report that direct involvement of clients, users and general public in healthcare delivery strengthens public accountability in health systems. Conversely, lack of adequate community engagement contributes to low levels of community trust in public services and government, which has been shown to hamper PHC implementation, including critical emergency services ([Bitton et al., 2019](#)). At a clinical level, [Dodd et al. \(2019\)](#) demonstrate how strong community-centred strategies improve acceptability of and demand for primary care services. Emergency care systems also require people-centred designs to improve participation in health-seeking and health-promoting behaviour ([Moresky et al., 2019](#)).

Accountability is heavily reliant on community engagement mechanisms, which may include social audits, public expenditure tracking systems, information campaigns, public hearings, participatory budgeting and social movements ([Boydell et al., 2019](#); [Ringold et al., 2011](#)). To be effective, community engagement requires civil society groups to access communication channels and other policy-influencing mechanisms such as funding and technical abilities ([Acosta, 2013](#)). In addition, including diverse perspectives in participatory governance processes is essential to enable expression and discussion of untapped viewpoints, thus improving policy dialogue through mutual respect and understanding ([Rajan et al., 2017](#)). There is also evidence that decentralized governance systems are more likely to empower individuals and communities in healthcare decision-making, thus improving access and equity ([Bitton et al., 2019](#); [WHO, 2019a](#)).

Implementation of social accountability efforts is often mediated by social hierarchies and power dynamics, which are difficult to identify and measure because they exist in

the 'taken-for-granted' hierarchies of daily life ([Boydell et al., 2019](#)). For example, [Lodenstein et al. \(2017\)](#) report that civil society representatives can sometimes be nominated because of their socioeconomic or political status rather than their knowledge, competence or affinity to health care, which can diminish the effectiveness of collaboration with providers. Accordingly, [Sacks et al. \(2020\)](#) emphasize the importance of explicit attention to hidden power imbalances that might impede some community members' civic participation. Such efforts are necessary to enable the priorities of different community members to be identified ([Sacks et al., 2020](#)) and also because health providers' and policymakers' perceptions of the 'legitimacy' of civil society groups can mediate their receptivity to citizens' demands ([Lodenstein et al., 2017](#)). The WHO identifies the overall strength of civil society as a key factor in determining positive engagement ([WHO, 2019b](#)).

As a general trend, attempts to adequately represent the needs of communities in policymaking are often hampered by a lack of sustained political commitment in PHC implementation ([Kraef and Kallestrup, 2019](#)). Sustaining linkages between participatory governance organizations and high-level policy decision-making processes presents a specific challenge ([Rajan et al., 2017](#)). Lack of adequate resourcing, including poor infrastructure, limited equipment and supplies, and workforce shortages, also limit community engagement capacity and present as broader PHC implementation barriers ([El-Jardali et al., 2019](#)). [Chotchoungchatchai et al. \(2020\)](#) report that lack of institutional support, data and resources is a key barrier to community participation in health policymaking in some LMICs.

Emerging insights from the COVID-19 context

A key response challenge relating to community engagement during the COVID-19 pandemic is how to combine fast and urgent action with ongoing engagement or even basic communication with the public ([George Institute, 2020](#)). The early weeks and months of the pandemic saw an 'infodemic' as social media and digital information sharing platforms rapidly spread information that in many instances was misleading, fearmongering or false, demonstrating a need for better systems of control of information ([Armitage et al., 2020](#)). Lessons in risk communication are presented by previous pandemics, such as human immunodeficiency virus ([Marston et al., 2020](#); [Wolfe, 2020](#)), but challenges are compounded in the COVID-19 pandemic by the ongoing uncertainties and rapidly evolving evidence base about the virus and disease ([Williams and Tsiligianni et al., 2020](#)). Overall, COVID-19 has again drawn attention to the importance of engaging over the long term with communities to build understanding and trust, which are essential underpinnings of public health systems that respond effectively to such 'stress test' events ([Burgess et al., 2021](#); [Marston et al., 2020](#)). [Marston et al. \(2020\)](#) argue that far from being an 'added extra' in the emergency response, community participation and 'co-production' (whereby health professionals work together with communities to plan, research, deliver and evaluate the best possible health promotion and healthcare services) are fundamental to ensure that policies meet the needs of diverse populations. Building on the findings from 42 case studies on COVID-19 preparedness and response in different regions around the world, [Loewenson et al. \(2020a\)](#) find that limiting community engagement to informing communities about risk and

Table 4. Key enablers of PHC implementation identified in the review, presented against the three main components of PHC and four strategic levers

		Main components of PHC		
		Primary care and essential public health functions as the central elements of integrated health services	Multi-sectoral policy and action	Empowered people and communities
Strategic levels of PHC implementation	Political commitment and leadership	<ul style="list-style-type: none"> • Commitment to offer a continuum of care, supported by a well-trained health workforce 	<ul style="list-style-type: none"> • Prioritization of comprehensive PHC rather than vertical, disease-focussed models of care 	<ul style="list-style-type: none"> • Sustained political commitment to PHC implementation
	Governance and policy frameworks	<ul style="list-style-type: none"> • Shared goals and clear accountability relationships between health system actors 	<ul style="list-style-type: none"> • Active coordination of policy across sectors (beyond health), although collaborative governance mechanisms 	<ul style="list-style-type: none"> • Decentralized governance systems • Inclusion of diverse perspectives in participatory governance • Mechanisms of accountability
	Funding and allocation of resources	<ul style="list-style-type: none"> • Well-trained and supported health workforce • Adequate public and healthcare infrastructure • Decision spaces for facility and district budget allocations 	<ul style="list-style-type: none"> • Specialized hospital-based care and financing models balanced with models addressing the social determinants of health • Team-oriented, multidisciplinary health workforce models 	<ul style="list-style-type: none"> • Equity-informed financing models based on need rather than capacity to pay • Support for community health workers
	Engagement of communities and other stakeholders	<ul style="list-style-type: none"> • Direct involvement of clients, users and general public in healthcare delivery 	<ul style="list-style-type: none"> • Responsible engagement of governments with civil society, NGOs, community-based organizations and private sector entities 	<ul style="list-style-type: none"> • Strong civil society • Consideration of social hierarchies and power dynamics within civil society

compliance is not sufficient for effective social participation. More participatory forms of engagement are needed such as co-planning and community involvement in monitoring and review of interventions (Loewenson *et al.*, 2020a; 2020b).

Discussion

This review provides a timely synthesis, given the importance of PHC in the ongoing COVID-19 pandemic response, of the literature on PHC impacts and implementation enablers and barriers with reference to the three main components of PHC (WHO and UNICEF, 2020). The review demonstrates that a strong, diverse civil society represented at all levels in cross-sectoral governance arrangements and PHC-oriented health systems underpinned by political commitment to sustaining PHC implementation and equity-informed financing and workforce models are central enablers in advancing PHC (Table 4). Presented as a matrix, the main components of PHC and the strategic levers underscore the pivotal role of investing in and sustaining robust community engagement and empowerment. Emerging lessons from COVID-19 responses similarly highlight the importance of community co-production of health and people-centred, participatory forms of community engagement (Loewenson *et al.*, 2020a; Marston *et al.*, 2020).

The findings of the review offer an entry point for policymakers and others thinking about where to invest in co-produced research that will inform future country-led implementation (Figure 3). Although knowledge about enablers and barriers of PHC implementation continues to grow and inform practice and policy, critical knowledge gaps relating to PHC are evident. Specifically, there is a

need for research and policy action to address a range of context-specific governance, financing, workforce, accountability and service coordination deficiencies that continue to hamper PHC implementation. There remains a need for conceptual clarity in differentiating PHC from 'primary care' in both international policy and future research (Goodyear-Smith *et al.*, 2019b). Instead of poorly defined and overly simplistic notions of 'levels of care' and 'primary care', policymakers should consciously adopt models of comprehensive, coordinated care with people and their needs at the centre (Bitton *et al.*, 2019; 2017).

Reflecting on decades of siloed approaches to addressing health challenges, Rifkin (2020) urges policymakers to reconceptualize health as a dynamic, iterative process that includes broader determinants, rather than as a linear, predictive set of biomedical interventions. Loewenson *et al.* (2020b) similarly observe a trend towards overcentralized, non-transparent, top-down responses to COVID-19 that are at odds with evidence that effective public health in a protracted pandemic requires cooperation, communication, and participatory decision-making and action. The review findings support these imperatives and are further discussed alongside specific knowledge gaps below, with reference to the four strategic levers of PHC implementation.

