

Integrated health care networks in Latin America: toward a conceptual framework for analysis

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The long-standing inequity and inefficiencies of Latin American health systems have been well established. They were worsened by the economic crisis of the 1980s and the reforms that followed. Today, many health systems in Latin America are characterized by gross inequalities, stagnant public expenditure on health as a share of gross domestic product, and high out-of-pocket expenditures (1, 2). Access to and utilization of health care services have also been reduced with a marked deterioration in public health facilities throughout the region, coupled with an increase in the precariousness of working conditions of health personnel (3). Fragmentation and segmentation have typified Latin American health care systems and have been a key concern of the Pan American Health Organization and ministries of health of the region (4). However, despite the improvement in some regional health indicators, inequalities in health status and in access to and utilization of health services remain (5–7).

Many countries in Latin America have been carrying out reforms of their health care financing and delivery structures, supposedly to improve equity and efficiency. These reforms, as a basic principle, have generally called for better resource allocation through market mechanisms. They also have included strengthening the capacity of health systems through decentralization and different types of reorganization, including introduction of the purchaser/provider split as well as private insurance organizations, private providers, and health care networks (8, 9). Neoliberal policies underpinned the reform agendas but were presented as “new paradigms” for the reorganization of health systems (10).

This paper focuses on the introduction of integrated health care networks (IHNs)—also called integrated health care delivery systems—a key component of the reforms (11). Such health care organizations were defined as networks providing or arranging to provide a coordinated continuum of services to a defined population and willing to be held clinically and fiscally accountable for the outcomes and health status of the population served (12). Several Latin American countries promoted IHNs as a means of organizing health care services in their health sector reforms.

However, while these reforms aimed at improving efficiency and overcoming inequalities, there remains an ongoing need to develop methodologies to analyze the capability of changes being implemented to deliver these objectives. This paper describes different types of IHN that are found in the international context, discusses their risks and benefits, and develops a conceptual framework for their analysis.

INTEGRATION OF HEALTH CARE DELIVERY

The integration of health care delivery has become a priority in order to optimize the use of scarce resources and to respond more effectively to people's needs (8). Several initiatives have emerged in the health systems of industrialized countries, such as the United States (12), Canada (13), the United Kingdom (14), Spain (15), the Netherlands (16), and Latin American countries, such as Colombia, Brazil, Chile, Argentina, Dominican Republic, Peru, and El Salvador (11, 17). Depending on the context, two basic types of IHN may be found: regionally based and enrollment based (18). Each one raises its own distinct policy challenges.

Regional-based IHNs arise from the devolution of health care management to a lower tier of local government, either a regional health authority or a municipality. In the first case, the IHN generally encompasses two health care tiers (first-line and hospital care), but that is not necessarily true in the second case as some municipalities may be too small to justify having a hospital with specialized care. In both cases, IHN populations are geographically defined.

The enrolment-based IHN evolved in countries with a system based on competitive insurance markets (managed competition model), where consumers buy prepaid health care plans. In these countries, market forces and reforms have led to the integration of providers and insurers in a single entity—the enrolment-based IHN, a term that encompasses a variety of managed care organizations, such as health maintenance organizations and preferred maintenance organizations (19). Whatever its specific composition, the IHN function, under this system, is called “articulation” by Frenk and Londoño (20), and it corresponds to a specific way of organizing and managing health care, encompassing key activities such as purchasing health services on behalf of the registered population, organizing providers' networks, allocating resources to health providers, and ensuring quality of care.

Health care services have to be adjusted specifically to meet local demand (e.g., to be treated as close to home as possible) and organized to ensure the links between the different tiers of health care are specific. Therefore, IHNs should meet five essential criteria (21): (1) They should not contain any functional gaps; most health problems should find a solution within existing structures. (2) The system should avoid overlap among different care levels (principle of specificity), with only a few exceptions (such as the function of a district hospital being fulfilled by a regional hospital). (3) Patients should be taken care of at the level best suited to manage their problems. Most significantly, barriers (financial, intra-institutional, psychological, geographic) that hinder the flow of referred patients within the system should be avoided. The first level of care should therefore act as the key entry point to the whole system. This strong gate-keeping function is justified on the grounds that health problems are likely (90% to 95%) to be solved satisfactorily at the

first level. Hence, any barriers to direct access to specialized care, such as higher fees and system of appointments, should be used as incentives for appropriate channeling of patients in the system (as in the United Kingdom, the Netherlands, and Spain) (22). (4) Relevant information about a patient's problem should accompany the patient as he or she travels among different levels in the system (23). (5) Health technologies should be (de)centralized to the most appropriate level in accordance with effectiveness and efficiency considerations.

