

# A Comparative Literature Review of Integrated Approach in Health Care in High and Low-Middle-Income Countries

Vikash Kumar and Suk Yin Caroline Cheng

*This literature review explores the definitions, models, and outcomes of an integrated approach to delivering health services. The concept of integrated healthcare emerged in the 1970s and was influenced by the primary healthcare model proposed by the World Health Organization in the Alma-Ata Declaration on Primary Health Care in 1978. This literature review aims to examine how integration is understood and implemented in high-income and low-middle-income countries. A systematic search of major electronic databases, such as PubMed, ScienceDirect, SCOPUS, and Medline, was conducted to identify relevant peer-reviewed journal articles. The search used specific word categories related to the study, such as health system integration, health system, program, outcome/output, and perception. The findings of the study indicate that previous studies focused on policies on health system integration, generated evidence, and refined theories related to integrated care, including person-centered approaches, care coordination, and continuum of care. However, these studies mainly concentrated on desired outcomes and the effectiveness of the integrated approach, often overlooking the experiences of health workers who play a vital role within the health system. As a result, the importance of their experiences, opinions, and contributions to the success of integrated care has not been sufficiently incorporated into existing research. The study concludes that health workers' experiences and perspectives need to be considered when examining the integrated approach in the development of social and health studies.*

**Keywords:** *integration, health services, health workers, integrated care, outcomes, models*

Vikash Kumar and Suk Yin Caroline Cheng are Assistant Professors, Department of Social Work, Northern Michigan University, Marquette, MI, USA. They can be contacted at vkumar@nmu.edu; ccheng@nmu.edu.

## **Introduction**

Integration in healthcare is a widely accepted concept across various health settings. The idea of integrated healthcare gained prominence in the 1970s, focusing on improving the health of children, adolescents, and the elderly population. This led to a strong movement towards more integrated and coordinated care, which was shaped by the primary healthcare movement following the World Health Organization's (WHO) Alma-Ata Declaration on Primary Health Care in 1978 (WHO, 1978). The primary care model aimed to provide integrated care within local communities.

Simultaneously, concerns arose regarding healthcare provision for the elderly due to age-related issues. This prompted professional to call for the development of Chronic Care Models (Wagner et al., 2001). Many countries eventually adopted these models to organize healthcare and delivery services, thereby improving health outcomes for patients. The Chronic Care Model comprises six key components: self-management support for patients, decision-making support for professionals, care coordination and case management, clinical information systems, community resources for promoting healthy lifestyles, and health system leadership (Wagner et al., 2001).

With the increasing healthcare needs and greater support for elderly patients, the Chronic Care Model has expanded to include determinants of health and various interventions that span primary, secondary, and tertiary levels. These interventions encompass public health issues such as health promotion, prevention, screening, early detection, rehabilitation, and palliative care (Barr et al., 2003). The adoption of an integrated care approach has been driven by primary healthcare and the chronic care model. The literature review examined the conceptualization, models, and outcome of an integrated approach to delivering health services. This review examines the conceptualization of integration and explores its implementation in high-income and low-middle-income countries.

## **Literature Search Strategy and Method**

A comprehensive literature search was conducted using electronic databases, including PubMed, ScienceDirect, SCOPUS, and Medline, to identify relevant peer-reviewed journal articles. The search was based on specific word categories related to the study, including health system integration, health system, program, outcome/output, and perception. Table 1 presents the keywords used in the literature search.

The titles and abstracts of the identified articles were downloaded into an Excel file. Initially, a review of the titles and abstracts was conducted to assess the relevance of each study. Articles focusing on conceptualizing integration, models, effectiveness, outcomes, barriers, and facilitators were selected for the review, while clinical articles were excluded. The majority of the selected articles revolved around integrated care, service integration for elderly and chronically ill patients,

Table 1 Keyword usage in literature search

Themes	Keywords
Theme 1	Integrat*, combinat*, unification, synergy, assimilation, vertical or horizontal
Theme 2	Health system, health care delivery, integrated delivery system
Theme 3	Program*, interven*, project, service*
Theme 4	Disease, NCDs, mental, psychiatrist, drug abuse, substance abuse, depression

NCD: non-communicable diseases.

and the integration of targeted health interventions (e.g., TB, HIV, malaria, tuberculosis). Most of these articles were authored by individuals from the United Kingdom, United States, and Canada.

In addition to the database search, cross-referencing was performed to identify additional relevant articles and research papers. Some articles about integration in the Indian context were retrieved from health and social science journals in India. Gray literature, including policy documents, program implementation guidelines, and operation guidelines, were also identified and retrieved from government websites, professional councils, and associations to gain insights into India's policy and program context of non-communicable diseases (NCDs). The following sections provide a concise summary of the concept of health system integration, drawing upon literature from high-income and low-middle-income countries while highlighting issues related to implementing integrated health programs.

## Findings

### Health System Integration: Conceptualization, Models, and Expected Outcomes

#### *Integration: Conceptualization*

Integration in healthcare is widely recognized as a means to enhance quality, efficiency, and patient satisfaction (Armitage, Suter, Oelke, & Adair, 2009; Atun, De Jongh, Secci, Ohiri, & Adeyi, 2010a; Suter, Oelke, Adair, & Armitage, 2009). Researchers and policymakers argue that aligning and synergizing healthcare services through integration can yield positive results for patients and organizations. However, there is a lack of consensus among researchers regarding the concept of integration and how it can be achieved. In their literature review, Armitage et al. (2009) identified 70 phrases and 175 definitions associated with integration, used interchangeably to refer to integrated health services, integrated delivery networks, integrated healthcare delivery, organized delivery systems, integrated health organizations, clinically integrated systems, organized systems of care, accountable care systems, and other similar terms. Other scholars and organizations have also reported different definitions, conceptualizations, and applications of integration within healthcare (Armitage et al., 2009; Kodner & Spreeuwenberg, 2002; Strandberg-Larsen & Krasnik, 2009; Suter et al., 2009).

The WHO adopts a health system perspective to define integration in health-care. Integrated health services delivery, as per WHO, is “an approach to strengthen people-centered health systems through the comprehensive delivery of quality services across the life course. It is designed based on the multidimensional needs of the population and the individual, delivered by a coordinated multidisciplinary team of providers working across different settings and levels of care. Effective management ensures optimal outcomes and appropriate resource utilization based on the best evidence. Feedback loops are implemented to continuously improve performance, address upstream causes of ill health, and promote well-being through inter-sectoral and multisectoral actions” (WHO, 2016, p. 10). This definition adopts a health system viewpoint and acknowledges that integrated care can be achieved by aligning various functions of health systems.

