

HEALTH NETWORKS IN ACTION



The experiences of Argentina,
Brazil, Colombia and Mexico



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Brazil, Colombia and Mexico**

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LIST OF ACRONYMS

| | |
|----------------|--|
| ALC | América Latina y el Caribe |
| APS | Atención Primaria de Salud |
| CAPs | Centro de Atención Primaria de Salud |
| CIDH | Centro Integrado de Diabetes e Hipertensión |
| CUS | Cobertura Universal en Salud |
| EC | Estudio de Caso |
| EPS | Empresa Promotora de Salud |
| ESE | Empresa Social del Estado |
| ECNT | Enfermedad Crónica No Transmisible |
| HC | Hospital Central |
| HGF | Hospital General de Fortaleza |
| HR | Hospital Rural |
| HTA | Hipertensión Arterial |
| HUWC | Hospital Universitario Walter Cantídio |
| IMSS | Instituto Mexicano del Seguro Social |
| IPS | Institución Prestadora de Salud |
| ISSEMYM | Instituto de Seguridad Social del Estado de México y Municipios |
| ISSSTE | Instituto de Seguridad y Servicios Sociales de los Trabajadores del Estado |
| MAIS | Modelo de Atención Integral a la Salud |
| MIAS | Modelo Integral de Atención en Salud |
| OCDE | Organización para la Cooperación y el Desarrollo Económicos |
| OMS | Organización Mundial de la Salud |
| OPS | Organización Panamericana de la Salud |
| PAIS | Política de Atención Integral en Salud |
| PEMEX | Petróleos Mexicanos |
| PNA | Primer Nivel de Atención |
| RISS | Redes Integradas de Servicios de Salud |
| ROP | Reglas de Operación |
| SESCE | Secretaría Estadual de Salud |
| SIOS | Sistema de Información para Operaciones en Salud |
| SMS | Secretaría Municipal de Salud |
| SNA | Segundo Nivel de Atención |
| SRM | Sistema de Regulación Municipal |
| SSA | Secretaría de Salud |
| SUS | Sistema Único de Salud |
| UAPS | Unidad de Atención Primaria a la Salud |
| UMR | Unidad Médica Rural |
| UPA | Unidad de Pronto Atención |



Dioselina is a 54-year-old divorcée who has no children and lives alone in a large city. She has been unemployed for a year and just started receiving welfare six months ago. As for her health, she has long-term obesity, chronic obstructive pulmonary disease, and diabetes. In recent months, she began to develop foot ulcers because her blood sugar was not being monitored properly, which is attributable in part to difficulty accessing healthcare services and getting medications and lab tests. If she does not receive rapid treatment and more specialized care for the ulcers, they could worsen and require hospitalization.

INTRODUCTION



● INTRODUCTION

A growing number of people who seek health care have stories like Dioselina's. Healthcare systems in Latin America and the Caribbean (LAC) face significant health challenges affecting all age groups, which cause premature death and take a heavy social and economic toll. The main challenges are tied to five factors. The first is the persistence of three major areas of health risks for individuals and populations, which are: (1) habits associated with the rise in chronic diseases, like physical inactivity, unhealthy diet, alcohol use, and tobacco use; (2) accidents and violence, which lead to disability and premature death; and (3) environmental risks, like environmental pollution, climate change, lack of clean water, and indoor air pollution. The second factor is accelerated population aging, which goes hand in hand with multi-morbidity and dependence on long-term care. Third is the growing prevalence of chronic non-communicable diseases and cancer. The fourth factor is the persistence of non-communicable infectious diseases and sexual and reproductive health problems. The final factor is mental health problems like depression and dementia, which, along with disabilities, are still not effectively addressed by health and social services (Rivera et al., 2018). The population also faces healthcare service access barriers, which are tied to a lack of financial protection, inequality, and the poor quality of the services themselves.

Currently, the core commitment of the international health policy agenda is to achieve universal health coverage (UHC), defined as the desired outcome of the health system that is achieved when any person who needs health care (promotion, prevention, treatment, rehabilitation, and palliative services) receives it, without financial hardship (World Health Organization, 2014). In the same vein, the pledges in the October 2018 Declaration of Astana (WHO/UNICEF, 2018) reaffirmed the principles of the 1978 Declaration of Alma-Ata, which laid the foundation for the primary health care (PHC) model and proposed a comprehensive approach to providing healthcare that takes into account determinants of health and inter-sectoral participation.

Taking cues from the Declaration of Astana, nations have renewed their political commitment to transforming isolated healthcare services into people-centered services. The PHC approach lays the groundwork for achieving this. Once the pledges in the declaration are fulfilled, a person like Dioselina can be certain she will receive care that meet the essential attributes of PHC. When all attributes are present, people receive very accessible services that meet most of their healthcare needs, continue throughout their lifetime ("from the cradle to the grave"), and are organized into an integrated provider network that promotes care with continuity and coordination between the health system's different providers and levels of complexity (Starfield, 1998). Achieving these attributes means that healthcare services have properly Integrated Health Service Delivery Networks (IHSDN) that, ideally, are expanded to include long-term care services tied to a social or well-being component. This approach has the potential to positively impact people's health and make care more efficient. Since it reduces demand for emergency services and prevents hospitalizations, it can lower healthcare costs.

Creating care networks has been a common thread running through LAC health policy agendas. Countries have designed and implemented different network experiences, which are chiefly based on the Integrated Health Service Delivery Networks (IHSDN) model created by the Pan American Health Organization in 2010 (Pan American Health Organization, 2010b). But in terms of actually putting the IHSDN model in action, there is a wide range of interpretations and experiences, with designs, scales, organizational methods, and maturity levels that vary within and between countries.

And from a patient standpoint, typical care for people like Dioselina falls far short of the attributes of network-embedded, patient-centered care. From 2012 to 2014, the Inter-American Development Bank conducted a study on public health care users' perceptions of the quality of PHC. It compared six LAC countries (Mexico, Colombia, Brazil, Panama, El Salvador, and Jamaica) with 11 high-income countries that are

part of the Organization for Economic Cooperation and Development (OECD) (Guanais et al., 2018). The study's results reveal major limitations for PHC users in LAC, in contrast to the experience of users in OECD countries:

- In LAC, people have less access to PHC services and face greater organizational and financial barriers than people in OECD countries.
- LAC does not compare well to OECD countries in terms of the variables measuring PHC experiences: a lower percentage of people in LAC report quality PHC, have access to health centers with patient-centered attributes, and consider that their doctors spend enough time on their case and give explanations that are easy to understand.
- LAC countries have fewer structures in place for prevention activities and basic routine testing than OECD countries. In this vein, a low percentage of users had health checkup or follow-up appointments, received reminders for a preventive appointment, or had their blood pressure or cholesterol levels measured in the past year.

The study also found that the public believes there to be major organizational and economic barriers hindering PHC, and that services are still not built on a patient-centered, “medical home” approach (Pérez-Cuevas et al., 2017). It also shows evidence of continuity of care problems that can get in the way of the formation of long-term relationships between physicians and patients, as well as issues related to coordination and incentives for integrating different service levels and professionals (Macinko, Guanais, Mullachery, & Jiménez, 2016).

These findings prove the need to continue analyzing the way in which health services provide care and where they stand in relation to the basic attributes of primary care and of integrated networks. A review of the literature shows few studies on how IHSDN are organized and funded in LAC, with the exception of Brazil (IDB, 2013; Kruk, Porignon, Rockers, & Van Lerberghe, 2010; Macinko, Starfield, & Erinosh, 2009; Vázquez, 2015). Most of the available descriptive information is on health systems in general and rarely covers characteristics unique to networks and their development (Instituto Suramericano de Gobierno en Salud, 2015; PAHO, 2010).

Evidence backs the use of coordination and process improvement mechanisms rather than organizational and structural changes in order to facilitate integration (Evans, Baker, Berta, & Jan, 2014). There is still little documentation on how interfaces and connections between the primary level of care and PHC have been developed, or on the indispensable mechanisms for strengthening those connections and for reaching agreements that allow the PHC approach to take hold on a local level (Hone, Macinko, & Millett, 2018; Nolte & Pichford, 2014). This sort of assessment is hindered by the absence of a standardized analytical framework and of tools for describing IHSDNs in order to measure the “independent variables” that comprise them.

As investments in IHSDN intensify (Watkins et al, 2018), it is crucial to pay attention to how the networks have been implemented in LAC and identify areas of improvement in order to allocate resources to effectively strengthen PHC. This book shares evidence of the progress made in forming and launching IHSDN in Latin America based on four case studies conducted in Argentina, Brazil, Colombia, and Mexico. It provides detailed information on how these four countries have run their IHSDN and the challenges they have faced. The results of these practical experiences—which were found by systematically applying an instrument that collects regional information on the context and features of the IHSDNs’ governance, funding, care models, and management models— answer three questions:

1. What are the characteristics of IHSDN in Latin America?
2. What lessons and recommendations can be drawn from how IHSDN have been designed and implemented in Latin America?
3. What will it take to consolidate the IHSDN model in Latin America?

The answers to these questions shed light on how prepared IHSDN in this region are to provide patient-centered care and where to focus efforts for improvement.

This book presents the results of the four case studies and, as an example, uses the story of Dioselina, who in order to receive health care has to continually overcome the obstacles and difficulties that arise when using health services that are not patient-centered.

Chapter 1 presents evidence for the effectiveness of PHC for tackling the healthcare challenges in today's Latin America. The chapter lays out the theory behind IHSDN and argues that they are the operational expression needed in order to achieve the objectives of PHC. It also explains the key dimensions (context, government, funding, management model, care model) that define a network from an operational standpoint, as well as how these dimensions are critical for building a network that can improve the care pathway for people like Dioselina.

Chapter 2 presents the method used to study the IHSDN in the four countries. The research was done in several phases: preparation, field-work using a multi-method approach, data analysis, and integration of the findings of the individual case studies on each network. The chapter also delves into the advantages and drawbacks of the methodology used.

Chapter 3 describes the context of the IHSDN, covering different aspects like the type of health system they are part of. It gives an in-depth description of how the networks in this study operate and are structured, as well as how their services are organized. It also describes the IHSDNs' public coverage and funding models, their portfolio of services and how their benefits are accessed, factors that influenced their configuration, the role of the private sector, and the integration model.

Governance models are understood as "The exercise of political, economic, and administrative authority in managing a country's affairs at all levels, which comprises the complex mechanisms, processes, relationships, and institutions through which citizens and groups articulate their interests, exercise their rights, fulfill their obligations, and resolve their differences" (Jimenez Herrero 2016). [Capítulo 4](#) identifies the horizontal (cooperation) and vertical (hierarchical)

mechanisms involved in regulating IHSDN, presenting a picture of the networks' governance structures. The chapter also describes the role of social participation, how interactions with communities take place, and the level of intensity of the relationship between the health sector and other government sectors. Lastly, the chapter analyzes how IHSDN are held accountable.

Chapter 5 analyzes how financial resources flow from the central or federal level to the network, as well as the systems for allocating those funds. It establishes the importance of funding for primary care and generally outlines how public spending is divided between the different levels of care in countries' health systems and the way in which resources are channeled to the IHSDN in this study. It also describes the interplay between funding for health care and funding for care for the community and its social needs. The analysis of networks' funding explores how well aligned the budget and the networks' objectives or goals are makes a case for basing budgets on information about the population and its risks. This chapter also identifies the mechanisms for consulting about needs in order to create the budget and analyzes the use of economic incentives within IHSDN to improve their performance.

Chapter 6 covers management models, exploring the key determinants of each IHSDN's model. It analyzes leadership and organization mechanisms, motivation and incentives systems, and the status of information systems, both within the networks and in their interaction with subnational and national levels. It examines how the networks manage their human resources from different angles, covering aspects like availability and training. The chapter also looks at the status of logistical support systems.

Chapter 7 lays out each IHSDN's care model. The main components of its analysis are: (i) how well the IHSDN's services align with the characteristics of the population it serves; (ii) a description of the healthcare model as a function of the characteristics of the healthcare system to which the network belongs; (iii) the network's portfolio of services and its level of focus on primary care, and, lastly, (iv) the perspective of the networks' directors.

Chapter 8 presents the care providers' take on how Dioselina's experience would actually unfold in the different countries covered by the study, tracing the care pathway of a hypothetical patient with diabetes. This perspective is especially relevant because analyzing the same experience (providing care to a socially vulnerable person with multiple chronic diseases) in all four networks gives a side-by-side picture of how networks respond differently to the same situation based on their characteristics, and this comparison can then be used to make recommendations.

To round out the analysis, **Chapter 9** covers the different processes for implementing the IHSDN model in the context of each country and from the perspective of the networks' different participants. It describes how IHSDN have been implemented within each country's healthcare policy framework and plans, how networks were adopted and incorporated by local institutions, their compatibility with the values of the local healthcare systems, advantages of and barriers to adoption of the IHSDN strategy, and an evaluation of the networks' performance based on the available indicators.

The last section lays out the study's main conclusions and recommendations and identifies the major challenges for IHSDN going forward.

Chapter 10 summarizes the four experiences, including recommendations for future actions to take, with the hope that the evidence found in this study will help develop and advance PHC in Latin America as the driver of progress in the global public health policy agenda. This chapter ends with a call for healthcare systems to continue working to ensure universal access to health services able to meet everyone's healthcare needs.





CHAPTER 1.

CONCEPTUAL FRAMEWORK OF THE IHSDN CASE STUDIES



CHAPTER 1.

CONCEPTUAL FRAMEWORK OF THE IHSDN CASE STUDIES

Sergio Minué, Diana Pinto, Miguel Ángel Máñez, Ricardo Pérez-Cuevas and Fabiola Jaramillo

This chapter presents the conceptual framework for this research. It begins by explaining why the PHC approach is an effective way to tackle health challenges in Latin America's current context, as well as the empirical evidence to support the approach. The discussion then focuses on certain theoretical concepts underlying the network approaches and on how this way of organizing service delivery achieves the objectives of PHC. Lastly, this chapter outlines the characteristics of a network from an operational standpoint and how they impact the course of care for people like Dioselina when implemented.

1. PHC as the cornerstone of patient-centered care

The essential attributes of PHC, initially proposed by Starfield (1998), are the foundation for an effective, sustainable, equitable, and patient-centered healthcare network that meets the population's needs. These attributes are:

Accessibility and first-contact care. Users do not have to go far to find PHC, and it is their point of first contact with the health system. Effective access to PHC is achieved by reducing geographic, financial, organizational, sociocultural, or gender barriers. Second, PHC should be able to resolve most of the population's health issues. Since it is the point of first contact, it plays the key role of differentiating patients whose problems can be addressed at the primary level from those who need specialized care.

Care centered on people, families, and communities. PHC conceives of individuals as part of a family and community. It also provides a continuum of care that aligns with people's stage in life and health needs. PHC services are structured to facilitate an understanding of the local, family, and community context. They are able to maintain good communication between healthcare professionals and users, fostering

personalized care that aligns with patients' needs. PHC teams work within communities, allowing them to identify and address social determinants of health using an interdisciplinary approach. This sets them apart from hospital care, where the focus is generally on a specific condition or disease.

Comprehensiveness. Multidisciplinary teams provide a range of PHC services that can meet most of the population's health needs and demands through health promotion activities, early detection, prevention of diseases and complications, and treatment for acute and chronic conditions that require ongoing care. PHC resolves problems and can handle complex health issues, since a significant portion of PHC services are for patients with chronic diseases. Comprehensive PHC eliminates unnecessary referrals to specialists and repeated lab tests, thus lowering costs.

Longitudinality. PHC provides sustained care, leading to a better understanding of users' personal and family history and social context. Care becomes more effective because users see PHC as their regular health service provider, which allows health professionals to better recognize specific problems and needs, make accurate diagnoses, and provide precise treatments. Longitudinality favors consensus between users and providers about treatments, giving patients an active role in decisions about their own health and in following recommendations, which leads to greater adherence to treatment plans and fewer costly relapses or complications.

Coordination. PHC coordinates service delivery between the health system's different levels of care and with sectors linked to the health system to provide personalized care. The purpose is to connect patients, families, care providers, medical practices, and services to ensure patients receive proper care for their health problems.

PHC's strength depends on all of these attributes, and strong PHC is associated with better-performing health systems in terms of health outcomes, equality, consumption of hospital resources, and cost (Starfield, 1998; Macinko, Starfield, & Shi, 2003; Starfield, 2005; Mosquera et al., 2012; Kringos, 2013c; Kringos, Boerma, Hutchinson, & Saltman, 2015; and Mercer et al., 2015). For this reason, PHC-centered healthcare models are gaining more and more traction as a key strategy countries use to fully fulfill their pledge to provide UHC and meet the Sustainable Development Goals (Hone et al., 2018; Pettigrew et al., 2015; United Nations-UN, 2015; Rao & Pilot, 2014; WHO, 2010; Commission on Social Determinants of Health, 2008; WHO, 2008a).

Following the principles of Alma Ata, the development of primary care in Latin America has been associated with improved health outcomes, decreased inequality, more widespread coverage, and recognition that healthcare needs to follow a comprehensive model (Atun et al., 2015). Despite a long history of PHC guidelines in the region, in many cases the default is still a more hospital-oriented model centered on pathologies rather than people, which poses a major obstacle to successfully reorienting the system.

2. IHSDN: the operational expression of the PHC approach

The concept of network and its application to health systems

Broadly speaking, networks are ways of organizing society (whether by the State or society itself) based on cooperation between autonomous units and intensive use of technology (Castells, 2006). Networks are made up of **nodes** that are interconnected through **communication channels and structured around a program**, or single mission with shared objectives. A network is considered successful if it achieves this mission. The **nodes** should be flexible, adaptable, and able to configure themselves. The structures linked together within the network all follow the principles of cooperation, reciprocity, trust, and cohesion (Scott & Hofmeyer, 2007). Without these principles, networks become more fragile and will eventually fail. Thus networks structures do not have an indefinite lifespan; rather, their existence is contingent

on their ability to meet the needs they were created to satisfy.

The above elements have been present in the network organizational models of health organizations over the last century, models which began to take root and spread in earnest starting in the 1990s. For example, Shortell (1994b) defined integrated health organizations as **“service networks that offer coordinated care through a continuum of benefits to a specific population”**. In 2009, the Pan American Health Organization (PAHO) passed Resolution CD49R22 on Integrated Health Service Delivery Networks (IHSDN), with the aim of contributing to the development of PHC-based systems. The resolution defines IHSDN as “a network of organizations that provides, or makes arrangements to provide, equitable, comprehensive and integrated health services to a defined population and that is willing to be held accountable for its clinical and economic outcomes and for the health status of the population it serves”.

The definition of IHSDN is broad enough to include both networks that provide services and those that “make arrangements to provide” services. So if a specific service is lacking (for example, a hospital in remote areas), an IHSDN should take the necessary local steps to provide the service the area needs. It might, for instance, use mobile equipment or telemedicine, or send specialists to remote places (Jaramillo, 2016). This is especially important given that **fragmentation** (lack of coordination between care levels, models, and centers) and **segmentation** (the coexistence of multiple healthcare subsystems with different funding sources) are common features of the health systems in most LAC countries. System fragmentation and segmentation has multiple consequences: difficulties in accessing services, care that lacks continuity, duplicated services, inefficient use of services, and poor technical quality, the cumulative effect of which is higher costs, greater out-of-pocket spending, and lower user satisfaction.

PAHO's IHSDN model was a major step forward for the Americas as part of the global strategy to renew primary health care, and in recent decades LAC countries have designed and implemented different IHSDN experiences based on this model. The PAHO IHSDN model itself admits that it is impossible to prescribe a single organizational model for integrated networks because of the wide variety of contexts. The objective

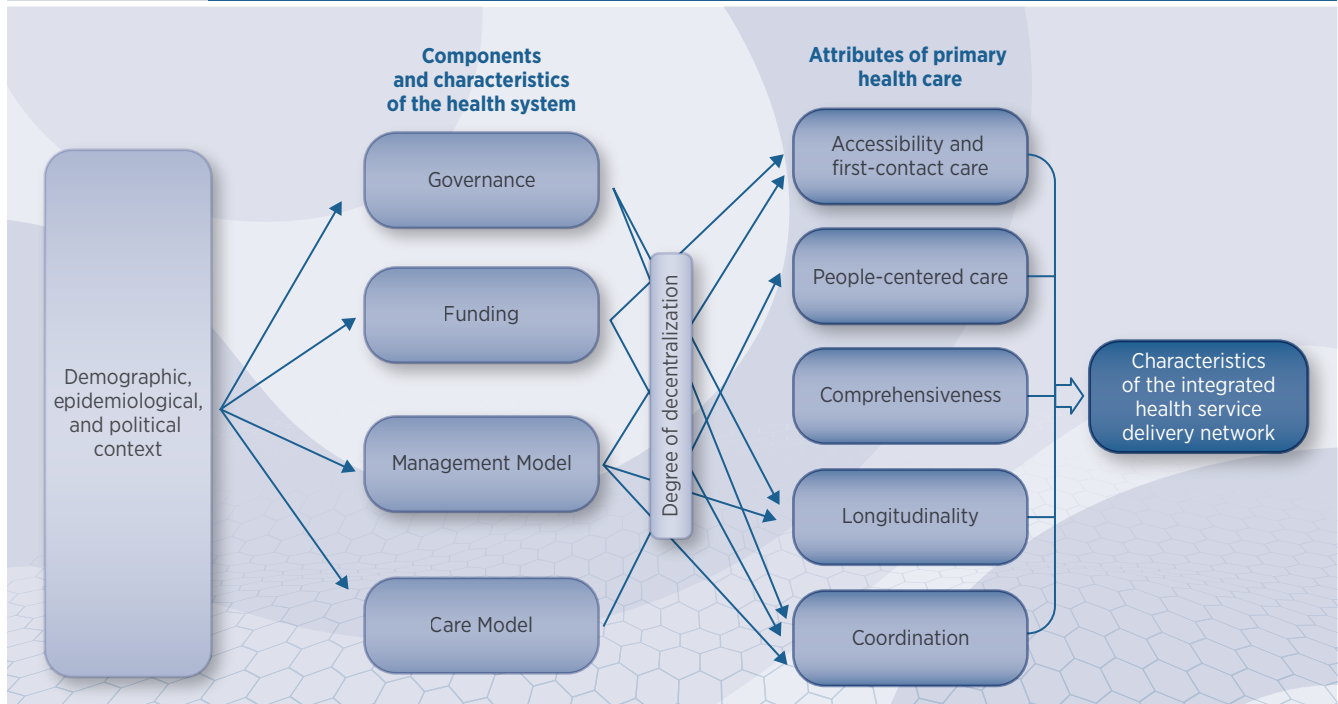
of any integrated network model should be to achieve a design that meets each system's specific organizational needs (PAHO, 2008). For example, in Brazil healthcare networks were defined as “multi-hierarchical organizations of sets of health services connected by a single mission, by shared objectives, and by cooperative and interdependent action in order to offer a comprehensive continuum of care to a specific population, coordinated by PHC, provided at the right time and place, at an appropriate cost, with acceptable quality, in a humane and equitable way—and with health-related and economic responsibilities, and creating value for the population” (Vilaça Mendes, 2011).

Network dimensions for developing PHC

In order to put the attributes of PHC into practice, it is crucial to start with the premise of entities in charge of health services organizing themselves into properly integrated and coordinated networks. The literature identifies structural dimensions and their corresponding key elements and processes that determine the extent to which an IHSDN can achieve the attributes of PHC (Kringos et al., 2010; Vilaça Mendes, 2011; PAHO, 2011). These attributes are valid for any health system, although they take a different form in each specific context. The key dimensions and processes form part of the conceptual framework underlying the idea that a network that successfully incorporates a certain set of attributes and processes in the areas of governance, funding, and management and care models can deliver better outcomes in terms of performance, quality, and health compared to other forms of organization. The dimensions are “catalysts of change” that, by influencing the development of PHC attributes, make it easier for organizations to transition to integrated network models. Figure 1.1 illustrates the conceptual framework, made up of the context, components, and characteristics of the health system, as well as how they are connected to the attributes of primary health care. The figure illustrates the complex interactions between health systems and the attributes of PHC, while next chapter explains these elements in more detail. This book's chapters are structured around these components of the conceptual framework. Below is a diagram to make them easier to understand.

FIGURE 1.1.

Conceptual framework: dimensions of IHSDN and relationship to PHC



Source: Prepared by the authors

Context

If the IHSDN model is considered a strategy for strengthening PHC and improving health outcomes for the population, the context in which that network operates is key to understanding its reality and weighing the feasibility of a strategy with these characteristics in that specific place. In fact, primary health care mirrors each country's socioeconomic situation and general health system structure (Sidel & Sidel, 1977). Ocampo Rodríguez, Betancourt Urrutia, Montoya Rojas, and Bautista Botton (2013) show how health systems and models influence the way networks are configured. Additionally, context dictates the configuration of several of the structural aspects that Kringos (2010) proposes as keys to developing a primary health care model (governance, economic conditions, and human resources).

The fundamental aspects of context that shape IHSDN include the type of health system, the corresponding model for public coverage and funding on a macro level, the way services are organized, the portfolio of services and access to benefits, the factors that have influenced how

the IHSDN is set up, the role of competition and the private sector, and lastly, the integration model for each experience in this study. Taken together, this context influences whether three factors within health organizations: their ability to meet existing challenges, their compatibility with the proposed network model, and their receptiveness to the primary health care approach.

Governance

Governance can impact the **coordination and longitudinality** of services by establishing:

- strategies that promote coordination and integration throughout the network,
- ways to tackle social determinants,
- ways to empower society and its participation,
- transparent accountability systems, and
- inter-sectoral participation.

Funding

Funding is key to enhancing **accessibility**, increasing a network's ability to adjust its portfolio of services—optimizing its quality and aligning it with people's needs—and **incentivizing** coordination and shared goals among service providers. The attributes of funding are:

- sufficient resources flowing continuously from the national and subnational level to the operational environment,
- mechanisms for efficiently allocating and using resources, and
- incentives that are aligned with network objectives.

Management Model

The management model facilitates the process of **integrating** systems and services by establishing:

- integrated management of systems for clinical support, administration, and logistics,
- enough sufficient, well-trained, committed, and tested human resources,
- integrated information systems that tie together all network nodes,
- adequate logistical support systems that are aligned with the clinical and administrative management models, and
- results-based management.

Care model

A care model designed to achieve **people-centered care** has the following characteristics:

- a precisely defined population and geographical scope,
- prompt identification of health needs and preferences,
- a broad portfolio of culturally appropriate services matched to health needs
- a focus on achieving the attributes of PHC,

- a network of health centers that provide health promotion, prevention, diagnosis, treatment, rehabilitation, and palliative care services, and that integrate personal and public health services, and
- a shift in hospital services towards outpatient care (as close to the patient's environment as possible).

3. Building a network for Dioselina

This section describes how the concepts explained above would apply to building an ideal network for Dioselina. Then, in the next chapters, the focus shifts to the results of the experiences of implementing IHSDN in the countries covered by this study.

Dioselina's experience must be understood in the current context of LAC health systems, which, as described above, is marked by the major demographic and epidemiological shifts of accelerated aging and the “epidemic” of noncommunicable chronic diseases (CNCD), along with persistent maternal and child health problems and the prevalence and resurgence of infectious diseases. Access barriers, fragmented and segmented service delivery, and weaknesses in the PHC approach all make it difficult to provide care centered on Dioselina. Dioselina would probably be affected by all of these problems regardless of the country she lives in.

Proper treatment for Dioselina's diabetes requires the involvement of her primary physician and nurse, but also the coordination her care with a wide range of professionals in different network nodes who interact with her (community health workers, nutritionists, endocrinologists, or psychologists), who also must work together with social workers to provide a comprehensive response to Dioselina's problems. Dioselina is not an isolated individual, but is rather part of a family and population (core element of IHSDN) living in a specific geographic area. This reality underscores the fact that a population's health needs define the health-related demands that the network's portfolio of services should be designed to meet. The sum of the above considerations is the **network care model**.

As a network with multiple interconnected professionals is formed, it becomes clear that they cannot provide proper care to Dioselina without logistical and managerial support from the network's different members and services (nodes). Proper **funding** is key to a well-performing network and to aligning incentives systems with the network's priorities (its "program").

Networks need to implement shared information systems so all professionals in the network can use them. Also, the network's care model must be staffed with enough well-trained, committed, and results-oriented professionals. Furthermore, there must be reliable clinical support (laboratory, radiology); procurement, storage, and delivery of goods and services (including medications); and logistical support. All of these elements constitute the **network management model**.

Finally, it is impossible to manage an integrated network of dispersed and independent nodes consisting of multiple professionals and institutions without setting up a single governance model to direct the work of all its members. Thus, based on priorities and on defining a central node, networks can be designed around hospitals (hospital-centric) or primary care, which is more recommendable for strengthening PHC and achieving better system-wide outcomes. However, in a broad sense each and every node is relevant, since the relative importance of the nodes changes as Dioselina's passes through the network and requires more care or a different level of care than normal.

The conceptual framework explained in this chapter and its application to building a network for Dioselina can be used to analyze the configuration of the different countries' IHSDN. It also underpins the method used for the case studies, which is explained in the next chapter, after which more details are provided about the results of implementing IHSDN.



CHAPTER 2.

STUDY METHODOLOGY



CHAPTER 2.

STUDY METHODOLOGY

Sergio Minué, Maite Cruz and Diana Pinto

Building on the conceptual framework, this study used the case study method to describe the characteristics of the IHSDN, drawing on the work of Yin (2009). Figure 2.1 illustrates the steps of the research, which included preparation, fieldwork using a multi-method approach, data analysis, and integration of the findings of the individual case studies on each network. The chapter closes with a discussion about the advantages and drawbacks of the method used.

1. Preparation phase

Designing methodology guidelines

The dimensions for the IHSDN study described in the conceptual framework were used as the basis for the design of the case study methodology guidelines. These guidelines describe the activities performed to gather and analyze the information. To design the guidelines, the researchers reviewed the international literature on health networks, the instruments available for characterizing health networks, and indicators for implementing primary care. They also consulted subject-matter experts¹.