The integration of health care delivery is a means to improve efficiency and access rather than an end in itself. In practice, the benefits and risks of IHNs are still being debated. On the one hand, better coordination of levels of care should avoid duplication of activities and allow for economies of scale, improving continuity of care, efficiency, effectiveness, and access. These practices would improve patient satisfaction and potentially also health outcomes (8, 24). On the other hand, the introduction of enrolment-based IHNs in a competitive environment may result in problems of equity of access, mainly due to incentives for patient selection (25). In the long run, it may result in a decrease in access in absolute terms, as IHNs competing for affiliates respond to rising costs by limiting coverage, as some studies have demonstrated (26–29). In addition to risk selection (cream skimming) and underservicing, Enthoven (30) pointed out segmentation of health care and information and transactions' costs as a result of IHN competition in a health market environment. The experience of industrialized countries suggests that little confidence should be placed in the regulatory and legislative capacities of countries with weak state functions (31). In regional-based IHNs, the risks are those of decentralization: geographic inequities, decreased efficiency, and decreased quality of care (32).

The infrequent IHN evaluations that have been done (33) were conducted mainly in the United States and Canada and emphasized the analysis of IHN strategies, structures, and performance.

THE EXPERIENCE IN LATIN AMERICA

Both types of IHN—regional and enrolment based—have been widely promoted in Latin America, particularly in Colombia, Chile, and Brazil (11).

In Colombia, the 1993 Laws 60 and 100 created the framework for decentralization and competition in health care delivery among public and private providers. This reform was based on introducing public and private enrolment-based IHNs responsible for enrolment and organization of health care delivery (20): health promotion entities (EPS) for the contributory regime and subsidized regime administrators (ARS). The function of EPS and ARS is to guarantee, by direct provision or through contracting other health care providers, the delivery of a health package for the enrolled population. Market forces led to the integration of EPS and ARS and health care providers in networks with different types of agreements.

Chile launched two parallel health reforms in 1981: (1) the creation of private integrated delivery systems (ISAPREs) that would enrol any person who could afford the health insurance plan (17), and (2) the separation of purchasing and provider functions in the public system through the creation of FONASA (Fondo Nacional de Salud, a public insurer), which was responsible for the rest of the population. Provision of public health care was partially deconcentrated to regional health services and primary care devolved to municipalities (17). The Ministry of Health promoted regionally based integrated health care networks, which were coordinated by the regional health service. They were defined as a set of health services that would provide care in a coordinated manner, employing institutional or contractual arrangements (34).

In Brazil, after a performance review of the decentralized Unified Health System in 2001 (SUS), the Ministry of Health issued a new norm to regionalize health services, under the coordination of municipalities and states (35). The municipalities, individually or as a group, assumed the function of providing or arranging to provide a coordinated continuum of services for a geographically defined population (36). The process of the regionalization of health services has developed gradually to produce different types of IHN, depending on the responsibilities shared by the state and each local government (37).

Policies promoting IHNs received support from almost all international organizations involved in the health sector—in principle, to improve governance and public sector management: the World Bank (38), the World Health Organisation (8), the United Nations

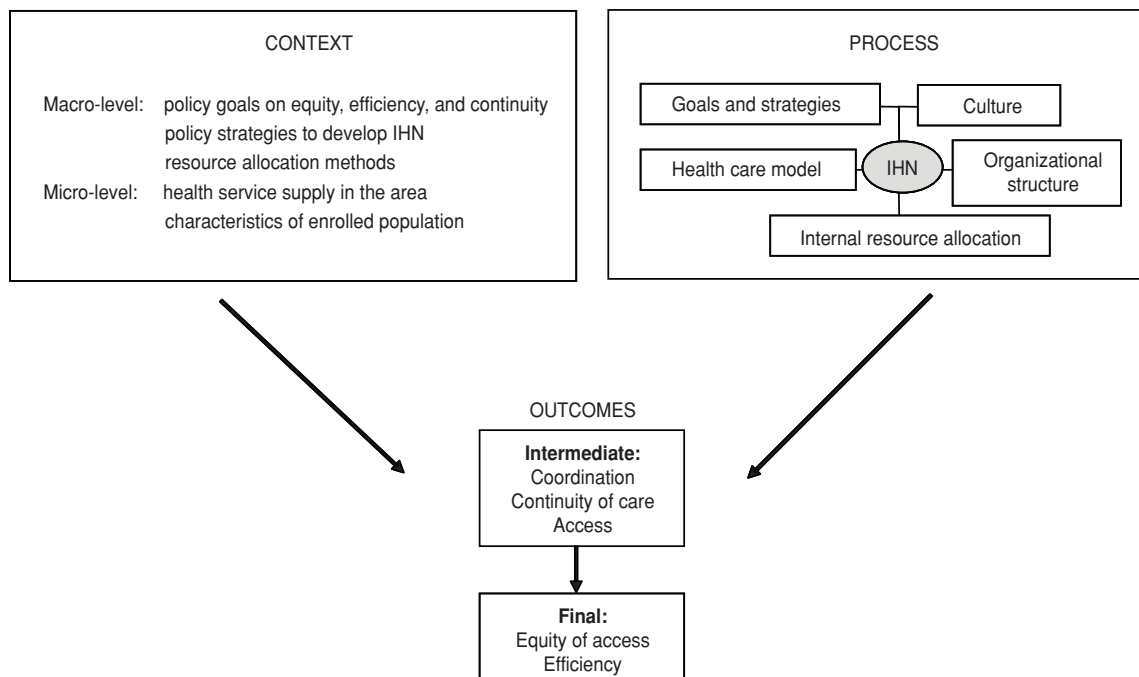
(39), and the Pan American Health Organization (4). These agencies viewed the IHNs as entities capable of improving health insurance coverage, improving access to health care, providing continuity of care, and improving the quality of services as well as their efficiency in Latin America.