Kodner and Spreeuwenberg (2002) define integration from a process perspective. They describe it as “a coherent set of methods and models on the funding, administrative, organizational, service delivery, and clinical levels designed to create connectivity, alignment, and collaboration within and between the cure and care sectors. The goal is to enhance the quality of care and quality of life, consumer satisfaction, and system efficiency by bridging multiple services, providers, and settings. When these efforts benefit people, the outcome can be called integrated care.” This definition emphasizes the coordination of care and interconnectedness to provide quality care to patients.

From an organizational network perspective, integration is defined by scholars such as Enthoven (2009, p. 284) as “an organized, coordinated, and collaborative network that (1) links various healthcare providers, either through common ownership or contract, across three domains of integration – economic, non-economic, and clinical – to provide a coordinated, vertical continuum of services to a specific patient population or community, and (2) are accountable both clinically and fiscally for the clinical outcomes and health status of the population or community served, with systems in place to manage and improve them (Enthoven, 2009).” Most definitions explain integration as integrating inputs, delivery, management, and organization of services to enhance access, quality, user satisfaction, and efficiency (Armitage et al., 2009; Kodner & Spreeuwenberg, 2002).

The lack of clarity and consistency surrounding integration strategies creates confusion and poses challenges when selecting appropriate approaches. Additionally, the varying interpretations of integration make it difficult to measure the desired outcomes of integration efforts. Scholars have emphasized the need to establish a common language and framework for integration in future research and practice (Armitage et al., 2009; Kodner & Spreeuwenberg, 2002). The understanding of integration differs across disciplines and professional viewpoints (Contandriopoulos, Denis, Touati, & Rodriguez, 2003). Shaw, Rosen, and Rumbold (2011) present a visual representation, shown in Figure 1, illustrating the diverse perspectives that shape the delivery of integrated care. These perspectives include clinical vs. managerial and professional vs. patient viewpoints.

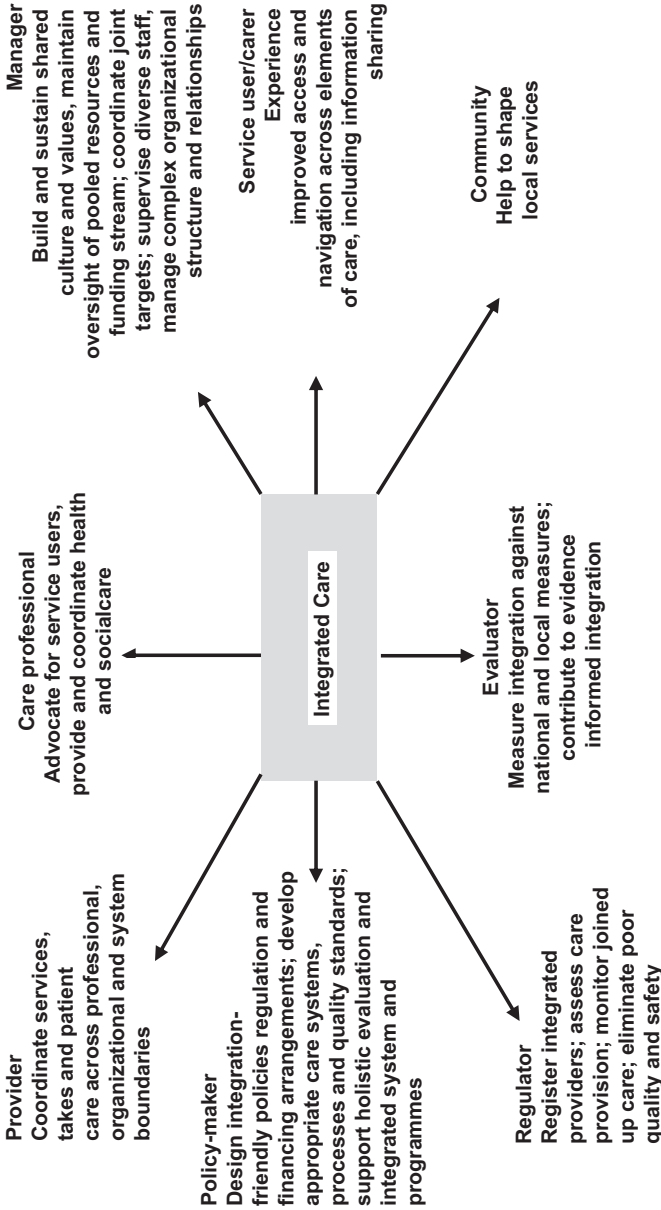


Figure 1 Different perspectives on integrated care.  
Source: Shaw et al. (2011).

For instance, managers may perceive integration as a means to merge two systems for cost efficiency, while doctors might view integration as a way to enhance care and service delivery to improve patients' health. Figure 1 outlines several contributing perspectives on integration.

The variations in conceptualizations, viewpoints, and models used to describe integration have prompted this inquiry. It has become evident that there is a growing belief that integration can yield positive outcomes for both patients and organizations, encompassing financial and non-financial benefits. These perspectives and interests are typically presented by managers, researchers, policymakers, or executives focused on the expected integration outcomes. In healthcare, integration has created a scenario where healthcare workers and professionals collaborate to provide services to achieve the desired integration results. However, it is important to note that these perspectives do not necessarily reflect the viewpoints and experiences of healthcare workers or managers directly involved in delivering or overseeing healthcare services. Previous studies have often overlooked the descriptions of the work carried out by healthcare workers in models explaining how integrated programs can attain the expected outcomes.

#### *Models of integration*

Within healthcare delivery systems, there are various models of integration. Coxon (2005) identifies two models of integration. The first model involves stand-alone organizations integrating health and social care alongside their mainstream services. The second model is the cross-agency model, which brings together different disciplines and professionals to collaborate at the service user level (Coxon, 2005). Strandberg-Larsen et al. (2009) identify two distinct conceptual categories of health system integration within the literature: (1) integration related to organizational structure, primarily focusing on financial performance, and (2) integration related to the organization of care, aiming to coordinate different activities to ensure harmonious functioning for the benefit of the patient (Coddington, Ackerman, & Moore, 2001; Gröne, Garcia-Barbero, & WHO European Office for Integrated Health Care Services, 2001).

Armitage et al. (2009), in their systematic review of health system integration, found various models of integration. They categorized these models into three main groups: system-level, program/service-level, and progressive or sequential models. System-level models often focus on organizational changes, including performance, leadership style, structure, and processes (Miller, 2000). Program or service-level integration models concentrate on case management to improve patient outcomes through better coordination of services (King & Meyer, 2006; O'Connell, Kristjanson, & Orb, 2000; Weiss, 1998), co-location of services and information (Chuah et al., 2017; Haldane et al., 2017; O'Connell et al., 2000; Sigfrid et al., 2017; Wulsin, Söllner, & Pincus, 2006), implementation of teams (O'Connell et al., 2000), and the use of a population health approach (Byrnes, 1998). This approach is observed in low and middle-income countries, where

targeted and vertical programs are integrated with the general hospital system, such as integrating TB and HIV programs in those settings (Howard & El-Sadr, 2010; Legido-Quigley et al., 2013).