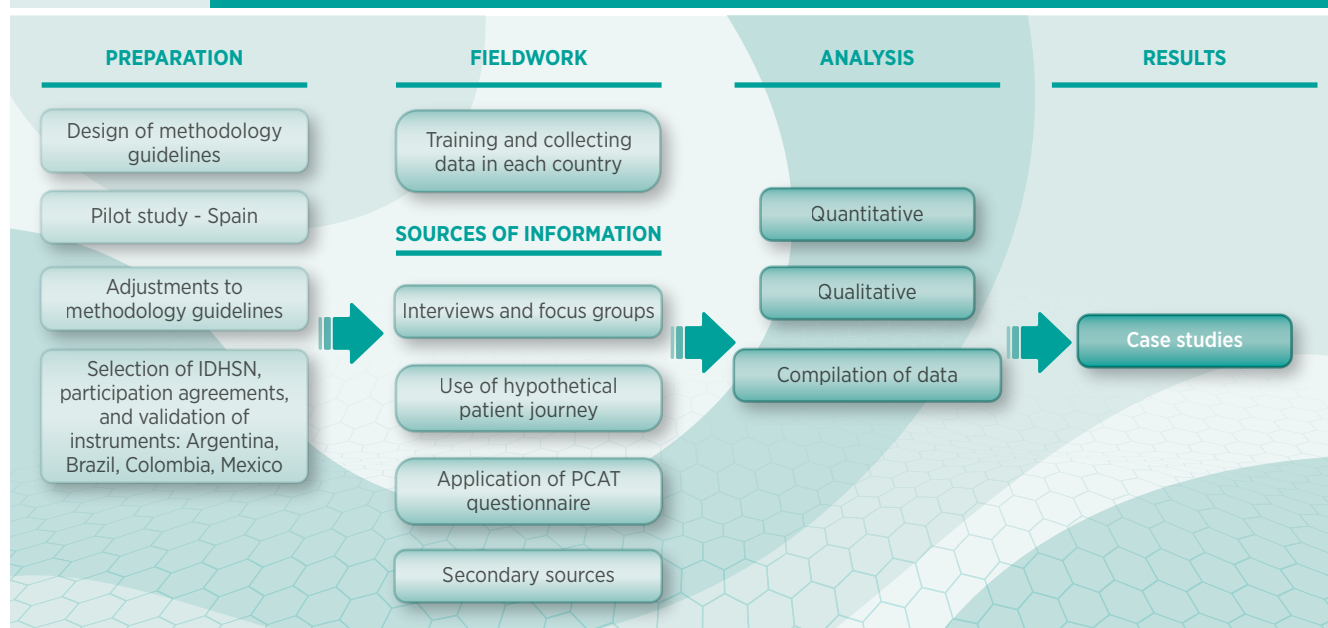
Testing out and adjusting the methodology guidelines

The methodology guidelines were tested out in an IHSDN outside of the LAC region: the Southern Seville Health Management Division (Spain), which is part of the Andalusian Health Service. This IHSDN was chosen because it is Spain's largest health service provider, with 10 areas integrated at different points in the network's history, and because it serves both rural and urban locations. Additionally, its level of development allowed all aspects of interest to be explored to validate the instruments for gathering information and make a good evaluative comparison. The results of this pilot application were used to create a new version of the methodology guidelines, with the necessary adjustments. (These guidelines will be available at [HYPERLINK](#))

¹ See the concept note on PHC-based Integrated Health Service Delivery Networks ("Challenges for Building Integrated Health Service Delivery Networks," IADB, November 2014. Recommendations from the Research Seminar for Reviewing Case Studies on Integrated, PHC-Based Networks, held in Washington DC in February 2015. The indicators were chosen from those proposed for IHSDN in the document "Suggestions for Evaluating Networks in Latin America" (IADB, December 2014) and a proposed "Methodological Protocol for Conducting Case Studies on Integrated Health Service Delivery Networks, with a Focus on Primary Care" (IADB, December 2014).

FIGURE 2.1.

Study methodology



Choosing the IHSDN

In 2015, four IHSDN experiences in Latin America were selected for inclusion in the study: the IHSDN of Santiago del Estero, Argentina; the Rede de Atenção às Condições Crônicas no Município de Fortaleza, Brazil; the Red Norte of the ESE [State-Owned Social Enterprise] Pasto Salud, in Colombia; and the IMSS-Prospera program network, in the State of Veracruz, Mexico. These IHSDN were selected based on a series of characteristics that made them relevant for in-depth study. The countries' health authorities identified them as models of best practice. These IHSDN also provided an opportunity to study different sizes, levels of complexity, target populations, and contexts (rural and urban). Lastly, their managers showed a high level of commitment and willingness to participate, which made the study more viable.

Health systems are dynamic, and the delivery of health services is organized in different ways according to the institutional context and the population's health needs. This IHSDN study began in 2015, and the results presented in this book are from that time period. Given the time that has passed since the study and the dynamic nature of the networks, is important to mention the changes that have occurred. Table 2.1

describes the main features of the IHSDN when the study was conducted, and then the situation in 2019. The networks have generally continued their work and gathered strength. They have reaffirmed their alignment with the healthcare networks approach, and their organization and services have evolved to better meet the population's needs. This situation makes the results presented in the following chapters all the more relevant. For the sake of consistency, the original name of the networks will be kept throughout. For example, we will continue to refer to the network in Mexico as IMSS-Prospera, although it is now called IMSS-Bienestar.

**BOX
2.1.**

Main characteristics of the four participating IHSDN

| IHSDN | SITUATION IN 2015 | UPDATE AS OF 2019 |
|---------------------------------------|--|---|
| Santiago del Estero, Argentina | <p>The Proyecto Provincial de Fortalecimiento de Redes de Salud de Santiago del Estero [Provincial Project for Strengthening Health Networks in Santiago del Estero] was designed to strengthen access to primary care in the Red Capital [Capital Network], and it has taken it upon itself to standardize the processes of providing care within the network.</p> <p>In Santiago del Estero, the public network of the Capital Department was selected as the target of strengthening efforts. This network includes provincial rapid response units, primary care centers, and several hospitals, with a target universe of 134,000 people over age 6, with exclusive public coverage. The IHSDN is structured around 29 primary care centers and incorporates 2 hospitals with medium and high levels of complexity.</p> | <p>The Programa Redes [Networks Program] drove efforts to strengthen networks in all Argentine provinces. The Santiago del Estero network in this study participates in the program. An evaluation of the results of Programa Redes 1, conducted by the Argentinian Ministry of Health, shows that Santiago del Estero is one of the districts with a baseline of zero that reached 100% of its goals for registering the population covered by its network.</p> <p>The district met its goals for scheduling for outpatient appointments at the primary care level and for drawing blood. When the Redes program began, the situational analyses performed by the provinces themselves showed that coordination processes between different levels of care (referrals and back-referrals) were one of the greatest weaknesses. The second phase of the Program (Redes 2) is now underway. It includes various components that reinforce care for noncommunicable chronic diseases, such as early detection and treatment and proper check-ups, so it is crucial that this integration and coordination between levels materialize.</p> |
| Pasto, Colombia | <p>The ESE Pasto Salud manages the network used as a case study in this book (the Red Norte). Its mission is to provide the public service of health as part of the Social Security System for Health at the primary, low-complexity care level. Pasto Salud is in the Municipality of Pasto and has 23 healthcare service provider institutions organized geographically into four networks— Red Norte, Red Sur, Red Oriente, and Red Occidente— which cover rural and urban areas. Red Norte is made up of five institutions that deliver healthcare services: Hospital Civil, Centro de Salud Pandiaco, Centro de Salud Primero de Mayo, Centro de Salud Morasurco, and Centro de Salud Buesaquillo.</p> | <p>Resolution 429 of February 2016 defines the strategic framework for the Comprehensive Healthcare Policy (Spanish acronym: PAIS), which is based on PHC and focuses on family and community health; care; comprehensive risk management; and a unique approach to each geographical area and population. In the context of the Comprehensive Healthcare Policy, ESE Pasto Salud reaffirms that as it provides primary care, it endeavors to “satisfy the needs and expectations of the stakeholders, using the strategy of primary care with a focus on rights, health determinants, differentiating factors, lifecycle, gender, ethnicity, and population” (Pasto Salud, 2017). The steps Pasto Salud has taken in the areas of organization, information systems, defining its population, internal coordination, and other aspects, as described in this study, are in line with the resolution and have helped further the Comprehensive Healthcare Policy in the area.</p> |
| Veracruz, Mexico | <p>In Mexico, the study examined a service network in rural Veracruz that is part of the IMSS-Prospera program. The Hospital Rural de Coscomatepec and the associated rural medical units—one rural referral hospital and five rural medical units—was the network node chosen for analysis.</p> <p>The Coscomatepec hospital's care network (zone III) includes 22 rural medical units and one health brigade delivering care to a population of 85,829 people living in the area it serves most intensively. This area includes eight municipalities (Coscomatepec, Alpatlahuac, Calcahualco, Chocaman, Huatusco, Ixhuatlán del Café, Totutla and Zentla).</p> | <p>The IMSS-Prospera program changed its name to IMSS-Bienestar in 2018. The now 40-year-old program is still structured around networks and has focused its efforts on achieving universal access to health services and improving its range of services. The authors found no changes to the program's rules of operation that would signify modifications to the IHSDN's management and operational model.</p> |
| Fortaleza, Brazil | <p>The Brazilian network in this study is located in Fortaleza and is a condition-specific network for people with diabetes. The Red de Atención a los Portadores de Diabetes Mellitus was launched in 2013 and includes eight primary healthcare units distributed throughout all regions of the municipality, three specialized outpatient centers, and two hospital units, all of which serve an estimated 219,409 people, or around 9% of the municipality's population.</p> | <p>The main task of the Fortaleza network for chronic disease patients is to consolidate the work done so far to increase the network's efficiency in a context where it is very difficult to mobilize economic resources.</p> |

2. Fieldwork

Training teams and collecting data

Fieldwork was conducted over the final three months of 2015 and the first three months of 2016. The workgroup selected and formed teams of local researchers familiar with the workings of each country's different health systems to carry out the case studies. Two training workshops were held during the fieldwork: one at the start of the process to present the instruments in the methodology guidelines and train researchers on how to use them, and a second at a later stage to exchange experiences and standardize criteria for comparing certain results from the different IHSDN and preserving and cataloguing the unique features of each case study. Each team collaborated closely with methodological experts to ensure the uniformity of the processes of collecting information and preparing the case studies. In all cases, the respective ethics committee gave its approval and interviewees gave their informed consent.

Care was taken to ensure that qualitative techniques were applied by experts and that the interviewee profiles were defined correctly. Users were chosen based on several variables that grouped them according to their disease and determined both the frequency of their visits and the continuity care requirements. Thus maternal and child health service users, patients with chronic diseases (diabetes, heart failure), or patients with psychological problems were selected.

Sources of information

The workgroup developed the instruments for collecting quantitative and qualitative data on the dimensions in the conceptual framework. The study examined the following elements of each dimension:

Context

- Public coverage model.
- Macro-level funding model.
- How the services are organized.
- Portfolio of services and access to benefits.
- Factors that shaped the IHSDN's configuration.
- Competition and the private sector.
- Integration model.

Governance

- Governance model.
- Strategy.
- Social participation.
- Cross-sector collaboration.
- Accountability.

Management Model

- Funding and incentives.
- Leadership and management.
- Human resources.
- Information systems.
- Administrative and logistical support systems.

Care model

- Population and geographical scope.
- Range of services offered.
- Level of focus on PHC.
- Hospitals.
- Coordination of care.

Researchers also sought information on the processes of planning and implementing the networks and on available indicators of the networks' success (activity, quality, health).

The sources of information are described on the following page.

| Interviews and focus groups

The team prepared scripts for semi-structured, individual interviews to collect in-depth information on the networks' progress and operations in relation to the four dimensions of networks described above. Interviewees included political decision-makers, network managers and directors, and clinical professionals at the primary and secondary care levels. Researchers also conducted interviews with users, drawing on the SERVQUAL theoretical model for perceived quality (Paramasuram, 1992, which is based on six elements (accessibility, technical skill, information, treatment, safety, and tangibility) and with aspects of the conceptual model developed for this study that are directly related to integration and coordination. Additionally, the study held focus groups with health professionals at the primary level, secondary level, as well as mix of both to hear their perceptions (consensuses and discrepancies regarding the current situation, as well as possible opportunities for improvement) on the implementation of processes for running the network as an integrated care model. Researchers also conducted patient focus groups to explore how network integration processes affect the actual care received, as well as the possible impact of specific management initiatives on their disease and the care they received.

| Hypothetical patient journey

The study drew on a fictitious patient experience in nine European countries prepared by Nolte, Knai, and McKee (2008), which is used to assess care for chronic patients. Through discussion in focus groups of people involved in providing care for diabetes (doctors and nurses from primary care, emergency care, ophthalmology services, and internal medicine, primarily), the different actors who play a part in a given health process evaluated how well the network works. This focus group model yielded a detailed description of the continuum of care from primary care to more complex levels, taking into account how well the network meets the needs of the community and society for support.

| Secondary sources

Researchers selected documents providing information on the structure, process, and success of the different networks, as well as general information on the countries' health system to help describe the context of the experience. Each country's individual context determined which sources were most reliable and relevant. In most cases, these sources include books, papers and reports, websites, notes, and memorandums from international bodies; documents from the country's Ministry of Health or equivalent body; other sources of public information from the organizations analyzed; and articles published in scientific journals.

| Systematizing the results of the fieldwork

To collect and systematize information, a database with 200 items grouped by the fundamental attributes of IHSDN was created for each country. These items included indicators and sources of qualitative and quantitative data. A similar strategy was used to collect information in each country. The questions in the interview scripts were localized, since the meaning of certain terms used can vary between countries. In terms of the number of interviews performed, most sections were quickly saturated with information. This points to the possible redundancy of some interviews, and the same information probably could have been gathered with fewer interviews. As shown in Table 2.2, the profile and number of group interviews was very similar in the different networks, although adjustments for each network's context and characteristics led to differences in the number of individual interviews. The focus groups consisted of 6 to 15 interviewees with different professional backgrounds in each country (for example, medicine, nursing, pharmacy, community health work), and patients with different diagnoses.

BOX 2.2.

Number and profile of interviewees

| Profile | Mexico | Argentina | Brazil | Colombia |
|---|----------------|-----------|--------|----------|
| Interviews | | | | |
| Political decision-makers | 5 | 1 | 7 | 7 |
| PC and SC directors ^a | 9 ^b | 7 | 12 | 5 |
| Primary care professionals ^a | 11 | 5 | 8 | 21 |
| Secondary care professionals | 13 | 5 | 11 | - |
| Users | 20 | 5 | 8 | 26 |
| Focus groups | | | | |
| Primary care professionals | 1 | 1 | 1 | 1 |
| Secondary care professionals | 1 | 1 | 1 | 1 |
| Mix of primary and secondary care professionals | 2 | 2 | 2 | 2 |
| Users | 1 | 1 | 1 | 1 |

^a PC: primary care; SC: secondary care.

^b In Mexico, directors include central and state government authorities.

3. Analyzing information and preparing the case studies

Once the information was gathered, it was then classified and processed. Data that could be categorized numerically was analyzed quantitatively, and qualitative analysis was used to process all other information. There were no specific instructions about the process for analyzing qualitative information. The Colombia team decided to use a very specific program (Atlas-TI), while the other teams used more general text processing programs. The database for each case study was populated with the information gathered, and then researchers completed the final process of integrating the information and checked it against the study's dimensions. As a general criterion, the analyses used the pattern matching technique, comparing empirically observed patterns (the results from the information collection phase) to the predefined conceptual model. Researchers then performed a process of triangulation between the different sources of information and between the members of the consultant teams in the different countries. The experts who helped create the methodology guidelines also provided their input.

The final text of the case study gave an interpretation of the consolidated database and a narrative of the study. The prior triangulation

between the different sources took the form of a narrative and description of the case study. Both parts were essential to finishing the case studies. The database allowed the researchers to systematically categorize the different dimensions and attributes that structured the case study based on the answers they received, but drawing conclusions solely from the data would leave out the nuances and explanations provided by qualitative information, which ended up being the richest part of the study.

The following chapters narrate the status of each of the relevant dimensions of the IHSDN in the study, combining properly cited secondary sources with the results from interviews and focus groups obtained through qualitative analysis. Anonymized direct quotes are included to highlight specific points. The position of the person the quote is from is provided, along with an identification number:

- Federal-, Central- or State-Level Director (FLD, CLD, SLD 01...n)
- Primary or Secondary Care Director (PCD, SCD 01...n)
- Political Decision-maker (PDM 01...n)
- Primary or secondary care nurse (PCN, SCN 01...n)

- Participant in focus groups for primary care, secondary care, mixed, hypothetical patient, or users (PC FG, SC FG, Mixed FG; UFG, HPFG 01...n)

The four case studies show the wide variety of contexts and their resulting organizational alternatives for meeting health needs. The alternatives took shape gradually over time through a dynamic process involving people, institutions, equipment, and communities.

4. Strengths and weaknesses of the case studies

Given the complexity of an IHSDN, the case study methodology allowed researchers to explore different dimensions of networks for which information is unavailable or very hard to obtain. As with any other research method, case studies must meet validity and design requirements. To ensure criterion validity, its procedures were based on a literature and document review, on the use of multiple sources of evidence (primary and secondary sources), and on a “chain of evidence” approach that draws explicit connections between the questions asked, the data collected, and the conclusions drawn in the case study narrative.

The authors ensured the internal validity by designing a method that would meet the study’s objectives. In terms of the study’s representativeness and general applicability, it is important to remember that case studies are not samples of a whole, but rather individual cases. The study’s empirical results are compared with the previously developed conceptual framework, which is used as a reference pattern and is described in [Chapter 1](#). The more cases that confirm the proposed theory, the more solid the results can be considered. This is what Yin (2009) calls “the logic of replication,” meaning that the results can be considered evidence in favor of the proposed hypothesis and theory. The study was not designed to guarantee the external validity or general applicability of the results, given how different the IHSDN are from each other.

The study’s main limitation is the impossibility of applying its results in a general way. However, this is a limitation of most studies on the implementation and actual (not theoretical) performance of health services.

Thus, realistic evaluation and realistic review models highlight how dependent evaluations of service management experiences are on each country’s specific context. This type of study focuses on understanding programs or interventions implemented. Rather than determining the overall effect of a program, it attempts to pinpoint when, for what, and for whom a policy or program works (Nurjono *et al.*, 2018; RAMASES II, 2017; Pawson, Greenhalgh, Harvey, & Walshe, 2005). This study follows the above approach.

To make the study as reliable as possible and achieve the goal of obtaining similar results if the study were to be repeated, the authors designed a case study protocol and methodology guidelines and set up a database. The questions and indicators included in the database were chosen based on a prior literature review. However, reliable information for the proposed indicators was not always available. It is important to remember how different the health systems in LAC countries are from each other. Given this circumstance, one option would be to eliminate the indicator in question if no pertinent information is available. However, lack of information does not necessarily mean the indicator is a poor one. Indeed, a strength of case studies is that they can be used to identify gaps in information systems, so it was decided to keep or eliminate the indicator based on how useful or pertinent it was, rather than on whether useful information existed. Finally, since researchers’ subjectivity can color these qualitative studies, emphasis was placed on providing uniform training to interviewers, and guidelines were put in place for analyzing the information and preparing the country case studies that form the basis of this book.





CHAPTER 3.

THE INFLUENCE OF CONTEXT ON HOW IHSDN ARE CONFIGURED



CHAPTER 3.

THE INFLUENCE OF CONTEXT ON HOW IHSDN ARE CONFIGURED

Miguel Ángel Máñez, Tania Marín, Diana Pinto, Marcia Rocha, Sergio Minué

1. Introduction

The performance of any organization is the result of the interplay between three factors: its context, its strategy, and the characteristics of the organization itself, meaning its organizational architecture, work routines or processes, its people, and the culture set by those people (Roberts, 2007). These factors are interlinked in such a way that the existing organization shapes the strategy and, of course, the context determines what type of organization and strategy is possible.

This chapter describes the key contextual elements covered by the study to situate the characteristics of the different IHSDN that were studied during the established period. These elements include the type of health system, the public coverage and funding model, the portfolio of services offered and how they are organized, how benefits are accessed, factors that have influenced how the IHSDN are set up, the role of competition and the private sector, and, lastly, the integration model of each experience in this study.

2. How the health systems are structured and operate

Type of system and public coverage model

The type of health system each country has in place—how it is funded and provides coverage to the population—is one of the most important contextual elements for the success of an IHSDN. Differences in systems also affect the equitability and type of care received by citizens (Kringos *et al.*, 2013b). Health systems are usually classified as either mutualist, contribution-based models, meaning they are financed by payroll taxes, as is the case with social security, or universal models that are not

contribution-based, which are funded through general taxes, as is the case with national health systems. However, there are two factors that further qualify either model: (a) the existence of parallel welfare systems to ensure care for people who do not have social security, and (b) the extent to which private insurance complements the public system. In most countries, the health systems have evolved from a model segmented into different social security schemes to one attempting to offer the same health services to the entire population to avoid social segregation.

In Argentina, the system has three subsectors that provide health services: public, social security, and private. The entire population are eligible for the public services, regardless of their coverage or ability to pay. Nearly 36% of the population receives public services, while 64% are covered by social security or private insurance (Instituto Nacional de Estadística y Censos, 2010).

Brazil has the Sistema Único de Salud [Universal Health System, or SUS for its acronym in Portuguese], a national health system with universal access. Brazil does not have social sector funds for healthcare. It is modelled on systems like the one in Spain or the UK, and it avoids the equality and coordination problems associated with creating two subsystems for health care.

Colombia's health system was established by Law 100 of 1993, which created the Sistema General de Seguridad Social en Salud [General Social Security for Health System]. The core strategy of this reform was to create universal health insurance, with subsidized coverage for the poorest groups, and to change how services are funded, organized and administrated.

The insurance has two systems of coverage. One is the contribution-based system for formal employees, retirees, pensioners, and self-employed workers. In 2015, this system covered 44.5% of

the population (Sistema Integrado de la Información de la Protección Social [SISPRO], 2016). The other is the subsidized system covering the low-income population that is unable to pay for the services, which accounts for approximately 48.1% of the total population (SISPRO, 2016). The distribution between systems remained very similar in 2019.

Lastly, Mexico has a segmented system that is organized into different institutions. Two of those institutions are part of the public sector and provide care to people without social security: the Health Secretariat, through the state health secretariats, and the IMSS-Prospera program. Both are partially funded by the Sistema de Protección Social en Salud [Social Protection for Health System], also known as Seguro Popular (currently being restructured by the Mexican government), and by other government funds. Mexico also has social security institutions for government workers and employees in the formal market who are entitled to social security, which includes health benefits (medical care), economic benefits (pensions, disability), and social benefits (daycare, social centers). The third structure is private insurance. The population is split along the following lines: 60% are covered by social security (Instituto Mexicano del Seguro Social [IMSS], 2017); 47.6% by Seguro Popular (Secretaría de Salud, 2017); 9.7% by IMSS-Prospera (IMSS, 2017), and 9% by private medical insurance (Instituto Nacional de Estadística y Geografía [INEGI], 2014). The total exceeds 100% because some people have double or triple coverage.

I Funding Model

Funding systems involve the mechanisms for collecting financial resources for health, pooling resources to cover a specific population's risk, procuring services—including mechanisms for allocating resources—and paying the ultimate providers (Kutzin *et al.*, 2013). The funding system has a direct bearing on the objective of shielding people from the risk of impoverishment due to health problems. It also affects, directly and in conjunction with the other components of the health system, other fundamental health objectives, like eliminating financial and access barriers, and delivering and using quality services in an equitable manner (Kutzin, 2013).

TABLE 3.1. General model of the health systems that this study's networks are part of

| | Argentina | Brazil | Colombia | Mexico |
|---|---------------------|----------------|-------------------|--|
| National health system | No | Si | No | No |
| Social security ² | Si | No | Si | Si |
| Coverage for people without social security | Provincial ministry | Not applicable | Subsidized system | Federal Health Secretariat and State Health Secretariats and the IMSS-Prospera Program |

Source: Prepared by the authors

² The health system is part of the country's social security system and receives funding from social security contributions.

Funding schemes

Argentina has a centralized funding model. Funds flow from the Provincial Ministry of Health to the municipal health secretariats. 96% of the provincial budget comes from general tax revenue, and 4% from funds transferred from national programs. The *obras sociales* (insurance plans for workers) are funded by worker and employer contributions and public resources, either national or provincial, depending on their scope. Additional funding comes through national programs that promote the operational and financial decentralization of actions designed to meet specific needs. At the time of this study, the REMEDIAR+REDES and Sumar programs (described below) played this role.

Brazil collects its resources according to the relevant level of government: federal, state, and municipal. Federal spending on health has to equal the previous year's spending, adjusted for changes in gross domestic product. At least 12% of state resources and 15% of municipal resources are allocated to health. The Sistema Único de Salud (SUS) is funded entirely by these tax resources, as established by law, for all three levels of government.

In Colombia, the contribution-based system is funded by mandatory contributions from the people it covers, via payroll taxes in the case of salaried workers, or via mandatory contributions from self-employed people whose income is at least twice the minimum monthly wage. The subsidized system is primarily funded with State resources, either from general tax

revenue or cross subsidies from a percentage of the formal sector's income tax specifically allocated for that purpose (Guerrero, Gallego, Gallego, & Vásquez, 2011).

Lastly, in Mexico, public resources are used to fund, to one degree or another, all health service delivery systems. The resources are primarily used to provide coverage for low-income people and/or workers in the informal market, that is, those without social security. These resources come from the federal and state governments. Social security is funded by government contributions, but these contributions are mainly from employers and employees, based on their level of income.

Health expenditure

Table 3.2 below shows the main health expenditure indicators for 2015 in the countries analyzed in this study, as well as averages for LAC and Organization for Economic Co-operation and Development (OECD) countries. In this study's countries, total spending on health in 2014 ranged from 4.8% to 8.3% of GDP. Public spending per person was between 581 and 723 international dollars (purchasing power parity). Of these countries, only Colombia exceeded the LAC average for public expenditure on health as a percentage of GDP, and all four countries fall far short of average health spending as a percentage of GDP in OECD countries. The most recent update of this data, from 2016, shows no significant changes in these figures.

TABLE 3.2.

Select health spending indicators (2014)

| Country | Total spending on health as percentage of GDP | Total spending on health per capita | Public spending on health as percentage of GDP | Public spending per capita in Int\$ | Out-of-pocket spending as percent of total health expenditure |
|-----------|---|-------------------------------------|--|-------------------------------------|---|
| Argentina | 4.8% | 1.137 | 2.65% | 630 | 31% |
| Brazil | 8.3% | 1.318 | 3.83% | 607 | 25% |
| Colombia | 7.2% | 962 | 5.41% | 723 | 15% |
| Mexico | 6.3% | 1.112 | 3.26% | 581 | 44% |
| LAC | 7.3% | 982 | 4.0% | 583 | 33.0% |
| OECD | 12.3% | 3878 | 7.0% | 2874 | 18.0% |

Source: Prepared by the authors based on data from the WHO's 2014 National Health Expenditure Database.

Out-of-pocket spending

Out-of-pocket spending is money paid directly by households to health service providers to cover everything that prepaid public or private coverage does not provide, like medications or diagnostic tests. It is an indicator of financial protection. This indicator is relevant in the context of IHSDN because a high proportion of out-of-pocket spending is linked to health service access barriers and the risk of impoverishment (Xu *et al.*, 2010; Moreno-Serra & Smith, 2011). In the countries in this study, out-of-pocket spending as a percentage of total health spending is close to the LAC average, with the exception of Colombia, where it is even less than the OECD average.

I How the health services are organized

The way health services are organized depends on how they are delivered and the level of decentralization in their management. Both elements are key to reducing gaps in health-care access and avoiding “social segregation” (Cotlear *et al.*, 2015). Under the right circumstances, decentralization can help improve the performance of IHSDN (Dwicaksono & Fox, 2018; Liwanag & Wyss, 2018).

In Argentina, provinces and municipalities perform the main functions of health promotion, disease prevention, and care. The federal government oversees and funds the healthcare system for citizens without coverage. This setup gives provinces full control over decisions about their healthcare system, and the role of the national health authority is limited to oversight, with the exception of specific national federal programs implemented in the provinces, where the central government may set conditions and intervene more in local decisions.

The public subsystem has hospitals and primary care systems. The *obras sociales* subsystem (social security) delivers its services by hiring private hospitals and medical offices, although it sometimes also engages public centers to provide care. This generally leads to segmented delivery of public health services, since, exceptions aside, there is no crossover between subsystems in terms of the people the health centers serve.

In Brazil, the Ministry of Health is in charge of setting standard policies and regulating and coordinating the entire system. The federal government also has its own establishments, which are chiefly teaching and research hospitals tied to federal universities. The states set their own health policy and help municipalities form multi-municipality structures called health regions. The SUS offers health care through public centers, and complements this delivery by hiring private centers to expand coverage. Historically, the states in Brazil have been major service providers, especially for hospital care. Lastly, the municipalities are responsible for primary health care, and they manage the health-care establishments³. Since Brazil has neither different insurance models nor social security, all of its residents have a right to access the same type of health benefits, within the parameters of the SUS.

Colombia is an exemplary case because it has developed a model that separates coverage and benefits. The General Social Security for Health System is administrated by companies called Health Promotion Companies (HPC) which act as insurers (they cover people and manage risks in exchange for premiums), and they hire health service provider institutions to provide the services offered to those covered. The services, procedures, and medications covered by the insurance system in Colombia are listed in a package of benefits called the Compulsory Health Plan.

The Colombian system is organized as a two-tiered model with regulated competition. In the first tier, beneficiaries choose an HPC from a group of available options. In the second tier, healthcare service provider institutions compete on price and quality of services for contracts from HPC. The healthcare service provider institutions may or may not be integrated into the HPC, but they are always hired by them. Healthcare service provider institutions can be public—as is the case with State-Owned Social Enterprises—or private: medical practices, laboratories, hospitals, and any professionals offering healthcare services individually or as a group.

³ Municipalities may or may not be authorized as “absolute managers” of the SUS within their boundaries. When they are absolute managers, they administrate all healthcare facilities in their geographical area, including state and federal government ones. For more details, see: http://bvsms.saude.gov.br/bvs/publicacoes/para_entender_gestao.pdf.

In theory, these healthcare service provider institutions are organized into health service networks by geographic area and level of complexity. However, the fact that each HPC procures the services of different healthcare service provider institutions does not favor strategies like creating integrated networks. The healthcare service provider institutions provide health services to the beneficiaries and bill them to the HPC each month. Each citizen is free to choose their HPC, although some are exclusively for the contribution-based system and others for the subsidized system.

The role of the Ministry of Health and other related regulatory entities is to provide information and design, monitor, and enforce the national regulations intended to minimize market failures and guarantee equitable access to health services. Authority is decentralized, and local bodies (departments, municipalities, and districts) do the work of registering and enrolling the population, as well as awarding contracts and monitoring how the funding they provide is spent. Public HPC and healthcare service provider institutions are usually owned by region-based entities, although part of their capital is often privately held.

In Mexico, each subsystem has its own health facilities. People covered by public insurance (Seguro Popular de Salud) receive health care at public centers and hospitals overseen by the Secretariat of Health and/or through the IMSS-Prospera program. But those covered by the social security subsystem receive care at family clinics and hospitals belonging to the institutions themselves.