Political commitment and leadership for PHC

The review affirms that political commitment is needed to deliberately shift health systems away from disease-oriented care models that erode population-based planning. Political commitment is not only needed to endorse models of PHC but

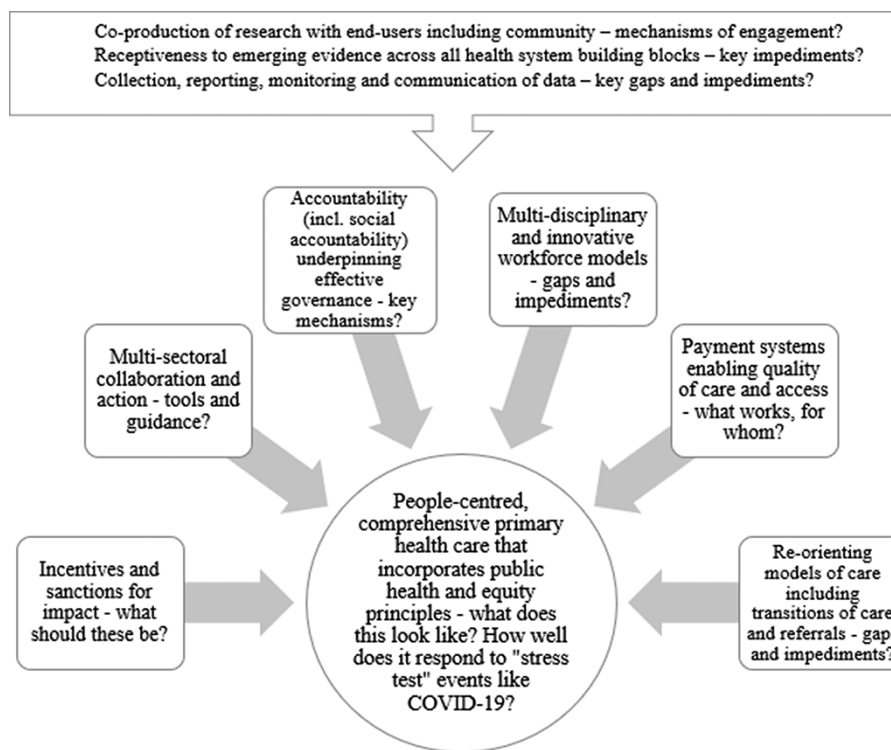


Figure 3. An agenda for future research on primary health care implementation based on review findings

to also sustain PHC implementation. As [Rasnathan and Evans \(2020\)](#) argue, regular commitments to PHC are important, but implementation requires an honest and detailed examination of key barriers to understand what is required to overcome them. The experiences of health systems in responding to the COVID-19 pandemic demonstrate the urgency of political commitment to PHC implementation ([Rasnathan and Evans, 2020](#)). Implementing PHC involves recognizing the need for both preventive–promotive approaches and acute or advanced treatment, while noting the persisting overemphasis on the hospital sector and specialist services ([Reynolds et al., 2020](#); [World Health Organization \(WHO\), 2015](#)). Strong leadership is needed at all levels to affect and sustain reorientation towards PHC models ([WHO, 2019b](#)). The regular high-level commitments to PHC, as evidenced in both global and country-level strategies and agreements, form a critical foundation for sustaining political commitment and leadership in PHC implementation.

When compared with the vast stimulus spending during the COVID-19 pandemic, the costs of strengthening PHC (including bolstering the health workforce) as a buffer against both health and economic impacts of an inadequate response appear comparatively small ([Yates, 2020](#)). Evidence from previous global disruptions suggests that events such as COVID-19 can catalyze new political commitments to PHC ([McDonnell, 2020](#)). Key challenges, however, include siloed governance and power dynamics that entrench the status quo ([WHO, 2019b](#)). The ‘30 by 2030’ campaign, led by several global health fora and launched in November 2020, may offer an opportunity for policymakers to re-orient systems towards PHC. The campaign aims to encourage international donors to assign 30% of their ‘vertical top-down, disease-oriented budgets to strengthening integrated horizontal community-based primary health-care systems by 2030’ ([De Maeseneer](#)

[et al., 2020](#)). Leveraging these opportunities requires a common understanding among policy leaders of the problem to be addressed, as well as development among leaders of the requisite skills to work across professional and organizational boundaries.

Governance and policy frameworks for PHC

The review also demonstrates that governance and policy frameworks for PHC must involve multi-sectoral arrangements and include clear accountability relationships, underpinned by robust community engagement processes. Yet, governance for PHC is severely challenged by health system models that prioritize secondary and tertiary care services over key aspects of public health and PHC such as health promotion, multi-sectoral collaboration, and community engagement and control ([UHC2030, 2020](#)). The Astana Declaration calls for a move beyond these traditional structures, but there are many obstacles ([Rasnathan and Evans, 2020](#)). [Rasnathan and Evans \(2020\)](#) present several strategies for the global health system that might assist countries to invest in and implement PHC, including better articulating the scientific rationale for PHC to governments and moving beyond high-level consensus and commitments towards on-the-ground alignment. As highlighted in our review, clear accountability relationships between health system actors, supported by robust legal frameworks linked to health system reform, are critical for such on-the-ground alignment and action.

There are multiple and intersecting knowledge gaps and research priorities relating to PHC governance, many of which have been accentuated by COVID-19 through weak coordination, inter-operability or adaptability within and across health systems. A critical, and long-standing, gap in the literature is the limited understanding about how to best

promote and support multi-sectoral action for health (Bennett *et al.*, 2018; Hone *et al.*, 2018). Specifically, Bennett *et al.* (2018) report a lack of evidence on the impact of multi-sectoral actions on outcomes and a need for practical tools to assist policymakers in navigating the complexities of these arrangements. There is also a need to identify which ‘types’ of arrangements might be more appropriate than others in responding to health system challenges (Emerson, 2018). In addition, a need has been identified for research to understand priority setting processes in response to outbreaks, including how best to monitor and communicate their effectiveness (Bitton *et al.*, 2019). In an ‘evidence gap map’ exploring the available evidence in LMICs concerning PHC policy and governance, Saif-Ur-Rahman *et al.* (2019) demonstrate that among the highest priority research areas are better governance in PHC, public–private partnerships for community leadership and accountability, and improved user–provider communication. Swaminathan *et al.* (2020) argue that such research needs to be ‘embedded’—that is, carried out as an integrated and systematic part of decision-making and implementation.

Funding and allocation of resources for PHC

Both financing and human resources are a major focus in the PHC literature. This body of literature emphasizes the need for equity-oriented financing models and greater investment in a well-trained, multidisciplinary health workforce with strong links to communities. While several countries report significant progress in reforming healthcare financing to promote access among lower-income populations (Asante *et al.*, 2016; Bitton *et al.*, 2019), the predominance of disease-oriented and hospital-focussed financing models that exacerbate health inequities, and persisting gaps in essential health workforce, including in training and systems of support, remain key challenges worldwide. These gaps span macro-level questions relating to the best approaches to financing, educating, recruiting and retaining HRH in different settings, as well as meso- and micro-level questions about what models of governance best support integrated, team-based primary care service delivery.

Addressing workforce gaps and developing or enhancing surge capacity are especially important for scaling up and managing critical emergency services (Bhaumik *et al.*, 2020; Boyce and Katz, 2019). The review demonstrates that CHWs, for example, are not only essential for delivery of routine primary care but are also on the frontline of pandemic response; yet, there are major gaps and deficiencies in understanding how to better integrate and align this workforce cadre with PHC efforts (Kraef and Kallestrup, 2019; Lotta *et al.*, 2020). There is clear evidence that investments in CHWs within well-integrated community-based services improve the quality, coverage and efficiency of PHC services (Dodd *et al.*, 2019; Kraef and Kallestrup, 2019; Lotta *et al.*, 2020).

There are critical knowledge gaps relating to PHC funding and allocation of resources. While there is a growing evidence base regarding primary care service-level strategies or non-scaled (e.g. performance-based financing) interventions to improve equity (Asante *et al.*, 2016), comparatively little work has been documented in the literature from national settings to understand which macro-level policies and organizational levers work at scale and in which settings to improve health equity (Asante *et al.*, 2016; Bitton *et al.*, 2019; Metz

et al., 2020; Munar *et al.*, 2019). There is a need for a better understanding of how to ensure that core health and non-health service delivery functions and other components of PHC are linked to each other and to equity outcomes (Baum and Friel, 2020; Bitton *et al.*, 2019). A study that identified and prioritized the needs for new PHC research for LMICs found that research questions about payment systems enabling quality and access were a top priority among expert respondents (Goodyear-Smith *et al.*, 2019b). Angell *et al.* (2019) similarly identify several critical knowledge gaps about how financing interventions can be implemented at scale across health systems.

Engagement of communities and other stakeholders

This review affirms the importance of robust and responsible community engagement and emphasizes the need for public trust and empowerment enabled by devolved governance structures and inclusion of diverse perspectives in participatory governance and strong civil society. The field of social accountability has grown considerably in the recent decade with growing consensus regarding the need to scale accountability through vertically integrated, civil society-led policy and advocacy mechanisms (Fox, 2016). Key actions supporting direct involvement of the public, citizens or users in health delivery include clearly defining ‘communities’ and their representatives, achieving clarity in community members’ roles and responsibilities in groups and committees and clearly articulating the intended impact of accountability mechanisms (Molyneux *et al.*, 2012). Kraef and Kallestrup (2019) argue that new digital technologies have the potential to revolutionize community involvement in PHC, although challenges experienced in the early stages of the COVID-19 pandemic highlight the risks that new communication technologies pose for information control. Overall, the findings of this review emphasize that community engagement mechanisms should enable meaningful two-way collaboration between community members and policymakers (Loewenson *et al.*, 2020a,b).