Progressive or sequential models of integration emphasize integration “as a means to achieve improved healthcare performance, not the final destination” (Gillies, Shortell, Anderson, Mitchell, & Morgan, 1993). The premise of this approach is based on theories that support improving healthcare performance while adding value to the system, program, community, patients, and providers (Gillies et al., 1993). Each sequential model proposes several stages to fully integrate care (Boon, Verhoef, O’Hara, & Findlay, 2004).

#### *The desired outcome of integration*

Evans, Baker, Berta, and Barnsley (2013), in their literature review, identified four desired outcomes of integrated healthcare strategies: economic benefits, value with improved quality, organizational performance, and patient-level outcomes. Initially, economic benefits were the primary drivers for horizontal and vertical integration strategies. Integration was framed in terms of efficiency, with potential secondary benefits of improved quality and economies of scale. However, successfully integrating staff, policies, funding, and clinical processes requires investments and might improve the quality of care but not necessarily lead to immediate economic benefits (Burns, Gimm, & Nicholson, 2005). Over time, there was a shift towards focusing on the quality-related outcomes of integration, driven by the demand for greater patient and provider protection.

However, the outcomes of integrated healthcare strategies have been inconsistent. Wan et al. (2002) reported financial challenges resulting from integration (Wan & Wang, 2003), while other scholars found negative, mixed, or inconclusive impacts (Bazzoli, Chan, Shortell, & D’Aunno, 2000; Burns et al., 2005). These inconsistencies may be attributed to implementation difficulties, methodological challenges, conceptual ambiguity, contextual differences, or a lack of long-term studies (Stein & Rieder, 2009). The lack of consensus among managers, policymakers, clinicians, and patients regarding the purpose of health system integration can hinder efforts to secure cooperation at all levels (Friedman & Goes, 2001; Stein & Rieder, 2009). It has been observed and recognized that the quality of care may be at risk, leading to a demand for greater patient protection and public accountability (Evans et al., 2013). Additionally, growing evidence suggests that successful integration of policies, staff, funding, and clinical processes requires significant investment, which may result in improved quality of care but not necessarily immediate efficiencies, particularly in the short term (Burns et al., 2005; Leutz, 1999).

#### Integrated Health Care

As discussed in the previous section, integration has been conceptualized in various ways, and its meaning varies depending on the context. The purpose of this

section is to present and discuss the different understandings of integration in high-income and low-middle-income countries.

### *Integration literature from high-income countries*

In high-income countries, integrated delivery systems emerged in the late 1980s due to the rapidly changing reimbursement system and healthcare financing environment (Spitzer, 2001). Initially, the conceptualization of integration was rooted in a mechanistic view of care delivery and system change (Ackerman, 1992; Charns, 1997; Fox, 1989). Scholars argued that integrated health systems could be designed from the top down by taking a series of steps, which involved bringing various elements of healthcare delivery together under large and centralized structures. However, many of these interventions and integration designs failed, leading to discussions about recognizing the complexity and dynamics of the integration process (Baskin, Goldstein, & Lindberg, 2000; Begun, Zimmerman, & Dooley, 2003).

Many scholars argued that healthcare organizations should be theorized as Complex-Adaptive Systems (CAS), capable of self-organization without external control and functioning based on relationships and collaborations among different agents (McDaniel & Driebe, 2001; Plsek & Greenhalgh, 2001). It was proposed that control and decision-making capacity, which determined the overall behavior of the organization, could be dispersed and decentralized. These ideas and the theoretical framework surrounding CAS allowed scholars to understand the challenges and opportunities for managing new or existing integration efforts in healthcare organizations (Dattée & Barlow, 2010; Edgren & Barnard, 2012; Tsasis, Evans, & Owen, 2012).

Integration strategies, including horizontal and vertical integration, aimed at achieving better economic outcomes, such as potential economies of scale, market domination, increased profits, and, ultimately, better prospects for survival (Thaldorf & Liberman, 2007). Initial efficiencies and improvements in the quality of care were assumed to be advantages of integration and a means of achieving economies of scale as a secondary potential benefit (Ackerman, 1992; Conrad & Shortell, 1996; Walston, Kimberly, & Burns, 1996). The growing demand for healthcare services, driven by demographic and epidemiological transitions, rising expectations of the population, and recognition of patients' rights, intensified the need for healthcare reform (Gröne et al., 2001). This demand, coupled with the availability of new medical technologies and information systems, facilitated the adoption of "integration" strategies in healthcare reforms, specifically the integration of services, to meet health needs (Gröne & Garcia-Barbero, 2001).

Many healthcare organizations in the UK and Canada have adopted integration strategies to minimize and control the cost of care (Jiwani & Fleury, 2011; Shortell, Gillies, & Anderson, 1994). However, the focus on the economic benefits of integration has expanded to include a focus on efficiency and quality of care (Evans et al., 2013). This shift is driven by a greater demand for patient safety and accountability from healthcare organizations (Grol, Bosch, Hulscher, Eccles,



& Wensing, 2007; Gröne & Garcia-Barbero, 2001). Furthermore, there is growing evidence to support the integration of staff, policies, funding, and clinical processes through new interventions that can improve the quality of care but may not necessarily yield economic benefits, especially in the short term (Burns et al., 2005).

Integrated healthcare strategies in high-income countries aim to provide clinical services to individual patients for better health outcomes. Many integrated care models have been implemented for elderly patients or those with long-term chronic health conditions or complex needs. From a clinical perspective, the integrated care model tends to improve health outcomes, patients' experiences, and the quality of care. However, these models also serve the organizational goal of reducing the cost of care by minimizing residential care and short hospital stays (Curry & Ham, 2010; Erens et al., 2016).

#### *Integration literature from low-income countries*

Over the past several decades, policymakers worldwide have recognized the need for an integrated approach to address the emerging healthcare needs of the population. The focus of health service delivery has shifted from the hospital to the population setting, emphasizing patient engagement at the frontline. Previous studies have highlighted the gap between the increasing burden of chronic diseases and the availability of services through the local health system, which is largely based on hospital-based treatment (Atun et al., 2013; Gröne & Garcia-Barbero, 2001; Shigayeva, Atun, McKee, & Coker, 2010; Swanson et al., 2015). The development of medical technology, such as vaccines, new drugs, and medical procedures, has shaped the landscape of the health system. Over many decades, these technologies have addressed health problems in resource-constrained settings and have influenced and offered new alternatives for service integration.