The Health Secretariat governs the Mexican health system. The General Health Law establishes that state governments are responsible for delivering health services to those without social security, and their role is to organize and implement the state health systems within their boundaries.

Portfolio of services and how benefits are accessed

In Argentina, specialized care is provided by outpatient clinics at public hospitals. Patients access this care either directly or by referral from primary care centers (more than one gateway). In the **obras sociales** subsystem, outpatient care is organized into levels and can be accessed directly or via a general or family practitioner. In 1995, Argentina laid out a compulsory set of services (the Compulsory Medical Program). This program affects those covered by national **obras sociales**, but not those covered by provincial **obras sociales** and the public subsystem. There is a copay for the medications and the different outpatient services in the Compulsory Medical Program.

As mentioned previously, in Argentina there are two national programs that define the portfolio of benefits: the REMEDIAR + REDES Program and the NACER-SUMAR Plan. This study refers to the two programs by those names, even though after 2015 REMEDIAR + REDES split into two programs. REDES still has the same name and function; REMEDIAR is now called Coordinación de Medicamentos Esenciales [Essential Medications Coordinator]. The Sumar program is now called PACES. Table 3.1 describes the changes in these programs. (See [Chapter 7](#)).

**BOX
3.1.****Update on National Programs in Argentina**

The Essential Medications Coordinator began operating in 2002 under the name REMEDIAR. As a public and free service, it procures and distributes medications to more than 7000 healthcare facilities throughout the country. Its main objective is to strengthen primary care's ability to resolve health problems, giving it priority by:

- Freely and publicly supplying and distributing essential medications to primary care centers nationwide.
- Strengthening provincial structures for managing medications (primary care centers, hospital pharmacies, and provincial storage spaces) by providing computer equipment for digitizing information, furniture, and supplies for storing, managing, and transporting medications.
- Training health teams on rational drug use.
- Performing studies and evaluations to create knowledge products that monitor the results and measure the impact of different actions, for decision-making purposes.

The Essential Medications Coordinator continues to distribute medications and supplies from different Ministry of Health programs and departments. Its ongoing actions have given people more access to health supplies and medications and have enhanced efficiency by centralizing activities with a single logistics operator.

National Health Coverage Expansion Program (PACES). As the continuation of the Sumar Program, PACES is a strategic framework for development that emphasizes prevention and treatment of chronic diseases: cardiovascular diseases, diabetes, obstructive pulmonary disease, and others. PACES was launched in 2019 and has a three-pronged strategy: family and community health, by defining areas of responsibility and identifying and registering the population; digital health, to develop interoperable information systems and implement electronic health records; and quality coverage, through provincial public insurance and by prioritizing specific kinds of care and a fund for highly complex healthcare.

Source: Ministerio de Salud y Desarrollo Social de la República Argentina. 2019.

The REMEDIAR Program ensures access for the entire population to essential drugs by sending medicine kits to primary care centers. It also promotes initiatives in the provinces to strengthen provincial health networks, and it promotes continuing education for health professionals. The Redes component of the REMEDIAR Program aims to ensure care for patients with high blood pressure and type II diabetes by giving them access to appointments at the primary and secondary care levels, as well as the continuity of their treatment, access to specific lab tests, and proper patient monitoring. The goal of these actions is to bring down the high morbidity and mortality rates of cardiovascular diseases.

The Nacer Plan, for its part, aims to gradually expand the benefits offered and people covered, and increase the population's financial protection. The plan started out with 80 primary healthcare services for mothers and infants and later added outpatient services. In 2010, it began covering highly complex services providing comprehensive care for congenital heart conditions. In 2012, highly complex prenatal care services was added. The same year, the National

Ministry of Health and the provinces expanded the plan to new groups of people—children and adolescents up to age 19 and women up to age of 64 without explicit health coverage—through a set of 400 prioritized benefits. This expansion of Nacer Plan was the origin of the SUMAR Program.

In Brazil, the SUS is required to ensure comprehensive coverage for health promotion, disease prevention, and treatment for the entire population. However, given the country's geographical complexity, as well as the autonomy of its states and the disparities in their capabilities, there are some access gaps, especially in the outskirts of cities and in remote rural areas. Since 2011, there has been a portfolio of services called RENASES (National List of Health Services and Actions) containing all services the SUS offers users. This model has no copays.

In Colombia, explicit benefit packages or plans were established for each system when the General Social Security for Health System was created. To guarantee the fundamental right to health, the Constitutional Court ordered that all

plans be standardized, and in 2016, the Ministry of Health and Social Protection expanded the range of services offered.

In Mexico, the social security institutions provide access to preventive medicine, maternity, medical care, surgical, hospital, pharmaceutical, and physical and mental rehabilitation services. In 2015, the Seguro Popular de Salud guaranteed access to a set of around 287 health interventions, with their respective medications, which its beneficiaries receive at health centers. The number of interventions was increased to 294 in 2019. As of 2019, Seguro Popular also offers a set of 65 high-cost interventions, including treatment for any kind of cancer in children, in addition to breast, cervical, prostate, ovarian, and colon cancer; HIV; and cataracts, among other conditions.

In Mexico, people without insurance receive very mixed services according to the Health Secretariat's existing health infrastructure: basic outpatient services in rural health centers and a relatively broad set of procedures in large cities. Lastly, the IMSS-Prospera Program (now IMSS-Bienestar) offers services mainly in rural areas through primary care clinics and rural secondary hospitals. This program is intended for people with no access to other health services, whether or not they are covered by the Seguro Popular de Salud. IMSS-Prospera's services center on health promotion actions to prevent diseases (vaccination, family planning, monitoring blood pressure, diabetes and tuberculosis, and care for childbirth and infants) and primary and secondary medical care.

3. Factors that shape how IHSDN are configured*

Argentina's network model is a product of the unique way in which roles and responsibilities are distributed in its health system. While most of the health services are provided by municipalities and provinces, we found two specific programs in the network chosen for this study: REMEDIAR+REDES and NACER-SUMAR. Both are federal government programs, and their main priority is to ensure medical care for citizens without health coverage. The federal government allocates funds in order to achieve this goal, and the provinces and municipalities are in charge of providing the care. In both cases, the basic priority is primary health care. The network covered by this study was able to get off the ground because of the influence of the federal programs, which are focused on establishing PHC-based networks, as well as the implementation and coordination by the provincial and local authorities.

The Brazilian case is a prime example of networks configured as an organizational model because Fortaleza, in the state of Ceará (where the IHSDN chosen for analysis is located) is considered a pioneer in implementing innovative processes to decentralize and regionalize the SUS. It is one of three Brazilian states that signed the Contract for Organizing Public Health Action, an instrument proposed in Decree 7508 of June 2011, which governs health planning, how health-care processes are organized, and interstate cooperation, among other aspects.

Thus the configuration of the network in Fortaleza emerged as the result of local willingness to actively participate in processes to use networks to better coordinate care, and in a context of multiple policies and regulations on strengthening local delivery of health services and health-care networks. The key factors that led to the creation of the network were access barriers, redundant services, an operationally fragmented system, faulty coordination, and the high hospital admissions rate for patients with chronic diseases.

*See [Chapter 9](#).

In Colombia, the networks are configured based on strategic decisions enacted in legislation. The way its care model is designed, the expectation was that HPC would have financial incentives to organize service delivery into networks with different levels of care and with primary care as the gateway, promoting and maintaining health over a continuum of care (Londoño & Frenk, 1997). But as the reform has been implemented, no true incentives for developing this type of model have emerged. Such incentives are hindered by the fragmentation of the services offered, a continued focus on curative care, and limited resolve and ability to supervise and enforce the regulatory framework (Giovanello *et al.*, 2013). Since 2011, the national government has instituted reforms to give greater importance to the role of primary care. Examples include Law 1438 of 2011 and the Comprehensive Healthcare Policy in 2016 (Ministerio de Salud y Protección Social de Colombia [MSPS], 2016). This policy requires the formation of integrated health service delivery networks that are available, acceptable, accessible, and high-quality. However, the network structure chosen for this study dates back to 1992, and when Pasto Salud ESE was officially formed in 2006, it took over management of all the health centers and of the four networks that had been formed. The current legislation reinforces the concept of service delivery through networks in Colombia.

Mexico is another example of a network focused on improving access to essential health services. The fragmentation of Mexico's health system has historically led to unequal access to services. In rural areas, human resources and infrastructure fall short of the population's needs. Many people in these areas are not covered by social security because they do not have a formal job. Indigenous peoples also live in these areas. To give this population access, the program the IHSDN in this study is part of was created in 1983. It began as a federal government health program administrated by IMSS, and different administrations have changed its name (it is now called IMSS-Bienestar). The IHSDN has been a constant component of the public policies for combating poverty, to deliver health services to the most marginalized areas.

4. Competition in service delivery and the role of the private sector

One network attribute examined in this study was the presence of competing health service providers in the same geographical area, an aspect that could pose challenges for integrating and coordinating a network. The private sector, whether in the form of prepaid insurance or private medicine, plays an important role in most Latin American countries.

Argentina's health model allows public and private systems to coexist. Competitors do exist in theory, but the IHSDN considers other providers as partners in its efforts to improve the population's health.

The most notable case is Brazil, where despite the country's national health system model, 25% of the population has private health insurance (Agência Nacional de Saúde Suplementar [ANS], 2016), which is primarily offered by employers as a benefit for their workers. In Argentina, around 10% of the population has health insurance, which is required to cover the same services as the *obras sociales* systems (Compulsory Medical Program). In Colombia and Mexico, the private sector is chiefly used by high-income families as supplemental coverage. Since the Brazilian network is condition-based and for patients with chronic diseases, it competes with the other providers (public and private) in the same geographic area to attract this type of user.

In Colombia, as explained previously, the existence of different public and private providers (HPC) creates an atmosphere of competition, since citizens themselves choose their provider.

In the case of Mexico, two public models coexist: the integrated network analyzed in this study and the State of Veracruz. Citizens who can pay for it often seek care from the private sector because it offers more flexible scheduling and shorter wait times than public health services, although the burden for the population is clear, as Mexico has the highest out-of-pocket spending of all countries in this study (Table 3.2).

5. Network integration model

In terms of how they are integrated, the experiences examined in this study differ in their approach and in how they link together the network components. Approaches to integration can be vertical or horizontal, and links formal or virtual. A vertically integrated network is structured as a single organization with multiple formerly independent production units, where one unit's output is another's input. It thus lends itself to the coordination of services at different levels of intensity according to the seriousness and complexity of the existing health needs. This type of integration could occur between primary, secondary, and tertiary care levels (Shaw, Rosen, & Rumbold, 2011).

Horizontal integration, on the other hand, is when two or more production units that provide similar services join to form a single production unit or to establish an inter-organizational partnership. Horizontal integration means peer-to-peer collaboration, whether at the hospital level (mergers of hospital services or of hospitals

themselves) or at the primary and/or community health care level. The pursuit of economies of scale and profit drives this type of integration.

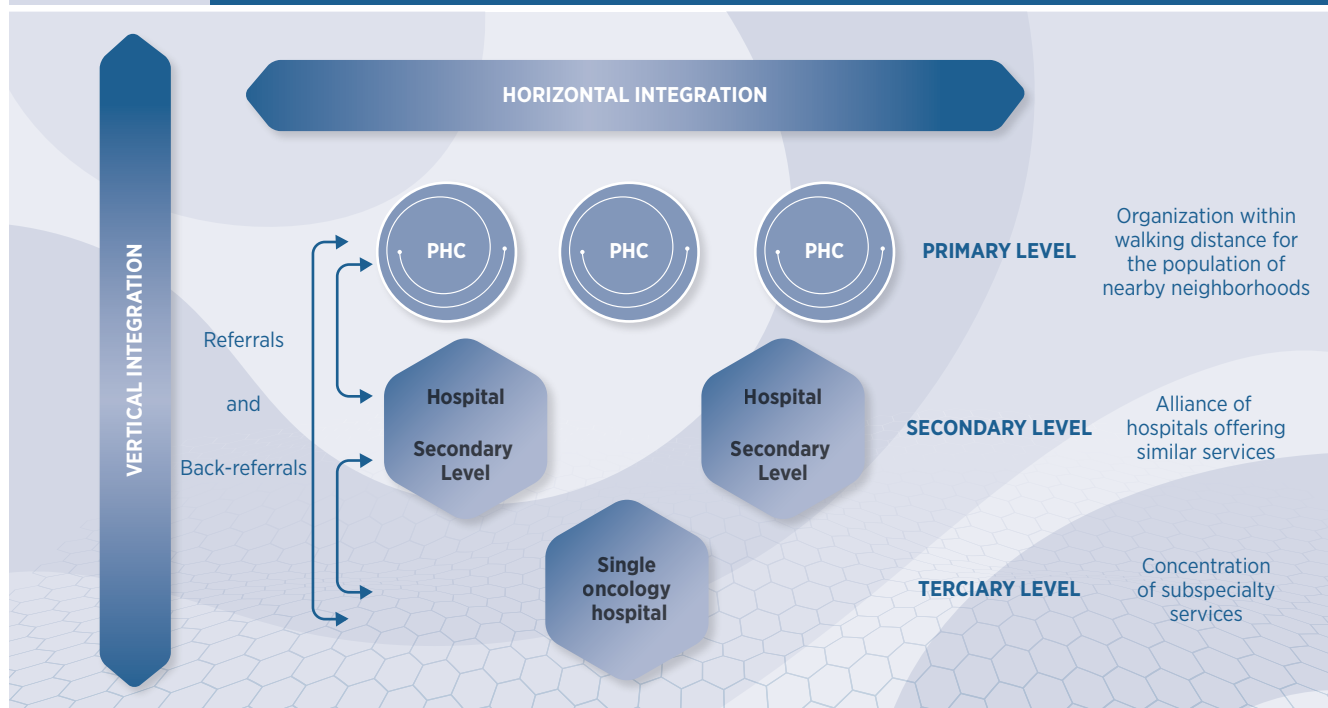
Figure 3.1 combines the two approaches.

In terms of how network components are inter-linked, formal integration means there is a direct and sole owner of all services involved in the network. Hierarchical relationships are used with this configuration. With virtual integration, the different organizations continue to be autonomous, and the aim is to create an environment of collaboration and coordination using tools like contracts, agreements, alliances, affiliations, or franchises.

The Santiago del Estero network has a primarily vertical and formal mode of integration. Each level does its specific job in the healthcare ecosystem. This integration is only partially formalized: according to the hospital directors who were interviewed, the roles of some network participants are not defined.

FIGURE 3.1.

Network integration models: vertical or horizontal approach



Source: prepared by the authors

In Argentina, provincial governments adopt the PHC model with the limitations and opportunities of each specific case, without setting up an integrated network in its strictest sense, and the central government coordinates vertical programs that promote that model, which, as mentioned, has a different expression in each geographical area. The segmented and fragmented nature of the Argentinian health system is an obstacle to formal integration between the public sector, social security, and the private sector. There is no evidence of integrated public-private networks.

The Brazilian case is very different from the rest because the network included in the study is condition-specific (focused on care for chronic diseases) and is currently in the process of integrating the different levels of care. Its processes have not yet matured, and it still needs to define its portfolio of services and strengthen coordination and communication between the different levels of care. Its integration is vertical, horizontal, and formal.

The members of the network in Colombia offer similar services at the same level of care, which would suggest that it is integrated horizontally. But the network has different levels of care, so patients can pass from one level to another. Additionally, the Red Norte of ESE Pasto Salud has agreements, contracts, and strategic alliances for some services with different providers to guarantee health care for users, so it has a virtual mode of integration.

The network in Mexico, established in the context of the IMSS-Prospera program, is a mature, integrated network that has been operating for more than 35 years and forms part of Mexico's national health system. It is integrated vertically. It is also a formal network because it has specific regulations for how the network is to operate and for all kinds of activities, including the roles of both health professionals and the population, through community-based social participation.

6. Conclusions

The contexts of the networks in this study are varied, and, in Latin American countries, complex, due to the wide range of coverage, funding, and service delivery methods. This gives rise to the many challenges faced by these networks, which makes understanding their implementation all the more important.

In Mexico, Argentina, and Colombia, health system funding is closely tied to people's employment status. These countries have multiple funds that concurrently collect and administrate resources from different sources at the national and subnational level. In contrast, in Brazil resources come from the same source and are collected and administrated the same way for the entire health system. Health expenditure indicators vary considerably between countries. Notably, out-of-pocket spending under any funding system accounts for a significant portion of total health spending, despite multiple public coverage schemes.

It is necessary to highlight the importance of the supporting networks created to complement the social security health systems (IMSS-Prospera in México and Sumar in Argentina) and promote more equitable access to primary health care.

Inevitably, it is more difficult to form networks in countries with public and private providers, since mixed agreements and protocols make this type of integration more complex. Colombia has many difficulties arising from coverage discrepancies between the different social security schemes. And in Argentina, the segmented and fragmented nature of the health system is an obstacle to formal integration between the public sector, social security, and the private sector.

All four countries have stated improved coordination of their care model as an objective of implementing IHSDN. This coordination challenge is perhaps inherent to all health systems, but it is even more marked in fragmented systems (social security and public insurance), which often use virtual integration to improve coordination through strategic alliances or joint plans.



CHAPTER 4.

GOVERNANCE

● CHAPTER 4.

GOVERNANCE

Tania Marín, Diana Pinto, Miguel Angel Máñez

1. Introduction

As different stakeholders (citizens, users, professionals) were included in organizations' decision-making processes in the '80s and '90s, the term "government" was replaced by "governance," with a broader range of definitions (Saltman, Durán, & Dubois, 2011). Newman (2001) identifies the following as among the essential characteristics of governance: the existence of responsibilities shared between various institutions, expanded civil society participation in the decision-making process, and replacement of hierarchical decision-making models (command-and-control) with more open government models based on building alliances, coordination, and leadership.

The WHO (1998) defines governance in the context of health systems as the "participation of stakeholders concerned with defining and implementing policies, programs, and practices that promote equitable and sustainable health systems." While this quote mentions stakeholders, it is also crucial to take into account factors like the organization itself and its structure, as well as the rules affecting that participation. This pursuit of shared responsibility between public organizations and citizens is based chiefly on bidirectional participation structures that, at least in theory, allow organizations to improve their management and sharpen their focus on achieving their institutional aims. In this context, governance means a new way of governing geographical areas, institutions, or people with the aim of finding more effective ways to manage public policies, anticipating their effects and evaluating their impact.

An example of these processes is participatory decision-making, which requires organizations to meet certain basic preconditions: creating spaces and models for participation and exchanging opinions, and sharing relevant information. The very inclusion of this term in the IHSDN model entails applying innovative organizational and management tools.

This chapter provides an overview of the governance models, understood as the "arrangements by which authorities exercised, involving, variously, formal and informal systems, public and private auspices, regulating and normative mechanisms" (Scott, Ruef, Mendel, & Caronna, 2000). To do so, it recognizes and describes the horizontal (cooperation) and vertical (hierarchical) mechanisms as part of the regulation of the IHSDN in order to give a picture of the governance structures and their influence on the actors involved (Báscolo, 2010).

2. Governance model

The networks analyzed in this book are part of the public sector, so many of the key attributes of public administration are present in their legal structure and in the way they are run and organized. Two defining elements of the governance model of these networks are a hierarchical regulatory and control system, and geography-based organizational structures rather than networks built around specific issues. However, each network has unique characteristics that we will describe in this chapter.

The institutions and facilities of the Santiago del Estero network, in Argentina, fall under the umbrella of the provincial Ministry of Health, and all levels of care are subject to its decisions and authority. The Ministry governs the network's technical supplies and human resources and does the planning. The governance model is predominantly hierarchical and institutional, with few opportunities for self-regulation. The national Remediador and Redes programs (Box 4.1) play a key role, since they were drivers of the network's implementation. They have also acted as strategic pillars for managing health-care and for organizing work at an operational level. During the interviews, the different levels of care had markedly different perceptions of who governs the network. The primary level sees the Dirección de Atención Primaria [Primary Care Division] as the central governing body and

the national programs as an effective support. At the secondary care level, the provincial Ministry of Health is the most widely recognized governance authority.

In Brazil, the healthcare network for chronic diseases in Fortaleza is part of the Municipal SUS, so its governance mechanisms and rules are, first and foremost, dictated by law. The institutions that participate in the network are public and are administratively linked to different levels of government (municipal, state, and federal). The Fortaleza Health Secretariat has a Coordination Office in charge of defining, implementing, and coordinating the network. In addition to promoting the incorporation of municipal services into the network, the office is in charge of connecting with referral services at higher levels of care to agree on collaborative actions.

In a way similar to the case of Santiago del Estero, the professionals in the Fortaleza network perceive the governance model differently depending on the level of care where they work or their role on the healthcare teams. Primary care unit coordinators are familiar with the healthcare network for chronic diseases, but primary care professionals said they had very little information on the network or even that they did not know what it is meant to do. Most interviewees involved with specialized care said that the network has a single and hierarchical governance model and identify the Municipal Health Secretariat as its highest authority. Others said the model is more cooperative (mixed governance between the municipal and provincial health secretariats). A third group knew nothing about the model.

In Colombia, the Red Norte is under the direct authority of ESE Pasto Salud, which in turn has a contractual relationship with the public and private health service provider institutions. ESE Pasto Salud is a decentralized, municipal-level public institution with autonomy and its own funds. In this network, there is an administrative and leadership team for the entire network, as well as an institutional development plan. ***“ESE Pasto Salud has administrative and financial autonomy and network-wide policies. Each network does not set its own policies, protocols, and procedures; they are the same for all”.*** (PDM 07). The model is hierarchical, and each of the network’s providers are subject to the directives and institutional development plan established by the board of directors and senior management of the ESE, so the same processes can be carried out at all the network’s healthcare service provider institutions.

Notably, this was the only network in the study with a Code of Ethics and Good Governance. This code guides the actions of the ESE’s employees. The rules in this code were drawn up in consensus with the institution’s employees. ESE Pasto Salud’s principles and values center on users, their families, and the community.

The IMSS-Prospera network in Mexico is part of a public program funded by the federal government and administrated by the IMSS. The governance model is clearly hierarchical. On one hand, the IMSS has a centralized structure and is administrated vertically. On the other hand, the IHSDN’s different levels of hierarchical management are defined in the program’s operating rules: central (national level), state office

BOX 4.1.

The REDES Program in Argentina

The REDES 1 Program originated as a nationwide strategy funded by the Inter-American Development Bank to implement a PHC-based IHSDN and improve clinical and health management. Funding for investment projects for specific geographical areas was contingent on meeting the goals established for the program’s components.

The aim of the second phase of the REDES program (called REDES 2), which is currently underway, is for the national government to take over management and funding of medications. It also seeks to promote complementarity with the SUMAR program; broaden public coverage; strengthen colon, breast, and cervical cancer screening programs; and expand record-keeping for cancer patients. It will include a dedicated cancer patient care coordinator (navigator) as a strategy to ensure that patients’ care pathway (referrals and back-referrals) is appropriate and that cancer patient records are kept correctly. A pilot program providing palliative care for cancer patients at primary care centers will also be implemented.

(state level), regional (sub-state level), hospital (area of influence), and zonal (PHC management, rural medical unit supervision/guidance) (Secretaría de Salud, 2015).

3. The networks' organizational structure

The organizational structure “consists of the way in which the organization divides and then coordinates its work, seeking alignment between internal processes and the environment” (Marín-Idárraga, 2015). The networks in this study have documents that define this structure, as well as the networks' operational mechanisms. When network participants are familiar with these documents, they have a clear idea of how the network is run and their role in it. However, interviewees showed varying degrees of familiarity and knowledge of these documents. Some interviewees even said they did not know the documents existed or what their use was. The comments of several participants in the Santiago del Estero network highlight this disconnect: *“There was one, I'm not sure where it ended up”* [PCD 02], *“There is no document”* [PCD 03], *“There is no specific document for the network. The document defining the roles of the PHC team members is called the PHC Management Operating Manual”* [Mixed FG 04], *“There is no document.”* [SCD 01].

The Municipal Health Secretariat of Fortaleza (Brazil) includes the organizational structure of the healthcare network for chronic diseases in its 2014 Strategic Plan and Roadmap. The Pasto Salud network in Colombia has a Processes and Procedures Manual that covers the operational structure, as well as a Pasto Salud organizational chart with the organizational structure of the state-owned social enterprise (ESE). The network in Mexico, as part of the IMSS-Prospera program, has a strategic and operative structure that is laid out in the documents applicable to all facilities in the country part of the program, such as Article 5 of the General Health Law, the IMSS-Prospera Program's Rules of Operation, and the Organic Law of Federal Public Administration. There is no option to adapt or modify them at the local level.

4. Social participation

One of the characteristics of PHC is individual- and community-centered care. For that reason, the channels for active social participation need to be appropriate to each community, and all actors involved should be able to have a hand in articulating needs, defining services, making decisions, and ensuring ongoing and transparent accountability (Nebot & Rosales, 2008). Social participation should also recognize “people as both users and citizens who hold the health system accountable in terms of the quality and timeliness of services and efficient use of resources” (Celedón & Noé, 2000).

There were varying degrees of social participation in the governing bodies of the different networks studied, ranging from no formal participation in the Santiago del Estero network (Argentina) to mechanisms with limited actual impact (Mexico), to social participation that is guaranteed by law (Colombia and Brazil). In practice, however, social participation is not always effective. There are gaps in terms of identifying relevant stakeholders in a process or ensuring good representation, and little emphasis is placed on communicating with the community. Below are the study's findings on how social participation is configured in the four networks:

a) No formal social participation mechanisms

The Santiago del Estero network (Argentina) has neither formal channels for social participation nor institutionalized instruments. Community relations are carried out informally.

b) Formal social participation mechanisms

In the networks in Brazil, Colombia, and Mexico, citizen participation is guaranteed by law or regulations. It is an integral part of how the networks are organized and run, and there are formal channels for interaction between management and users.

In Brazil, citizen participation is built into the legal framework of the Brazilian public system and is a fundamental requirement for transferring resources. The SUS has multiple channels for citizen participation.

The main ones are health conferences and councils, which are held at the three levels of government and which involve users, health workers, managers, and service providers (Brazil, 1990; Ministerio da Saúde, 2013). In the case of Fortaleza, the following channels were identified:

- Municipal Health Conferences: organized by the municipal government. The main purpose of these conferences is to detect health needs that should be included in Municipal Health Plans.
- Municipal Health Councils: permanent, collective, and deliberative bodies of the SUS. Their role is to deliberate on, evaluate, and monitor the actions of the different sectors involved in the SUS.
- Regional Councils: these are tied to the municipality's health regions and the local health councils of each of the primary health care units in the network. These councils discuss matters related to care for patients with diabetes. PHC managers, directors, professionals and users participate.

In Colombia, the Constitution, laws, and decrees lay out the legal framework⁴ for social participation. In the Red Norte ***“users have a permanent seat at the table, with a right to speak and vote” (Political Decision-maker 07).*** User associations have been organized in each of its healthcare service provider institutions. They serve as channels of communication between users and the institution and allow users to be involved in decisions that will ultimately have a direct impact on the service they receive and, consequently, on their well-being. ***“We have a user association for each unit of our services network... These associations are focused on protecting users’ rights” (Political Decision-maker 03).***

⁴ (a) Decree 1757 of August 3, 1994, which organizes and establishes the modes and models of social participation in health service delivery; promotes social participation and consensus-building; establishes the right to participate through Community Participation Committees, associations or leagues of users, and observer groups; (b) articles of the Constitution, such as 49, 103, and 340, that establish community participation as a democratic mechanism for representation, consensus-building, control, and monitoring the public administration, and (c) Statutory Law 1751 of 2015, which promotes social participation in the health system's decisions.

The 2012-2016 Pasto Salud Development Plan was created with the participation of the stakeholders (users, patients and families, human resources, providers, training institutions, communities, and the environment). This document sets Pasto Salud's strategic direction by identifying each stakeholder group's needs: ***““In the development plan, each stakeholder group was heard, and they voiced their expectations for that strategic direction” (PCD 01).*** The 2015 accountability report contains an example of citizen participation: the users association points out the need to improve the infrastructure of the Morasurco Health Center. Remodeling that health center was then included in the Red Norte's Annual Operating Plan. However, the users who participate through these channels are unaware that their center is part of a network and the advantages this entails.

In Mexico's IMSS-Prospera Program, the channels for citizen participation are laid out in its Rules of Operation. The program has a social oversight body made up of citizen approvers (reputable members of the community) who represent the population served and act as spokespeople for users to ensure that health services are of good quality and are provided in decent facilities. ***“In 2013, a social accountability mechanism called ‘citizen approval’ was implemented (...) It hears complaints and brings them to the management of the rural medical unit or hospital. The approvers are authorized to review the program's budget and rules of operation, and they conduct surveys on the treatment received and the distribution of medications (...) They help identify problems related to the treatment users receive.” (FLD 01).***

All healthcare establishments in this network have a complaints and suggestions box. According to the directors and health personnel who were interviewed, the citizen approval committee and the facility's authorities discuss complaints and suggestions to work together to find solutions to the problems reported. Notably, the users who were interviewed did not know how the Citizen Approval Committee or box works, despite having requested it. Experiences in other Mexican states show that health service users are not familiar with the Citizen Approval system, but that the system can be effective because it provides a real link to the hospital's management (Cabral Dorado & Delgado Cepeda, 2017).

Additionally, ***“the population participates in assessments of the state of local health because they know best what they get sick and die from. Volunteering is another form of participation (...) Volunteers are trained at the rural medical unit to provide guidance to other patients, and sometimes they are given training outside of their town; this motivates them. They are women chosen from the community by the assembly. They are given a small amount of compensation” (SCN 01).***

The IMSS-Prospera IHSDN’s communication with the community is focused on health education activities and covers different topics (basic hygiene, family planning, preventing chronic diseases, etc.). Midwives who are part of the network are also given training on issues apart from maternal health.

5. Sharing and exchanging information with the community

The networks in this study took a wide mix of steps to share and exchange information with the community.

The Santiago del Estero network has limited channels for communicating with the community. It mainly uses signboards with notices in primary care units, meaning communication only reaches people who frequent the health units. Informal communication during daily contact and informal conversations are other ways information is exchanged in this network.

In the Fortaleza network, each network node has a different strategy for sharing information. At the primary care level, the community health workers are in charge of disseminating information on actions related to care for people with diabetes. The Hospital Universitario and the Hospital General de Fortaleza post this information on their website, while the Centro Integrado de Diabetes e Hipertensão (CIDH) shares it via televised messages. The nodes do not coordinate their different communication strategies.