Despite the centrality of community engagement and empowerment to PHC, there are critical knowledge gaps regarding how best to develop, support and sustain meaningful community engagement at all levels. For example, Langlois *et al.* (2020) identify major gaps in context-sensitive knowledge about how to facilitate adaptiveness in response to local needs and to improve social accountability and community engagement. Embedded research is also needed to understand what types of social accountability mechanisms might be best employed at different levels to address issues such as improved service integration, improved respect and responsiveness and opportunities for shared decision-making and co-design (Bitton *et al.*, 2019; Ringold *et al.*, 2011). There is also an overarching need for countries to invest in locally led research and research capacity to help define what locally meaningful, comprehensive, coordinated care looks like and how to design and implement PHC that puts people and their needs, rather than diseases, at the centre of policy and planning (Bitton *et al.*, 2017). As there is often a disconnect between scientific research outputs and the priorities of health policy and systems stakeholders, future research on the organization of PHC services should adopt co-design and co-production principles to enable effective engagement of policy stakeholders (Palagyi *et al.*, 2019; Swaminathan *et al.*, 2020).

Implications of the findings for future research

The evidence base on how to achieve impactful PHC remains fragmented, and there is an urgent need for a better understanding of how to ensure that core service delivery functions are linked to desired outcomes (Bitton *et al.*, 2019). The ‘stress test’ of the COVID-19 pandemic represents an opportunity to evaluate and compare PHC responses and gaps, with the snapshot of experiences presented in this review demonstrating the need for a more systematic examination. Both pre-COVID-19 and post-COVID-19 data demonstrate profound inequities in social and financial protection and healthcare access and outcomes around the world (Shadmi *et al.*, 2020). The COVID-19 pandemic highlights the pressing need to address widespread and growing health inequities by moving away from brittle and often uncoordinated disease-specific responses and (re)building or reorienting health systems around the principles of PHC. The comprehensive, and adaptable, agenda for future research presented in this review is likely to support efforts to develop embedded, targeted knowledge for context responsive PHC implementation (Swaminathan *et al.*, 2020).

A major overarching challenge relating to future research (as well as policy and practice), however, is the availability and quality of health information. Macarayan *et al.* (2018) report that limited collection and reporting of information about care quality and provider competence currently inhibit assessment of the quality of PHC systems. Indeed, efforts to measure health system performance, including patient experience and quality of care, frequently contend with the problem of ‘missing data’ (Veillard *et al.*, 2017). Langlois *et al.* (2020) identify substantial gaps in measurement and reporting in multiple countries, as well as a need to increase capacity to use evidence. Receptiveness of PHC systems to emerging evidence and innovation in healthcare governance, financing and information and communications technology are essential to underpin the quality of services and support essential health workforce (Rule *et al.*, 2014; VanderZanden *et al.*, 2019; WHO, 2019b).

Strengths and limitations

A key strength of this review is its prioritization of evidence on the broad conditions and mechanisms supporting PHC implementation in highly variable political, sociocultural and economic contexts. The three main components of PHC and four strategic levers relating to PHC implementation were used to analyse results and in interpretation of findings, and a comprehensive agenda for future research in the field of PHC implementation is presented. One limitation of the review is its reliance on existing evidence syntheses and multi-country studies and exclusion of single-country studies. While the main reason for this approach was to leverage rather than duplicate others’ work in the field, it is acknowledged that the current review may replicate omissions or deficiencies of these earlier synthesis works. Further limitations include the inability of the review to reflect on the strength of the evidence from empirical papers and the comparatively ad hoc approach to searching and selection of the COVID-19 literature, with most of these papers in the review being expert opinion. Future reviews focussed on PHC implementation should adopt a systematic approach to searching, selection and appraisal of the burgeoning body of empirical work on PHC in the context of COVID-19, which is likely to yield important lessons for the future of PHC implementation.

Conclusions

This review demonstrates a need to better understand how to strengthen governance, financing, multi-sectoral collaboration, and community engagement and empowerment to support effective implementation of PHC, in contrast to the more discrete service-focussed ‘primary care’. While there is unequivocal evidence of the benefits of a focus on PHC, implementation of PHC remains highly complex and challenging worldwide and is shaped by sociopolitical determinants beyond the health sector. Implementation approaches should be tailored to local contexts, and many barriers and enablers are common across countries and regions, demonstrating the value and importance of sharing lessons learned. Several important gaps are identified that may form the basis for an agenda for future research on PHC implementation. Future research should be co-produced with end users and focus on strengthening the evidence underpinning key PHC implementation mechanisms, including multi-sectoral collaboration, systems of accountability and equity-informed health system financing models. Research in these areas is critical to help inform ongoing PHC implementation efforts during the COVID-19 pandemic and beyond.

Data availability statement

The data underlying this article are available in the article and in its online supplementary material.

Funding

This work was supported by the Alliance for Health Policy and Health Systems Research and the Special Programme on Primary Health Care of the World Health Organization. The Alliance is able to conduct its work thanks to the commitment and support from a variety of funders. These include our long-term core contributors from national governments and international institutions, as well as designated funding for specific projects within our current priorities. For the full list of Alliance donors, please visit: <https://www.who.int/alliance-hpsr/partners/en/>.

Acknowledgements

None declared.

Conflict of interest statement

The authors declare that they have no conflict of interest.

References

- Acosta AM. 2013. The impact and effectiveness of accountability and transparency initiatives: the governance of natural resources. *Development Policy Review* 31: S89–105.
- Aguiar-Guerra TL, Reed G. 2020. Mobilizing primary health care: Cuba’s powerful weapon against COVID-19. *MEDICC Review* 22: 53–7.
- Angell B, Dodd R, Palagyi A *et al.* 2019. Primary health care financing interventions: a systematic review and stakeholder-driven research agenda for the Asia-Pacific region. *BMJ Global Health* 4: e001481.
- Anselmi L, Lagarde M, Hanson K. 2015. Equity in the allocation of public sector financial resources in low- and middle-income countries: a systematic literature review. *Health Policy and Planning* 30: 528–45.