Authors have argued that donor-driven vertical disease-specific programs in low- and middle-income countries have fragmented the healthcare system (Ooms, Van Damme, Baker, Zeitz, & Schrecker, 2008; Patel et al., 2015; Swanson et al., 2015) and hindered the integration process. The available empirical evidence on the integration of health services conceptualizes integration as a technical and mechanistic process for delivering healthcare (Armitage et al., 2009; Evans et al., 2013; Partapuri, Steinglass, & Sequeira, 2012). In low-middle-income countries, integration is seen as combining services for multiple interrelated diseases to increase the overall efficiency of the health system and improve patient convenience (Lenka & Bitra, 2013). For example, integration may involve combining diabetes or HIV screening with TB screening services at a health facility to provide comprehensive care for patients with both HIV and TB. Another example could be delivering family planning messages during routine immunization sessions (Cooper et al., 2015).

Despite the growing interest in integrating health services, there is limited empirical evidence on how integration should be implemented (Armitage et al., 2009; Atun et al., 2010a; Wallace, Dietz, & Cairns, 2009). Amo-Adjei et al. (2014), in their study on TB-HIV integration, reported that integrating HIV and

TB programs improved clinical synergy and reduced duplication of services in service delivery. However, the integration effort also increased workloads for frontline workers and reduced access to some services due to stigma. Studies on the integration of the leprosy program in India reported an increase in new case detection but a decrease in follow-ups, treatment monitoring, and adherence to the treatment protocol (Parkash & Rao, 2003; Rao, Bhuskade, Raju, Rao, & Desikan, 2002). Even with strong institutional support, integrating health services may not necessarily result in improved quality and increased access to healthcare. Factors such as management priorities, organizational culture, institutional policy, and systems can affect the implementation of integrated health programs (Watt et al., 2017).

Previous studies on integration have mainly focused on programmatic factors related to the availability of health workers, medicines, and knowledge while paying less attention to factors related to the broader health system (Chuah et al., 2017; Haldane et al., 2018; Watt et al., 2017). The WHO framework of health system “building blocks” provides insight into designing and delivering health services by understanding the interdependent nature of the six health system blocks (Figure 2). An intervention in one block may have intended and unintended consequences on other blocks (Atun et al., 2010a). For example, integrating ANC services with primary care requires trained health workers, necessitating appropriate interventions in the health workforce block and clear guidelines.

Drawing on empirical evidence and theory, Atun et al. (2010b) proposed a conceptual framework and analytical approach for analyzing the integration of health interventions into the health system. This analytical approach focuses on elements of health interventions that influence their adoption, diffusion, and assimilation within the health system. By employing this approach, it becomes

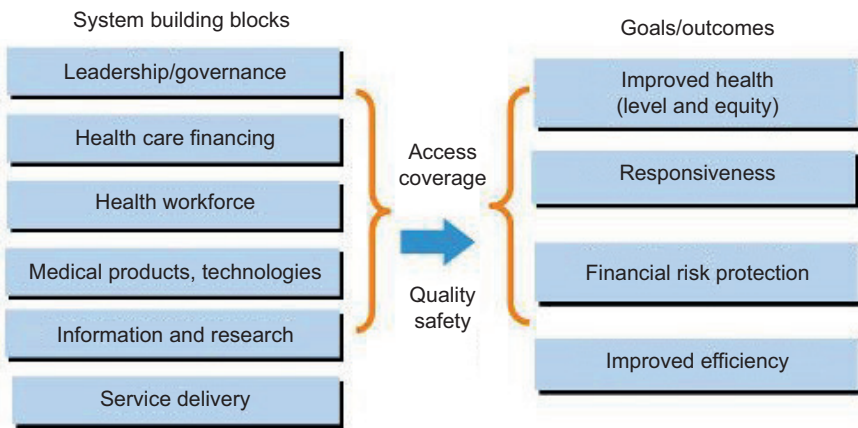


Figure 2 Health systems “building block” framework. Source: WHO (2007).

possible to compare and contrast efforts to integrate health interventions in different health settings and provide explanations for variations. Table 2 illustrates the elements of integration and critical functions within the health system, enabling an analysis of the degree of integration of health interventions into the general health system.

Atun et al. (2010a), in their review of the integration of targeted health interventions, demonstrate that various elements of health interventions have been integrated into one or more critical functions of health systems. However, the extent and nature of integration vary significantly due to factors such as socio-economic development, government commitment, and the inclination of health workers towards specific designs (Atun et al., 2010a).

Over the past two decades, numerous large global health initiatives (GHIs) and donor-driven targeted health programs have emerged, focusing on reducing disease burden and strengthening health systems in low and middle-income countries. These targeted health interventions primarily involve research or the implementation of new interventions, such as technology, vaccines, drugs, and market-oriented solutions through public-private partnerships. However, these GHIs have led to fragmentation in service delivery, with unintended consequences for health systems (Atun et al., 2010a; Enthoven, 2009; Frasca, Fauré, & Atlani-Duault, 2018; Ooms et al., 2008; Patel et al., 2015). Studies have shown that program integration often diverts attention and influences resource allocation,

**Table 2** Critical health system's functions and elements of integration

Health system's function	Element of integration
Stewardship and governance	Accountability function
	Reporting
	Performance management
Financing	Pooling of funds
	Provider payment methods
Planning	Needs assessment
	Priority setting
	Resource allocation
Service delivery	Service
	Structural
	Human resources
	Shared infrastructure
	Operational integration
	Referral and counter-referral systems
	Guidelines or care pathways
	Procurement
	Supply chain management
Monitoring and evaluation	Information technology infrastructure
Demand generation	Financial incentives, e.g., conditional cash transfers, insurance
	Population interventions, e.g., education and promotion

*Source:* Atun et al. (2010a).

drawing resources away from pressing health priorities like tuberculosis, malaria, diarrheal diseases, acute respiratory illnesses, and immunization (England, 2007; Yu et al., 2008).

There has been a growing demand to integrate targeted health interventions, such as tuberculosis, leprosy, malaria, HIV/AIDS, immunization, and others, with general health systems at the point of care (Atun et al., 2010a; Dudley & Garner, 2011; Legido-Quigley et al., 2013; Marais et al., 2013). These health interventions primarily focus on specific diseases and aim to reduce service duplication, increase the utilization of existing resources, and provide access to essential treatment for targeted population groups (Watt et al., 2017). Integration is also sought to align targeted interventions with general health systems for long-term sustainability.