The Red Norte of ESE Pasto Salud actively communicates with the community through media like television, radio, social media, and educational booklets. Its messages center on disease prevention and health promotion campaigns. ***“The media is used to share information (...) as are internal policies (...) and information is also provided directly to users” (Political Decision-maker 07).***

**TABLE
4.1.**

Type of information shared with the community

| Primarily information on health promotion | Primarily information related to organization at healthcare establishments |
|---|--|
| Red Norte Pasto Salud IMSS-Prospera | Santiago del Estero Fortaleza |

Source: Prepared by the authors

6. Steps to collaborate with the community

In the Santiago del Estero network, the secondary care level organizes early disease detection and health promotion activities. *“When activities are scheduled at the hospital, the population is invited to participate. For example, a ‘health team’ made up of a psychologist, social worker, physician, and community organizer put on a breast cancer prevention week. They invite people to screenings, and they spread the word among their acquaintances and family members in the town.” (SCD 01).*

According to authorities at Fortaleza’s Municipal Health Secretariat, there are mechanisms for involving Local and Regional Health Councils when reorganizing processes for providing care for people with diabetes at primary care units. In their view, most of these changes were received favorably by those councils. Additionally, during interviews and focus groups, medical specialists said they participated in Municipal Health Councils, but they said the healthcare network for chronic diseases was not discussed in that space.

The ESE Pasto Salud in Colombia has a board of directors with a member representing the community. This representative is the point of contact between all user associations of the healthcare service provider institutions. This setup encourages community and social participation in decision-making, evaluations, and monitoring the strategic plan presented by the state-owned social enterprise. The network also has a user association providing a link between the community and the network’s operational director.

In Mexico, given the program’s community focus and the fact that it provides care in rural areas, there are various figures who facilitate contact between the program and the community. *“The program’s operations are based on community action taken by community action supervisors, committee action organizers, and community networks of local volunteers, community health workers, and midwives” (FLD 01).* For PHC, the point of contact between the community and the rural medical unit is the community action organizer, who visits people at home and puts on health education activities.

“(...) We have volunteers—organizers responsible for 10 families—who go from house to house to find people who are ill or pregnant. We also have midwives who have been receiving training, as well as a traditional doctor (shaman) who has a good relationship with the rural medical unit (...).” (PCD 01).

“Patients are first referred through the community network, through volunteers who are assigned a certain number of families. If during their visits they identify people who need care, they send them to the rural medical unit with a simple form listing the symptoms” (PCD 03).

7. Cross-sector collaboration

There is a clear correlation between a population's health and social determinants of health. Many circumstances and factors affecting people's lives and influencing their health are beyond the scope of health services, so joint action between different sectors is needed in order to address social determinants of health. Cross-sector collaboration refers to the ties between the health service network and other sectors, whether social or otherwise (PAHO, 2010b). The current view is that this joint work between the health sector and other government sectors is needed in order to have an impact on social determinants of health and reduce inequalities in health (PAHO, 2015).

Relationships between the health sector and other government's agencies can vary in extent and intensity (Solar, Valentine, Rice, & Albrecht, 2009; Meijers & Stead, 2004; PAHO, 2015). These relationships can be based on the stages of information exchange, cooperation, coordination, and integration. Table 4.2 provides more details about these stages.

Using this classification scheme, the following levels of collaboration between the health sector and other government sectors were identified in the IHSDN in this study:

- a) Relationships based on exchanging **information**: the healthcare network for chronic diseases in Fortaleza has taken this first step towards cross-sector collaboration. In this network, managers at the Municipal Health Secretariat have begun dialoging with directors and operational staff at the different levels of care to identify challenges and opportunities for working with the municipality to provide care to diabetes patients, and to share the importance of working as a network.
- b) Relationships based on **cooperation**: the Red Norte of ESE Pasto Salud has reached this stage. There is cross-sector collaboration on specific issues like preventing teen pregnancies and addressing chronic diseases: *"For specific public health programs, we are working together and trying to design impactful cross-sector strategies"* (DAP 01). There are partnerships and agreements with other institutions,

TABLE 4.2.

Extent or intensity of relationships between the health sector and other government sectors

| Extent/intensity of the relationship between health sector and other sectors | Description |
|--|--|
| Relationships based on information exchange | First step towards cross-sector collaboration. The parties build a common language for dialogue. In They also identify relevant or shared aspects for joint work. |
| Relationships based on cooperation | The aim is to make each sector's actions more efficient. Cooperation can range from incidental, informal, or reactive to actions based on shared problems and priorities. Cooperation frequently occurs when implementing policies, not when making them. |
| Relationships based on coordination | Adapting each sector's policies and programs for more effectiveness and efficiency. The aim is a more horizontal working relationship between sectors, with a more formal work structure and a shared source of funding. It is essential for this understanding to be reaffirmed in the plans and budgets of each of the sectors involved. |
| Relationships based on integration | Sectors working together to create a new policy or program. In addition to implementing or applying joint policies, the aim is joint design and funding to achieve a common social objective. |

Source: PAHO, 2015

like the Office of the Family Commissioner, the Colombian Institute for Family Well-being, the police, universities, the Secretariat of Education, the Government of Nariño, the Office of the Public Prosecutor, the Emergency Response Unit, Departmental Health Institute, and others.

Despite this, convincing people of the need for cross-sector action was a gradual process that is still underway:

“For example, Education was somewhat reticent to engage with us because it was seen as more of a health problem, but the approach gradually shifted, and now we have a good working relationship” (PCD 05).

The Santiago del Estero network takes cross-sector steps to meet the community’s needs, but without planning or follow-up. The health network has a strong relationship with other agencies, due essentially to two factors: the proactivity of the participants (primarily directors) and the community’s specific demands, which require sectors to work together, although their actions are isolated and disorganized: there is no planning or follow-up to promote or carry out cross-sector actions. At the highest level, authorities establish framework agreements for carrying out cooperative projects, but cross-sector relationships are neither planned nor implemented.

There is high potential for integration with other sectors, but this potential is not properly or sufficiently realized. Tapping into it could improve social determinants of health and open the possibility of obtaining additional resources for funding integrated activities. It is also noteworthy that these actions are recognized at both the primary and secondary level of care as being essential to prevention, as seen in the following examples:

“In the neighborhoods there are people relocated from slums and there’s lots of trash. There isn’t a good collection system, and the neighbors put out the trash on days that no trash trucks come and then the dogs rip open the bags. The children have skin problems. We spoke with the municipality to improve trash

collection and with the residents to change their habits” (PCD 04).

“The accident rate (which for the hospital is very important, because most emergencies are from motorcycle accidents) is closely tied to the accident prevention system” (SCD 02).

- c)** Relationships based on **coordination**: in Mexico, the IMSS-Prospera network has agreements with other health institutions: with the State Health Services for patient referrals, and with the State Social Protection for Health System (Seguro Popular de Salud, in Veracruz) to compensate the IMSS as for providing services at the network’s facilities to IMSS enrollees. ***“[there are cross-sector agreements] (...) with the health sector with other medical institutions, especially the Health Secretariat. There are also agreements with local authorities, state health committees, and the Veracruz Adult Education Institute” (SLD 02).***

The network also has a community action component involving the municipal authorities and the Integral Family Development (DIF) program: ***“The DIF also participates in providing care to patients, primarily by referring them to other health units (...)” (SCD 01).***

Through agreements with the Social Development Secretariat and the Indigenous Peoples Development Commission, resources from federal programs set up to improve social determinants of health were allocated to renovate and improve medical units.

- d)** Relationships based on **integration**: the IMSS-Prospera network’s agreements with educational institutions allowing students from the final years of medical school and nursing school to do social service in network facilities fall into this category.

8. Accountability

Accountability is the responsibility of people or organizations for their decisions or actions (Brinkerhoff, 2003) (See [Chapter 9](#)). In this chapter, we focus on accountability in the areas of financial resources and performance in this study's networks, as well as the parties to which they are held accountable.

In the Santiago del Estero network, most primary-level interviewees responded that they are mainly held accountable for reaching goals, not so much for resources used. One reason for this is that primary care does not have its own budget. The Provincial Ministry funds human resources, building maintenance, supplies, and, occasionally, basic medical equipment. The scant funding it receives comes from the National Ministry of Health and is linked to its productivity. At the primary level, the National Ministry of Health and the national programs (for example, SUMAR, Redes) are seen as the accountability bodies. This perception shows up in the following response: ***“Every four months, a report is given to the National Ministry of Health (the central implementing body of the Redes program) and to the IDB” (Political Decision-maker 01)***. The secondary care level reports first to the accountability bodies (for the funding it receives), and second, to the SUMAR Plan.

In Brazil, the municipalities are required to hold public hearings to present and discuss plans and annual reports. These documents also have to be posted to the SUS's public information access systems: the Annual Management Report Support System (SARGSUS) and the Public and Health Budget Information System (SIOPS) (Ministerio do Planejamento, 2015). These documents are also used by the state and national tribunals of audit, and by teams from the National Auditing System in municipal health system inspections and audits.

At the time of the study, the Fortaleza network's primary care managers were considering developing a dashboard with a set of indicators compiled from primary care unit databases to be monitored and evaluated by the Municipal Health Secretariat. There was no mention of any other type of accountability mechanisms specific to the condition-based network. The Centro

Ambulatorio de Especialidades [Specialized Outpatient Center], which is under municipal management, mentioned that it reports to the local and regional health councils, in addition to the accountability mechanisms established by the Ministry of Health. Interviewees at hospitals said they report to different levels: the Hospital Universitario submits network indicators to the Municipal Health Secretariat, and the Integrated Diabetes and Hypertension Center does likewise, but to the Ceará State Health Secretariat. Lastly, the Hospital General de Fortaleza did not specify its accountability mechanism.

In Colombia, Law 1474 and other transparency rules require public institutions to provide reports for accountability purposes at least once a year. ESE Pasto Salud has a strategic plan for this process with citizen participation as one of its pillars. Accountability reports are given at zone-based meetings, public hearings, direct interviews, and through other strategies for sharing information (ESE Pasto Salud, 2015). Once a year since 2012, stakeholders like workers, universities, the community, users and their families, the board of directors, providers, the municipal council, and others are called together. The state-owned social enterprise gives an account of its progress towards its commitments related to 4 strategic objectives: information and human talent, improving processes, user satisfaction, and finances.

Lastly, in Mexico, as a federal program the IMSS-Prospera network is required to comply with the General Transparency and Public Information Access Law. This involves publishing the required information on the IMSS' Transparency Obligations Portal.

At the operational level, the rural medical units report their monthly progress towards goals to their specific zones. From there, it goes up the ladder to the state and national level. ***“(...) Since the program is part of IMSS, everything is regulated by the guidelines for all areas. An account is given to the state office and the internal control body, to the State Offices Evaluation Unit, to the head of the state office, who is under the authority of the medical benefits area. And at the central government level, reports are given to division directors, to the Health Secretariat, and to the state committees. The rules of operation are the regulatory documents” (SLD 03)***.

Additionally, the Secretariat of Public Administration and the State Supervisory Body are responsible for making sure that citizen approvers do their job in order to guarantee respect for users. ***“The entire [IHSDN] program reports back to the Secretariat of Treasury (...) The hospital receives information from the central level via “circulars.” The information spills down, through the manager, by email or via the circulars. The Rules of Operation structure the hospital’s day-to-day operations. They specify health personnel’s obligations, how they should be organized, and who is in charge of what. The hospital is held accountable for reaching goals. It reports certification, accreditation, and quality indicators to the different institutions: first to the regional supervisor, who then reports to the state office, after which it goes to the federal level. At the federal level, they evaluate the indicators every month or so. They have a form and they check whether they are doing good work (...) (SCN 01).***

In the networks in this study, most interviewees were able to identify and describe the process by which the networks are held accountable. The findings revealed that accountability primarily centers on financial resources and has well-established mechanisms, chiefly for reporting to higher-level government agencies. The networks report back to society and users in some cases, by publishing reports, memorandums, or even data on care and finances. Accountability for care goals and performance and quality indicators is underdeveloped (See [Chapter 9](#)).

9. Conclusions

Vertical and hierarchical mechanisms dominate the governance models of the networks in this study, which have figures (whether institutions, management levels, etc.) that exercise leadership and have decision-making power. The interviewees easily identified these institutions and their role within the network. In more developed networks, like IMSS-Prospera in Mexico and the Pasto Salud ESE network in Colombia, this governance model seems to favor the development of standardized processes for all network nodes, especially at the operational level (for example, the primary care units have the same or very similar operational mechanics). The challenge lies in ensuring that the specific needs of each of the community served by these networks are met, in other words, in achieving a mechanism that is both equitable and provides a certain level of local flexibility. In the networks still in their beginning stages, the governance model needs to be shared with the network’s participants, especially its roles and responsibilities and its rules of operation, in order to improve coordination between levels of care and healthcare establishments.

With regards to the community component, three of the four IHSDN had formal mechanisms for citizen participation at the time of the study. However, a clear instance of citizen participation influencing decisions was only mentioned in one network. The challenge is to ensure that the population served by the network is properly informed about these mechanisms and that they have a clear and visible impact on decisions.

Since one of PHC’s main characteristics is focusing on individuals and communities, the IHSDN needs to provide effective opportunities for representative citizen participation, and these channels need to allow the population to be involved in decision-making.

In terms of collaboration with the community, the Pasto, Fortaleza, and Mexico networks have different community participants with a specific role and a clear relationship to other parties in the network (for example directors, health professionals, etc.). The challenge is to make these relationships effective and sustainable. The networks that were just starting out when this study was conducted did have components for communicating and collaborating with community, but they still needed a coordinated strategy between the network's different nodes. Also, they do not use digital or social media, which is noteworthy given that three of the four networks are in urban areas (Pasto, Fortaleza, Santiago del Estero) and given the high mobile phone penetration rate in the region. The challenge is to identify an effective communication strategy for the network that reaches the target population.

Relationships between the health sector and other government sectors were at different stages at the time of the study. All networks see the importance of cross-sector action. They understand the need for this collaboration and have taken steps towards making it a reality. All network participants clearly see the influence of social determinants of health on their population and therefore engaging in cross-sector collaboration is a good practice that should be encouraged and facilitated. The main challenge is achieving truly integrated cross-sector relationships, meaning that policies are planned, funded, and implemented jointly to reach a shared social objective.

The networks in this study have well-defined accountability mechanisms for financial resources, and the networks' participants are familiar with how and to whom they need to give financial reports. This information is public in three of the four networks, although it is shared with stakeholders differently and to different degrees.

Three of the four networks are held accountable for achieving performance goals, but this area of accountability is underdeveloped and needs to be strengthened by also including aspects like quality of care. In this regard, the network's main challenges are, first, to implement an effective and permanent accountability system in the area of care goals and performance and quality indicators to show whether the network is doing its job properly and what it needs to improve to achieve its fundamental objectives. The second challenge is analyzing (not just compiling) the information reported in order to identify successes, gaps, and opportunities for improvement. Proper use of this information has major ramifications for operations and the quality of care. The final challenge is improving communication in this area (dissemination, change management) among management, administrative staff, and operational personnel at the network's different levels and nodes.





CHAPTER 5.

FUNDING THE NETWORK



CHAPTER 5.

FUNDING THE NETWORK

Tania Marín, Diana Pinto, Miguel Ángel Máñez

1. Introduction

The characteristics of a PHC-based health network's funding has significant ramifications for the efficiency and quality of care processes, and, consequently, for health outcomes (Kringos *et al.*, 2010; WHO, 2010; Smith & Yip, 2016). Different studies have found a correlation between the design of the funding system and access, efficiency, the achievement of fundamental objectives to improve health, equitable delivery and use of services, improvements in transparency and accountability, and the quality of services. (Hebrang *et al.*, 2003; Bhat, 2005; Kutzin, 2013).

The general features of each country's health system funding model and its connection to the population's coverage and access to health services is analyzed in Chapter 3 of this book, which delves into the context. Macro-level funding dictates the structure of each network's resource flows. However, this chapter examines how these resources flow from the "macro" level to the network, and the mechanisms for allocating them. Among the most effective components of a resource flow that favors overall network efficiency are: budgets that are set and drawn up based on overarching objectives, flexibility to move resources within the network, and giving operational units procurement powers (PAHO, 2007). Also, resources allocation and incentives mechanisms should encourage coordination between service providers, quality care for users at the most appropriate point of the network, and disease prevention and health promotion actions.

2. The flow of resources to the network

A PHC approach emphasizes investments in primary care (Kringos *et al.*, 2013a). It was long thought that primary care is equivalent to basic services, since its technology is less expensive than that of other levels of care. This view has led to the mistaken assumption that PHC needs less resources. Primary care can potentially resolve most of people's health problems, while secondary and tertiary care solutions serve a very small population. Some countries in Latin America (Costa Rica, Brazil) have improved their health outcomes and broadened their health coverage by implementing PHC programs (Guanais & Macinko, 2009; Pesec *et al.*, 2017).

Due to the cost of new health technology and to the epidemiological transition, specialized and sub-specialized medicine requires more resources, which are frequently allocated at the expense of PHC. In the countries in this study, a high percentage of public spending goes to secondary care. Only Colombia had an explicit percentage of the Capitated Payment Unit that should be allocated to primary care, health promotion, and disease prevention actions. In Argentina, the available data could not be used to ascertain the percentage provinces allocated to the different levels of care.

Tables 5.1 and 5.2, below, show how public spending is distributed between primary care and secondary care (hospital care) in each of the countries in the study, according to regulatory criteria.

TABLE 5.1.**Percentage of public expenditure allocated to primary care**

| Country | Percentage | Source/How is it allocated? |
|-----------|---|---|
| Argentina | Not applicable | It was not possible to calculate a percentage; the funding does not necessarily all come from the same source. |
| Brazil | Around 16% | SIOPS. Established by law. |
| Colombia | 30-55% of the Capitated Payment Unit resources for health | The percentage of resources allocated to primary care is based on the Capitated Payment Unit, which is the per-capita amount the General Social Security for Health System pays each HPC for organizing and ensuring delivery of all health services in the Compulsory Health Plan, with no distinction or segmentation by levels of complexity or specific technologies. The Ministry of Health set rules for how to distribute spending (Circular 0057 of 2007), suggesting the percentages included in this table. |
| Mexico | 23.70% | General Directorate of Health Information. Statistical Bulletin 33 (2013). Financial Resources. http://www.dgis.salud.gob.mx/contenidos/publicaciones/p_bie.html |

TABLE 5.2.**Percentage of public spending allocated to secondary care**

| Country | Percentage | Source/How is it allocated? |
|-----------|---|--|
| Argentina | Not applicable | It was not possible to calculate a percentage; the funding does not necessarily all come from the same source. |
| Brazil | 63% | SIOPS (2013-2014). Established by law. |
| Colombia | 30-55% of the Capitated Payment Unit resources for health | The percentage of the capitated payment unit to be spent on each level of complexity of health services was set by the Ministry of Health in External Circular 0053 of 2007. |
| Mexico | 60.10% | General Directorate of Health Information. Statistical Bulletin 33 (2013). Financial Resources. |

Below is a description of the way in which resources are distributed to each of the networks analyzed:

- In Argentina, primary care receives a mix of resources: on the one hand, it receives a set amount—calculated based on historic demands—from the Provincial Ministry of Health to pay for human resources, supplies, medications, operation and maintenance of healthcare establishments, and training. On the other hand, national programs like Sumar and Remediador grant funding based on provinces' performance. Interestingly, directors of primary care units always mentioned these programs first when asked about funding sources for this level of care. Secondary care receives a budget from the Provincial Ministry of Health

based on historic data. This budget is perceived as inflexible (*"In a hospital like this, it is very difficult to predict expenditure," "Half the budget went to repairing a hemodynamic device"*) and disadvantageous, making it difficult to attract specialized human resources *"(...) Scarcer, more expensive"* (SCD 02).

- In Brazil, health expenditure is managed in a highly decentralized way. The Municipal Health Secretariat is in charge of discussions about resources needed for primary care. Primary care is funded with municipal resources and per-capita transfers earmarked for primary care from the federal Ministry of Health. Primary care is also funded through state-level transfers, with criteria that vary from state to state, and federal incentives are available for

specific projects like Family Health, the Community Health Workers Program, and, at the time of the study, the *Mais Médicos*. Program. This last program was overhauled in 2019 and renamed *Médicos pelo Brasil*. Now, instead of municipalities receiving transfers to pay doctors' salaries, the Ministry of Health will hire them directly. The state and federal referral hospitals have their own budget. The network's hospitals receive funding from the level of government to which they belong (municipal, state, or federal). They also receive transfers from the Ministry of Health based on productivity. However, there is no specific budget for advancing work as a network.

In Colombia, primary care units are funded by capitated contracts and by the sale of services, that is, per event or per procedure (ESE Pasto Salud, 2013). All hospital funding is from the sale of services. However, the hospital level is seen as the biggest consumer of resources. *"The costs of providing services at the primary level are the lowest; most of the health system's resources go to highly complex care at the large hospitals"* (PLD 03).

In Mexico, the IMSS-Prospera program is fully subsidized by federal funding (in 2014, 90% of the network's resources were from the federal subsidy) and by resources transferred from the Seguro Popular de Salud for providing care to its enrollees. But according to the interviewees, the mechanisms for transferring resources from Seguro Popular to IMSS-Prospera for services provided to its enrollees are still a challenge for the network, as they are still in their beginning stages and are insufficient, affecting the network's funding. Requests for funds, which are allocated based on the historic needs of the population served by the rural medical unit or rural hospital, first go to the state level, then to the national level (IMSS, 2015).

3. Funding for community services and social needs

Community- and people-centered care is one of the essential attribute of primary health care. It requires different sectors to integrate and collaborate in a way that aligns with the needs of the population served by the network. Welfare services, community organizers, community health workers, and the community itself should all be involved. Evidence shows that PHC achieves better outcomes when care is adapted to the characteristics of the users' community. (Akhavan & Tillgren, 2015; Davy, Hartfield, McArthur, Munn, & Brown, 2015; Di Cesare *et al.*, 2015; Chetty *et al.*, 2016).

Despite this evidence, and even though Latin American cultures and societies accept and demand a community care model (González, Rico García, Izaguirre Zapatera, De Ángel Larrinaga, & Lor Martín, 2016; King, Smith, & Gracey, 2015; Rubio-Valera, Pons-Vigués, Martínez-Andrés, Moreno-Peral, Berenguera, & Fernández, 2013), and users place a high value on it (Mosquera, Hernández, Vega, Martínez, & San Sebastián, 2013; Rodríguez-Villamizar, Acosta-Ramírez, & Ruiz-Rodríguez, 2012), none of the networks in the study had a specific budget category for this type of activity. Any funding for community care comes from outside sources, which partly explains why the networks have so few multidisciplinary initiatives, or even communication and social inclusion initiatives.

In fact, Brazil is the only country in the study with municipal resources and specific subsidies, and it is the only one with a national policy for allocating specific federal government resources from social programs like the Community Health Workers Program. In the rest of the networks analyzed, even the national policy sometimes fails to address spending on this type of service. In Mexico, the priority is providing services at health units, and resources can only be allocated to support the community network's actions if there are extra funds. In Argentina, these actions are sometimes funded through National Programs or the Community Doctors Program. But these funds only cover the health workers, and there is no specific subsidy or budget item for these needs. In Colombia, Resolution 5520 of 2013 states that the resources from the General Revenue-Sharing System and those allocated through income transfers can under no circumstances be used for social services.

In Colombia no social services are provided through the health system, and funding has to be obtained from other sources. Community care services are funded with resources from the services provided.

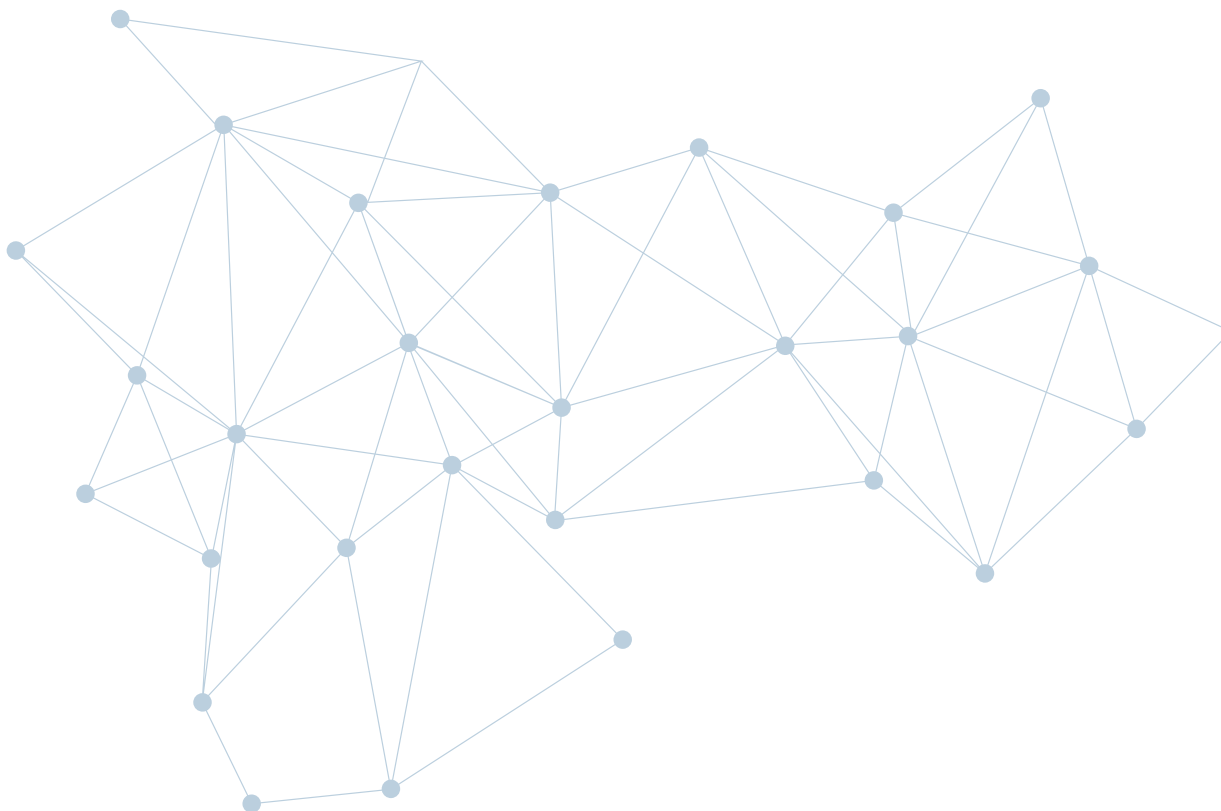
4. How the IHSDN budget is drawn up and its relationship to objectives and goals

For PHC to work and reach its potential to solve most health problems, it not only needs sufficient resources, but its planning and use of resources must also be aligned with existing needs. It is also important to recognize that the social circumstances of users, communities, and the professionals who work in the network are dynamic rather than static, and are affected by external factors. Proper resource planning is thus crucial to ensuring IHSDN serve their functions in a coordinated and efficient manner at all levels.

Two patterns related to budgets and network objectives and goals emerged in the IHSDN in this study:

- a) A disconnect between the budget design and the network's goals and objectives. This situation was more common in networks that are just starting out and in contexts where working as a network is novel. This lack of prior experience means the network has no operative or financial administration to build on, and administrators attempt to obtain resources to address specific situations, with no overarching vision for the network and its development.
- b) Budgeting based on institutional goals: in this case, goals are set out in operational plans or national health policies, and the network's budget is designed based on historical data, coverage, and the activities performed to reach the objectives.

Table 5.3 provides details on how well each network's budget is aligned with its objectives and goals.



**TABLE
5.3.****Funding networks based on their goals and objectives**

| Degree of alignment between the network's resources and goals | Network | Notes |
|---|--------------------------------|---|
| Misaligned | Santiago del Estero, Argentina | The network does not have its own budget, since technically neither its finances nor its operations are administered as a network. |
| | Fortaleza, Brazil | Funds were only requested for infrastructure and technology improvements in 30 network units (the funds were from the federal Growth Acceleration Program). |
| Aligned with institutional goals | Red Pasto, Colombia | The network's budget is set based on procurement history, the portfolio of services, and the goals and indicators defined in the annual operating plans. |
| | IMSS-Prospera, Mexico | Every year, the program unit prepares a draft budget to meet National Health Policy objectives laid out in the National Development Plan and the Health Sector Program. This document is approved by the lower chamber of the legislature, and payments to the State Health Offices are scheduled based on each state's coverage and activity. As of November 2019, the federal government had made no changes to how IMSS-Prospera is funded. The end of Seguro Popular and the creation of the Instituto de Salud y Bienestar [Health and Wellbeing Institute] has not yet led to changes in the Rules of Operation for providing care to people served by IMSS Prospera, which was partially funded by Seguro Popular. |

5. Population-based cost estimates and risk adjustment

An IHSDN has a well-defined population and should have a clear picture of that population's socio-health profile and the social determinants impacting its health. The network's cost estimates should be based on population data and should be adjusted based on the population's risk. This allows networks to allocate resources more equitably and better meet the population's needs. The cost estimates of this study's IHSDN followed one of two patterns (Table 5.4):

- a) Estimates of funding needs are not based on population data. In these cases, networks use a historic amount adjusted annually based on parameters that are not well defined, like production, availability of resources, political decisions, and adjustments for inflation. In other cases, like in Argentina, the budget is defined by legislative parameters.

- b) The estimate is made based on each network's population, services, social profile, and epidemiological profile. However, it is not always coordinated well with the network's specific needs: *"(...) The yearly budget makes no sense. Every year the (IHSDN) program is given a little bit more, but it's not based on the number of people it serves. This means the infrastructure is inadequate and insufficient; 89% goes to current expenditure"* (SCD 04).

**TABLE
5.4.****Budgeting based on population and risk data**

| Budget estimates with population data and risk adjustments | Network | Notes |
|--|--------------------------------|---|
| Not aligned | Santiago del Estero, Argentina | Funds are allocated based on a historic amount adjusted annually according to variables that may not be made clear and that are linked to production, availability of resources, political decisions, and adjustments for inflation. |
| Aligned with population data | Fortaleza, Brazil | The SUS's funding is established in laws followed by the three levels of government. PHC receives two federal resource transfers—one fixed and one variable—which are allocated according to the characteristics of the population, epidemiological data, and the health services offered. |
| | Red Pasto, Colombia | The ESE Pasto Salud's budget is allocated based on population served, epidemiological profile, services provided by each network, and needs identified. It does not create a specific budget for each network. |
| | IMSS-Prospera, Mexico | The budget is estimated based on the number of people each rural medical unit and the hospital serves, and it is divided up according to disease types and rates and based on priority groups. However, the interviewees indicated that this does not necessarily align with the network's needs. |

Source: Prepared by the authors

6. Needs consultations as part of budget design

In interviews and focus groups, researchers asked health personnel from primary and secondary care units, unit managers, and some state and national directors if their input was sought during the budgeting process. Because of their position, many of them are in contact with management professionals or those directly providing care to users, making them key sources of information on needs for resources. Additionally, many of them are familiar with the operative and administrative routine, potentially making it easier to identify priorities. The interviewees' responses show that when healthcare facility managers are consulted, resources are not necessarily then allocated for the needs they specify. There are several reasons for this:

1. There are no formal channels allowing healthcare facility managers to participate in the budgeting process.

On one end of this spectrum is the Fortaleza network, where most interviewees responded that they were not consulted about needs for resources.