- Ariadne Labs. 2020. *Resource: Supporting Strong Primary Health Care during the Pandemic*. Boston, MA. <https://covid19.ariadnelabs.org/resources-supporting-strong-primary-health-care-during-the-pandemic/>, accessed 30 September 2020.
- Armitage L, Lawson BK, Whelan ME, Newhouse N. 2020. Paying SPECIAL consideration to the digital sharing of information during the COVID-19 pandemic and beyond. *BJGP Open* 4: bjgpopen20X101072.
- Arsenault C. 2020. Hospital-provision of essential primary care in 56 countries: determinants and quality. *Bulletin of the World Health Organization* 98: 735–46.
- Asante A, Price J, Hayen A *et al.* 2016. Equity in health care financing in low- and middle-income countries: a systematic review of evidence from studies using benefit and financing incidence analyses. *PLoS One* 11: e0152866.
- Ballantyne A, Rogers WA, Entwistle V, Towns C. 2020. Revisiting the equity debate in COVID-19: ICU is no panacea. *Journal of Medical Ethics* 46: 641–5.
- Baru R. 2020. Health systems preparedness for COVID-19 pandemic. *Indian Journal of Public Health* 64: S91–3.
- Basu S. 2020. Non-communicable disease management in vulnerable patients during Covid-19. *Indian Journal of Medical Ethics* 5: 103–5.
- Baum F, Friel S. 2020. COVID-19: the need for a social vaccine. *MJA Insight* 36. <https://insightplus.mja.com.au/2020/36/covid-19-the-need-for-a-social-vaccine/>, accessed 14 September 2020.
- Ben Charif A, Zomahoun HTV, LeBlanc A *et al.* 2017. Effective strategies for scaling up evidence-based practices in primary care: a systematic review. *Implementation Science* 12: 139.
- Bennett S, Glandon D, Rasanathan K. 2018. Governing multisectoral action for health in low-income and middle-income countries: unpacking the problem and rising to the challenge. *BMJ Global Health* 3: e000880.
- Bhaumik S, Moola S, Tyagi J *et al.* 2020. Community health workers for pandemic response: a rapid evidence synthesis. *BMJ Global Health* 5: e002769.
- Bitton A, Ratcliffe HL, Veillard JH *et al.* 2017. Primary health care as a foundation for strengthening health systems in low- and middle-income countries. *Journal of General Internal Medicine* 32: 566–71.
- Bitton A, Fifield J, Ratcliffe H *et al.* 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.
- Bloom DE, Khoury A, Subbaraman R *et al.* 2018. The promise and peril of universal health care. *Science* 361: eaat9644.
- Boycie MR, Katz R. 2019. Community health workers and pandemic preparedness: current and prospective roles. *Frontiers in Public Health* 7: 62.
- Boydell V, McMullen H, Cordero J *et al.* 2019. Studying social accountability in the context of health system strengthening: innovations and considerations for future work. *Health Research Policy and Systems* 17: 34.
- Brey Z, Mash R, Goliath C, Roman D. 2020. Home delivery of medication during coronavirus disease 2019, Cape Town, South Africa: short report. *African Journal of Primary Health Care and Family Medicine* 12: e1–4.
- Burgess RA, Osborne RH, Yongabi KA *et al.* 2021. The COVID-19 vaccines rush: participatory community engagement matters more than ever. *The Lancet* 397: 8–10.
- Cash R, Patel V. 2020. Has COVID-19 subverted global health? *The Lancet* 395: 1687–8.
- Chang BB, Chiu TY. 2020. Ready for a long fight against the COVID-19 outbreak: an innovative model of tiered primary health care in Taiwan. *BJGP Open* 4: bjgpopen20X101068.
- Chotchoungchatchai S, Marshall AI, Witthayapipopsakul *et al.* 2020. Primary health care and sustainable development goals. *Bulletin of the World Health Organization* 98: 792–800.
- Clapp J, Calvo-Friedman A, Cameron S *et al.* 2020. The COVID-19 shadow pandemic: meeting social needs for a city in lockdown. *Health Affairs* 39: 1592–6.
- Colombini M, Dockerty C, Mayhew SH. 2017. Barriers and facilitators to integrating health service responses to intimate partner violence in low- and middle-income countries: a comparative health systems and service analysis. *Studies in Family Planning* 48: 179–200.
- De Maeseneer J, Li D, Palsdottir B *et al.* 2020. Universal health coverage and primary health care: the 30 by 2030 campaign. *Bulletin of the World Health Organization* 98: 812–4.
- Dodd R, Palagyi A, Jan S *et al.* 2019. Organisation of primary health care systems in low- and middle-income countries: review of evidence on what works and why in the Asia-Pacific region. *BMJ Global Health* 4: e001487.
- Du S, Cao Y, Zhou T *et al.* 2019. The knowledge, ability, and skills of primary health care providers in SEANERN countries: a multinational cross-sectional study. *BMC Health Services Research* 19: 602.
- Dugani S, Afari H, Hirschhorn LR *et al.* 2018. Prevalence and factors associated with burnout among frontline primary health care providers in low- and middle-income countries: a systematic review. *Gates Open Research* 2: 4.
- El-Jardali F, Fadlallah R, Daouk A *et al.* 2019. Barriers and facilitators to implementation of essential health benefits package within primary health care settings in low-income and middle-income countries: a systematic review. *The International Journal of Health Planning and Management* 34: 15–41.
- Emerson K. 2018. Collaborative governance of public health in low- and middle-income countries: lessons from research in public administration. *BMJ Global Health* 3: e000381.
- Espinosa-Gonzalez AB, Delaney BC, Marti J, Darzi A. 2019. The impact of governance in primary health care delivery: a systems thinking approach with a European panel. *Health Research Policy and Systems* 17: 65.
- Fadlallah R, Bou-Karroum L, El-Jardali F *et al.* 2019. Quality, safety and performance management in primary health care: from scoping review to research priority setting and implementation plan in the Eastern Mediterranean Region. *BMJ Global Health* 4: e001477.
- Fox J. 2016. Scaling accountability through vertically integrated civil society policy monitoring and advocacy. *Working Paper*. Brighton, UK: Institute of Development Studies.
- Gauld R, Blank R, Burgers J *et al.* 2012. The World Health Report 2008 – primary healthcare: how wide is the gap between its agenda and implementation in 12 high-income health systems? *Healthcare Policy* 7: 38–58.
- George Institute. 2020. *Highlights From the 'Building Back Better After COVID-19: The Research Agenda' Launch Event*. George Institute. <https://www.georgeinstitute.org/news/highlights-from-the-building-back-better-after-covid-19-the-research-agenda-launch-event>, accessed 3 September 2020.
- Ghebreyesus TA. 2020. Strengthening our resolve for primary health care. *Bulletin of the World Health Organization* 98: 726A.
- Giannopoulos I, Tsobanoglou GO. 2020. COVID-19 pandemic: challenges and opportunities for the Greek health care system. *Irish Journal of Psychological Medicine* 37: 226–30.
- Goodyear-Smith F, Bazemore A, Coffman M *et al.* 2019a. Primary care financing: a systematic assessment of research priorities in low- and middle-income countries. *BMJ Global Health* 4: e001483.
- Goodyear-Smith F, Bazemore A, Coffman M *et al.* 2019b. Primary care research priorities in low- and middle-income countries. *The Annals of Family Medicine* 17: 31–5.
- Goodyear-Smith F, Bazemore A, Coffman M *et al.* 2019c. Research gaps in the organisation of primary healthcare in low-income and middle-income countries and ways to address them: a mixed-methods approach. *BMJ Global Health* 4: e001482.
- Gopal DP. 2020. Non-COVID-19 general practice and our response to the pandemic. *BJGP Open* 4: 2.