The impact of these reforms on access remains largely unknown. Studies on enrolment are abundant because data are easy to obtain, but evidence that can establish whether being registered leads to a greater possibility of accessing services (40, 41) as well as data on actual health service utilization (42–44) remain unexplored. The literature review revealed poor evaluation of important aspects, such as differences in access in the different subsystems (public, private not for profit, and private for profit) (45) and analysis of equity of access and efficiency in the IHN introduced in the context of health reforms (46, 47).

A CONCEPTUAL FRAMEWORK FOR INTEGRATED DELIVERY SYSTEM ANALYSIS

The conceptual framework presented here is based on a review of the literature published between 1983 and 2007 (48). The framework proposes analyzing IHN performance, taking into account the internal processes developed by IHNs to achieve their objectives, and the context in which IHNs perform (Figure 1). The framework encompasses IHN intermediate (coordination, its continuity of care, its access) and final (equity of access and efficiency) outcomes to analyze performance. It builds on qualitative and quantitative methods of data collection. The relationships between

FIGURE 1. Conceptual framework for analysis of integrated health care network (IHN) impact on equity of access, efficiency, and continuity of care



Source: Reference 48.

TABLE 1. Relation between integrated health care network (IHN) analysis dimension, sources, and methods

Domain	Dimensions	Sources	Methods/tools
Context	Policy goals on equity in access, efficiency, and continuity Characteristics of public health insurance and health services Strategies to develop IHN Stakeholders and institutional context	Health policy documents and legislation, IHN policies, resource allocation to IHN	Document analysis
Process	System's goals and strategies, organizational structure, organizational culture, internal resource allocation and incentive system, health care model, and coordination mechanisms	IHN policy documents, agreements, organizations' charts, plans Managers, health personnel of different levels of care	Document analysis Individual interviews
Intermediate outcomes	Coordination Information and care management coordination levels throughout the IHN Continuity Relational Informational Management Access Perceived barriers and facilitators of access to health care services at IHN relating to: policies and legislation, available resources, health care organization (travel time, waiting time, hours with provider, coordination of care, users' information) Experience with access to health care services	Clinical and administrative records Health care user Managers Health personnel of different levels of care IHN users and potential users Policy makers	Records analysis Survey Users' case studies Individual interviews Focus groups Users' case studies
Final outcomes	Equity of access Socioeconomic characteristics of population at risk, knowledge of rights and access procedures, regular source of care, ease of getting to care, perceived health status and disability Utilization of health service: type of service use, site, purpose of care received, time interval involved Efficiency Technical efficiency by throughput measures and clinical results Allocative efficiency (distribution of total expenditures by care levels, priority activities)	Health care user and potential user Clinical, administrative, and institutional fiscal records	Survey Records analysis

Source: Reference 48.

the conceptual framework, dimensions of analysis, data sources, and methods are highlighted in Table 1.

Processes and context that influence access to and coordination in IHNs

IHNs are characterized by their integration width (the number of different services provided by the IHN across the care continuum) and depth (extent to which a given service is provided at multiple operating units within a system), geographic concentration of services, internal production of services, and their interorganizational relationships (12). Different types of IHN emerge from these characteristics:

- IHNs vertically or horizontally integrated, depending on the type of services integrated (from different—primary, secondary, or long-term care—or the same stages of the care process);

- producing internally or contracting partially or fully a range of care services;
- with single ownership or different types of agreements linking the independent organizations within the network—contracts, joint ventures, consortia; and
- different types of ownership: public, private not for profit, and private for profit.