Others said they were consulted only at the beginning of the year. At the other extreme is Santiago del Estero, where 75% of interviewees in charge of primary care centers said they were consulted regarding their needs for materials and human resources. Since there is no specific budget for primary care, interviewees saw these needs consultations as a merely symbolic gesture—there is no mechanism for aligning those needs with the budget's design, giving rise to situations like this one: ***“We have a dentist, but no office. The dentist takes the patient, paperwork, and administrative assistant to a nearby center (...) This really wears the dentist out” (PCD 05).***

The secondary care level is not consulted during the budgeting process, and hospital directors indicate a lack of systematic data collection, planning, and financial control. Únicamente las necesidades de insumos o equipamiento médico son atendidas.

2. Only medical device or supply needs are addressed.

In ESE Pasto Salud's Red Norte, in Colombia, there is an annual procurement plan for allocating the budget. Health personnel is consulted regarding the resources needed in order to provide services. The needs are shared with the warehouse, and it is an open process based on professionals' requests for materials and supplies.

3. The network does not have the autonomy to use resources according to its needs, and the budget is structured at the central level.

In the IMSS-Prospera network, part of the budget has to be approved by the lower chamber of the legislature, and its management is centralized at the state office level, which occasionally leads to disconnects, since the network has no power to make budgetary decisions outside of day-to-day operations. ***"The resources are managed by the IMSS—Ordinary System, and they come from federal categories 19 and 12. They reach the state level already earmarked for medications, travel expenses, infrastructure, and training. The allocation is based on past budgets, and resources can be transferred between categories" (FLD 01).***

7. Economic incentives for working as a network

Health networks should have incentives for achieving the network's goals, for integrating its different participants and levels, and for providing services at the most appropriate and cost-effective point for users (PAHO, 2007). Research has also shown that proper incentives encourage professionals to collaborate, participate, and engage in integrating the network (Suter *et al.*, 2009).

Notably, the Brazil, Colombia, and Mexico networks do not have explicit incentives policies for working as a network. This is an area of opportunity for them, as no incentives encouraging coordination between the different care levels or work as a network were reported.

The Santiago del Estero network is a special case due to the participation of the REDES Program, which incentivizes work as a network through area-based projects prepared by the provinces and based on their assessment of the current situation. There are financial incentives for reaching goals for a range of indicators selected by the provinces (Box 5.1). The network's goals revolve around improving care for the population and improving clinical management processes (for example, setting up systems for scheduling appointments) or health management processes (like implementing referral and back-referral systems) (Inter-American Development Bank, 2016; Cejas, Péné, Macchia, & Ferrante, 2016).

BOX 5.1.

The REDES 2 Program

The second phase of the REDES program aims to provide greater support to the Primary Health Care Strategy and help strengthen the Integrated Health Service Delivery Networks. This phase of the program has different incentives for working as a network:

- Enhance operational coordination between REDES, the SUMAR Program, and the National Cancer Institute (between different levels of care).
- As goals for processes, get areas to implement quality processes to systematically register, classify, and monitor the population they serve.
- Test out a mode of operating based on accrediting primary care centers for quality of care and integrated operation with other care levels and health services.

However, in Santiago del Estero, interviewees were unaware of the REDES program incentives. By their accounts, the only incentives for working as a network are the REDES Program trainings. In other words, the incentives for working as a network are linked to federal programs like REDES and Sumar, but the network's participants do not necessarily see them as incentives.

It was unclear to officials in ESE Pasto Salud's Red Norte that existing incentives (based on personal performance) aim to encourage coordination between providers, centers, or professionals. The expectation is that verbal or written messages or congratulations will motivate joint work between the network's different participants and professionals.

In Mexico, all regulations are established by the IMSS at the federal level, so there are no initiatives associated with meeting the program's objectives or encouraging joint work as a network: ***"The hospital does not have its own incentives. Those place are from the institution, for getting to work on time, for example. It has rewards for good performance for doctors and nurses. There is currently a merit-based reward for nurses worth 5000 pesos. To earn it, they have to meet several requirements, most important of which is providing quality treatment to patients" (SCN 01).***

Lastly, the Brazil network has no incentive for developing work as a network. However, a manager says that ***"the discussion about creating incentives for working as a network has been opened, and there are plans to use incentives for health teams that achieve the proposed indicators" (CLD 05).***

Given the networks' current context, it is difficult to imagine a scenario in which the different levels of care become truly integrated and coordinate their work without proper incentives for achieving the network's goals.

8. Conclusions

The countries in this study typically have fragmented public funding models, with different funding sources and ways of collecting resources. Resources are channeled to the networks in this study based on national schemes, sometimes using parameters established by law and regulations, or sometimes adjusting past amounts, but not necessarily based on needs expressed and identified by the networks' participants, and without adjusting for the population's risk. There is also a widespread perception among the four networks that not enough resources are allocated to PHC and that it is chronically underfunded. The funding is out of sync with the model of working as a network and is still based on care or political/administrative levels. Thus, community services and social needs go unfunded.

Researchers did not find funding for the networks themselves in the cases studied because the budgetary model centers on funding the different levels of care separately. While there is shared funding in networks part of federal programs (like Mexico's), centralized management makes it so the network's specific needs are not taken into account.

Policies that incentivize working as networks are needed in order to achieve integration and reach goals. These policies should be sound, clear, and widely circulated among the networks' managers, care levels, and operational parties to prevent disagreements or multiple interpretations of the incentives by the networks' different participants and to achieve the desired impact.



CHAPTER 6.

THE MANAGEMENT MODEL



CHAPTER 6.

THE MANAGEMENT MODEL

Cintia Cejas, Irene Santilli

1. Introduction

“Health management” refers to people’s ability to channel and organize resources to meet specific objectives associated with delivering better health services. It is related to art, to building, to consensus-building, and to organizing resources to make full use of them. Management models have certain universal strategies, patterns, and evidences, but at the same time, each model takes its own shape in response to its geographical, cultural, and institutional context.

According to the PAHO (2010), an IHSDN’s management model is essentially a function of its level of complexity (type of healthcare establishments, the existence of referral centers, ownership of the centers, funding model, etc.). More complex networks, which are generally larger, need organizational designs that center on delegating decision-making power and greater coordination between participant organizations.

As Lega (2007) asserts, integrated organizations should be designed according to their needs, which are determined by factors both within and outside of the organization itself. Important external factors include health regulations, funding mechanisms, competition, health policy, and citizen expectations. Important internal factors are the organization’s size (both in terms of number of employees and population served), type of services offered, and geographical scope (to either concentrate services for urban areas or decentralize management in rural areas).

Given these premises, this chapter aims to explore certain key aspects of the management models of the different health service networks in this study. It analyzes the main mechanisms for organizing human resources, the options for motivation and incentives, their leadership and coordination, as well as support systems (information, logistics, etc.).

2. Leadership and organization

Inherent to the concept of network are constituent organizations that establish connections with each other. These connections materialize in network strategies ranging from ownership to coordination agreements, as described by the integration scale proposed by Ahgren and Axelson (2005). The strategy defines a network’s organizational model, its decision-making structure, and how the services it provides are coordinated and supervised.

Before further analyzing how each network is organized, it is important to note the role organizational structures and models play in the integration of care. Despite the extensive literature on organizational structures in the field of management, evidence suggests that organizational changes do not imply more integrated care (Burns & Pauly, 2002). Similarly, integration at the corporate or director level (creating a single, overarching leadership body for the network, for example) has no correlation to the integration of care levels (Kautz, Gittel, Weinberg, Lusenhop, & Wright, 2007).

Argentina’s network structure consists of PHC centers and two general hospitals (with 504 beds). The primary care centers are owned by the Provincial Ministry of Health, although some are under the authority of the Municipality of the Provincial Capital. The hospitals are run by the General Directorate of Health Service Coordination, also called the Medical Care Directorate, which is controlled by the Health Secretariat, which in turn is under the authority of the Ministry of Health. Each type of center has a different governing body, but there is no network director position.

Very few medical professionals and other healthcare workers participate in the bodies governing the management of the organizations in the Argentina network. Formal and systematic spaces for coordinators from all the network’s healthcare establishments to meet are limited

to certain coordination meetings between the Medical Care Directorate and the managers of the network's hospitals, and between the PHC Directorate and the directors of the rapid response units.

In the Brazil network, the Policy and Organization Coordination Body of Fortaleza's Municipal Health Secretariat is responsible for the process of structuring the network. Other sectors also participate through a management support group (*Grupo de Condução*). The network coordination body is part of the formal structure of the Municipal Health Secretariat and is recognized by other managers as the structure responsible for managing and organizing the network.

The coordination body includes other divisions responsible for integration between primary care level and more complex services, such as those in charge of primary care, specialized care, and care for chronic conditions. This coordination body also ends up taking on the role of dialoging with and integrating the services associated with other levels of government (state and federal).

The network serves the entire geographical area of Fortaleza and centers on one chronic disease: diabetes. There is a general coordination body and regional and local councils (with a participatory role), but it is very fragmented, and a single leadership body that is known by all the parties has not been set up. Additionally, the network lacks a space for coordinators of the participating services to meet, with the exception of the primary care units.

In the Pasto Salud network in Colombia, the state-owned social enterprise is organized by geographical area into four directorates (north, south, east, and west). The Red Norte studied in this book is internally organized based on professional distinctions between levels of care. The network's nodes are very unique because although care centers belong to the state-owned social enterprise and are therefore public, they mostly provide services to patients insured by different private entities (HPC).

There are meetings and commissions that provide formal opportunities for exchange between the network's operational director and primary care units. These spaces are used for training, presenting progress in the network's results, and creating plans for improvement. The Red Norte is not a complex network and has no direct coordination with professionals at secondary or tertiary hospitals, since each institution is independent and care is brokered by the HPC.

The Mexican network is centralized and tied to a national program, so it has hierarchical leadership at the central level under which the state, regional, hospital and zonal levels operate. The main role of the last two levels is to manage and administrate resources, making arrangements with other health sector subsystems to ensure continuity of care. This helps enhance patient referrals, especially in priority programs like maternal health. At the local level in rural hospitals and rural medical units, management staff, along with community networks, make arrangements with local authorities (municipalities) to obtain the supplies and resources they need, mainly through support agreements for the services.

Despite the centralized, vertical, and hierarchical nature of the formal structure, researchers identified horizontal networks within the organization of the services. These include coordination with the community volunteers network, which focuses on community services and is the most important link between the organization and families.

3. Motivation and incentives systems

For incentive mechanisms to be effective, they must provide a "reward" for reaching a goal, and the agent (individual or group) must consider that goal attainable. Incentives are usually ineffectual if the value of the reward for the probability of reaching the goal does not at least equal the effort that must be expended to do so.

The classic systems for paying health professionals are fee-for-service, capitation, and fixed salary or compensation. Meanwhile, the most common incentives are centered on concepts like results, performance, quality, or objectives, and, with some variations, are based on setting goals, monetary and non-monetary incentives, and monitoring and evaluation systems.

Their aim is to promote better care, compensating professionals for achieving predefined care goals. The most well-known model is called “pay-for-performance” (P4P), and its key variables are: quantity, type of objectives, how activity or results are measured, and how it is combined with other non-financial incentives. This type of incentive helps improve processes, but there is no conclusive evidence of its effect on health outcomes (Mendelson *et al.*, 2017).

The main goal of a pay-for-performance scheme is to improve the quality and productivity of the services health workers provide to the population. The higher productivity resulting from pay-for-performance improves health outcomes and increases quality, efficiency, and user satisfaction with the health system (Mendelson *et al.*, 2017). And in the context of integrated networks, the purpose of incentives is to promote coordination between participating organizations and units.

Interviewees in the Santiago del Estero network (Argentina) see the productivity-based financial contributions offered by national programs⁵ as a motivations and incentives policy. In this network, 85% of the health service facilities consulted said they were authorized to give incentives to their staff. At the primary care level, the incentives from the National Nacer-Sumar Program are monetary, and the ones from the National Redes Program take the form of equipment, uniforms, building repairs, etc. At the secondary level, monetary incentives (bonuses for reaching objectives, for example) are mentioned. Training is the network’s most common non-monetary incentive. The incentives are not set up to promote coordination, with the exception of management training courses which, directly or indirectly, are considered to help improve the network’s coordination capabilities.

The Fortaleza network does not have a financial incentives policy either, although some managers said they were beginning to discuss developing incentives to get teams to achieve the proposed indicators. The coordinators of the primary health care units mentioned the existence of incentives based on how far the personnel has to commute and social risk to workers, but they are not specific to the network in question. No incentives for developing the

network were found for specialized services either. The Centro Integrado de Diabetes e Hipertensão (CIDH) has its own incentives tied to training and call numbers. Certain steps to promote good performance were also identified (participation in conferences, for example), but the interviewees say it -is obsolete, inadequate, and not considered an incentive.

The Colombia network has a motivation and incentives policy for professionals. However, most interviewees think that the incentives for work done are nonexistent or unclear. National regulations require every health institution to have a funded incentives plan. This led to the launch in 2016 of the “Everyone’s Job” strategy to incentivize health talent (in adherence to article 193 of Law 100 of 1993, and Law 1164 of 2007). This policy is developed by the Social Wellbeing Committee, which establishes the criteria for creating incentives institutions’ human talent. The incentives are worth up to 5% of workers’ pay and often include support for refresher and continued education courses, trips, recreational plans, or gifts on specific days, among others.

The network in Mexico is subject to the IMSS guidelines. This means incentives are established at the institution’s central level and consist of a monthly payment for punctuality and attendance, which is added to salaries. This has led its employees to see it as part of their income rather than an incentive, and it is also only given to permanent employees. These incentives are unrelated to meeting the program’s objectives or to the staff’s performance. ***“The incentives available to staff are the ones the IMSS gives annually for attendance and punctuality. There are also rewards for social workers, nurses, and medical personnel, the rules for which are governed by the IMSS”*** (FLD 01).

⁵ Programa SUMAR y REDES, principalmente.

4. Information Systems*

According to the PAHO (2010b) position paper, an integrated information system is one of the essential attributes of IHSDN. Such system should help connect all members of the network and provide information that is detailed enough that it can be used to plan all levels of health services, now and in the future. Additionally, to coordinate care, there needs to be an integrated (or at least interconnected) information system providing details on people's health status and use of health services.

This attribute takes different forms in the cases studied. For example, the network in Argentina does not have one single information system that links up all the healthcare establishments, which is the case in most of the country's provinces. The Ministry of Health has a system for collecting information—which consists of a form for recording certain non-digitalized data—and there is an epidemiological emergency system. On the other hand, there are multiple information systems associated with different national care programs, some used by the services and others by the central government.⁶ As for patient information at the secondary level, only one hospital covered by this study is starting to implement electronic health records, and the administrative personnel and doctors are being trained to use it.

In Brazil, the information systems of Fortaleza's Municipal Health System network feed into the information systems managed nationally by the Ministry of Health. Electronic health records (EHR) were implemented at the municipal level in the networks' primary health care units and are currently being expanded to new units, although they still need to be adapted so they can be integrated into the system. Also, professionals need to become familiar with EHR, and certain additional resources for effectively implementing them are still lacking.

Even though most of the SUS's information is digitalized, the networks do not have a single information system that connects all the units (information is still fragmented by level of care).

Each service (federal, municipal, or state) uses its own systems to meet its demands. The study only found one instance of electronic health record integration—between one of the network's primary care units and the Hospital Universitario—which made it easier to provide care to patients using those services.

Colombia has the Comprehensive Social Protection Information System (SISPRO), which holds data from all health institutions nationwide. SISPRO is a data warehouse that stores the information needed to create indicators and reports. The data is from sources inside and outside of the Ministry. The Red Norte gathers information on service delivery using a digital tool called an Individual Service Delivery Record (RIPS), and it has records on health promotion and public health programs.

There are two information systems for linking up to the national system: the Health Operations Information System (SIOS) for managing the clinical, care, and financial activity associated with a patient, and the Managerial Information System (GENOVA), which is a specialized, integrated, modular system for accounting and financial administration.

Within ESE Pasto Salud, all the networks are interconnected, providing information on their users in rural and urban areas. Doctors, nurses, community organizers or workers, and administrators from all centers in the network have their own profiles for logging into the information system. But while information on the patient's medical history is stored in the network's information system, there is no connection with the information systems of other institutions providing more complex services.

The case studied in Mexico has a single information system for the entire IHSDN called the SISPA Information System. The system records data on all service delivery actions, like the population served, appointments, community actions, and others. ***“Records are kept manually in a “daily log” using a tally system, and every month a synthesis of the results is prepared. Recently, a change in how files are kept was***

*See [Chapter 9](#).

⁶ SUMAR records system, SMIS (stock management), RITA (tumor registry), SITAM (cervical cancer screening), SIP (perinatal information system), SISA (integrated health information system).

requested for “accreditation” purposes. Now there is one per member. They separate them by type of disease, by program, not by numbers” (PLN 01).

There is now one file kept per person. The files are classified by type of disease or by programs, not by clinical file numbers. Since there is no electronic medical file system, health units have a family folder containing a printed medical file for each beneficiary of the IHSDN. The network is currently transitioning to a system of one file per beneficiary instead of family folders.

There is recognition that a good flow of information is key to managing patients in an organized way in the network. Steps should be taken to provide the appropriate infrastructure so the necessary information systems can continue to be implemented.

5. Human resources

The backbone of a health organization is its people, its human resources. There must be enough professionals with proper training and in the right places to provide optimal services to the population and achieve the best health outcomes. According to the WHO (2010) the performance of healthcare systems ultimately depends on the knowledge, skills, and motivation of the people in charge of providing the services.

The network in Argentina has a Primary Care Operating Manual with job profiles. It describes the activities and skills of each of its members, as well as the vision and mission for primary care. But while job profiles are usually defined by the centers, staff is hired and assigned by the Provincial Ministry of Health, and primary care center directors do not participate in the hiring process or the process of matching profiles to needs. No explicit and mutually agreed upon hiring criteria were found in this network. The ministry is also in charge of staffing the regional hospital. In short, the network has a traditional human resources model with centralized hiring.

This network did not mention a lack of human resources at the primary care level, although a few key participants commented on limitations and poor distribution of professionals at this level. But interviewees unanimously said there are not enough specialists at the secondary level, pointing to problems with doctors moving to

other provinces after doing their specialization and moves within the network from secondary care to primary care. These moves happen because of the lower demand for complex care and the better hours at the primary care level. This situation also leads to imbalanced pay because doctors providing secondary care earn the same as primary care practitioners but have greater responsibility. The existing training opportunities are part of national initiatives, but at the network level they are not systematized into a general plan. However, there are limited initiatives for joint training activities⁷ between the different levels. Knowledge is transferred from the secondary to primary level through training on how to handle people with diabetes at the primary care level, for example.

In Fortaleza, managers at the Health Secretariat say there is a shortage of human resources, especially nurse technicians and community health workers. Also, the professionals do not have the right profile, since the program entails changes in hiring criteria. Interviewees from specialized services stated that the professionals generally have the skills needed to do their job, but there are too few of them. There is no clear criteria for hiring professionals who work in the network; it is unclear which skills are evaluated when hiring a new professional for the team. Furthermore, performance evaluations are not systematic and can vary from one service to another.

There are various continuing education initiatives for professionals in the network, in partnership with educational institutions. One is a specialization course offered with the Escuela Estatal de Salud Pública de Ceará. Its content is defined by the Municipal Health Secretariat and the networks project consultants. The course is mandatory for all primary health care unit managers and has a problem-based learning methodology and hands-on activities. The actions defined in the course are discussed with the management group and supported by regional authorities.

Most of the organizations hold training, but not in a regular or systematic way. Hospital Universitario Walter Cantídio and the CIDH, for example, organize educational activities for primary care (*matriciamento*), and there are different

⁷ Some of these can be seen at: http://www.msal.gob.ar/?option=com_bes_contenidos.

initiatives for promoting understanding between professionals at different levels.

The ESE Pasto Salud has a job descriptions handbook for all its networks that lays out the profile and experience each professionals should have, in accordance with national regulations and as a requirement to be authorized to provide services. The Municipal Health Secretariat, for its part, monitors and evaluates the different programs. One aspect it reviews is compliance with the requirements for the profiles and skills of the people performing the activities. In the Red Norte of ESE Pasto Salud, staff is assigned and hired according to demand for services from the population and according to service delivery standards to ensure their competence.

The network has two types of evaluations required by national regulations for the public sector. One is a job performance evaluation system for career government officials and officials currently in a trial phase. This evaluation is carried out twice a year. The other is a job skills evaluation. Forms for each hierarchical level have been designed for this yearly evaluation. The first is an employee skills evaluation form used to analyze evidence from a person's work experience in terms of formal education and other training. The second form is a staff skills evaluation using the 360° methodology, which involves a self-evaluation by the worker, as well as evaluations by a direct supervisor, a coworker, and a client. If the employee receives a low score, an improvement plan is created.

As part of ESE Pasto Salud, the network has an Institutional Training Plan that in 2016 received 0.1% of the total budget. The aim of the training plan is to share clinical management protocols and guidelines, the institution's processes and procedures, and the new legal frameworks governing some of the services' activities, among other knowledge. The training plan is carried out through monthly activities.⁸

⁸ The topics covered are chosen based on staff needs evaluations conducted by the ESE. Topics in the 2016 training plan included: the health service delivery policy, international goals, and instructional packets; the Audit Program for Healthcare Quality Improvement and Accreditation; users' rights and responsibilities; the code of ethics and good governance; the adverse event management methodology; the patient safety policy and program; the Failure Mode and Effects Analysis (FMEA) method; the protocol for handling chronic medical service users; the referral and back-referral manual, and the clinical guidelines (Pasto salud, 2016).

ESE Pasto Salud has a structure for continuous improvement: an Improvement Committee consisting of the manager, assistant managers, and operational directors. This committee is in charge of evaluating and setting improvement strategies, sharing them at the operational level, and implementing them. ***“An example of improvement is implementing the humanization policy. Although progress is modest, clear rights and responsibilities have been established for both users and internal staff, and metrics have been used to monitor the policy's application”*** (PCD 03).

In the case of the rural network in Mexico, human resources are hired according to IMSS regulations. Doctors at rural medical units must be licensed doctors or doctors doing their year of obligatory medical service before receiving their license. Nursing staff must be from the area and chosen by the communal assembly. Most specialists at the rural hospital are residents in their final year of training in pediatrics, gynecology, internal medicine, surgery, anesthesiology, or family medicine, and they come from hospitals in the regular IMSS system (services that treat people covered by IMSS because they have social security). The number and profiles of staff were established at the start of the program in the 1980s and have remained the same since, so the rural hospital is short-staffed, especially in gynecology, surgery, and internal medicine. There is only one resident doctor position for each specialty.

The management of both resident doctors and unlicensed doctors doing their social service is based on their own choice according to the criteria of the university or specialization programs in question. Choices are based on the main conditions treated at the hospital and are influenced by the opportunity to practice a certain technique or procedure, and in some cases, by proximity to the professional's home. Because there may not be a position that matches their profile, professionals accept a type of contract for which they are overqualified and therefore receive pay that is much lower than they deserve, which discourages them. Likewise, at the rural medical units the assistant nurses who work more in the community feel they receive less recognition than general nurses, despite having a more taxing job.

6. Support systems

Logistical support systems are a set of systems and tools that support the healthcare network. They allow integration between care facilities and help provide an integrated continuum of care for users. They include the information and communication system (analyzed above), the network's user identification systems, electronic health records, access control stations, medical transportation—for patients, professionals, biological materials, and supplies—and management of the supply chain for medications and other supplies (PAHO, 2010). In the case studies, analysis centered on two key issues: adequate supply of essential medications (relationship with suppliers and delivery to patients) and transporting patients in emergencies (coordinating emergency transportation, moving patients to centers with emergency care).

In the Argentina network, access to essential medications for primary care is guaranteed by: a) the National REMEDIAR Plan, which distributes kits of medications directly to primary care centers, and b) the Provincial Ministry of Health, which supplies medications not included in REMEDIAR and also has a new stock control system that ensures their supply. The network implemented technologically simple ways (text messages) to provide support or confirmation for shifts and appointments and to share information on prevention activities. These processes, although limited to certain specific medical conditions, add value to the network as a whole and the set of factors at play. As for transporting patients in emergencies, all primary care centers have the capacity to move a patient to a more complex center in less than an hour. Almost none of them have their own ambulance, so the provincial government's ambulance service is always used to transfer patients.

In Fortaleza, SUS users identify themselves using their National Health Card, so they can be recognized in all services. This allows the creation of a database on services used, procedures, and personalized health information.

Medications for PHC are funded by the three levels of government (municipal, state, and federal), in accordance with their agreement with the SUS. The data collected in the case study revealed supply interruptions and unavailability of some medications on the list, due to a shortage of funds and poor solutions from

companies. The state health secretariat and the federal government are responsible for high-cost medications and those used for strategic programs. In this area, there is a significant number of requests for the supply of medications through court appeals. These are often redirected to the Municipal Health Secretariat, leading to a high volume of expenses.

The primary health care units and referral hospitals do have an access control system. The Fortaleza Municipal Health Secretariat has a computerized procedure regulation center for structuring the networks. The Tests and Appointments Records Service subcontracts a company to keep records of appointments at the secondary level. The primary health care units have medical transportation for home visits, among other activities. Patients are transported from primary care units to more complex centers by the municipality's Emergency Mobile Care Service, which determines the level of emergency and where to take each case by telephone. According to interviewees, these transfers take more than an hour.

In Colombia, the network's professionals are aware that they can use the Health Operations Information System (Spanish acronym: SIOS) to obtain information on people who receive any type of service. A user's identification document number can be used to track the user from anywhere in the network according to the health program they are associated with.

For referrals to other levels of healthcare, if the referral is made from the outpatient service, a form is filled out in the information system and shared with the patient's HPC, and they then make the referral to the appropriate specialization. When the patient is referred from emergency services to more complex hospitals, the user care office coordinates directly with the hospital or informs the departmental Emergency Dispatch Center to ensure they receive the service. In both cases, the network's information system can generate monthly statistics on the appropriateness and timeliness of referrals. Information on the patient's medical history is available through the network's information system, but, as mentioned previously, there is no connection with the information systems of other more complex institutions, and there is no interaction between professionals at different levels of care either.

The network in Mexico has an administrator position at both the state office and rural hospital for coordinating all logistical functions, but the doctor and nurse do this job at rural units. The rural hospital requests supplies and medications using an annual projection based on the previous year. There is a catalog of medications, and they make special purchases when required. The pharmacy staff controls the batch of medications and helps use them up before their expiration dates, in accordance with the Refillable Prescription Program⁹ and rational prescribing principles.

The zone's supervisory team provides logistical support to the rural medical units, and each visit they bring supplies and medications (whether purchased from suppliers or redistributed from another unit's excess supplies). For requesting supplies and medications at the hospital level, an annual projection is made, with monthly distributions. There is also a catalog of medications. Rural medical units have a basic set of medications, which are kept and documented by the unit's director. A requisition is issued each month based on past consumption. Under current regulations, the network is responsible for supplying users with the institution's core set of medications (essential medications) free of charge. However, interviewees said these medications are only available 70% to 90% of the time at the node covered by this study, so sometimes users have to buy them out of pocket because they are not available.

There is no service for transporting patients from rural medical units to the rural hospital, even in emergencies, because this node does not have ambulances for transporting patients between its healthcare units. To fill this gap, the network makes agreements at the local and regional level with municipalities to use private or municipal vehicles to transport patients to the rural hospital at no extra cost to them. It takes approximately 45 minutes to transfer patients from rural medical units to the rural hospital. The rural hospital has an ambulance that is only used to transfer patients to other hospitals when they need a more complex service due to the seriousness of their condition.

As for the availability of technology, the rural medical units, regional teams, and rural hospital communicate with each other by radio. There is internet access at 86% of the rural medical units, but the service is very poor because it cannot be used during most of the workday. The rural hospital has internet access, but only for institutional sites and intranet.

7. Conclusions

Healthcare service networks can be managed in a way that ensures the services offered match the population's needs. This management approach should make it easier to use different strategies to identify needs and to adapt services to the epidemiological, social, and cultural profiles of the population served by the network. This leads us to various aspects analyzed in this chapter: networks' modes of leadership, the design of the chain of command for organizing resources, how goals are set, and how people are given incentives to achieve the networks' objectives.

The cases in this study seem to replicate the health systems' standard hierarchical pattern, although innovative organizational structures are starting to emerge. Where the four networks differ is in their degree of formality when involving network participants in resource planning, and with regards to achieving goals. Some networks still operate by reacting to demand and show very little proactivity and flexibility when faced with new scenarios, a weakness that could be attributed to culture, a shortage of human resources, or pre-existing bureaucratic financial and administrative structures.

The information gathered in the study shows that networks are just beginning to apply outcome-based goal setting and monetary incentives, and this could be connected to the weak and fragmented information systems for monitoring information and tracking progress towards goals. Middle managers are not able to identify "network goals" beyond those for their own services, which debilitates the coordination of care. Additionally, key participants identified that external incentives from national authorities may be designed with a single process established for all provinces in mind, ignoring the context of provincial systems and their laws.

⁹ The National Refillable Prescription Program gives patients with chronic diseases 3 fillable prescriptions, one per month, at a single appointment in order to decrease the number of appointments they have each year.

As for nonmonetary incentives, some networks had incentives for human resources connected to building their skills or giving them better working conditions (equipment for services, supplies for work, etc.), but it is questionable whether this can be considered an incentive, since providing the necessary work tools is actually to be expected.