- Hamaguchi R, Higuchi M, Funato M *et al.* 2020. *Global Learnings Evidence Brief: The Japanese Health System Response during the COVID-19 Pandemic*. Boston, MA: Ariadne Labs (Brigham Health and Harvard TH Chan School of Public Health).
- Haque M, Islam T, Rahman NAA *et al.* 2020. Strengthening primary health-care services to help prevent and control long-term (chronic) non-communicable diseases in low- and middle-income countries. *Risk Management and Healthcare Policy* 13: 409–26.
- Harskamp RE, de Meij MA, Cals JWJ *et al.* 2020. COVID-19: care at home or in hospital? Considerations in primary care. *Nederlands Tijdschrift Voor Geneeskunde* 164: D5045.
- Harzheim E, Martins C, Wollmann L *et al.* 2020. Federal actions to support and strengthen local efforts to combat COVID-19: Primary Health Care (PHC) in the driver's seat. *Ciência & Saúde Coletiva* 25: 2493–7.
- Hone T, Macinko J, Millett C 2018. Revisiting Alma-Ata: what is the role of primary health care in achieving the Sustainable Development Goals? *The Lancet* 392: 1461–72.
- Jenkins LS, Von Pressentin KB, Naidoo K, Schaefer R 2020. The evolving role of family physicians during the coronavirus disease 2019 crisis: an appreciative reflection. *African Journal of Primary Health Care and Family Medicine* 12: e1–4.
- Jones D *et al.* 2020. Impact of the COVID-19 pandemic on the symptomatic diagnosis of cancer: the view from primary care. *The Lancet Oncology* 21: 748–50.
- Julia C, Saynac Y, Le Joubioux C *et al.* 2020. Organising community primary care in the age of COVID-19: challenges in disadvantaged areas. *The Lancet Public Health* 5: e313.
- Khayatzadeh-Mahani A, Ruckert A, Labonte R *et al.* 2019. Health in All Policies (HiAP) governance: lessons from network governance. *Health Promotion International* 34: 779–91.
- Kim J-H, Ah-Reum An J, Min P *et al.* 2020a. How South Korea responded to the Covid-19 outbreak in Daegu. *NEJM Catalyst* 1: 1–14.
- Kim J-H, Ah-Reum An J, Oh SJJ *et al.* 2020b. *Emerging Covid-19 Success Story: South Korea Learned the Lessons of MERS Exemplars in Global Health*. <https://ourworldindata.org/covid-exemplar-south-korea>, accessed 30 September 2020.
- Kraef C, Kallestrup P *et al.* 2019. After the Astana declaration: is comprehensive primary health care set for success this time? *BMJ Global Health* 4: e001871.
- Kruk ME, Porignon D, Rockers PC, Van Lerberghe W *et al.* 2010. The contribution of primary care to health and health systems in low- and middle-income countries: a critical review of major primary care initiatives. *Social Science and Medicine* 70: 904–11.
- Kumar R, Boobna V, Kubendra M *et al.* 2020. Ensuring continuity of care by small family practices and clinics in the primary care setting during COVID 19 pandemic 2020 - a position paper by the Academy of Family Physicians of India. *Journal of Family Medicine and Primary Care* 9: 1798–800.
- Landes M, Pfaff C, Zerihun M *et al.* 2019. Calling non-governmental organisations to strengthen primary health care: lessons following Alma-Ata. *African Journal of Primary Health Care and Family Medicine* 11: e1–2.
- Langlois EV, McKenzie A, Schneider H, Mecaskey JW 2020. Measures to strengthen primary health-care systems in low- and middle-income countries. *Bulletin of the World Health Organization* 98: 781–91.
- Leslie HH, Spiegelman D, Zhou X, Kruk ME 2017. Service readiness of health facilities in Bangladesh, Haiti, Kenya, Malawi, Namibia, Nepal, Rwanda, Senegal, Uganda and the United Republic of Tanzania. *Bulletin of the World Health Organization* 95: 738–48.
- Li X, Krumholz HM, Yip W, Cheng KK *et al.* 2020. Quality of primary health care in China: challenges and recommendations. *The Lancet* 395: 1802–12.
- Lim WH, Wong WM 2020. COVID-19: notes from the front line, Singapore's primary health care perspective. *The Annals of Family Medicine* 18: 259–61.
- Lodenstein E, Dieleman M, Gerretsen B, Broerse JE 2017. Health provider responsiveness to social accountability initiatives in low- and middle-income countries: a realist review. *Health Policy and Planning* 32: 125–40.
- Loewenson R, Colvin C, Rome N *et al.* 2020a. “We are subjects, not objects in Health”: Communities Taking Action on COVID-19. Training and Research Support Centre in the Regional Network for Equity in Health in East and Southern Africa (EQUINET) and Shaping Health, Zimbabwe.
- Loewenson R, Accoe K, Bajpai N *et al.* 2020b. Reclaiming comprehensive public health. *BMJ Global Health* 5: e003886.
- Lotta G, Wenham C, Nunes J, Pimenta DN 2020. Community health workers reveal COVID-19 disaster in Brazil. *The Lancet* 396: 365–6.
- Macarayan EK, Gage AD, Doubova SV *et al.* 2018. Assessment of quality of primary care with facility surveys: a descriptive analysis in ten low-income and middle-income countries. *The Lancet Global Health* 6: e1176–e85.
- Majeed A, Maile EJ, Bindman AB 2020. The primary care response to COVID-19 in England's National Health Service. *Journal of the Royal Society of Medicine* 113: 208–10.
- Marston C, Renedo A, Miles S 2020. Community participation is crucial in a pandemic. *The Lancet* 395: 1676–8.
- Mash B. 2020. Primary care management of the coronavirus (COVID-19). *South African Family Practice: Official Journal of the South African Academy of Family Practice/Primary Care* 62: e1–4.
- McDonnell A. 2020. *COVID-19 Highlights the Need for Universal Health Coverage*. New York, NY: Council on Foreign Relations. <https://www.thinkglobalhealth.org/article/covid-19-highlights-need-universal-health-coverage>, accessed 30 September 2020.
- Metzl JM, Maybank A, De Maio F 2020. Responding to the COVID-19 pandemic: the need for a structurally competent health care system. *JAMA* 324: 231–2.
- Molyneux S, Atela M, Angwenyi V, Goodman C. 2012. Community accountability at peripheral health facilities: a review of the empirical literature and development of a conceptual framework. *Health Policy and Planning* 27: 541–54.
- Moresky RT, Razzak J, Reynolds T *et al.* 2019. Advancing research on emergency care systems in low-income and middle-income countries: ensuring high-quality care delivery systems. *BMJ Global Health* 4: e001265.
- Munar W, Snilstveit B, Aranda LE *et al.* 2019. Evidence gap map of performance measurement and management in primary healthcare systems in low-income and middle-income countries. *BMJ Global Health* 4: e001451.
- Munga MA., Mwangi MA 2013. Comprehensive health workforce planning: re-consideration of the primary health care approach as a tool for addressing the human resource for health crisis in low and middle income countries. *Tanzania Journal of Health Research* 15: 120–33.
- Oh J, Lee JK, Schwarz D *et al.* 2020. National response to COVID-19 in the Republic of Korea and lessons learned for other countries. *Health Systems and Reform* 6: e1753464.
- Okeoye I, Lehmann U, Schneider H 2020. The impact of differing frames on early stages of intersectoral collaboration: the case of the first 1000 days initiative in the Western Cape Province. *Health Research Policy and Systems* 18: 3.
- Palagyi A, Dodd R, Jan S *et al.* 2019. Organisation of primary health care in the Asia-Pacific region: developing a prioritised research agenda. *BMJ Global Health* 4: e001467.
- Pikoulis E, Puchner K, Riza E *et al.* 2020. In the midst of the perfect storm: swift public health actions needed in order to increase societal safety during the COVID-19 pandemic *Safety Science*. 129: 104810.
- Rajan D, Mathurapote N, Putthasri W *et al.* 2017. *The Triangle that Moves the Mountain: Nine Years of Thailand's National Health Assembly*. Geneva: World Health Organization.

- Rajan D, Koch K, Rohrer K *et al.* 2020. Governance of the Covid-19 response: a call for more inclusive and transparent decision-making. *BMJ Global Health* 5: e002655.
- Rasnathan K, Evans TG 2020. Primary health care, the Declaration of Astana and COVID-19. *Bulletin of the World Health Organization* 98: 801–8.
- Rechel B. 2020. *How to Enhance the Integration of Primary Care and Public Health? Approaches, Facilitating Factors and Policy Options*. Geneva: World Health Organisation.
- Reynolds TA, Guisset A-L, Dalil S *et al.* 2020. Emergency, critical and operative care services for effective primary care. *Bulletin of the World Health Organization* 98: 728.
- Rifkin SB. 2018. Alma Ata after 40 years: primary health care and health for all-from consensus to complexity. *BMJ Global Health* 3: e001188.
- Rifkin SB. 2020. Paradigms, policies and people: the future of primary health care. *BMJ Global Health* 5: e002254.
- Ringold D, Holla A, Koziol M, Srinivasan S 2011. *Citizens and Service Delivery: Assessing the Use of Social Accountability Approaches in Human Development Sectors*. Washington, DC: World Bank.
- Rule J, Ngo DA, Oanh TT *et al.* 2014. Strengthening primary health care in low- and middle-income countries: generating evidence through evaluation. *Asia Pacific Journal of Public Health* 26: 339–48.
- Sacks E, Schleiff M, Were M *et al.* 2020. Communities, universal health coverage and primary health care. *Bulletin of the World Health Organization* 98: 773–80.
- Saif-Ur-Rahman KM, Mamun R, Nowrin I *et al.* 2019. Primary health-care policy and governance in low-income and middle-income countries: an evidence gap map. *BMJ Global Health* 4: e001453.
- Sarti TD, Lazarini WS, Fontenelle LF, Almeida A 2020. What is the role of Primary Health Care in the COVID-19 pandemic? *Epidemiol Serv Saude* 29: e2020166.
- Shadmi E, Wong WC, Kinder K *et al.* 2014. Primary care priorities in addressing health equity: summary of the WONCA 2013 health equity workshop. *International Journal for Equity in Health* 13: 104.
- Shadmi E, Chen Y, Dourado I *et al.* 2020. Health equity and COVID-19: global perspectives. *International Journal for Equity in Health* 19: 104.
- Souza CDF, Gois-Santos VT, Correia DS *et al.* 2020. The need to strengthen Primary Health Care in Brazil in the context of the COVID-19 pandemic. *Brazilian Oral Research* 34: e047.
- Stenberg K, Hanssen O, Bertram M *et al.* 2019. Guide posts for investment in primary health care and projected resource needs in 67 low-income and middle-income countries: a modelling study. *The Lancet Global Health* 7: e1500–10.
- Swaminathan S, Sheikh K, Marten R *et al.* 2020. Embedded research to advance Primary Health Care. *BMJ Global Health* 5: e004684.
- Tricco AC, Lillie E, Zarin W *et al.* 2018. PRISMA extension for scoping reviews (PRISMA-ScR): checklist and explanation. *Annals of Internal Medicine* 169: 467–73.
- UHC2030. 2020. *Living with COVID-19: Time to Get Our Act Together on Health Emergencies and UHC*. UHC2030 International Health Partnership. https://www.uhc2030.org/fileadmin/uploads/uhc2030/Documents/Key_Issues/Health_emergencies_and_UHC/UHC2030_discussion_paper_on_health_emergencies_and_UHC_-_May_2020.pdf, accessed 14 December 2020.
- United National General Assembly. 2019. *Political Declaration of the High-level Meeting on University Health Coverage*. Geneva. <http://www.un.org/pga/73/wp-content/uploads/sites/53/2019/07/FINAL-draft-UHC-Political-Declaration.pdf>, accessed 28 January 2021.
- Vande Maele N, Xu K, Soucat A *et al.* 2019. Measuring primary health-care expenditure in low-income and lower middle-income countries. *BMJ Global Health* 4: e001497.
- VanderZanden A, Langlois EV, Ghaffar A *et al.* 2019. It takes a community: a landscape analysis of global health research consortia. *BMJ Global Health* 4: e001450.
- Veillard J, Cowling K, Bitton A *et al.* 2017. Better measurement for performance improvement in low- and middle-income countries: the primary health care performance initiative (PHCPI) experience of conceptual framework development and indicator selection. *The Milbank Quarterly* 95: 836–83.
- Wang Y, Zhao X, Feng Q *et al.* 2020. Psychological assistance during the coronavirus disease 2019 outbreak in China. *Journal of Health Psychology* 25: 733–7.
- WHO. 2019a. *Primary Health Care on the Road to University Health Coverage: 2019 Monitoring Report*. Geneva: World Health Organization.
- WHO. 2019b. *Review of 40 Years of Primary Health Care Implementation at Country Level*. Geneva: World Health Organization.
- WHO. 2020a. *Accelerator Discussion Frames*. World Health Organization. <https://www.who.int/initiatives/sdg3-global-action-plan/accelerator-discussion-frames>, accessed 14 December 2020.
- WHO. 2020b. *Role of Primary Care in the COVID-19 Response: Interim Guidance*. World Health Organization, Western Pacific Region. 26 March 2020. <https://apps.who.int/iris/bitstream/handle/10665/331921/Primary-care-COVID-19-eng.pdf?sequence=1&isAllowed=y>, accessed 30 January 2021.
- WHO and UNICEF. 2018. *A Vision for Primary Health Care in the 21st Century: Towards Universal Health Coverage and the Sustainable Development Goals*. Geneva: World Health Organization and the United Nations Children's Fund.
- WHO and UNICEF. 2020. *Operational Framework for Primary Health Care: Transforming Vision into Action*. Geneva: World Health Organization and the United Nations Children's Fund.
- Williams S, Tsiligianni I 2020. COVID-19 poses novel challenges for global primary care. *NPJ Primary Care Respiratory Medicine* 30: 30.
- Wolfe D. 2020. *10 Lessons from HIV for the COVID-19 Response*. Washington, DC: Open Society Foundations. 30 September 2020. <https://www.opensocietyfoundations.org/voices/10-lessons-from-hiv-for-the-covid-19-response>, accessed 14 December 2020.
- World Health Organization (WHO). 2015. *WHO Global Strategy on People-centred and Integrated Health Services: Interim Report*. Geneva: World Health Organization.
- Yates R. 2020. *Let's Emerge From COVID-19 With Stronger Health Systems*. Royal Institute of International Affairs, Chatham House. 26 March 2020. <https://www.chathamhouse.org/2020/03/lets-emerge-covid-19-stronger-health-systems>, accessed 30 September 2020.