The outcome of integration is typically measured by data on the uptake of health services, such as increased contraceptive use, immunization coverage, and the number of patients receiving medical treatment (Partapuri et al., 2012). However, the likelihood of successful implementation of integrated health programs depends on factors such as the availability of human resources, compatibility of services or supply chain management, and infrastructure (Lenka & Bitra, 2013).

## **Discussion and Conclusion**

An integrated approach has been implemented globally to improve patients' health outcomes and organizational performance and reduce the cost of care (Armitage et al., 2009; Atun et al., 2010a, 2013; De Jongh, Gurol-Urganci, Allen, Jiayue Zhu, & Atun, 2016; Legido-Quigley et al., 2013; Suter et al., 2009; Swanson et al., 2015; Tudor Car et al., 2011; World Health Organization Maximizing Positive Synergies Collaborative Group et al., 2009). Policymakers recognize the effectiveness of the integrated approach in delivering health services related to maternal and child health, NCDs, family planning, mental health, HIV, TB, and malaria. This is typically achieved through implementing health programs at primary, secondary, and tertiary care levels (Armitage et al., 2009). However, previous studies have primarily focused on policy perspectives, aiming to formulate policies on health system integration or refine theories related to integrated care, such as person-centered approaches, care coordination, and continuum of care (Ackerman, 1992; Ahgren & Axelsson, 2005; Burns & Pauly, 2002; Gröne et al., 2001; King & Meyer, 2006; Suter et al., 2009). These studies have also focused on desired outcomes and the effectiveness of the integrated approach while largely ignoring the experiences of health workers, who are integral to the health system. The significance of their experiences, viewpoints, and contributions to the success of integrated care have not been adequately incorporated into these studies.

Health systems in low- and middle-income countries face challenges such as shortages of health workers, infrastructure, drugs, and essential supplies (Acharya et al., 2017; Legido-Quigley et al., 2013; Saraceno et al., 2007; Semrau

et al., 2015; Swanson et al., 2015; WHO, 2010). These issues significantly influence the implementation of integrated health services. In this context, future research must focus on understanding how health workers deliver integrated healthcare to achieve the desired outcomes. Conducting a study that explores the organization of integrated health programs from the perspectives of health workers while delivering integrated health services can help identify issues that could be addressed through corrective measures at the policy level.

### **Declaration of Conflicting Interests**

The author(s) declared no potential conflicts of interest with respect to the research, authorship, and publication of this article.

### **Funding**

The author(s) received no financial support for this article's research, authorship, and publication.

## **References**

- Acharya, B., Maru, D., Schwarz, R., Citrin, D., Tenpa, J., Hirachan, S., ... Ekstrand, M. (2017). Partnerships in mental healthcare service delivery in low-resource settings: Developing an innovative network in rural Nepal. *Globalization and Health, 13*(1), 2. <https://doi.org/10.1186/s12992-016-0226-0>
- Ackerman, F. K. (1992). The movement toward vertically integrated, regional health systems. *Health Care Management Review, 17*(3), 81–88. <https://doi.org/10.1097/00004010-199222000-00010>
- Ahgren, B., & Axelsson, R. (2005). Evaluating integrated health care: A model for measurement. *International Journal of Integrated Care, 5*(3), e01. <https://doi.org/10.5334/ijic.134>
- Amo-Adjei, J., Kumi-Kyereme, A., Amo, H. F., & Awusabo-Asare, K. (2014). The politics of tuberculosis and HIV service integration in Ghana. *Social science & medicine, 117*, 42–49. <https://doi.org/10.1016/j.socscimed.2014.07.008>
- Armitage, G. D., Suter, E., Oelke, N. D., & Adair, C. E. (2009). Health systems integration: State of the evidence. *International Journal of Integrated Care, 9*, e82. <https://doi.org/10.5334/ijic.316>
- Atun, R., De Jongh, T., Secci, E., Ohiri, K., & Adeyi, O. (2010a). A systematic review of the evidence on integration of targeted health interventions into health systems. *Health Policy and Planning, 25*(1), 1–14. <https://doi.org/10.1093/heapol/czp053>
- Atun, R., De Jongh, T., Secci, E., Ohiri, K., & Adeyi, O. (2010b). Integration of targeted health interventions into health systems: A conceptual framework for analysis. *Health Policy and Planning, 25*(2), 104–111. <https://doi.org/10.1093/heapol/czp055>

- Atun, R., Jaffar, S., Nishtar, S., Knaul, F. M., Barreto, M. L., Nyirenda, M., ... Piot, P. (2013). Improving responsiveness of health systems to non-communicable diseases. *Lancet*, 381(9867), 690–697. [https://doi.org/10.1016/S0140-6736\(13\)60063-X](https://doi.org/10.1016/S0140-6736(13)60063-X)
- Barr, V. J., Robinson, S., Marin-Link, B., Underhill, L., Dotts, A., Ravensdale, D., & Salivaras, S. (2003). The expanded Chronic Care Model: An integration of concepts and strategies from population health promotion and the Chronic Care Model. *Hospital Quarterly*, 7(1), 73–82. <https://doi.org/10.12927/hcq.2003.16763>
- Baskin, K., Goldstein, J., & Lindberg, C. (2000). Merging, de-merging, and emerging at Deaconess Billings Clinic. *Physician Executive*, 26(3), 20–25. Retrieved from <http://www.ncbi.nlm.nih.gov/pubmed/10947459>
- Bazzoli, G. J., Chan, B., Shortell, S. M., & D'Aunno, T. (2000). The financial performance of hospitals belonging to health networks and systems. *Inquiry: A Journal of Medical Care Organization, Provision and Financing*, 37(3), 234–252. Retrieved from <http://www.ncbi.nlm.nih.gov/pubmed/11111282>
- Begun, J. W., Zimmerman, B., & Dooley, K. (2003). Health care organizations as complex adaptive systems. In S. M. Mick & M. Wyttenbach (Eds.), *Advances in health care organization theory*. Jossey-Boss: San Francisco, California, pp. 253–288. <https://doi.org/10.1177/009430610403300325>
- Boon, H., Verhoef, M., O'Hara, D., & Findlay, B. (2004). From parallel practice to integrative health care: A conceptual framework. *BMC Health Services Research*, 4(1), 15. <https://doi.org/10.1186/1472-6963-4-15>
- Burns, L. R., Gimm, G., & Nicholson, S. (2005). The financial performance of integrated health organizations. *Journal of Healthcare Management*, 50(3), 191–211. <https://doi.org/10.1097/00115514-200505000-00009>
- Burns, L. R., & Pauly, M. V. (2002). Integrated delivery networks: A detour on the road to integrated health care? *Health Affairs*, 21(4), 128–143. <https://doi.org/10.1377/hlthaff.21.4.128>
- Byrnes, J. J. (1998). Do integrated healthcare strategies enhance quality? *Integrated Healthcare Report*, 6–10. Retrieved from <http://www.ncbi.nlm.nih.gov/pubmed/10182828>
- Charns, M. P. (1997). Organization design of integrated delivery systems. *Hospital & Health Services Administration*, 42(9), 411–433.
- Chuah, F. L. H., Haldane, V. E., Cervero-Liceras, E., Ong, S. E., Sigfrid, L. A., Murphy, G., ... Legido-Quigley, H. (2017). Interventions and approaches to integrating HIV and mental health services: A systematic review. *Health Policy and Planning*, 32, iv27–iv47. <https://doi.org/10.1093/heapol/czw169>
- Coddington, D. C., Ackerman, F. K., & Moore, K. D. (2001). Integrated health care systems: Major issues and lessons learned. *Healthcare Leadership & Management Report*, 9(1), 1–9. Retrieved from <http://www.ncbi.nlm.nih.gov/pubmed/11255622>
- Conrad, D. A., & Shortell, S. M. (1996). Integrated health systems: Promise and performance. *Frontiers of Health Services Management*, 13(1), 3–40; discussion 57–58. <https://doi.org/10.1097/01974520-199607000-00002>