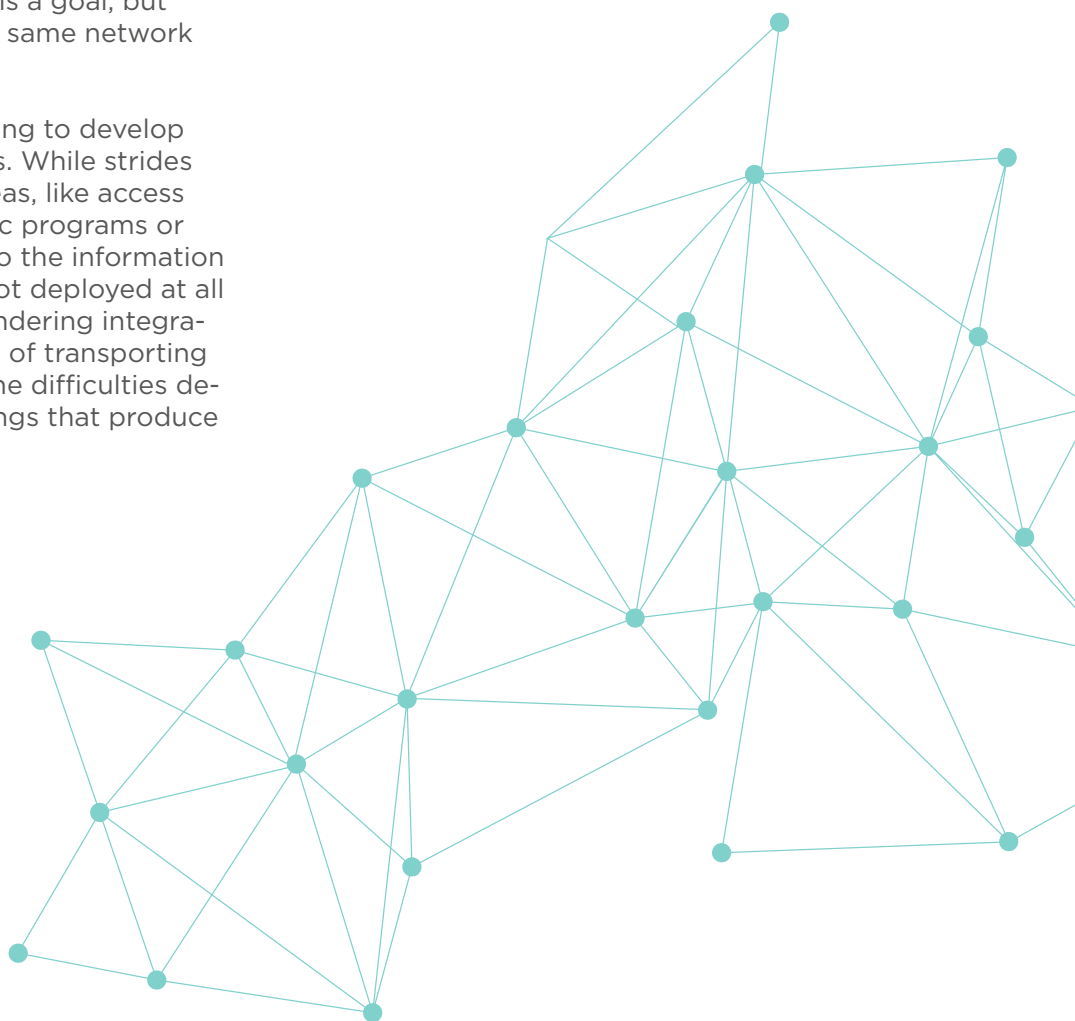
All networks incorporate evaluations, at least in their design. Colombia's 360° method is an interesting approach involving a self-evaluation by the employee, as well as evaluations by a direct supervisor, a coworker, and a client. The consequences of the result of these evaluations cannot be deduced from the study. In all four networks, incentives policies, just like goal setting, are focused on the services themselves rather than on encouraging health care coordination.

The information systems of the four networks are at various stages of development. It is clear that achieving a single system is a goal, but multiple systems coexist in the same network of services.

All four networks are just starting to develop their logistical support systems. While strides have been made in specific areas, like access to medications through specific programs or recording information to add to the information systems, these initiatives are not deployed at all the networks' care facilities, hindering integration and coordination. In terms of transporting patients, each network faces the difficulties described above, with shortcomings that produce delays.

As for training human resources, while training is continuously offered, there are differences between the cases studied. The training can be offered through national programs and center on specific types of care, as is the case in Argentina; in coordination with universities, as occurs in Brazil; or as an Institutional Training Plan, like in Colombia. It would be advantageous to foster shared training opportunities for professionals from different levels, using the training to promote coordination.

Based on the different aspects of the networks' management covered in this chapter, it can be concluded that each of the four networks are more or less at the beginning stages of development and continue to face challenges.







CHAPTER 7.

THE CARE MODEL

CHAPTER 7.

THE CARE MODEL

Hortensia Reyes Morales, Clara Juárez Ramírez, Ricardo Pérez-Cuevas

1. Introduction

This chapter uses the framework for analyzing the IHSDN care model for the four countries in this study and considers the specific context of each of networks. The chief elements analyzed are: population and geographic area, focus on PHC, care model, services offered, reorientation of hospital services, and evaluation. This overview of PHC-based network models is particularly useful because it gives information on the situation of local health systems, which makes them easier to understand and helps identify potential improvements.

2. Population and geographic area

The four networks covered by this research serve people living in marginalized rural or urban areas, so the primary care units, as gateways to the network, are distributed throughout the network's area of influence.

The four networks are similar to each other in that they serve a population more vulnerable to health risks and problems. According to the guiding principles of IHSDN, health services should be adapted to the type of population that needs them, and they should be accessible both geographically and culturally. In terms of population served, the network in Argentina has the most people, followed by the Brazilian network. Regardless of the number of people served, Table 7.1 shows the type of users who seek services from the networks. In the Colombia network, for example, people uprooted from their territories by social violence make up a notable contingent of those seeking care.

Beneficiaries of the network in Mexico include indigenous people since it operates mainly in rural areas. These variations lead to certain unique features of how care is organized compared to other networks—for example, the need to hire interpreters as part of the health team. The network in Brazil centers on a specific condition and serves an urban population.

TABLE 7.1. Population and geographic area

| Network | Target population |
|--------------------------------|--|
| Santiago del Estero, Argentina | Network available to a population of 283,000 people. 55.9% of the province's residents have no social protection, social security, or private insurance. |
| Fortaleza, Brazil | The Condition-Specific Network for Diabetes Mellitus Patients serves an estimated population of 219,419 people, around 9% of the total population of the municipality of Fortaleza. |
| Pasto Norte, Colombia | The network serves an urban and rural population, as well as people displaced by violence. Of its 45,715 users, 95% have coverage through three private HPCs, and the remaining 5% without this coverage are insured by the Municipal Health Secretariat. |
| IMSS-Prospera Veracruz, Mexico | Network available to a population of 50,000 people. 54% of the population is below the extreme poverty line, 92.4% have no access to social security, and 44.2% are considered undereducated. It is a marginalized rural and urban population, the most vulnerable in terms of health risks and problems arising from extreme poverty. |

Source: Prepared by the authors

3. Focus on Primary Health Care

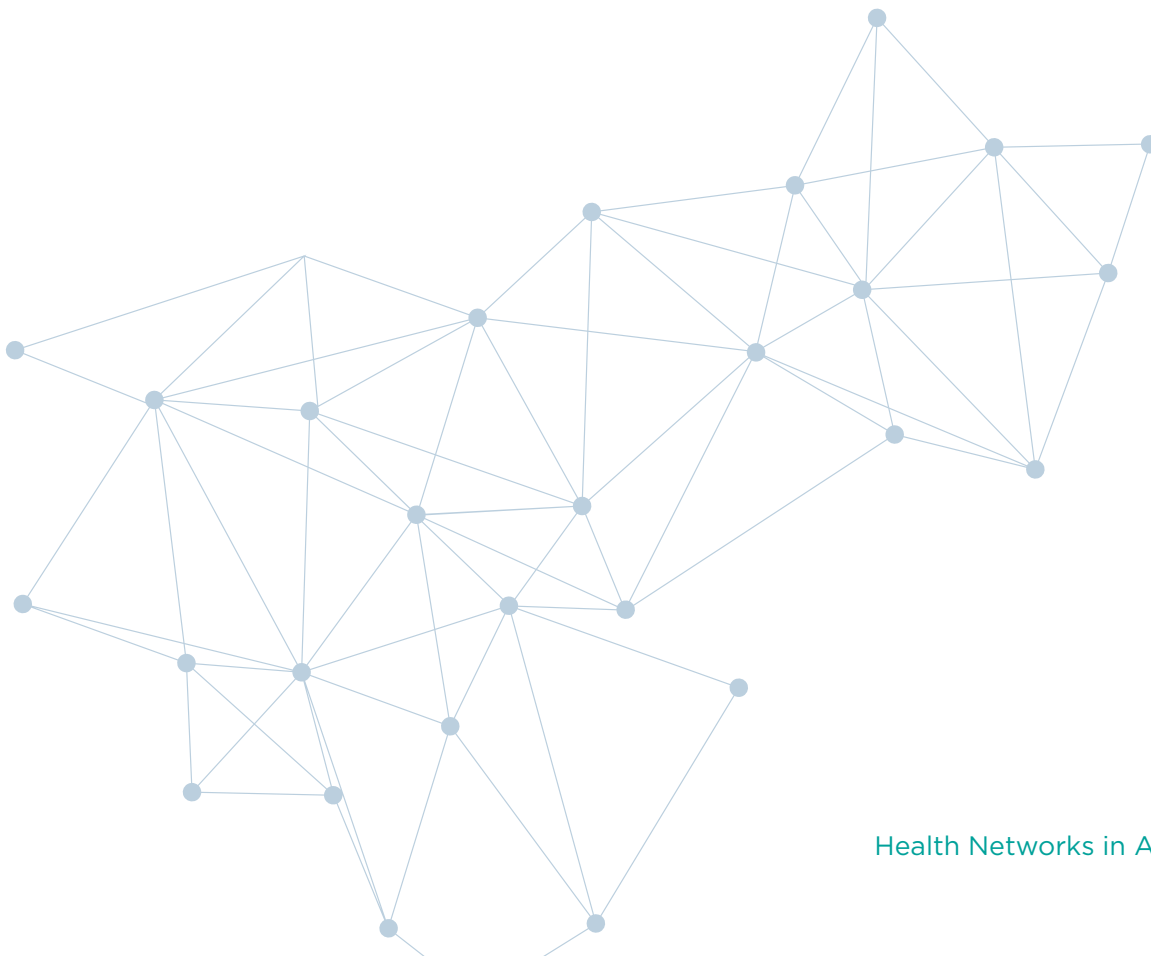
The IHSDNs' care models are all conceptually rooted in PHC. Through different models for delivering services, they strive for comprehensive care, emphasizing health promotion and disease prevention actions (see Table 7.2).

The values of the Argentina network are equality, efficiency, quality, and patient and worker satisfaction. With regards to equality, the care model is focused on the community and designed to ensure universal coverage and access to the highest level of health care possible. Solidarity and equality are its core philosophy, which is evident from its professionals' work and practical approach.

A salient feature of Brazil's model is its universal medical care system, where everyone can receive care for any condition, and there is no predefined set of healthcare services offered (Montekio, Medina, & Aquino, 2011) (see Table 7.3). Health care is provided to users regardless of the operational unit or system. Access to care is guaranteed at any of its units based on people's needs. PHC is organized into a primary care level, which is meant to resolve the most common health problems and be the basis for coordinating and providing care at all healthcare units.

In Colombia, the Red Norte has adopted a PHC model rooted in health promotion and disease prevention. It focuses on family and community health, care, and comprehensive risk management that is tailored to the different geographical areas and populations.

In Mexico, the IHSDN's operations are built on the Comprehensive Healthcare Model (MAIS). Its core focus is collaboration between the services and community, with an emphasis on preventing risks and problems. Based on three crosscutting principles (respect for human rights, gender equity, and an intercultural approach to health), this network promotes the participation of individuals, families, and groups in health actions, healthy habits, and environmental cleanup through the community network, which while active is limited in scope, considering the scale of the health problems related to these aspects in the area.



**TABLE
7.2.****Primary Care Model Framework**

| | Argentina | Brazil | Colombia | Mexico |
|----------------------------|--|---|---|---|
| Underlying concepts | <ul style="list-style-type: none"> Equality Efficiency Quality Satisfaction Focus on health promotion and prevention Community participation | <ul style="list-style-type: none"> Gateway to the system Personal and group health actions Multidisciplinary teams | Comprehensive Health Care Model: <ul style="list-style-type: none"> Family and community care Comprehensive risk management Care tailored to each population group | Comprehensive Care Health Model Crosscutting principles: <ul style="list-style-type: none"> Respect Gender equity Interculturalism |
| Key characteristics | <ul style="list-style-type: none"> Network defined by rapid response units Equilibrium between centralization/decentralization | <ul style="list-style-type: none"> Disease-specific network for chronic conditions PHC organizes the network | HPCs manage: <ul style="list-style-type: none"> Financial risk Technical capability Interaction with the rest of the health system | <ul style="list-style-type: none"> Joint action between services and community Emphasis on preventing risks and problems |
| Objective | Offer a comprehensive continuum of care that meets the needs of the target population. | Promote the systematic integration of health actions and services to deliver a comprehensive, quality, responsible, and humane continuum of care to improve the system's performance in terms of access, equality, medical effectiveness, and financial efficiency. | Prestación del servicio público de salud, como parte del Sistema de Seguridad Social en Salud, en el primer nivel de complejidad. | Deliver a comprehensive continuum of health services through the primary and secondary teams. Analyze local health needs to then engage in health-related prevention and education actions, including traditional medicine, new health technologies, and evidence-based care. |

Source: Prepared by the authors

4. Care model

The concept of IHSDN promotes a healthcare model based on outpatient (primary) and hospital care, with coordination mechanisms to ensure the continuity of care (Artaza, 2017) and a focus on patient-centered care.

While in general the four countries have not yet achieved comprehensive care due to the networks' organizational and structural limits, the services have made important progress towards patient-centered care: the IHSDN is the point of first contact and shows coordination and longitudinality (See [Chapter 9](#)). The care model of the four IHSDN makes PHC units the gateway to the health services, and sets them up as coordinators that ensure continuity of care and manage referrals to more complex services, with the exception of Argentina, where there are no hospitals exclusively assigned to the network. People can freely choose where to seek care in

all four IHSDN, although they usually go to the same facility because it is closer and cheaper to get to.

Brazil's organization involves the municipal, state, and federal levels, so continuity of care has to be guaranteed. In Colombia, due to the characteristics of the health system, the Red Norte provides primary care services, and if necessary patients are referred to another level with prior authorization from the HPC. In Mexico, the care model includes complementary services offered in mobile units, rural obstetrics centers, and CARA (family-planning services for adolescents) in areas near hospitals.

There are certain variations in the care models of the four IHSDN in this study, although in all of the entrance to the system is through primary care units that provide care and take actions at the primary level. In the network in Brazil, for example, people are also referred to specialty outpatient centers, leaving the secondary hospi-

tal for those who need hospitalization. In the Colombian network, patients have to be evaluated and approved by the HPC before being referred to a more complex level. In Mexico and Argentina, patients who need more complex care are sent to highly specialized hospitals (Figure 7.1). In this regard, each of the four IHSDN has its own referral and back-referral system. In some networks, these referrals are primarily informal—for example, personal contacts between professionals. Others follow internal regulations more strictly, but usually there is a mix of both ways of managing care.

5. Portfolio of services

The portfolio of services each network offers is different, both in how it is defined and in its content (Table 7.3). While the Argentina network does not have a mandatory set of services it has to deliver, in Mexico the services are precisely defined and care is prioritized based on national health programs and on causes of morbidity and

mortality. PHC is widely available, but hospital care is limited and primarily focused on obstetrical services. Meanwhile, Brazil's network is defined based on the population's needs and is mainly designed for chronic conditions, though there are services for priority programs like health care for children or pregnant women. In Colombia, the portfolio is defined according to the need for the service, the level of demand in a specific area, authorization status in the service provider registry, and the guarantee of sustainability.

Colombia and Mexico both have an explicit set of health interventions for everyone served at public medical units (Gallego, Becerril-Montekio, & Vásquez, 2011; Dantés, Sesma, Becerril, Knaul, Arreola, & Frenk, 2011). In the networks of Argentina's public system, each province defines the set of services it will offer, although some of the services offered are defined by certain specific programs, like SUMAR.

TABLE 7.3.

Portfolio of health services. Comparison between networks

| | Argentina | Brazil | Colombia | Mexico |
|-------------------|--|--|---|---|
| Definition | There is no mandatory portfolio of services to be provided, and each province is autonomous in its organization and defines the set of services it will offer. | Care for chronic conditions. All healthcare care units have a defined portfolio of services, although the criteria for offering them are not standardized. | The Compulsory Health Plan sets out a specific set of services. At health centers these are: general medical appointments, nursing, dental and oral hygiene appointments, and pharmaceutical services, as well as psychological and clinical laboratory services at some centers. The Hospital Civil also provides 24-hour emergency care and offers inpatient care, radiology and echocardiogram services, priority appointments, and specialized gynecology services. | Public Health Services with community actions. At rural health centers: general medical appointments, emergency care, and health promotion and disease prevention programs. At the Rural Hospital: ambulatory family care and appointments and hospitalization for general surgery, anesthesiology, pediatrics, internal medicine, gynecology and obstetrics; and emergency care, diagnostic support services, psychological care, and oral medicine. |

Source: Prepared by the authors

I Hours of operation

All the IHSDNs' PHC units offer regular service on business days (Monday through Friday). Their opening and closing times vary: 8 AM to 4 PM in rural Colombia and Mexico; and between 7 AM and 8 AM to 7 PM in Argentina, Brazil, and urban Colombia. No units are open nights or weekends. Referral hospitals in Colombia and Mexico offer 24-hour emergency care.

I Priority programs

The priority programs at all of the IHSDN focus on disease prevention, with an emphasis on certain conditions specific to each area and to each network's care model (Table 7.3). The most ubiquitous programs in Argentina are the REMEDIAR Program (access to medications), the REDES component of the same program (focused on chronic diseases), and the NACER/SUMAR plan (mothers, infants, and other vulnerable groups). (See [Chapter 5](#), Box 3.3 Updates on National Programs in Argentina).

In Brazil, there is a defined set of services for certain priority groups/diseases—children, pregnant women, and patients with diabetes, hypertension, and chronic kidney disease. The services have clinical guidelines for diabetes mellitus and hypertension, which complement the organization of care for people with these conditions. In the Colombia network, all PHC centers and the hospital have services for prevention and promotion programs, and they also offer vaccinations. Cervical cancer screenings are performed at three health centers and at the Hospital Civil. For addressing social problems, there are specific paths for interacting with other institutions to provide care for victims of child abuse and domestic violence.

In Mexico's IHSDN, local programs are prioritized based on the National Programs and on morbidity and mortality in the area. The top priority programs are universal immunization, monitoring the nutritional status of children under five, treatment for respiratory and diarrheal infections in children under five, comprehensive care for adolescents, cervical and breast cancer screenings, family planning, weight control and obesity, detecting and managing diabetes and arterial hypertension, mycobacterial infections, and vector-borne diseases. The network has gradually prioritized care for pregnancy, childbirth, and the postpartum period, forming agreements with other subsystems and a community network to address the serious problem of maternal death. Another priority program is for treating chronic diseases, with an emphasis on patients with diabetes and hypertension. The program includes prevention, screening, diagnosis, and follow-up, as well as management of both acute and chronic complications.

**TABLE
7.4.**

The networks' priority programs

| Argentina | Brazil | Colombia | Mexico |
|--|---|--|--|
| <ul style="list-style-type: none"> ● REMEDIAR Program: <ul style="list-style-type: none"> - Access to medications. - A comprehensive continuum of care for type II diabetes and hypertension. ● NACER Plan: <ul style="list-style-type: none"> - Coverage and financial protection for mothers and infants. ● SUMAR Plan: <ul style="list-style-type: none"> - Expansion to children and adolescents and to women up to age 64 with 400 priority benefits. | <p>Services for priority conditions for:</p> <ul style="list-style-type: none"> ● Children. ● Pregnant women. ● Diabetes mellitus patients. ● People with hypertension. | <p>Disease prevention and health promotion.</p> <ul style="list-style-type: none"> ● Immunizations. ● Pap smears. <p>Coordinated care for child abuse and domestic violence cases.</p> | <ul style="list-style-type: none"> ● Universal immunization. ● The health of children under age 5. ● Comprehensive care for adolescents. ● Early detection of chronic diseases. ● Care during pregnancy, childbirth, and the postpartum period. |

Source: Prepared by the authors

6. Reorientation of hospital services

Figure 7.1 sums up some of the attributes of the care models of the networks in this study. There is a quadrant for each country's IHSDN. The patients are at the center of the figure. The first concentric circle is for primary care, the second for secondary care, and the third for the most complex care. Based on information for each case regarding **organization, structure, and coordination**, the figure provides a visual representation of how patients access health services, as well as the path they follow to continue their care at more complex levels. Unidirectional arrows stand for one-way referrals, while two-way arrows show referrals and back-referrals between different levels of complexity.

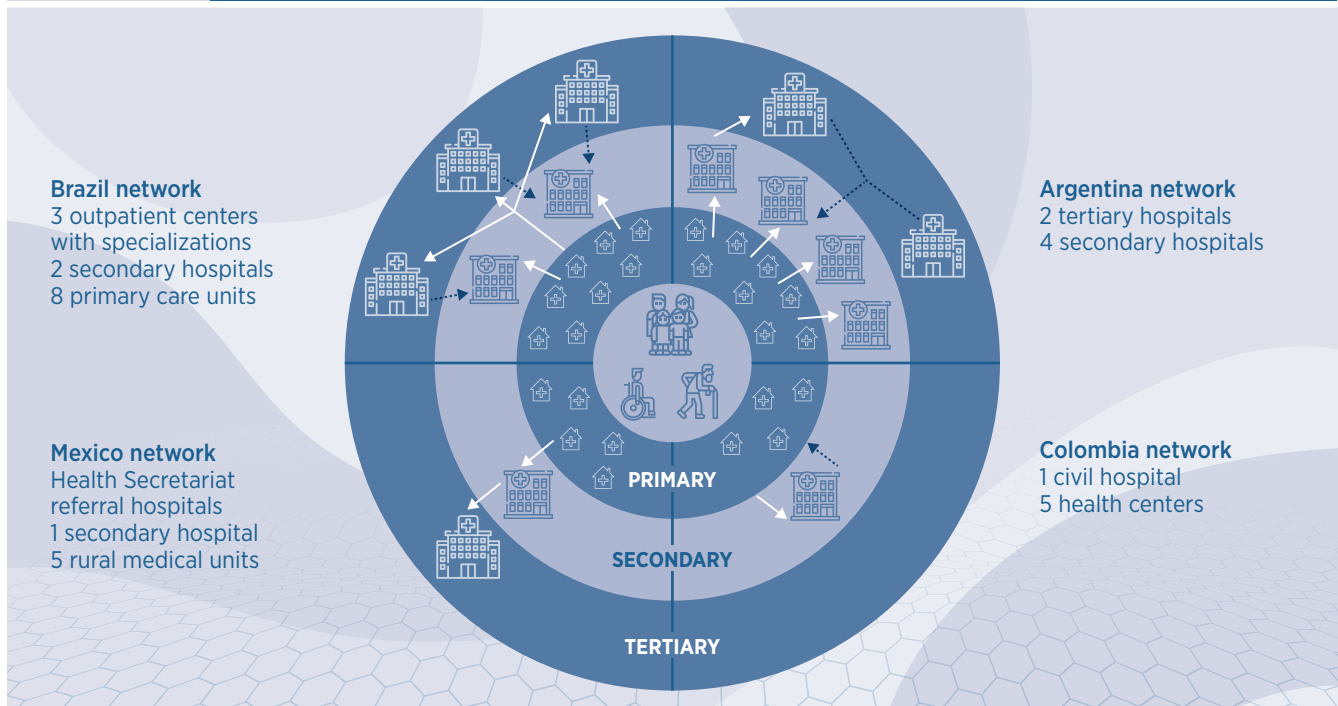
In terms of **organization**, the four cases studied have a similar structure and operate vertically. Only in Argentina do users have unrestricted access to the level they need without having to pass through rapid response units, and from the level where they initially seek care, they can be back-referred to the primary care level. In Brazil, PHC also has a coordinating role and has multi-disciplinary teams for treating patients. As part of this plan for organizing services, doctors from the **Mais Médicos** program participate in the care model. In Colombia's IHSDN, the HPCs play an important role in patients' access to care, since these entities evaluate each case and refer

patients to secondary or tertiary care, as appropriate, or to specialists for private appointments, since the network works by hiring specialists that are paid per event. In Mexico, the rural medical units are the gateway to care at different levels of complexity.

In terms of the **structure**, the IHSDN in Argentina refers patients from the primary level to four secondary hospitals (including a psychiatric hospital) and two tertiary hospitals. Brazil's IHSDN has eight primary health care units, two hospitals, and three specialist centers. Colombia has a civil hospital for handling straightforward cases, and it receives patient referrals from 23 health centers, including five in this study's network.

FIGURE 7.1.

Diagram of hospital services



Source: prepared by the authors

In the network in Mexico, the patient journey starts at the rural medical units. Patients with highly complex health problems that require advanced technology and enhanced treatment solutions are referred to tertiary hospitals run by other institutions, usually the Secretariat of Health.

In terms of **coordination**, in Argentina it was found that primary care centers and rapid response units manage referrals to hospitals, although any patient can access secondary or tertiary care directly. However, patients referred by the REDES program are given priority. There are informal networks for referrals via obstetrics groups on WhatsApp. In Brazil, patient access is managed at the municipal level, in line with the national regulations for the SUS. PHC managers coordinate care at all healthcare units involved to ensure continuity of care by following referral and back-referral protocols. There is a formal system for referrals to medical specialists. The Colombia IHSDN handles simpler cases, which means it does not have a direct relationship with other secondary or tertiary hospitals, although the back-referral system does not work well and continuity is lost. In Mexico,

the IHSDN encourages community participation to identify cases.

7. Conclusions

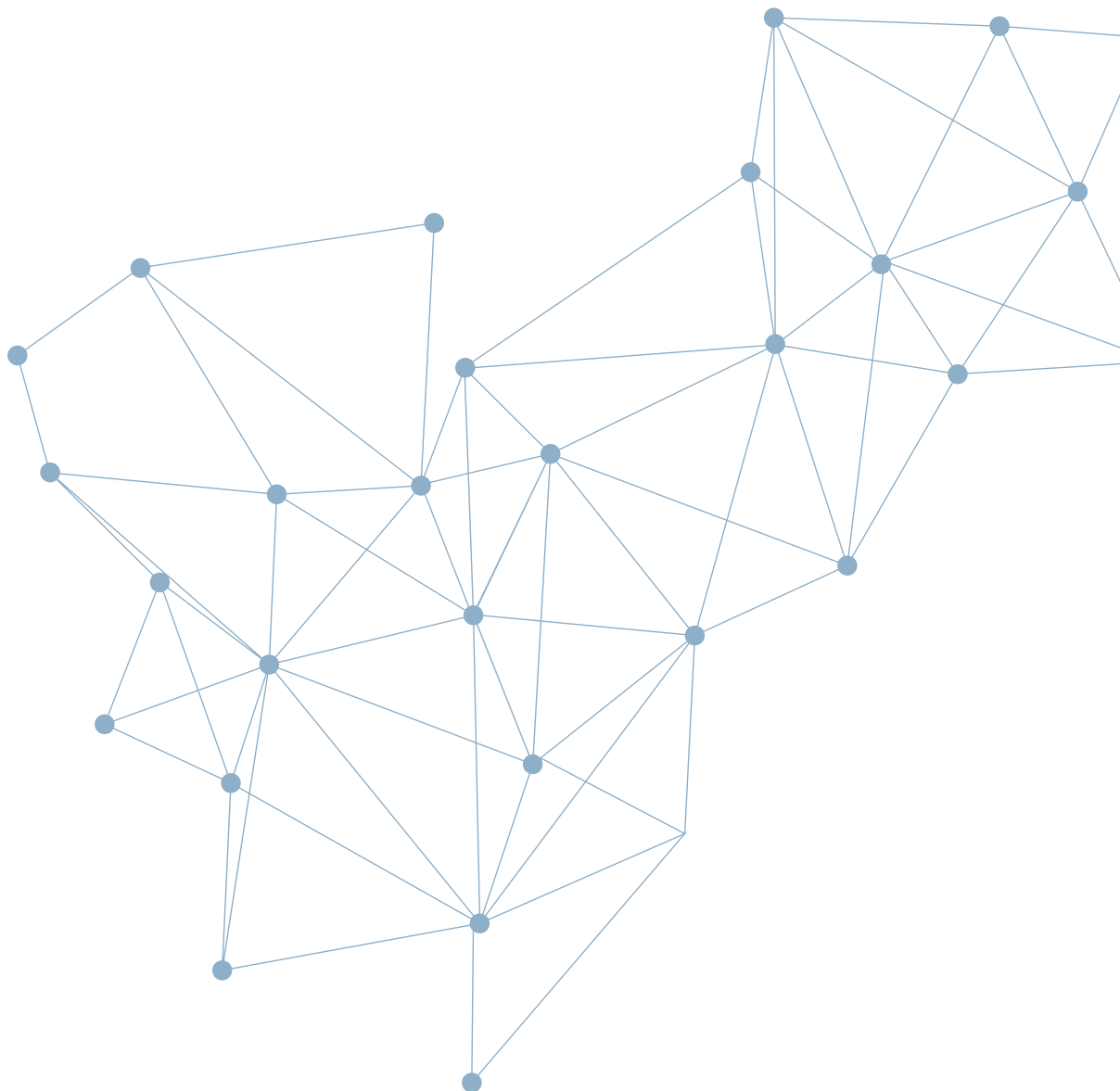
In terms of their PHC-oriented approach, the care model of the IHSDN in the four countries sets an important example for the rest of the countries in the region. Primary care forms the foundation of their health services. The network models are consistent with the local context, but are also clearly linked to health policies focused on universal coverage, equality, and financial protection. These networks are institutionalized and adapted to the needs of the population they serve.

The PHC-based care model for IHSDN has been adopted by all networks in the study, and each network organizes that model as allowed by the funding criteria and type of governance of the different health systems.

The strength of this type of PHC model, which makes it unique to each context, lies in its ability to prioritize the health needs specific to its

populations, as well as its focus on community participation. Care is accessed vertically, although Argentina's model allows patients to receive care at any level of medical complexity without having to start with primary care.

One care-related challenge is improving referrals and back-referrals. Only Brazil reported adherence to regulations, and the other systems face difficulties because of the lack of control over this part of the process.





CHAPTER 8.

FORMULAS FOR COORDINATION: DIOSELINA'S CARE PATHWAY FROM THE PERSPECTIVE OF THE PROFESSIONALS



CHAPTER 8.

FORMULAS FOR COORDINATION: DIOSELINA'S CARE PATHWAY FROM THE PERSPECTIVE OF THE PROFESSIONALS

José Alberto Muños Hernández, Gaudencio Gutiérrez Alba, Clara Juárez Ramírez, Hortensia Reyes Morales.

1. Introduction

The importance of IHSDN and of implementing them to treat chronic diseases is undeniable given the scale of those diseases and the ballooning costs of treating them, as they are the main cause of death and disease in Latin America and the Caribbean (PAHO, 2017). Patients who suffer from chronic diseases need integrated and coordinated services with a clear focus on primary, secondary, and tertiary prevention, which vary according to the health care model (Table 8.1).