Appendix

Table A1. Evidence chart of included papers in phases 1 and 2

First author	Year published	Article type	Geographic focus	Study objective/aim	Key impacts, enablers, barriers relevant to PHC	Evidence gaps
Angell, B	2019	Systematic literature review and Delphi study	Asia-Pacific region	To generate a stakeholder-led research agenda in the area of PHC financing interventions in the Asia-Pacific region.	The review found evidence that some interventions (removal of user fees, ownership models of providers and contracting arrangements) could impact PHC service access, efficiency and out-of-pocket cost outcomes.	There is a need for more research on how financing interventions can be implemented at scale across health systems
Arsenault, C	2020	Descriptive quantitative study	LMICs	To estimate the proportion of people who visited hospitals for four essential health services offered at health centres in LMICs and explore the factors associated with hospital use.	Using nationally representative surveys from 56 countries, the study found that using hospitals for essential primary care services is relatively common in LMICs. This was more common among the wealthiest, urban residents and the most educated women, reflecting that hospital use is highly inequitable.	To stop the drift towards use of hospitals, structural health system investments such as a strong primary care workforce and well-equipped, people-centred health centres will be essential.
Asante, A	2016	Systematic review	LMICs	To assess progress towards equity in health care financing in LMICs through the use of Benefit incidence analysis (BIA) and financing incidence analysis (FIA).	Health care financing in LMICs benefits the rich more than the poor but the burden of financing also falls more on the rich. Even PHC services, which are often presumed to be pro-poor, were only marginally so in sub-Saharan Africa.	Future measures of equity need to provide a complete picture of the entire health financing system not just focus on single health financing mechanisms
Ben Charif, A	2017	Systematic review	Global review, with LMICs dominant focus of included studies	To identify effective strategies for scaling up evidence-based practices (EBPs) in primary care.	The review found few studies assessing strategies for scaling up EBPs in primary care settings. It remains uncertain whether any strategies were effective as most studies focused more on patient/provider outcomes and less on scaling-up process outcomes.	The science of scaling up EBPs in primary care is young and future initiatives should include the development of specific reporting guidelines and minimal consensus on the metrics of scaling-up of EBPs in primary care.
Bitton, A	2017	Description of the Primary Health Care Performance Initiative (PHCPI)	Global	To describe the PHCPI, an international consortium to catalyse improvements in PHC delivery and outcomes in LMICs through better measurement and sharing of effective models and practices.	PHCPI has developed a framework to illustrate the relationship between key financing, workforce, and supply inputs, and core PHC functions of first-contact accessibility, comprehensiveness, coordination, continuity, and person-centeredness.	Successful progress requires sustained leadership and investment in measuring the key PHC domains and making this data transparent and relevant particularly at the front lines of service delivery.

(continued)

Table A1. (Continued)

First author	Year published	Article type	Geographic focus	Study objective/aim	Key impacts, enablers, barriers relevant to PHC	Evidence gaps
Bitton, A	2019	Scoping review	Global, with a more specific focus on a sub-set of countries for a component of the review	To conduct a scoping review of the recent literature to assess the state of research on PHC in LMICs and understand where future research is most needed.	The country-specific review of 14 countries showed that most maintained or improved progress in the scope of services, quality, access and financial coverage of PHC over the last decade.	Several emerging service delivery innovations have early evidence of success but lack evidence for how to scale more broadly.
Bloom, DE	2018	Literature review	Global	To describe the challenges involved in implementing UHC including human, financial, and technological resources requirements.	Progress toward achieving UHC will be aided by new technologies, a willingness to shift medical tasks from highly trained to appropriately well-trained personnel, a balance between quantity and quality of health care services, and resource allocation decisions that acknowledge non-medical influences on population health.	Substantial human and financial resources will be required to achieve UHC in any of the various ways it has been conceived and defined. Addressing these challenges may require radical transformations in the way that health services are delivered.
Chotchoungchatchai ² 2020 S		Policy analysis	Global	To examine the potential and limitations of PHC in contributing to health-related SDGs, identify barriers to PHC provision, and recommend policies for implementation to enable a fully functioning PHC service.	The authors identify four underlying factors currently impeding full implementation of PHC: inadequate funding, PHC workforce shortages, insufficient multi-sectoral actions and inadequate community empowerment.	Governments should increase spending on PHC, implement interventions to retain the rural health workforce, and update the pre-service training curricula of personnel to include skills in multisectoral collaboration and community engagement.
Colombini, M	2017	Systematic review	LMICs	To identify and analyse barriers and facilitators to integrated health sector responses to intimate partner violence (IPV) in LMICs.	The services that were most comprehensive and integrated in their responsiveness to IPV were primarily in primary health and antenatal care settings. A connected systems-level response was critical.	There is a need for process evaluations to yield contextual information on how programs are implemented.
Dodd, R	2019	Literature review	LMICs in the Asia-Pacific region	To synthesize evidence on the organisation of PHC service delivery in LMICs in the Asia Pacific and identify evidence of effective approaches and pathways of impact.	Community based services are most effective when well-integrated through functional referral systems and supportive supervision arrangements and have a reliable supply of medicines. Few studies adopt a 'systems' lens.	Future research in the Asia-Pacific region should embrace complexity and focus on strategies for PHC implementation to identify enabling factors that support context-specific adaptation and scale-up.
Du, S	2019	Cross-sectional quantitative study	Countries of the South-east and East Asian Nursing Education and Research Network (SEANERN)	To identify the capacity of PHC providers in countries of the SEANERN.	The general capacity perceived by PHC providers themselves was low to moderate in all three dimensions (skill, knowledge, ability) across eight components of PHC.	The translation of capacity from knowledge into skill and from skill into ability is relatively poor.