- Contandriopoulos, A.-P., Denis, J.-L., Touati, N., & Rodriguez, C. (2003). *The integration of health care: Dimensions and implementation* (No. N04-01). Retrieved from <http://www.irsipum.umontreal.ca/rapportpdf/n04-01.pdf>
- Cooper, C. M., Fields, R., Mazzeo, C. I., Taylor, N., Pfitzer, A., Momolu, M., & Jabbeh-Howe, C. (2015). Successful proof of concept of family planning and immunization integration in Liberia. *Global Health, Science and Practice*, 3(1), 71–84. <https://doi.org/10.9745/GHSP-D-14-00156>
- Coxon, K. (2005). Common experiences of staff working in integrated health and social care organisations: A European perspective. *Journal of Integrated Care*, 13(2), 13–21. <https://doi.org/10.1108/14769018200500012>
- Curry, N., & Ham, C. (2010). *Clinical and service integration. The route to improve outcomes*. London: The Kings Fund. Retrieved from <https://www.kingsfund.org.uk/sites/default/files/Clinical-and-service-integration-Natasha-Curry-Chris-Ham-22-November-2010.pdf>
- Dattée, B., & Barlow, J. (2010). Complexity and whole-system change programmes. *Journal of Health Services Research and Policy*, 15(Suppl. 2), 19–25. <https://doi.org/10.1258/jhsrp.2009.009097>
- De Jongh, T. E., Gurol-Urganci, I., Allen, E., Jiayue Zhu, N., & Atun, R. (2016). Barriers and enablers to integrating maternal and child health services to antenatal care in low and middle income countries. *An International Journal of Obstetrics and Gynaecology*, 123(4), 549–557. <https://doi.org/10.1111/1471-0528.13898>
- Dudley, L., & Garner, P. (2011). Strategies for integrating primary health services in low- and middle-income countries at the point of delivery. *Cochrane Database of Systematic Reviews (Online)*, 7, CD003318. <https://doi.org/10.1002/14651858.CD003318.pub3>
- Edgren, L., & Barnard, K. (2012). Complex adaptive systems for management of integrated care. *Leadership in Health Services*, 25(1), 39–51. <https://doi.org/10.1108/17511871211198061>
- Enthoven, A. C. (2009). Integrated delivery systems: The cure for fragmentation. *American Journal of Managed Care*, 15(10), S284–S290.
- England, R. (2007). The dangers of disease specific programmes for developing countries. *Bmj*, 335(7619), 565. Retrieved from <https://www.bmj.com/content/335/7619/565.full.pdf+html>
- Erens, B., Wistow, G., Mounier-Jack, S., Douglas, N., Jones, L., Manacorda, T., & Mays, N. (2016). *Early evaluation of the integrated care and support pioneers programme*. Retrieved from [https://piru.ac.uk/assets/files/Early\\_evaluation\\_of\\_IC\\_Pioneers\\_Final\\_Report.pdf](https://piru.ac.uk/assets/files/Early_evaluation_of_IC_Pioneers_Final_Report.pdf)
- Evans, J. M., Baker, G. R., Berta, W., & Barnsley, J. (2013). The evolution of integrated health care strategies. *Advances in Health Care Management*, 15, 125–161. [https://doi.org/10.1108/S1474-8231\(2013\)0000015011](https://doi.org/10.1108/S1474-8231(2013)0000015011)
- Fox, W. L. (1989). Vertical integration strategies: More promising than diversification. *Health Care Management Review*, 14(3), 49–56. <https://doi.org/10.1097/00004010-198922000-00007>

- Frasca, T., Fauré, Y.-A., & Atlani-Duault, L. (2018). Decentralisation of Brazil's HIV/AIDS programme: Intended and unintended consequences. *Global Public Health, 13*(12), 1725–1736. <https://doi.org/10.1080/17441692.2018.1455888>
- Friedman, L., & Goes, J. (2001). Why integrated health networks have failed. *Frontiers of Health Services Management, 17*(4), 3–28. <https://doi.org/10.1097/01974520-200104000-00002>
- Gillies, R. R., Shortell, S. M., Anderson, D. A., Mitchell, J. B., & Morgan, K. L. (1993). Conceptualizing and measuring integration: Findings from the health systems integration study. *Hospital & Health Services Administration, 38*(4), 467–489. Retrieved from <http://www.ncbi.nlm.nih.gov/pubmed/10130608>
- Grol, R., Bosch, M. C., Hulscher, M. E. J. L., Eccles, M. P., & Wensing, M. (2007). Planning and studying improvement in patient care: The use of theoretical perspectives. *The Milbank Quarterly, 85*(1), 93–138. <https://doi.org/10.1111/j.1468-0009.2007.00478.x>
- Gröne, O., & Garcia-Barbero, M. (2001). Integrated care. *International Journal of Integrated Care, 1*(2), 1–10. <https://doi.org/10.5334/ijic.28>
- Gröne, O., Garcia-Barbero, M., & WHO European Office for Integrated Health Care Services. (2001). Integrated care: A position paper of the WHO European Office for Integrated Health Care Services. *International Journal of Integrated Care, 1*, e21. <https://doi.org/10.5334/ijic.28>
- Haldane, V., Cervero-Licerias, F., Chuah, F. L., Ong, S. E., Murphy, G., Sigfrid, L., ... Legido-Quigley, H. (2017). Integrating HIV and substance use services: A systematic review. *Journal of the International AIDS Society, 20*(1), 21585. <https://doi.org/10.7448/IAS.20.1.21585>
- Haldane, V., Legido-Quigley, H., Chuah, F. L. H., Sigfrid, L., Murphy, G., Ong, S. E., ... Perel, P. (2018). Integrating cardiovascular diseases, hypertension, and diabetes with HIV services: A systematic review. *AIDS Care – Psychological and Socio-Medical Aspects of AIDS/HIV, 30*(1), 103–115. <https://doi.org/10.1080/09540121.2017.1344350>
- Howard, A. A., & El-Sadr, W. M. (2010). Integration of tuberculosis and HIV services in sub-Saharan Africa: Lessons learned. *Clinical Infectious Diseases, 50*(Suppl. 3), S238–S244. <https://doi.org/10.1086/651497>
- Jiwani, I., & Fleury, M.-J. (2011). Divergent modes of integration: The Canadian way. *International Journal of Integrated Care, 11*(5), e018. <https://doi.org/10.5334/ijic.578>
- King, G., & Meyer, K. (2006). Service integration and co-ordination: A framework of approaches for the delivery of co-ordinated care to children with disabilities and their families. *Child: Care, Health and Development, 32*(4), 477–492. <https://doi.org/10.1111/j.1365-2214.2006.00610.x>
- Kodner, D. L., & Spreeuwenberg, C. (2002). Integrated care: Meaning, logic, applications, and implications – A discussion paper. *International Journal of Integrated Care, 2*(4), 1–6. <https://doi.org/10.5334/ijic.67>