This chapter takes the hypothetical example of a 54-year-old woman like Dioselina who suffers from diabetes mellitus and comorbidities, which has been used in similar exercises to identify healthcare characteristics in Europe (Nolte, Knai, & McKee, 2008). The purpose is to illustrate the importance of coordination between health personnel to provide care to patients with chronic, noncommunicable diseases.

Dioselina's pathway gives us the perspective of the IHSDNs' professionals regarding some of the characteristics of how each care model delivers services.

The hypothetical patient journey method is used (Instituto Nacional de Salud Pública, 2015) to analyze different situations in the health system. It consists of taking a very realistic situation and analyzing it among peers, identifying areas of opportunity and proposing solutions (Díaz, 2015; Goodrick, 2014). The information for tracing Dioselina's pathway was generated using the focus group technique, with the participation of health professionals from different areas and levels of care (Table 8.2).

To describe each case, the information that emerged from the discussions in each country's hypothetical patient focus group was organized as follows: Dioselina's entry into the network, care pathway, continuity of care, and

BOX 8.1.

Hypothetical patient journey

The previous chapter described the networks' structural elements—how they are composed and organized. Now the networks actually have to function and achieve the attributes of coordination and continuity of care.

"Dioselina is an obese, 54-year-old woman with type II diabetes and chronic obstructive pulmonary disease. She has skin ulcers and moderate ophthalmopathy as a result of that disease. She lives alone, is on welfare, and is unemployed". In this situation, Dioselina needs care from healthcare professionals in different disciplines: a lung specialist for her chronic obstructive pulmonary disease, a wounds clinic for treating her skin ulcers, and an ophthalmologist for addressing the eye complications caused by the disease. She could be less isolated if as part of her welfare she is encouraged to participate in community activities and self-help groups.

opportunities for improvement. Quotes from the discussion among focus groups participants are interspersed throughout the chapter.

2. Results

ARGENTINA

| Entrance to the network

Dioselina can enter the network at the primary care level through a number of REMEDIAR program strategies, like home visits focused on prevention and promotion, or at the primary care clinic for monitoring her disease and care for minor complications. She can also enter the network through emergency services at secondary hospitals, or even directly at tertiary hospitals, even if it is not a real emergency.



| The care pathway

When Dioselina starts care at the primary care level (through the REMEDIAR program), the healthcare team offers her services that range from promotion and prevention to curative care. The latter includes controlling the patient's disease, making a complete diagnosis, conducting cross-consultations with specialists not at the primary care level, or referring her to the next level of care. If Dioselina enters the system at a secondary hospital, she will receive more comprehensive care, with services from specialists in areas such as internal medicine, endocrinology, surgery, dermatology, or respiratory medicine. However, it is difficult for her to return to and be monitored by the primary care level (Figure 8.1).

TABLE 8.1.

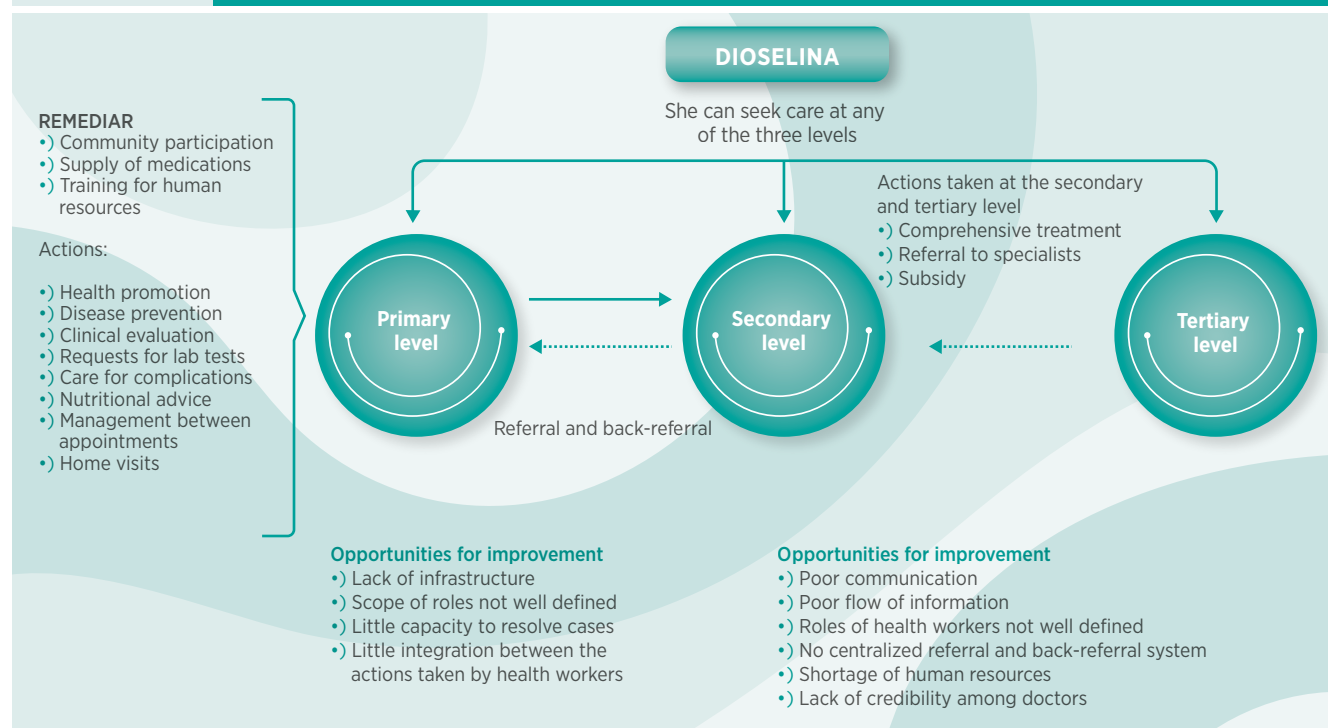
Health workers participating in the hypothetical patient focus group, by level of care

| Participants | Argentina | Brazil | Colombia | Mexico |
|----------------|--|--------------------------|---|--|
| Primary care | Health educator, Doctor, primary care coordinator | PHC professionals | No participants | Doctors and nurses |
| Secondary care | Family doctor, intensive care physician, coordinator | Medical specialists | Nurse, intensive care physician, ophthalmologist, general practitioner, internist | Resident medical personnel, family doctors, specialists, and community workers |
| Others | Supervisors and coordinators at both levels | Community health workers | Community nursing assistant, secretarial staff | No participants |

Source: prepared by the authors based on the results

**FIGURA
8.1.**

Dioselina's care pathway in Argentina



Source: Prepared by the authors by analyzing the information from the focus group

| Continuity of care

The process of referring and back-referring patients with CNCD between the primary and secondary levels is hindered by poor communication between the two levels, poor flow of information in the medical file and in the referral forms, the unclear roles of the different health service providers, the shortage of human resources, and the widespread belief that doctors at the primary care level are less skilled than their secondary-level counterparts. The patient can go directly to the secondary care level without a prior clinical assessment, thus overwhelming hospitals with simple cases or true emergencies.

| Opportunities for improvement

This network's professionals said the backbone of the network is PHC, but the fragmentation of health service delivery complicates its procedures. The main areas of opportunity identified are: lack of coordination between levels,

interruptions in internal communication caused by the information system, and the lack of shared protocols. In terms of coordination between levels of care, it was found that professionals at hospitals have low confidence in primary care providers because of their supposed academic inferiority and the discontinuity of their patient's care and clinical monitoring.

Professionals participating in the Argentina focus group recommended integrating primary and secondary care so primary care centers are assigned to hospitals for referrals and back-referrals. They also suggested close collaboration within the network to learn the population's needs and to give patients fast and accurate referrals. Additionally, they requested that hospitals make a stronger commitment to back-referring patients and that specialists give more recognition to their primary care colleagues. Additional suggestions were to encourage teamwork between different levels of care and to receive training and refresher courses on providing care to patients with chronic diseases.



I Entrance to the network

Dioselina can enter the network chiefly through the primary care level, where community workers have PHC-based strategies, like intentionally seeking or following up with patients, which allows them to provide better health care to patients. At the primary healthcare units, patients like Dioselina who need care at more complex units are sent to specialized care facilities following the ideal referral path (figure 8.2).

I The care pathway

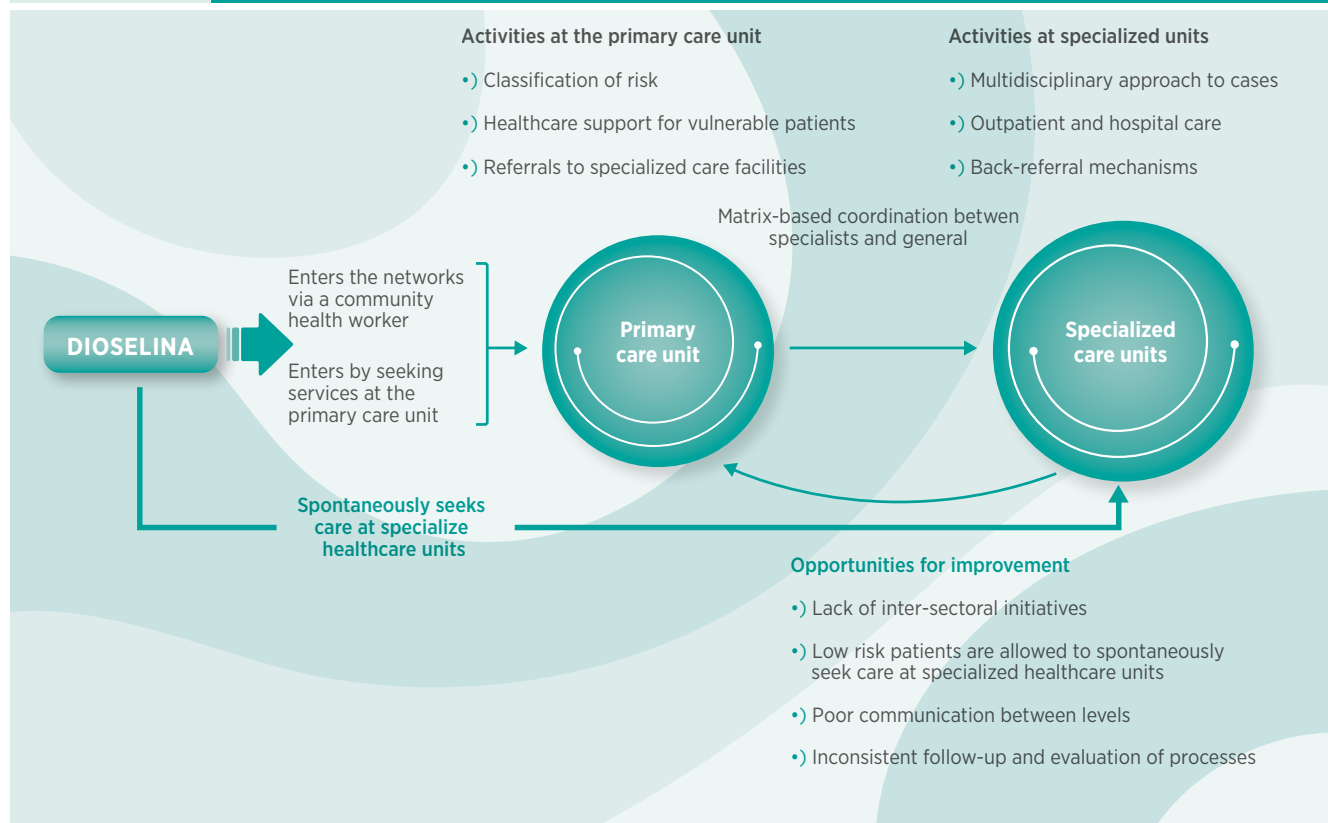
When a patient goes to a primary health care unit, their risk is evaluated, and this evaluation determines whether they will stay at the unit, the frequency of appointments, the interventions needed, and, where necessary, referrals

to specialized care. The primary care units control access to specialized (hospital) care, but hospital care is indicated for patients with complex or very complex diseases. Referrals to specialists follow preexisting clinical protocols that guarantee access, provided the problem is difficult to resolve at the primary level.

In Brazil, patients in unstable condition are sent to the ambulatory day care, in an attempt to avoid hospitalization. But if their health deteriorates, they are hospitalized at the specializations level, where users should be evaluated and cared for by multidisciplinary teams of experts. Dioselina returns to the primary health care unit through a back-referral specifying her treatment plan (Figure 8.2).

FIGURE 8.2.

Dioselina's care pathway in Brazil



Source: Prepared by the authors by analyzing the information from the focus group

| Continuity of care

To achieve proper coordination between levels of care, Brazil has an initiative for **matriciamento**¹⁰ between primary care doctors, specialists, and other healthcare professionals (nutritionists, physical therapists, psychologists) in order to provide collaborative and comprehensive care. If Dioselina cannot travel to a medical center, she could receive care from health professionals in her home. If Dioselina receives care at the secondary level, she will return to the primary care center that referred her, bringing her treatment plans with her. The **matriciamento** between specialists and general practitioners stands out as a PHC strategy that allows training on risk classification, care for diabetic foot problems, and actions to support self-care.

| Opportunities for improvement

The following areas of improvement were identified at the PHC level: the lack of formal, cross-sector initiatives for the general population or specific patient groups, gaps in medical transportation that hamper teams' home care work, specialized care facilities that are open to walk-in patients and therefore handle low-risk cases that are not referred by primary health care units, a lack of communication between services at the different levels, and inconsistent follow-up and evaluation of processes.

COLOMBIA



| Entrance to the network

Dioselina has difficulty entering the network because she is poor and unemployed. She would be covered by the subsidized system, which at the time of the study lagged behind the health coverage of the contribution-based system:

“Due to the problem of unemployment, she may not have been able to access these services, which was a factor contributing to the current situation, (...) in addition to the whole number of circumstances that meant this patient ended up with skin ulcers and an ophthalmopathy”
HPFG 01.

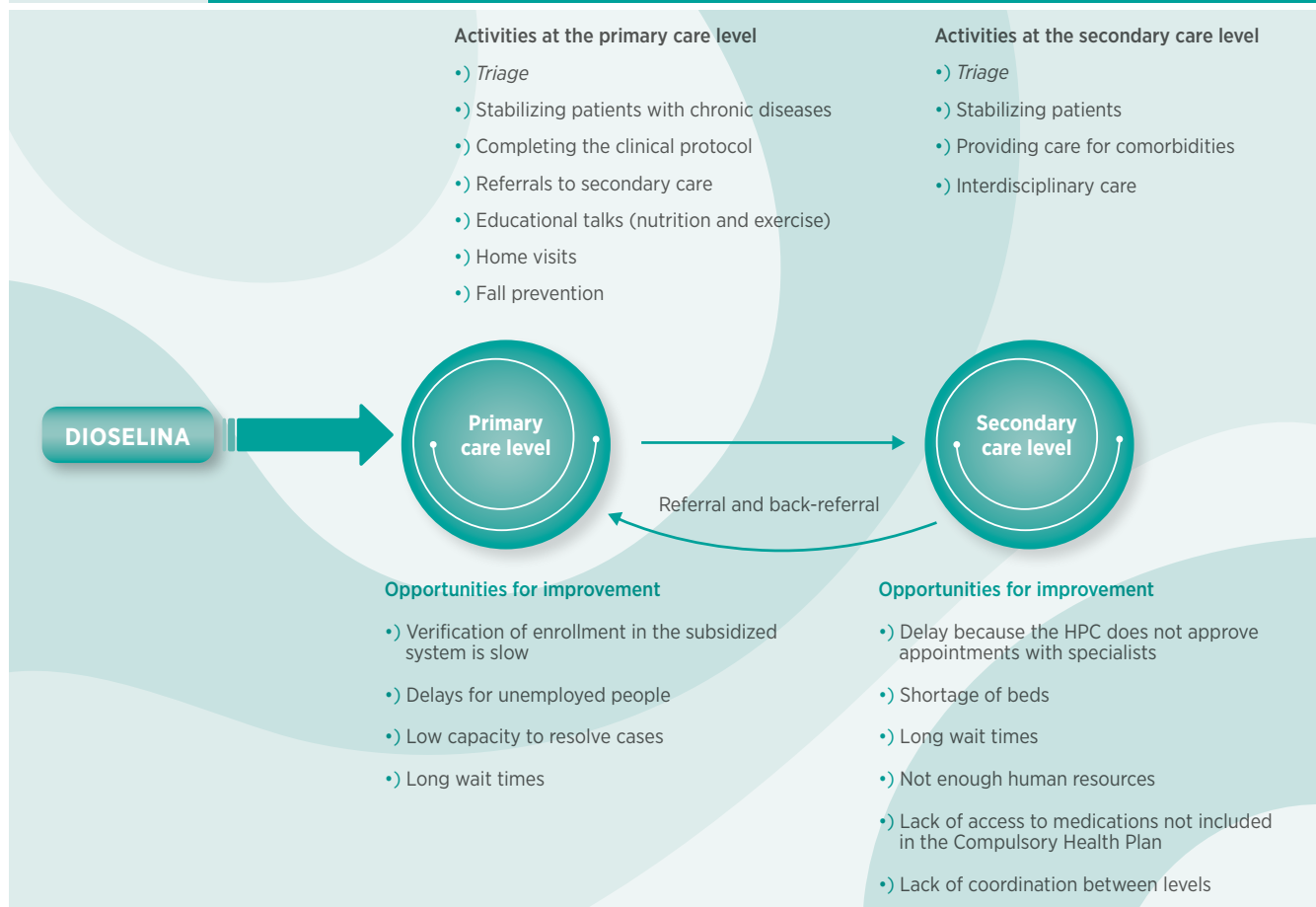
| The care pathway

When Dioselina enters the network, the health professionals triage the patient, provide care to stabilize her, hydrate her, perform complementary tests, and refer her to secondary care, where the next steps will depend on the benefits covered by the Compulsory Health Plan for the subsidized system. At the hospital, she is received by the emergency or outpatient department. In the emergency room, she is triaged and stabilized, any additional tests needed are run, and she is given comprehensive care by the specialists she needs, provided they are available. Once she is stabilized, she goes back to primary care (Figure 8.3).

¹⁰ *Matriciamento*, or matrix-based support, is a way of achieving health outcomes where two or more professionals on a health care team, in a collaborative process, devise a multidisciplinary treatment plan for a patient or specific family.

FIGURE 8.3.

Dioselina's care pathway in Colombia



Source: Prepared by the authors by analyzing the information from the focus group

I Continuity of care

Dioselina's referral to secondary care is complicated by the requirement that the HPC approve patient referrals to secondary care, causing delays during which her health condition could worsen. There is also little support for setting up appointments with specialists. The difficulties when referring patients from primary care also arise during follow-up, and the process is further complicated when the patient needs medications not included in the Compulsory Health Plan. The HPC has to give its authorization in order for the medications to be provided.

I Opportunities for improvement

The hypothetical case revealed access barriers due to type of coverage (subsidized system). The primary care level has limited ability to resolve problems, and emergency services are overloaded. The minimal coordination between levels makes referring patients to secondary care difficult. Problems identified at the secondary level are: shortage of hospital beds, overbooked specialists, referrals delayed by the requirement that a third party (HPC) has to approve the case.

To improve Dioselina's care, primary care needs to be strengthened by integrating the services offered, improving infrastructure, increasing staff sizes, updating health professionals on how to treat chronic diseases, promoting interdisciplinary work and coordination between the different levels of care, facilitating arrangements for

patients' medical appointments, systematizing patient information and referral forms, and cutting red tape for HPC medication and appointment authorizations. At the hospital level, there should be more specialists, the work and training of physicians who have not specialized should be recognized, and specialists should be made more aware of the importance of ensuring the continuity of care by back-referring patients.

MEXICO

I Entrance to the network

Health organizers (community health workers) helped Dioselina access primary care. She can also access care by going to the emergency room at the secondary level. Since the hospital level also has a preventative medicine and family medicine department for outpatient care, the rural hospital can also detect and diagnose diabetes.

I The care pathway

The primary care level has a protocol for monitoring the different types of complications that Dioselina could develop. The protocol recommends referring her to secondary care only if the problem is difficult to resolve, since the primary care level can also provide follow-up. Diabetes is usually first detected through capillary blood glucose testing at rural medical units, upon which the patient's medical history is reviewed and expanded. If skin ulcers are found, depending on the level of complexity, she could be treated at home, at the rural medical unit, or at the rural hospital (following a referral). If a patient with a condition requiring urgent care goes to the rural medical unit, the unit's ability to manage that condition is limited because it does not have a clinical laboratory. Generally patients have to be referred to the rural hospital to stabilize an urgent condition. At this point, information on the patient's sociodemographic context is collected to find out whether the patient is alone and has no family support, which would mean she needs to be closely monitored by healthcare professionals to keep her from quitting her treatment (Figure 8.4).

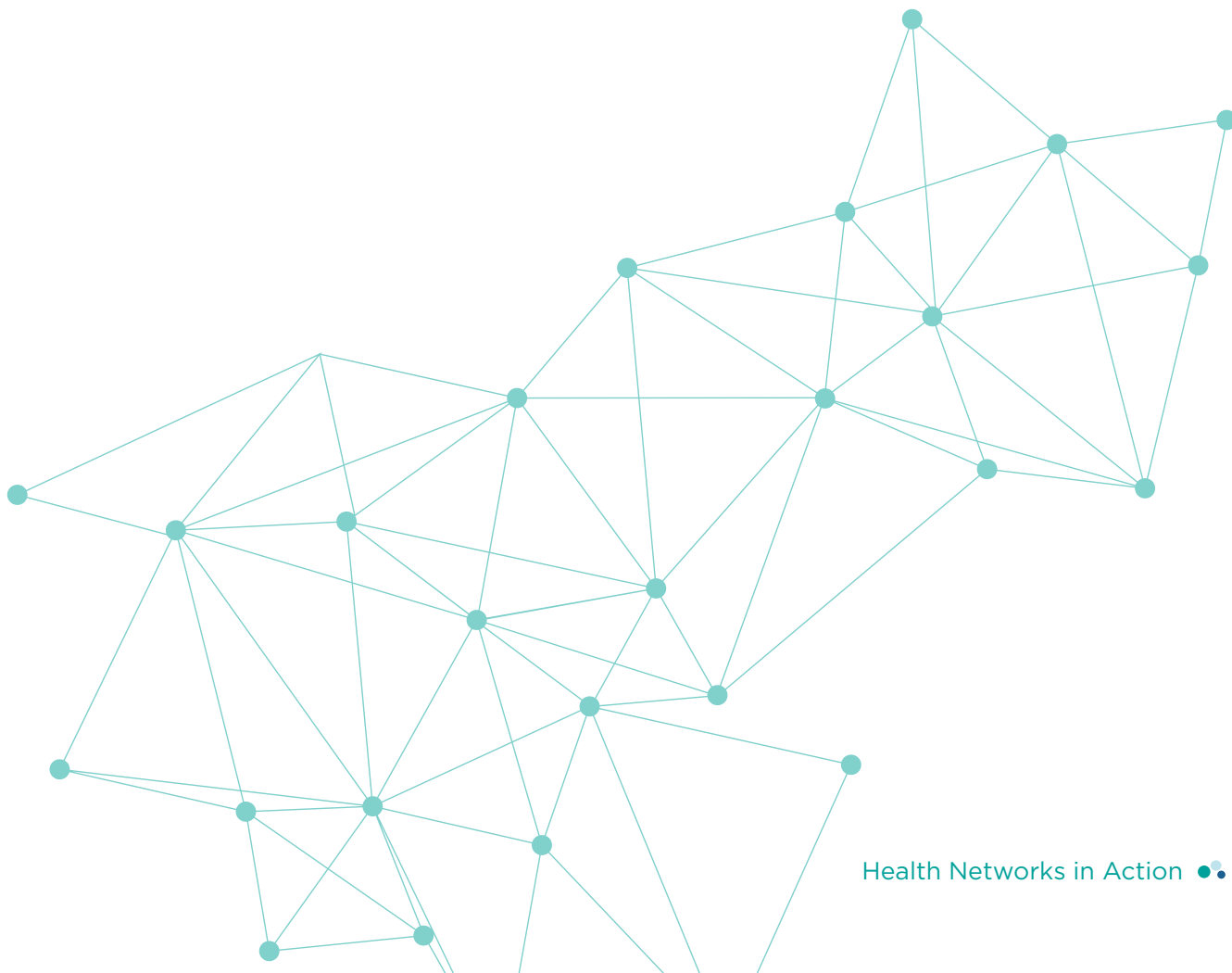
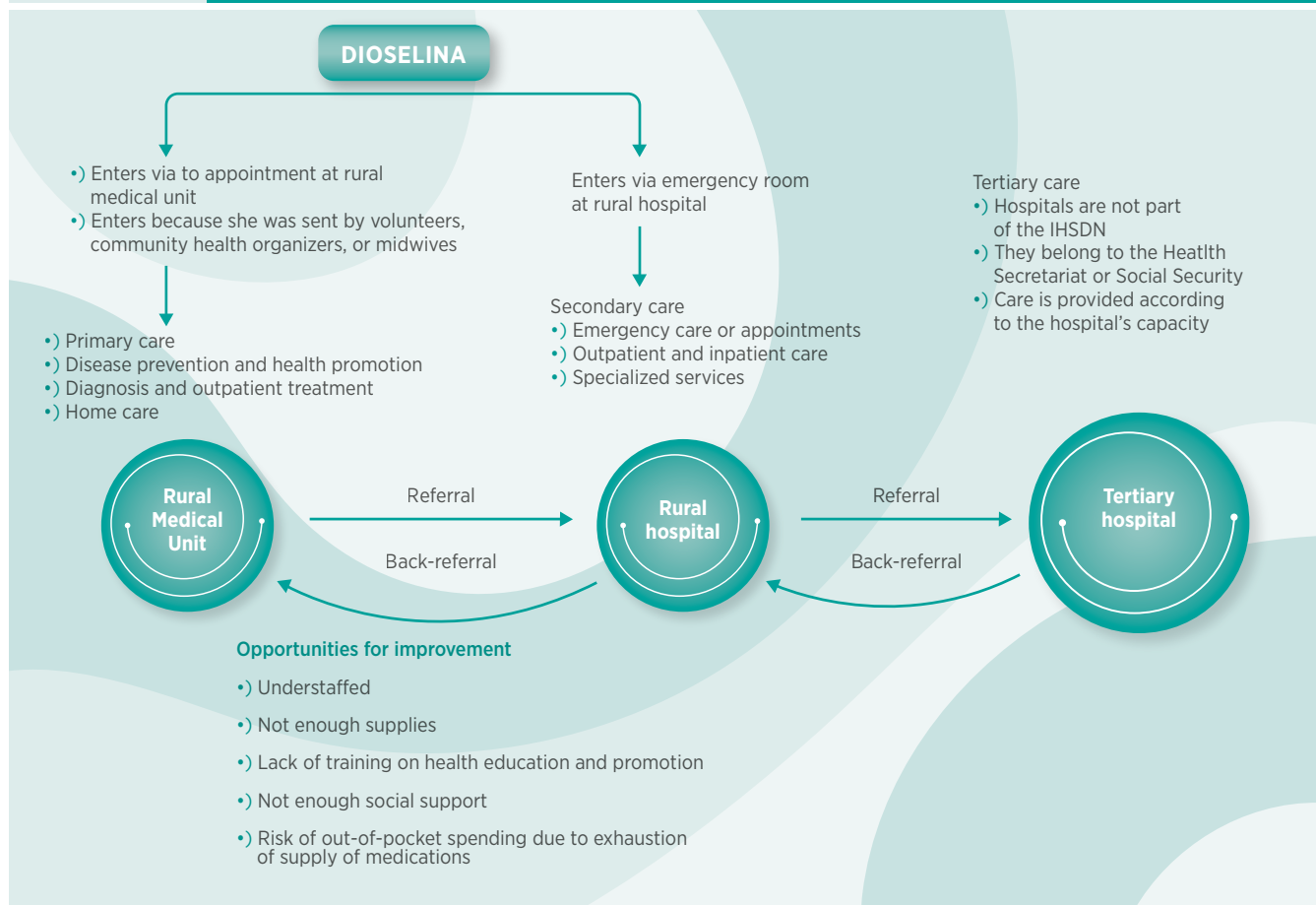


FIGURE 8.4.

Dioselina's care pathway in Mexico



Source: Prepared by the authors by analyzing the information from the focus group

I Continuity of care

To handle Dioselina's case, the network's different levels of care (rural medical unit and rural hospital) coordinate with each other and potentially with the more complex hospitals run by the Secretariat of Health, which are not part of the network. Social workers are in charge of arranging care at hospitals, and the nursing staff visits the patient at her home to monitor her disease. The rural medical units have a protocol for detecting and monitoring patients, which is aided by the fact that the population in their area of influence is well identified. At the secondary level, the patient is back-referred to the rural medical unit after she is stabilized. Here she will continue with her monthly blood glucose tests and other primary care actions (dietary tips, physical activity). Her vital signs, blood glucose levels, weight, and height are monitored

using the "Cartilla" (log document).

If Dioselina needs highly specialized care, this may be difficult because this network does not include this type of medical unit and care would have to be arranged by the rural hospital, which often means expenses for patients.

I Opportunities for improvement

The interviewees see the lack of human resources (including qualified medical specialists and other sub-specialists, like respiratory specialists) as an area needing improvement, since internists (which staff rural hospitals) are overloaded with appointments. Also, the rural hospital does not have enough personnel trained in health education and promotion activities to follow up on cases. There is a shortage of supplies for early detection of diabetes and for confirming

diagnoses through lab testing. Once a treatment has been prescribed, medications have to be purchased, but there are often shortages. Although the social work department at the rural hospital looks for social support; contacts families; and arranges donations of wheelchairs, crutches, and prosthetic limbs, Dioselina's social needs and lack of family support exceed the network's ability to provide care and give patients a comprehensive solution.

How the networks organize and coordinate services.

Limitations in care processes, the lack of coordination between levels of care, and the lack of teamwork all pose significant challenges for organizing and coordinating services to provide care to users.

Table 8.2 illustrates the main features of how the services are organized and of the coordination problems between different levels of care.

TABLE 8.2.