(continued)

Table A1. (Continued)

First author	Year published	Article type	Geographic focus	Study objective/aim	Key impacts, enablers, barriers relevant to PHC	Evidence gaps
Dugani, S	2018	Systematic review	LMICs	To analyse the prevalence of and factors associated with PHC provider burnout in LMICs.	The review found heterogeneity in definition and prevalence of burnout. All three dimensions of burnout were seen across multiple cadres (physicians, nurses, community health workers, midwives, and pharmacists).	Further studies should measure the causes and consequences of burnout and guide the development of effective interventions to reduce or prevent burnout.
El-Jardali, F	2019	Systematic review	LMICs	To systematically review the evidence on barriers and facilitators to the implementation of essential health benefits packages (EHPs) within PHC settings in LMICs.	At the governance level, key reported barriers were insufficient policymaker-implementer interactions, limited involvement of consumers and stakeholders, sub-optimal PHC network arrangements, poor marketing, and insufficient coordination with community network.	Future reviews could explore barriers and facilitators to implementation of EHPs in different contexts. Studies are also needed to assess the impact of implementing EHPs on population health outcomes, equity, and financial protection.
Espinosa-Gonzalez, AB	2019	Mixed methods through Delphi process (3 rounds)	24 WHO European region countries	To analyse the interactions between PHC functions and their impact in PHC delivery, particularly in providers' behaviour and practice organisation.	Findings show correlations between governance, financing and regulation based on their degree of decentralisation.	The framework developed in the study is being applied to classify countries according to the degree of decentralisation of PHC financing and regulation and compare their performance.
Fadlallah, R	2019	Literature review followed by stakeholder ranking exercise	Eastern Mediterranean Region	To use a multistep approach to generate a policy-relevant research agenda for strengthening quality, safety and performance management in PHC in the Eastern Mediterranean Region (EMR).	The study generated three important outputs: evidence and gap maps, a ranked list of priority research questions, and a proposed approach for research implementation addressing the top-ranked question.	The top five research priorities for quality, safety and performance management in PHC in the EMR for the next 3–5 years are identified.
Gauld, R	2012	Policy report	High Income Countries	To examine the prospects for the WHO PHC agenda in 12 high-income health systems from Asia, Australasia, Europe and North America, comparing performances against the WHO agenda.	All 12 systems studied demonstrate considerable gaps between the actual status of PHC and the WHO vision when assessed in terms of the four WHO reform dimensions, although many initiatives to enhance PHC have been implemented.	PHC remains largely independent in each of the 12 health systems, both as a sector unto itself and in terms of the organisation of practitioners and services within.
Goodyear-Smith, F	2019	Literature review and Delphi study (<i>Primary care financing: a systematic assessment of research priorities in LMICs</i>)	LMICs	To identify and prioritize the perceived needs of PHC practitioners and researchers for new research LMICs about financing of PHC.	Practitioners, academics and policymakers from LMICs prioritized three questions about primary care financing that focused on general adequacy of primary care funding.	There is a marked deficiency in studies providing country context-specific evidence of financing PHC in LMICs.

(continued)

Table A1. (Continued)

First author	Year published	Article type	Geographic focus	Study objective/aim	Key impacts, enablers, barriers relevant to PHC	Evidence gaps
Goodyear-Smith, F	2019	Literature review and Delphi study (<i>Primary care research priorities in LMICs</i>)	LMICs	To identify and prioritize the needs for new research evidence for PHC in LMICs about organisation, models of care, and financing of PHC.	Four priority areas emerged: effective transition of primary and secondary services, horizontal integration within a multidisciplinary team and intersectoral referral, integration of private and public sectors, and ways to support successfully functioning PHC professionals.	The top ranked research questions centre around continuity of care, multidisciplinary workforce teams, public/private sector collaboration, inter-sectoral collaboration, and equitable financing systems
Goodyear-Smith, F	2019	Literature review and Delphi study (<i>Research gaps in the organisation of PHC in LMICs and ways to address them: a mixed-methods approach</i>)	LMICs	To identify and prioritize the knowledge needs of PHC practitioners and researchers in LMICs about PHC organisation.	The study produced a unique list of essential gaps in knowledge of how best to organize PHC, priority ordered by LMIC expert informants capable of shaping their mitigation.	There is a need for research in LMICs on achieving holistic team-based full scope of care, appropriate referral, public-private partnerships, and coordination across policy and its practical application.
Haque, M	2020	Literature review	LMICs	To analyse how PHC services can be utilized and strengthened to help prevent and control long-term non-communicable diseases in LMICs.	A PHC based approach provides opportunities for communities to better access appropriate healthcare, which ensures more significant equity, efficiency, effectiveness, safety, and timeliness, empowers service users, and helps healthcare providers to achieve better health outcomes at lower costs.	Future research should support the following strengths of PHC: PHC is a comprehensive whole-system approach; PHC enhances community participation; and PHC emphasizes promoting health equity.
Kraef, C	2019	Policy analysis	Global, with particular focus on LMICs	To examine the challenges that PHC faced after the Alma-Ata declaration; provide an analysis of the current opportunities and threats to PHC strengthening; and review key policy recommendations and related evidence to address key threats.	Key threats to comprehensive PHC include: insecurity, conflicts and disease outbreaks; lack of sustained political commitment and inappropriate monitoring and evaluation structures; inappropriate and unsustainable financing models; and insufficient health workforce recruitment, employment and retention.	Understanding the historical challenges to Alma-Ata that impeded its success can help improve policy for PHC today. The paper offers policy recommendations against each of the threats identified.
Kruk, ME	2010	Systematic review	LMICs	To describe and assess the contributions of major primary care initiatives implemented in LMICs in the past 30 years to a broad range of health system goals.	Most primary care programs had multiple components from health service delivery to financing reform to building community demand for health care. The review found that primary care-focused health initiatives in LMICs have improved access to health care at reasonably low cost.	Future research should focus on understanding how to optimize the delivery of primary care to improve health and achieve other health system objectives and to what extent models of care can be exported to different settings.

(continued)

Table A1. (Continued)

First author	Year published	Article type	Geographic focus	Study objective/aim	Key impacts, enablers, barriers relevant to PHC	Evidence gaps
Landes, M	2019	Letter to the editor	Low income countries (LMICs)	To demonstrate that at the 40th anniversary of the Alma-Ata Declaration's commitment to PHC, NGOs are particularly poised to strengthen PHC in low income countries.	In this letter, the authors reflect on how NGOs have both positively and negatively impacted equity, effectiveness, appropriateness and efficiency of PHC systems based on their experience working with NGOs in LMICs.	The authors call for NGOs to commit their expertise and resources to long-term strengthening of PHC in LMICs and to critically examine the factors that prevent or assist them in this goal.
Langlois, EV	2020	Mixed methods multiple case study	LMICs	To analyse the PHC systems in 20 LMICs using a semi-grounded approach.	The authors found that: (i) many LMICs countries lacked funds for preventive services; (ii) community health workers were often under-resourced, poorly supported and lacked training; (iii) out-of-pocket expenditure exceeded 40% of total health expenditure in half the countries studied; and (iv) health insurance schemes were hampered by the fragmentation of public and private systems, underfunding, corruption and poor engagement of informal workers.	The analysis found gaps in context-sensitive knowledge about the most effective ways of: (i) enabling primary health-care systems to adapt to local needs and to the needs of the population in general; and (ii) enhancing social accountability and the community engagement and empowerment pillar of PHC.
Leslie, HH	2017	Descriptive quantitative analysis of service provision assessments	Bangladesh, Haiti, Kenya, Malawi, Namibia, Nepal, Rwanda, Senegal, Uganda and the United Republic of Tanzania	To evaluate the service readiness of over 8000 health facilities in Bangladesh, Haiti, Kenya, Malawi, Namibia, Nepal, Rwanda, Senegal, Uganda and the United Republic of Tanzania.	The comparison revealed substantial and pervasive gaps in the basic capacity to provide health-care services. Health centres/clinics achieved barely over half – and hospitals just over three quarters – of the maximum possible score for service readiness.	More attention needs to be given to within-country inequities. Countries may benefit from identifying the best-performing facilities as case studies.
Macarayan, EK	2018	Descriptive quantitative analysis of facility survey data	Ethiopia, Haiti, Kenya, Malawi, Namibia, Nepal, Rwanda, Senegal, Tanzania, and Uganda	To assess whether existing facility surveys capture relevant aspects of primary care performance and to summarize the quality of primary care in ten LMICs.	Facility surveys do not capture key elements of primary care quality. There were gaps in measurement of: outcomes such as user experience, health outcomes, and confidence; and several processes such as timely action, choice of provider, and affordability.	The available measures suggest major gaps in primary care quality. If not addressed, these gaps will limit the contribution of primary care to reaching the SDGs.