- Legido-Quigley, H., Montgomery, C. M., Khan, P., Atun, R., Fakoya, A., Getahun, H., & Grant, A. D. (2013). Integrating tuberculosis and HIV services in low- and middle-income countries: A systematic review. *Tropical Medicine & International Health*, 18(2), 199–211. <https://doi.org/10.1111/tmi.12029>
- Lenka, S. R., & Bitra, G. (2013). Integrated health service delivery: Why and how? *National Journal of Medical Research*, 3(3), 297–299. Retrieved from <http://www.scopemed.org/?mno=45267>
- Leutz, W. N. (1999). Five laws for integrating medical and social services: Lessons from the United States and the United Kingdom. *The Milbank Quarterly*, 77(1), 77–110. <https://doi.org/10.1111/1468-0009.00125>
- Marais, B. J., Lönnroth, K., Lawn, S. D., Migliori, G. B., Mwaba, P., Glaziou, P., ... Zumla, A. (2013). Tuberculosis comorbidity with communicable and non-communicable diseases: Integrating health services and control efforts. *The Lancet. Infectious Diseases*, 13(5), 436–448. [https://doi.org/10.1016/S1473-3099\(13\)70015-X](https://doi.org/10.1016/S1473-3099(13)70015-X)
- McDaniel, R. R., & Driebe, D. J. (2001). Complexity science and health care management. In J. D. Blair, M. D. Fottler, & G. T. Savage (Eds.), *Advances in health care management*. Emerald Group Publishing Limited: Bingley, pp. 11–36. [https://doi.org/10.1016/S1474-8231\(01\)02021-3](https://doi.org/10.1016/S1474-8231(01)02021-3)
- Miller, J. L. (2000). A post-mortem on healthcare integration: An organizational development approach. *Healthcare Leadership & Management Report*, 8(9), 5–15. Retrieved from <http://www.ncbi.nlm.nih.gov/pubmed/11184824>
- O'Connell, B., Kristjanson, L., & Orb, A. (2000). Models of integrated cancer care: A critique of the literature. *Australian Health Review: A Publication of the Australian Hospital Association*, 23(1), 163–178. <https://doi.org/10.1071/AH000163>
- Ooms, G., Van Damme, W., Baker, B. K., Zeitz, P., & Schrecker, T. (2008). The “diagonal” approach to Global Fund financing: A cure for the broader malaise of health systems? *Globalization and Health*, 4, 6. <https://doi.org/10.1186/1744-8603-4-6>
- Parkash, I., & Rao, P. S. (2003). Study on integration of the National Leprosy Eradication Programme into primary health care services: A pilot project. *Indian Journal of Leprosy*, 75(1), 25–35. Retrieved from <http://www.ncbi.nlm.nih.gov/pubmed/15253392>
- Partapuri, T., Steinglass, R., & Sequeira, J. (2012). Integrated delivery of health services during outreach visits: A literature review of program experience through a routine immunization lens. *The Journal of Infectious Diseases*, 205(Suppl. 1), S20–S27. <https://doi.org/10.1093/infdis/jir771>
- Patel, V., Parikh, R., Nandraj, S., Balasubramaniam, P., Narayan, K., Paul, V. K., ... Reddy, K. S. (2015). Assuring health coverage for all in India. *The Lancet*, 386(10011), 2422–2435. [https://doi.org/10.1016/S0140-6736\(15\)00955-1](https://doi.org/10.1016/S0140-6736(15)00955-1)
- Plsek, P. E., & Greenhalgh, T. (2001). The challenge of complexity in health care. *British Medical Journal*, 323(7313), 625–628. <https://doi.org/10.1136/bmj.323.7313.625>