The width, depth, and geographic concentration of the services provided by an IHN influence access to health services. Previous research, however, remains inconclusive about the relationship between the main types of IHN and their achievements (49, 50). There is a consensus on its internal processes and the external factors (context) that can positively influence health care coordination and access to care (12, 51, 52). In the internal sphere, several organizational elements are critical for the coordination of care and for effective access to IHNs: (1) a shared vision of the system's goals and

strategies across the network (53); (2) an organic structure with mechanisms that enable efficient communication between different health professionals involved in the care process (54); (3) a common culture and leadership with values oriented toward teamwork, collaboration, and performance (55); (4) an internal resource allocation system that aligns the incentives of health services to the global objectives of the network (12); and (5) the health care model—that is, the role allocated to each level of care and how effectively they collaborate along with the coordination mechanisms and strategy of the network.

Coordination of health care and access are also influenced by contextual elements (56). At the macro-level, it includes policy goals on equity in access, efficiency, and continuity; policy strategies and regulatory mechanisms to develop IHNs; and public insurance characteristics (sources, benefit packages, and access conditions) and funding allocation methods (57). At the micro-level, elements such as the health service supply in the area and the characteristics of the enrolled population are to be considered.

To identify IHN internal processes and contextual elements that enable or hinder access to the services of networks, documentary analysis and interviews with key actors are needed in order to analyze health care purchasing model and payment mechanisms, the network's goals and strategies, organizational structure and culture, internal resource allocation, and the incentives system from multiple perspectives.

IHN intermediate outcomes: coordination, continuity of care, and access

IHN performance analysis takes into account intermediate outcomes—coordination, continuity of care, and access—to achieve its final objectives. Coordination is defined as the harmonious connection of the different services needed to provide care to a patient throughout the care continuum in order to achieve a common objective without conflicts (12, 58). While integration may be considered as the highest degree of coordination, continuity relates to how individual patients experience coordination and integration of services; it is the result of coordination from the patient's viewpoint. Continuity may be classified into three types: informational, managerial, and relational continuity or longitudinality (59).

On the one hand, coordination can be established through structure, process, and outcome indicators, globally or for specific conditions such as diabetes. Informational coordination across the network can be analyzed by examining the information recorded, mechanisms for information transfer, and their use by subsequent care providers (60). Management of coordination of care refers to provision of care in the correct sequence at the proper time (longitudinal follow-up) and with clinically coherent decisions (consistency of care across providers) (61). As overly prescriptive managed care is a frequent pitfall, it is important not only to review records and analyze doc-

uments but also to take into account the views of the coordination mechanism users—that is, health personnel. Continuity of care, on the other hand, can be analyzed only based on the patient's perspective, focusing on his or her perception of care connection and consistency over time by qualitative (in-depth interviews) and quantitative (surveys) methods.

Changes in health policy concerns are reflected in the way frameworks for conceptualizing access evolved. Aday and Andersen developed a behavioral model for studying access that distinguished between potential and actual access (62). Actual access is measured by hospitals' admission rates and disease episode rate per person per year or by the proportion of the covered population using first-line services at least once. It reflects utilization and satisfaction, while potential access refers to predisposing (need, health belief, social structure) and enabling (availability and organization of health services—in particular, the absence of obstacles such as intra-institutional, chronological, psychological, and cultural) processes. This model was later adapted to address effectiveness and efficiency concerns when analyzing access: financial barriers to potential access—that is, direct out-of-pocket payment levels and insurance coverage—and intermediate processes that influence access to adequate services such as care appropriateness, quality, continuity, and patient adherence (63). Therefore, continuity of care and access are closely entwined (59). Lack of continuity—that is, receiving fragmented and poorly organized care—would be considered a lack of appropriate access to the health care system. In more recent work, Gold (64) discussed how processes inherent to IHNs influence access to adequate services. This approach analyzes not only what services are in place and financially covered but also how access to them is determined and whether the results reflect appropriate and effective use of care and ultimately improve health. The introduction of IHNs as health service purchasers means that these entities can influence not only the insurance market but also the array of health services provided and the way individuals access them. Access can be analyzed by a combination of qualitative and quantitative methods in order to identify key actors' (policy makers, managers, health personnel, and users) opinions and expectations about potential access on the one hand, and to find out the extent of people's realized access to care adequate to their needs from IHNs on the other hand.