(continued)

Table A1. (Continued)

First author	Year published	Article type	Geographic focus	Study objective/aim	Key impacts, enablers, barriers relevant to PHC	Evidence gaps
Moresky, RT	2019	Conceptual analysis	LMICs	To describe research strategies for emergency care systems (ECS) in LMICs, elucidate priority research questions and methodology, and present a selection of studies addressing operational, implementation, policy and health systems elements.	ECS are complex adaptive systems that present diverse research and intervention challenges, particularly in resource-constrained settings. Funding, ethical considerations, conceiving and executing a context-grounded programme design all represent challenges.	The authors propose a framework for ECS research that offers evidence-based guidance to influence optimising health systems impact by decreasing morbidity and mortality from injuries and emergent conditions in LMICs.
Munar, W	2019	Literature review	LMICs	To map available evidence on performance measurement and management (PMM) strategies in PHC systems of LMICs.	The evidence is concentrated in two types of PMM strategies: implementation strategies (in-service training, continuing education, supervision) and performance-based financing. Major gaps exist in accountability arrangements particularly the use of audit and feedback.	Future efforts at redesigning PHC systems need to be informed by evidence on the most effective approaches for using PMM strategies.
Munga, MA	2013	Descriptive literature review of selected case studies in LMICs	LMICs, with particular focus on Tanzania	To appraise the inadequacies of the existing planning approaches in addressing the growing human resources for health (HRH) crisis in resource-limited settings.	The review found an implicit assumption that HRH problems have originated largely from the 'malfunctioning' of the health sector and thus most of the proposed interventions responding to these problems were by default or design health sector -focussed.	Selective approaches that are largely health sector specific may not provide longer term and sustainable solutions to the HRH crisis. More of an inter-sectoral focus in HRH planning is needed.
Palagyi, A	2019	Literature review and Delphi study	Seven Asia-Pacific LMICs	To identify evidence-based strategies for reorganising PHC delivery, determine where relevant evidence gaps exist and prioritize these for future study.	Stakeholder-determined priorities reflected large, context dependent system issues, while evidence gaps centred on discrete interventions. The study demonstrates that health policy and systems research priorities of national PHC stakeholders do not always align with scientific research outputs.	The largest evidence gaps related to interventions to promote access to essential medicines, patient management tools, effective health promotion strategies and service planning and accountability.
Rasnathan, K	2020	Policy analysis	Global	To consider how the most recent interpretation of PHC at the Astana conference can best guide greater application of the PHC strategy.	The authors draw attention to the tension between the political vision of "health for all" and the implementation vehicle of (the much more limited) primary care.	Work is needed to better link primary care with complementary work targeting the social determinants. The heterogeneity of implementation contexts also needs to be recognized and addressed.

(continued)

Table A1. (Continued)

First author	Year published	Article type	Geographic focus	Study objective/aim	Key impacts, enablers, barriers relevant to PHC	Evidence gaps
Rifkin SB	2018	Policy analysis	Global, with particular focus on LMICs	To explore experiences in implementation of Alma Ata over the last 40 years, provide evidence of how these challenges have been met and what succeeded and what had failed, and to identify lessons from these experiences.	In the years following Alma Ata, implementation confronted many challenges. Lessons from these experiences include: the need to understand PHC as a process rather than a blueprint; and to understand the process must consider context, culture, politics, economics and social concerns.	PHC needs to be examined within evaluation frameworks that address complexity.
Rifkin, SB	2020	Letter to the editor	Global	To respond to an article authored by Kraef et al. (2019).	The authors argue that the 'threats' and challenges outlined in the paper are well documented and longstanding. The highlight the restricted approaches often taken in identifying problems and how possible subsequent improvements are investigated and presented.	The authors argue that a paradigm shift is needed from viewing health as a result of a linear, predictive set of biomedical interventions to viewing it as a dynamic, iterative process.
Rule, J	2014	Realist review	LMICs	To explore the development of an evidence-based approach for assessing the effectiveness of PHC programs and interventions in LMICs.	There is no internationally standardized methodology or approach to PHC research but over the past 30 years there has been a range of approaches used.	There is a paucity of studies systematically evaluating the implementation of PHC programs in LMICs. Evaluation models need further investigation.
Saif-Ur-Rahman, KM	2019	Literature review followed by stakeholder consultation (workshop)	LMICs	To identify the knowledge gaps concerning PHC policy and governance in LMICs and produce an evidence gap map.	The three highest priority areas for conducting implementation research for better PHC governance: (1) interventions to improve accountability for better governance in PHC; (2) role of public-private partnerships in PHC governance; and (3) role of user-provider communication in PHC.	There are evidence gaps regarding social accountability, public-private partnership and intersectoral collaboration. Stakeholders strongly recommended that implementation research be conducted in the priority areas.
Shadmi, E	2014	Summary of conference workshop	Global	To summarize the work performed at the World WONCA (World Organization of National Colleges and Academies of Family Medicine) 2013 Meetings' Health Equity Workshop.	Assessment of the gaps between current and preferred priorities showed that to bridge expectations and actual performance, governments and health care systems should focus on: forming cross-national collaborations; incorporating health equity and cultural competency training in medical education; and engaging in initiation of advocacy programs	There is a need to further examine how professional obligations can be directly carried out by primary care professionals and not merely remain as aspirations to be addressed by governments.

(continued)

Table A1. (Continued)

First author	Year published	Article type	Geographic focus	Study objective/aim	Key impacts, enablers, barriers relevant to PHC	Evidence gaps
Stenburg, K	2019	Modelling study	67 LMICs	To present measures for PHC investments and project the associated resource needs. Three measures are used for PHC: Measure 1 – public health interventions and outpatient care; measure 2 – general inpatient care; and measure 3 – cross-sectoral activities.	An estimated additional US\$200–328 billion per year is required for the various measures of PHC from 2020 to 2030. For measure 1, an additional \$32 is needed per capita across the countries. Needs are greatest in low-income countries where PHC spending per capita needs to increase from \$25 to \$65.	Recommendations for future work include expanded models for cross-sectoral analysis, as well as projections for a more comprehensive package of health services.
United National General Assembly	2019	Political declaration	Global	We, Heads of State and Government and representatives of States and Governments, assembled at the United Nations on 23 September 2019, with a dedicated focus for the first time on universal health coverage (UHC).	The Political Declaration of the High-level Meeting on UHC reaffirms that health is a precondition for and an outcome and indicator of the social, economic and environmental dimensions of sustainable development and the implementation of the 2030 Agenda for Sustainable Development.	The Declaration recognizes that action to achieve UHC by 2030 is inadequate and that the level of progress and investment to date is insufficient to meet target 3.8 of the SDGs, and that the world has yet to fulfil its promise of implementing, at all levels, measures to address the health needs of all.
Vande Maele, N	2019	Economic analysis	LMICs	To test and examine different measurement options of PHC expenditure using the System of Health Accounts (SHA) 2011 for systematic monitoring of PHC expenditure.	Country spending on PHC varies largely, across countries and across definition options. PHC expenditure ranges from US\$15 to US\$60 per capita and from 31% to 88% of Current Health Expenditure. The study identified the major challenges in developing standard monitoring of PHC expenditure.	Further research and analysis would provide a clearer operational definition of PHC expenditures and more distinct PHC boundaries. More granular data and strengthened data estimation methods would support a more robust or precise mapping of PHC to the SHA classifications and improve comparability between countries.
VanderZanden, A	2019	Qualitative study	195 research consortia around the world	To report on a landscape analysis to understand global health research consortium models and major design decisions that inform model choice.	Research consortia models ranged from structured functioning networks with large technical cores and strong central governing bodies to less structured models with minimal or no core and looser governing bodies.	The findings offer a potential framework for new research consortia and inform the design of a proposed PHC research consortium.
Veillard, J	2017	Conceptual analysis	LMICs	To report on the development of instruments for performance assessment and improvement as part of the Primary Health Care Performance Initiative (PHCPI) and report a conceptual framework and performance indicators.	The PHCPI conceptual framework builds on the current understanding of PHC system performance through an expanded emphasis on the role of service delivery. Key challenges include a lack of available data for several indicators and a lack of validated indicators for important dimensions of quality PHC.	The PHCPI will continue to develop and test additional performance assessment instruments, including composite indices and national performance dashboards.

(continued)

Table A1. (Continued)

First author	Year published	Article type	Geographic focus	Study objective/aim	Key impacts, enablers, barriers relevant to PHC	Evidence gaps
World Health Organization	2019	Policy report (PHC on the road to universal health coverage)	Global	To analyse advances and impediments to multiple dimensions of universal health coverage (UHC).	Globally and for many countries, the pace of progress has slowed since 2010. Progress requires considerable strengthening of health systems to provide UHC, particularly in lower income settings. The gains in service coverage have come at a major cost to individuals and their families.	The weakness of global and especially country health information systems leaves data gaps for most countries – on service coverage, on financial protection and on gender and equity markers.
World Health Organization	2019	Policy report (<i>Review of 40 years of PHC implementation at country level</i>)	Global	To review 40 years of PHC implementation at country level, as requested by the WHO Executive Board at its 142nd session in January 2018.	The key enabling factors in developing and implementing PHC approaches are: political will and good governance; promotion of health reforms; strengthening health systems towards PHC; increasing access to essential programmatic activities; partnerships; and organisational management.	Government capacity to collect, analyse and use data is often subject to significant capacity constraints in enabling governments and other health sector staff to make well-informed decisions.
World Health Organization and United Nations Children's Fund (UNICEF)	2018	Policy report	Global	To capitalize on the fortieth anniversary of the landmark international Conference on Primary Health Care in Alma-Ata by updating its declaration on PHC.	PHC is a whole-of-society approach to health that aims equitably to maximize the level and distribution of health and well-being by focusing on people's needs and preferences as early as possible along the continuum from health promotion and disease prevention to treatment, rehabilitation and palliative care, and as close as feasible to people's everyday environment.	To achieve this ambitious vision of PHC in the 21st century, transformational action is required. The specifics of this action will vary considerably from country to country. A flexible set of thirteen 'levers' has been identified that countries can employ as they move towards PHC.