- Rao, V. P., Bhuskade, R. A., Raju, M. S., Rao, P. V., & Desikan, K. V. (2002). Initial experiences of implementation of functional integration (FI) in LEPROA India projects in Orissa. *Leprosy Review*, 73(2), 167–176. <https://doi.org/10.47276/lr.73.2.167>
- Saraceno, B., van Ommeren, M., Batniji, R., Cohen, A., Gureje, O., Mahoney, J., ... Underhill, C. (2007). Barriers to improvement of mental health services in low-income and middle-income countries. *Lancet (London, England)*, 370(9593), 1164–1174. [https://doi.org/10.1016/S0140-6736\(07\)61263-X](https://doi.org/10.1016/S0140-6736(07)61263-X)
- Semrau, M., Evans-Lacko, S., Alem, A., Ayuso-Mateos, J. L., Chisholm, D., Gureje, O., ... Thornicroft, G. (2015). Strengthening mental health systems in low- and middle-income countries: The Emerald programme. *BMC Medicine*, 13(1), 79. <https://doi.org/10.1186/s12916-015-0309-4>
- Shaw, S., Rosen, R., & Rumbold, B. (2011). What is integrated care. London: *Nuffield Trust*, 7, 1–23. Retrieved from <https://citeseerx.ist.psu.edu/document?repid=rep1&type=pdf&doi=78e6dbbea14252400eef836aef4429b42e9056dd>
- Shigayeva, A., Atun, R., McKee, M., & Coker, R. (2010). Health systems, communicable diseases and integration. *Health Policy and Planning*, 25(Suppl. 1), i4–i20. <https://doi.org/10.1093/heapol/czq060>
- Shortell, S. M., Gillies, R. R., & Anderson, D. A. (1994). The new world of managed care: Creating organized delivery systems. *Health Affairs*, 13(5), 46–64. <https://doi.org/10.1377/hlthaff.13.5.46>
- Sigfrid, L., Murphy, G., Haldane, V., Chuah, F. L. H., Ong, S. E., Cervero-Liceras, E., ... Legido-Quigley, H. (2017). Integrating cervical cancer with HIV health-care services: A systematic review. *PLoS One*, 12(7), e0181156. <https://doi.org/10.1371/journal.pone.0181156>
- Spitzer, R. (2001). A case for conceptual competency in an integrated delivery system. *Nursing Administration Quarterly*, 25(4), 79–82. <https://doi.org/10.1097/00006216-200107000-00012>
- Stein, K. V., & Rieder, A. (2009). Integrated care at the crossroads—Defining the way forward. *International Journal of Integrated Care*, 9(2), e10. <https://doi.org/10.5334/ijic.315>
- Strandberg-Larsen, M., & Krasnik, A. (2009). Measurement of integrated health-care delivery: A systematic review of methods and future research directions. *International Journal of Integrated Care*, 9, e01. <https://doi.org/10.5334/ijic.305>
- Suter, E., Oelke, N. D., Adair, C. E., & Armitage, G. D. (2009). Ten key principles for successful health systems integration. *Healthcare Quarterly (Toronto, Ont.)*, 13, 16–23. <https://doi.org/10.12927/hcq.2009.21092>
- Swanson, R. C., Atun, R., Best, A., Betigeri, A., de Campos, E., Chunharas, S., ... Van Damme, W. (2015). Strengthening health systems in low-income countries by enhancing organizational capacities and improving institutions. *Globalization and Health*, 11(1), 5. <https://doi.org/10.1186/s12992-015-0090-3>

- Thaldorf, C., & Liberman, A. (2007). Integration of health care organizations: Using the power strategies of horizontal and vertical integration in public and private health systems. *Health Care Manager*, 26(2), 116–127. <https://doi.org/10.1097/01.HCM.0000268614.41115.fc>
- Tsasis, P., Evans, J. M., & Owen, S. (2012). Reframing the challenges to integrated care: A complex-adaptive systems perspective. *International Journal of Integrated Care*, 12, e190. <https://doi.org/10.5334/ijic.843>
- Tudor Car, L., Van-Velthoven, M. H., Brusamento, S., Elmoniry, H., Car, J., Majeed, A., & Atun, R. (2011). Integrating prevention of mother-to-child HIV transmission (PMTCT) programmes with other health services for preventing HIV infection and improving HIV outcomes in developing countries. *Cochrane Database of Systematic Reviews (Online)*, 6, CD008741. <https://doi.org/10.1002/14651858.CD008741.pub2>
- Wagner, E. H., Austin, B. T., Davis, C., Hindmarsh, M., Schaefer, J., & Bonomi, A. (2001). Improving chronic illness care: Translating evidence into action. *Health Affairs*, 20(6), 64–78. <https://doi.org/10.1377/hlthaff.20.6.64>
- Wallace, A., Dietz, V., & Cairns, K. L. (2009). Integration of immunization services with other health interventions in the developing world: What works and why? Systematic literature review. *Tropical Medicine & International Health*, 14(1), 11–19. <https://doi.org/10.1111/j.1365-3156.2008.02196.x>
- Walston, S. L., Kimberly, J. R., & Burns, L. R. (1996). Owned vertical integration and health care: Promise and performance. *Health Care Management Review*, 21(1), 83–92. <https://doi.org/10.1097/00004010-199602110-00009>
- Wan, T. T., Lin, B. Y. J., & Ma, A. (2002). Integration mechanisms and hospital efficiency in integrated health care delivery systems. *Journal of Medical Systems*, 26, 127–143. <https://link.springer.com/article/10.1023/A:1014805909707>
- Wan, T. T. H., & Wang, B. B. L. (2003). Integrated healthcare networks' performance: A growth curve modeling approach. *Health Care Management Science*, 6(2), 117–124. <https://doi.org/10.1023/A:1023337203584>
- Watt, N., Sigfrid, L., Legido-Quigley, H., Hogarth, S., Maimaris, W., Otero-García, L., ... Balabanova, D. (2017). Health systems facilitators and barriers to the integration of HIV and chronic disease services: A systematic review. *Health Policy and Planning*, 32, iv13–iv26. <https://doi.org/10.1093/heapol/czw149>
- Weiss, M. E. (1998). Case management as a tool for clinical integration. *Advanced Practice Nursing Quarterly*, 4(1), 9–15. Retrieved from <http://www.ncbi.nlm.nih.gov/pubmed/9874932>
- WHO. (1978). *Declaration of Alma-Ata* (No. WHO/EURO: 1978-3938-43697-61471). World Health Organization, Regional Office for Europe. Retrieved from [https://cdn.who.int/media/docs/default-source/documents/almaata-declaration-en.pdf?sfvrsn=7b3c2167\\_2](https://cdn.who.int/media/docs/default-source/documents/almaata-declaration-en.pdf?sfvrsn=7b3c2167_2)
- WHO. (2007). *Everybody business: Strengthening health systems to improve health outcomes: WHO's framework for action*. World Health Organization. Retrieved from <https://apps.who.int/iris/handle/10665/43918>

- WHO. (2010). *Package of essential noncommunicable disease interventions for primary health care in low-resource settings*. Geneva: World Health Organization. Retrieved from <https://www.who.int/publications/i/item/9789241598996>
- WHO. (2016). *Strengthening people-centred health systems in the WHO European Region: Framework for action on integrated health services delivery working document*. Retrieved from <http://www.euro.who.int/en/who-we-are/governance>
- World Health Organization Maximizing Positive Synergies Collaborative Group, Samb, B., Evans, T., Dybul, M., Atun, R., Moatti, J.-P., ... Etienne, C. (2009). An assessment of interactions between global health initiatives and country health systems. *Lancet (London, England)*, 373(9681), 2137–2169. [https://doi.org/10.1016/S0140-6736\(09\)60919-3](https://doi.org/10.1016/S0140-6736(09)60919-3)
- Wulsin, L. R., Söllner, W., & Pincus, H. A. (2006). Models of integrated care. *The Medical Clinics of North America*, 90(4), 647–677. <https://doi.org/10.1016/j.mcna.2006.05.005>
- Yu, D., Souteyrand, Y., Banda, M. A., Kaufman, J., & Perriens, J. H. (2008). Investment in HIV/AIDS programs: does it help strengthen health systems in developing countries? *Globalization and health*, 4, 1–10. Retrieved from <https://globalizationandhealth.biomedcentral.com/articles/10.1186/1744-8603-4-8>