IHN final outcomes: equity in access and efficiency

A variety of approaches to define and measure equity of access to medical care have existed for 30 years (62). The three most frequent ones from an egalitarian perspective are: (1) equal treatment for equal need, (2) equal access for equal need, and (3) equal health (46). These approaches state that an equitable distribution of health care should be based on needs rather than on variables such as income, gender, ethnicity, and geographic residence (62). Variations in the

use of services due to their availability and organization or in the individuals' characteristics indicate an inequitable distribution of health care. Many empirical studies apply the concept of equal treatment for equal need to measure equity in access (62, 65). Aday and Andersen (62), for example, developed need-based measures of utilization and contrasted ethnicity, income, residence, and other groups for whom similar treatment for comparable levels of need is expected. Le Grand proposed measuring inequity of access by comparing the share of medical treatment each socioeconomic group received (i.e., expenditures) with the groups' share of need (i.e., as perceived need) (65).

Broadly speaking, economic efficiency should be about making the best use of limited resources given people's preferences (66). A distinction is made in economic theory between technical efficiency—a good or service is produced using the lowest cost combination of inputs—and allocative efficiency—achieved when the mix of goods and services produced is the one most highly valued by members of society (65). The assessment of technical efficiency in health care—the main focus of empirical work—can be conducted at the macro- or the micro-level (67). The former relates health expenditure to health sector output by using proxies such as mortality rate. The latter focuses on throughput measures (i.e., in-patient days per person, expenditures per bed, health care personnel number) or organizational factors (i.e., health care system model (68), provider payment method, or primary care model (69)).

The analysis of technical efficiency is based on throughput measures (i.e., average length of stay, expenditures per bed, generic prescription rate, average cost per activity, staff expenditure percentage in total recurrent expenditure, patient mix in pediatric ward or hospital outpatient clinic). Allocative efficiency is analyzed by assessing the distribution of total expenditures by care level and the share of expenditures on high- and low-priority activities.

CONCLUSIONS

Calls for a better integration of health care delivery systems, as a means to address equity of access and efficiency, have appeared in health reforms promoted by national governments and multilateral institutions around the world, including in Latin America. However, the impact of the introduction of IHNs has scarcely been evaluated, with their benefits and risks still under discussion. Better coordination, continuity of care, and global efficiency have been pointed out as

their principal benefits, as opposed to problems of equity of access derived from IHN incentives to risk selection and underservicing. The few IHN evaluations have been conducted mostly in developed countries and often without taking into account the perspective of key social actors (policy makers, managers, users). To fill the gap, a conceptual framework that encompasses internal processes and external factors that influence IHN performance on equity of access and efficiency was developed in this paper. These elements are deemed critical for achieving intermediate and final IHN outcomes. The framework considers the integration of care as a process and incorporates a combination of qualitative and quantitative methods in the analysis. The conceptual framework represents a comprehensive approach to support the required analysis of IHN results in different contexts, including Latin America. However, to expand and broaden this framework, it should be applied and adapted to each context and to the specific objectives of the evaluation.

SINOPSIS

Redes integradas de atención sanitaria en América Latina: hacia un marco conceptual para el análisis

Las inequidades e ineficiencias de los sistemas de salud de América Latina motivaron algunas reformas, concentradas en las últimas dos décadas, particularmente en el financiamiento y el suministro de la atención sanitaria. Este trabajo se enfoca en la introducción de redes integradas de atención sanitaria (RIAS) en varios países de América Latina y los ubica en el contexto internacional. La descripción y el análisis de las RIAS, ya fueran regionales o de afiliación, resaltan el debate actual sobre sus posibles beneficios y riesgos. El impacto de las RIAS —en términos del mejoramiento del acceso a la atención sanitaria o de la promoción de la eficiencia y la equidad en los sistemas de salud— se ha evaluado en muy pocas oportunidades. Para contribuir al tema, se propone un marco conceptual abarcador para el análisis del desempeño de las RIAS, que trata el proceso interno y los factores externos considerados críticos para alcanzar sus objetivos intermedios y finales.

Palabras clave: prestación de atención de salud; prestación integrada de atención de salud; continuidad de la atención al paciente; equidad en salud; servicios de salud; América Latina.

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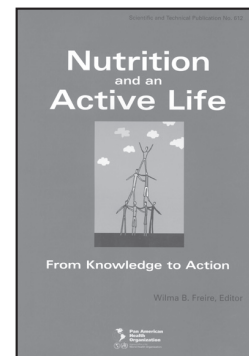
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