Noteworthy aspects of the networks' organization and coordination

| Country | Organization Referral and back-referral system | Coordination problems identified |
|-----------|--|--|
| Argentina | <ul style="list-style-type: none"> Managed by primary care centers and rapid response units. Any patient can seek care directly at the secondary or tertiary level. REDES Program beneficiaries are given priority. There is an informal referral system based on text messages (WhatsApp). | <ul style="list-style-type: none"> Hospitals do not have a well-defined geographical scope, and patient referral and distribution is rudimentary and informal. The network does not have a predefined set of services; it is defined by the Health Programs and Plans. The referral and back-referral systems do not work properly. The network does not use standardized forms. |
| Brazil | <ul style="list-style-type: none"> Managed at the municipal and primary care level. The system establishes the actions to be taken by specialized outpatient referral services to ensure access; the process for referrals from primary health care units; the return of users to their original primary health care units; and the risk classification protocols, clinical guidelines, and referral and back-referral protocols to be followed. | <ul style="list-style-type: none"> Both communication between health professionals at different levels of complexity and coordination with specialized services should be improved. Not all staff knows the procedures. Specialized care cannot be provided at the PHC level because they have to follow the Municipal Regulation System. Patients are referred without running tests first. |
| Colombia | <ul style="list-style-type: none"> From the primary level, the case is sent to the HPC for approval and referral. Gynecological cases are handled by a specialist hired on a per-event basis. Back-referrals are overseen by the Departmental Health Institute with support and advice from the Departmental Emergencies Committee. | <ul style="list-style-type: none"> Each provider acts alone, limiting the network's operations and creating fragmentation and higher costs. The network handles cases of low complexity and has no direct relationship with other secondary or tertiary hospitals. |
| Mexico | <ul style="list-style-type: none"> Volunteers, midwives, and organizers refer patients to rural medical units, mobile medical units, and health brigades, which in turn make referrals to the rural hospital. The rural hospital back-refers patients to the relevant rural medical unit once care has been completed, with written instructions for follow-up. | <ul style="list-style-type: none"> Continuity of care is limited by staff shortages at the secondary level and by low coverage in areas far from the rural hospital. |

3. Conclusions

An analysis of Dioselina's patient journey through the four countries' health services shows that the countries have similar strengths, problems, and opportunities for improvement.

For patients like Dioselina, primary care is the gateway to health services in all four countries. This setup offers the chance to resolve most health problems at this level, so it is important to improve the primary care level's ability to resolve cases. Participants frequently mentioned limitations in human resources, equipment, supplies, organization, and processes.

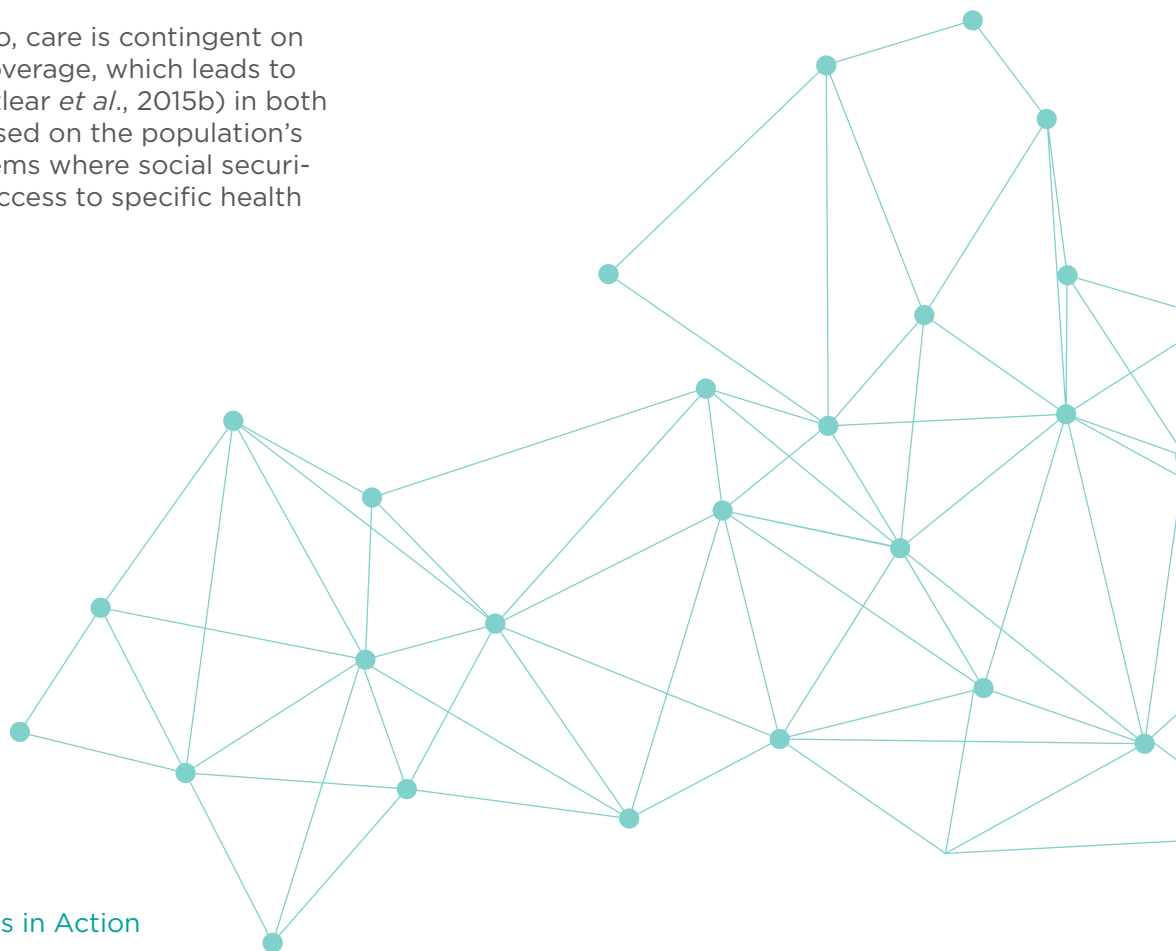
Coordination between the primary and secondary level of care is a major challenge due to organizational limitations and poor interaction between the different levels of care.

Interest in taking action to promote health and prevent chronic diseases loses steam among health workers. Solutions center more on cures, which are mainly offered at hospitals, although community health workers in Brazil and Mexico are key to getting patients to begin receiving proper treatment.

In Colombia and Mexico, care is contingent on the patient's type of coverage, which leads to social segregation (Cotlear *et al.*, 2015b) in both organized systems (based on the population's contribution) and systems where social security coverage provides access to specific health services.

The strength of the four networks lies in their PHC approach, which is key to structuring them and standardizing how they handle common diseases. However, the networks have been overwhelmed by the high number of patients with chronic diseases and the shortage of healthcare professionals. This lowers the quality of care, and, consequently, its effectiveness.

Paradoxically, networks that are part of health systems that tend to be fragmented need quick strategies for strengthening their coordination and integration. To achieve this, it is important to promote the creation or strengthening of networks that allow the organization of well-structured and coordinated subsystems based on level of care, as well as to horizontally link those subsystems to meet care needs in a collaborative way.







CHAPTER 9.

IMPLEMENTATION PROCESS AND RESULTS



CHAPTER 9.

IMPLEMENTATION PROCESS AND RESULTS

Diana Pinto, Miguel Ángel Máñez, Tania Marín, María Clara Yépez, Melissa Ricaurte.

1. Introduction

The previous chapters described the context, governance, funding, management model, and care model dimensions of the IHSDN in this study. Health professionals also described the patient journey of a person like Dioselina, which is the product of all of these dimensions within the specific context of each network. Having covered the details of the IHSDNs' configuration, this chapter explores the perceptions of the directors and professionals that were interviewed of how the networks arrived at that configuration.

The reference framework for this analysis is based on the theory of diffusion and implementation of innovations developed by Rogers (2003) and Greenhalgh, Robert, Bate, Macfarlane, and Kyriakidou (2005). The basic premise is that the set of changes in the areas of organization and care required to create an integrated network is, in and of itself, an innovation. Greenhalgh defined innovation as “a novel set of behaviors, routines, and ways of working, which are directed at improving health outcomes, administrative efficiency, cost-effectiveness, or the user experience, and which are implemented by means of planned and co-ordinated action.” Based on a systematic review of the evidence published, Greenhalgh, Robert, Bate, Macfarlane, and Kyriakidou (2004) identify the factors that positively influence the uptake of a health innovation, meaning it is adopted by all relevant people and becomes part of business as usual. For this analysis, interviews and focus groups were used to explore the presence of what the evidence highlights as the most influential factors in terms of creating a favorable environment for adopting the IHSDN strategy and promoting its diffusion, dissemination, and uptake.

2. Favorable environment for adopting the IHSDN strategy

Planned strategy

Of the cases studied, Brazil's IHSDN stands out as an example of implementing a planned strategy in order to adopt network processes. The transition took place in two stages. The first stage consisted of processes carried out by managers and supported by external consultants. At this stage, strategic plans and roadmaps were created and implemented to reorganize the different internal work processes of the Municipal Health Secretariat and municipal healthcare with the aim of structuring an IHSDN. During the second stage, the intent was to change the focus of the services, especially at primary health care units. This stage involved a change in processes based on new strategies and organizational standards.

The strategies adopted to launch this initiative were, among others: hire specialized consultants to train management and professional teams; form a leadership team that includes the managers of primary healthcare units; invest in improving PHC and in new infrastructure; increase the number of doctors; set new hours of operation; and reorganize and improve care processes at health facilities. This experience was initially adopted to provide care to people with diabetes mellitus, and it involved a set and limited number of primary health care units, polyclinics, and hospitals, with the aim of later gradually extending it to the entire network.

In Brazil, IHSDN model was adopted through condition-specific networks prioritizing specific types of patients: pregnant women, children, or patients with diabetes mellitus and arterial hypertension. The involvement of academia and external consultants was also sought in order to launch them. The Brazil experience informed the creation of a Specialization Course at the Ceará

School of Public Health, with content defined by the Fortaleza Municipal Health Secretariat. Qualification workshops were also held for all primary health care unit managers with the aim of reinforcing the actions taken at the network's health institutions.

National policies and programs

As described in Chapter 3, the impetus for the network strategies in all IHSDN in this study came from each country's national policy framework. With the exception of Brazil, networks were not adopted as part of a deliberate strategy to develop an IHSDN model.

The IHSDN studied in Mexico started out as a "health services program" with exclusively public funding. The progress made towards consolidating the network can be explained by the health system's maturity, which made it possible to revamp the model for providing care to vulnerable populations that are unable to contribute to the system. In fact, the vision of a model centered on promoting health in rural areas through social participation (volunteers) turned out to be the network's main comparative advantage. The fragmentation of Mexico's health system was a factor in the creation of the IHSDN because the need for healthcare for the vulnerable, mostly rural and indigenous population led to agreements between the health subsystem (IMSS) and the federal government to provide free health services as part of national plans to broaden coverage.

The IMSS's organizational characteristics and its long history in Mexico reinforce the assertion made by Greenhalgh *et al.* (2004) that an organization is more likely to easily assimilate innovations if it is, among other factors, a large, mature organization with separate functional units and has a concentration of professional knowledge and resources to supporting new projects.

In Colombia, the network format was mandated by a top-down directive, that is, through decisions by the health institutions' management and governing bodies in order to improve the quality of service delivery. The decisions were shared and put into practice by the professionals of the different health services and programs, creating a ripple effect and transforming the policy directives into new processes.

The healthcare personnel's willingness to work as a network and support its launch is evident from the interviews: *"First there were administrative trainings with the primary care groups, primary units, and then we went to small centers to inform them. That's how we got started"* (Mixed FG 03).

3. Diffusion and dissemination process

While it is difficult to separate the process of implementing the network from diffusion and dissemination efforts, it is possible to highlight a few specific circumstances from each of the four networks that facilitated the dissemination of the experience.

Greenhalgh *et al.* (2005) suggests several channels for the diffusion of health innovations, ranging from direct communication and interpersonal networks (mainly between people within the same discipline or profession, or people at the same workplace) to opinion leaders who use their influence to share the new developments in organization and care. There are also other formal tools that have more to do with the structure of each organization itself (coordination, official communications, training, etc.) or actions aiming to bring about the change, whether passive (for example sending out instructions or flyers explaining the plan) or active (for example holding sessions for discussing and adapting the plan to the needs of those it will serve). Almost all of these strategies are seen in the cases in this study.

In Colombia, the network strategy came from ESE Pasto Salud's management, so its support for development and diffusion has been constant. The alignment between the implementation strategy and results in terms of user satisfaction has given the project credibility in the eyes of professionals. But paradoxically, users are unaware that their healthcare center is part of a network, so it would be best if communication and diffusion strategies included users.

Argentina based its diffusion and dissemination model on informal channels, especially between colleagues. There is in fact an evident lack of training among the professionals and no communication and diffusion strategy. In Mexico, the fact that the IMSS-Prospera Network is part of the existing IMSS structure is key for diffusion.

Since it is a well-known and respected institution, it was able to spread the word about the network in a simpler and more powerful way than in other countries. Additionally, many of the strategies were taken from IMSS rules and procedures, and communication and training spaces and channels were already in place.

The case of Brazil is very different because the network is based on strategies for coordination between different centers to provide care for diabetes patients. Thus diffusion and dissemination centers on coordination, training, and communication tools, like workgroups, strategic plans, courses, etc.

4. Network strategy uptake

A literature review suggests that the following factors influence whether professional groups accept or reject a health innovation: compatibility with the prevailing context and culture (essentially values and procedures), perceived usefulness of the innovation, comparative advantages over the existing model, presence or absence of barriers to implementing the innovation, and the existence of mechanisms to evaluate outcomes and confirm benefits. When the intended users can get a foretaste of innovations, they are more easily adopted and assimilated.

| Compatibility with existing values

Different authors, like Aubert and Hamel (2001); Denis, Hébert, Langley, Lozeau, and Trottier, (2002); Ferlie, Gabbay, Fitzgerald, Locock, and Dopson, (2001); Foy *et al.* (2002); and Rogers (1995), recognize that innovations that are compatible with workers' values and norms, as well as the needs they perceive, are adopted more easily. Without this compatibility, there is unlikely to be any uptake beyond the informational level.

In Mexico, launching the IHSDN involved disseminating values based on a community-centered care structure for the neediest population following the IMSS-Prospera program model. The most senior health staff at the institutions have taken up collaborative work as an ethical mechanism to provide care to Mexico's most vulnerable groups. According to Torres (2010), the strategy of working as a network allows

cooperation and exchanges between institutions and people who intentionally and willingly decide to pool their efforts, experiences, and knowledge in order to reach common goals.

In Argentina and Colombia, there is clear compatibility between the configuration of the management and care model and the values of primary care professionals and directors, which has made it easier to coordinate services, thus facilitating their quality. However, there needs to be greater alignment between the primary care level and other more complex levels of care (for example, in recognizing primary care as the gateway or in differentiating the scope of each level) to overcome service fragmentation and provide users more comprehensive care.

Significantly, in all four cases analyzed, there was willingness to take a new, comprehensive, community- and health-centered approach. In Mexico, this approach was met with support (because the network was originally created to serve this purpose), but in Argentina and Colombia strategies had to be designed to incorporate the approach into the attitudes of patients, the population, and professionals, and a cultural shift was required, as explained further on.

| Perceived usefulness and advantages

Innovations with a clear and unmistakable advantage, whether in terms of effectiveness or cost-efficiency, are more easily adopted and implemented. In the case studies, the advantages of working as a network can be grouped into several categories:

Development of standards and procedures

In the case studies, it became clear that one of the advantages of working as a network is the adoption and adjustment of rules, procedures, and values within centralized operational structures.

Improved communication

According to the interviewees and focus groups, working as a network has also facilitated communication with other institutions, especially for referring patients, although back-referrals continue to be limited. On this topic, it is argued that strengthening “communication between organizations, whether formal or informal, should contribute to collaboration between participants until it becomes an iterative improvement process.” It is an advantage that, over time, will help create a culture of organizing processes, which in turn will make healthcare more efficient and effective (Morales, 2011).

In some IHSDN, the adoption of a network model is considered to have enhanced communication between health personnel, especially at the primary level, giving them the information they need and allowing them to offer better services, which in turn boosts user satisfaction, as mentioned in Colombia: ***“The healthcare here is good, it’s faster, appointments with doctors are quicker”*** (UFG 04).

Coordination

The Santiago del Estero network has seen improved access and less fragmentation in its system, perhaps one of the most notable weaknesses of Latin American health systems (Cotlear, 2015b). For example, when asked whether each employee has a clear idea of their role within care processes, one user shared in the interview that ***“coordination can be seen in the recommendation that the rapid response unit doctor gives me when I go to the hospital”*** (UFG 05).

In Colombia, the network has prompted a cultural shift towards coordination and teamwork and has even created a family atmosphere on the team (UFG 01) that facilitates more streamlined implementation. Regarding coordination and teamwork within the Red Norte, healthcare personnel said, ***“We stand out as a family. We are very united and work together as a team (...) We set an example for other networks to follow”*** (UFG 05). This quote points to the emergence of a certain professional pride that could facilitate the coordination of work between human resources.

Identifying the primary level as the gateway to the health system is especially important in recently launched networks, like the one in Argentina: ***“The primary care unit has established itself as a gateway to the health system”***, (Primary Care Director 04). In Argentina, the process of planning the referral and back-referral system led to synergies and a recognition of competencies among peers, paving the way for integration. However, the network’s participants hold that despite all the efforts made, contextual barriers have thwarted most progress towards a more seamless system.

Despite the fact that the Fortaleza network’s care coordination mechanisms are still too fragile to guarantee coordination of PHC and the integration of the system’s operational units, the following network process developments are worth mentioning: use of care and risk classification protocols, healthcare activities carried out together with specialists, shared care plans for high-risk patients, and improved referral and back-referral mechanisms. Progress towards achieving these goals cannot yet be measured since there is no solid monitoring and evaluation system.

At the operational level in the PHC of the Fortaleza network, these developments took the form of assigning populations and geographical scopes, creating a register of diabetes patients, adopting triage with risk classification, identifying professionals for referrals within the network, defining their role in the network, implementing electronic health records, defining and implementing flowcharts for care within the unit, and picking up and delivering tests at primary care units. At the same time, specialized care services were optimized, the waiting list was shortened, initiatives for replacing hospital care were launched, and the average hospital stay was reduced.

In Pasto’s Red Norte, interviewees highlighted the advantage of the PHC approach: ***“To some extent, the reform will allow us to focus on primary care, family health, family medicine, bringing all the developments this entails. I think we will be able to work from the population’s needs”*** (PCD 04).

Lastly, the network in Mexico has strengthened its response to obstetric emergencies so pregnant women can receive care at any public institution, regardless of their coverage.

Also, integration between primary care and hospital services allows more continuity of care for the population, with the community involvement described in previous chapters.

Strengthening the focus on prevention

Most of the participants see the network as a tool for improving the system's health promotion and disease prevention actions. Health promotion and disease prevention has become a joint objective of the different care levels and is considered the main strength of implementing IHSDN.

Defining the population

In the cases in this study, it can be inferred that another important advantage of implementing the IHSDN is that it has helped define populations, whether based on geographic criteria, like rural areas; specific events, like chronic diseases; or prevention services. This facilitates planning that better aligns with the specific needs of the population to be served.

Infrastructure and technology improvements

In fledgling networks like those in Brazil and Argentina, the process led to an overhaul of infrastructure and the adoption of information technologies. In Santiago del Estero, 66% of healthcare establishments were in precarious condition before the network was implemented. Some health centers had no means of communication, and 75% had no connectivity to the internet, a situation that has improved thanks to the launch of the IHSDN.

Higher user satisfaction

The interviews in Santiago del Estero revealed improved user perception of the PHC: ***“‘It’s seen as a space that provides solutions or helps find a way to solve problems’”*** (Mixed FG 03).

In the Fortaleza network, users consider the care they receive from professionals at the primary care units to be good, indicating a stronger connection with users at these units. Interviewees also mentioned the effective prioritization of patients referred to specialized outpatient care.

The Colombia network's progress on the patient safety and service improvement aspects of the quality accreditation process were also recognized as achievements by the Red Norte in the area of care for users: ***“We hold interviews and do daily checklists with each user who received care with the aim of improving and pinpointing their needs”*** (PCD 04). In general, users were found to be satisfied with the services they receive in the Red Norte. For healthcare personnel, the intent behind changes in work dynamics and the emphasis on respecting patients' responsibilities has been to enhance care and the services provided to the population: ***“The changes pursue an end: user satisfaction”*** (PC FG 03).

| Barriers to IHSDN uptake

An innovation within an organization will be adopted more easily if there are few response barriers to overcome (Rogers, 1995). Any action meant to reduce the number and scope of these barriers increases the chances of successful uptake. The interview results revealed the following barriers.

Human resources

The barriers described in Mexico included a lack of motivation among professionals because of how low profile the network and its outcomes are, since the actions are limited to the local level. However, the interviewees say that helping the neediest population generates an ethical incentive of personal satisfaction (very much in line with compatibility with values and cultural shift, as explained above). Another barrier that has already been described is the lack of coordination with the tertiary level (highly complex centers). Ad hoc attempts have been made to overcome this barrier with specific agreements, like the one for providing care to pregnant women.

In the Colombia network, staff may be discouraged by the employment conditions, as there are different regulations for each type of worker. In fact, one professional said in an interview that ***“sadly, even though all of us make the same effort, we have different types of contracts”*** (Mixed FG 02). Additionally, in Colombia focus groups pointed to the influence of electoral processes and politics on managerial and Board of Directors appointments and on hiring healthcare workers as an aspect that restricts the continuity of the network’s processes, since it has meant adding new guidelines and training workers on adopting activities, objectives, and goals, and has also given healthcare workers a sense of low job security. As a strategy to counteract the effects of the political context on establishing and strengthening IHSDN, the professionals agree with the PAHO (2011) proposal to hire based on skills and merit rather than political quid pro quo.

Lastly, Argentina exemplifies different problems that other networks experience as well: lack of training, no communication strategy, coordination problems with information systems, multiple overlapping participants recognized as the supervisors or regulators of activities, and no proper incentives scheme. Also, in the Santiago del Estero network there was found to be a lack of healthcare protocols and guidelines, with the consequent absence of coordination between participating units.

Policy context and level of autonomy allowed

In Colombia, it is the health model itself that makes service delivery and funding fragmented and segmented. The context is seen as something that limits the IHSDN’s consolidation and affects coordination between health institutions at the different levels of care.

When the intended users can get a foretaste of innovations, those innovations are more easily adopted and assimilated. Thus, in the case of Mexico, the network was implemented in 1983, and during fieldwork it was found that it needs to be updated and reinvented, despite having achieved success in disseminating and consolidating the IHSDN model. The network’s success can be explained by the adoption and adaptation of the standards, procedures, and values of the IMSS, one of the Mexican health system’s oldest institutions. However, being part of a centralized program (IMSS Prospera) means the network’s nodes do not have autonomy. Demographic and epidemiological shifts are the main reason for granting more flexibility, since demand has multiplied and supply has remained the same (in Mexico there are rural medical units with the same infrastructure and resources as they had in 1983).

5. Performance evaluation

Evaluating the performance of IHSDN, an activity that depends on having an information system (See [Chapter 6, section 4](#)), is key in order to continually monitor whether care goals are being met. Such evaluation also provides the raw ingredients for results-based incentive schemes for health workers and, where applicable, processes for improving the quality of care. For all of these reasons, information on the procedures implemented by each IHSDN to measure its progress is relevant for understanding these aspects.

As seen in the analysis of the management models in Chapter 6, the IHSDN in Colombia has a performance evaluation model. The evaluation results are used to design the monthly training processes for human resources and to decide on possible incentives that staff can receive for good performance.

In Argentina, remarkably few healthcare establishments in the network establish agreements for reaching goals. Generally these agreements have to do with SUMAR Program “tracking” goals for healthcare centers part of the program. These are expected outcomes agreed upon with the central government, but they are used to evaluate the specific performance of each center rather than how well the network as a whole functions. There are epidemiological goals, but they are not network-wide. Decisions do not draw on data from the information system, since this network does not have this data. There is confusion between the goals for programs like the SUMAR Program (see Table 7.3) and the network’s goals, since each province has its own organization. Also, successful results are not disseminated.

In the network studied in Mexico, the processes take place at different levels of complexity, creating an organizational flow from the national level—which is specified in the rules of operation, in this case for IMSS-Prospera (see Table 7.4)—to rural medical units. The network has internal and external evaluations. For internal evaluations, annual performance goals are set for action programs and projects. These goals are monitored using a tiered approach involving the federal, state, rural hospital, or rural medical unit levels. The annual goals are set based on the indicators specified in the rules of operation:

community component, social and citizen health oversight component, or community action activities. Health teams are constantly evaluated. At the rural medical units, directors are in charge of evaluating the performance of nurses, and the medical personnel is evaluated by the supervisor and medical manager. The evaluation is broad, ranging from how vital signs are taken to how municipal assistance is managed. For medical specialists and primary care workers, there is no specific evaluation of their ability to resolve cases. The patients also evaluate the healthcare staff.

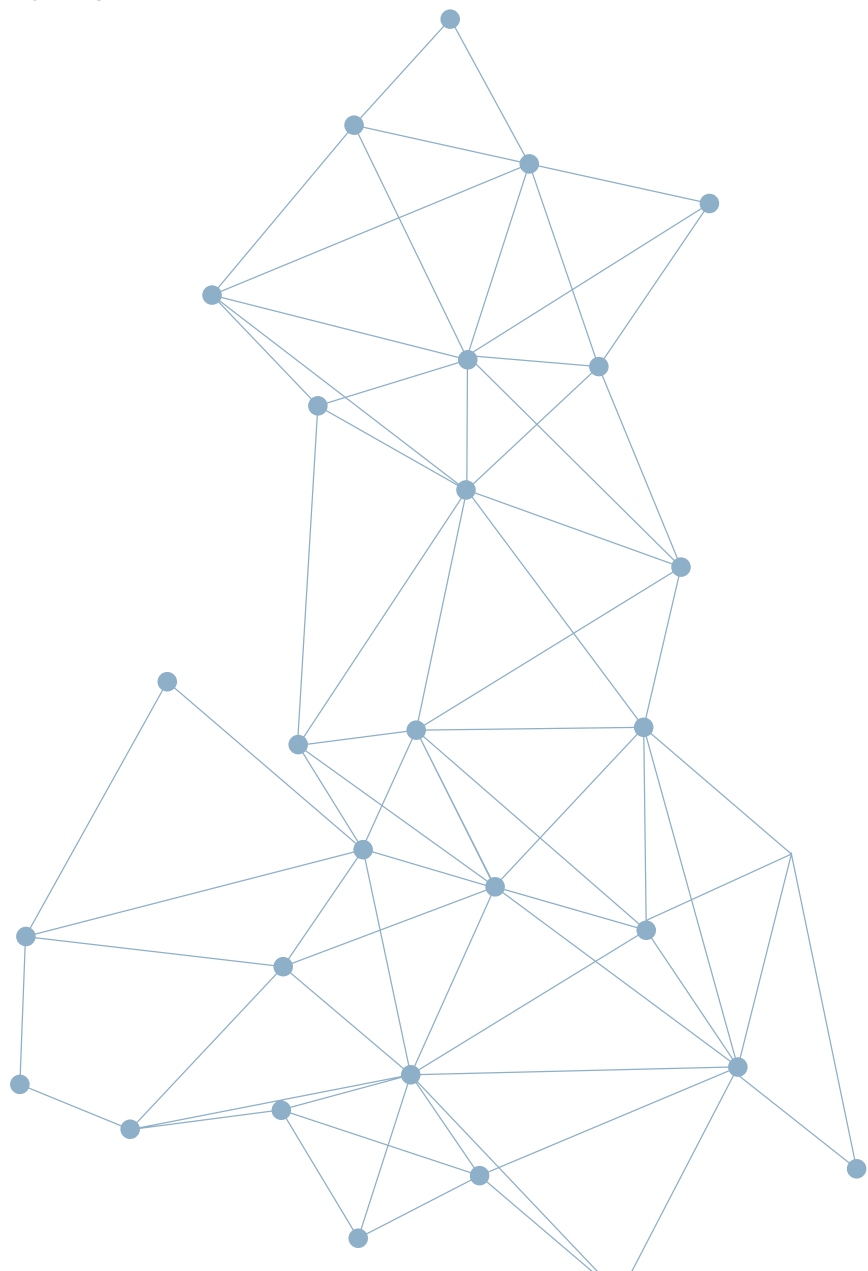
In the Brazil IHSDN, evaluation processes are established by law and include accountability mechanisms, where patients groups participate and work alongside the service delivery apparatus. Additionally, the Municipal Health Secretariat creates a “dashboard” of indicators calculated using primary care unit databases, which it uses for monitoring and evaluation.

In organizations with the systems in place and the skills needed to monitor and evaluate the achievements and impacts of an innovation (whether expected or unexpected), that innovation is more likely to be adopted, remain in place, and be perceived as legitimate by users (Gustafson *et al.*, 2003; Plsek, 2003, and Rogers, 1995). Part of the information collected during the fieldwork for this study consisted of different network evaluation indicators showing the health outcomes for each geographical area in relation to the following dimensions, considered key to their performance:

- a. Health:** indicators related to the population’s health (life expectancy, mortality, preventable diseases, and chronic diseases), as well as risk factors (tobacco use and obesity).
- b. Equality:** data on insurance and coverage, and on inequality in access.
- c. Scientific and technical quality:** indicators on communicable diseases and vaccination coverage, care for patients with chronic diseases (checkups and treatment for patients with diabetes, heart failure, arterial hypertension, or analysis of preventable hospital admissions), and hospital quality (hospital mortality rate and readmissions).

- d. **Satisfaction:** user satisfaction indicators, and finding out whether surveys are conducted periodically.
- e. **Cost control:** cost of services and whether the budget for the fiscal year is balanced.

Although interviewees in the accountability-related interviews said indicators are available (See [Chapter 9](#)), it was found that data collected in the IHSDN has limited availability, and it was not possible to ensure its reliability, since there was no coordination between the different levels' information systems and indicators were not calculated in a standardized way in all countries (See [Chapter 6, section 4](#)). As seen in Table 9 below, hospital quality indicators need to be strengthened, as do the information systems for chronic diseases, given that they are the main cause of death in Latin America. There is also a notable lack of studies on social equality in access to healthcare.



**TABLE
9.1.****Availability of network indicators at the time of the study**

| Indicator/Availability of the data in the country | Argentina | Brazil | Colombia | Mexico |
|---|-----------|----------------|----------|--------|
| Life expectancy at birth | A | A | A | A |
| Life expectancy at age 60 | UN | A | A | A |
| All-cause mortality rate | A | A | A | A |
| Avoidable mortality rate | UN | A | A | A |
| Infant mortality rate | A | A | A | A |
| Maternal mortality rate | A | A | A | A |
| Hepatitis B notification rate | A | A | A | UN |
| Malaria notification rate | A | A | A | UN |
| Tuberculosis notification rate | A | A | A | A |
| Dengue notification rate | A | A | A | A |
| Chagas disease notification rate | A | A | A | A |
| HIV incidence rate | A | A | A | A |
| Prevalence of arterial hypertension | A | A | A | A |
| Prevalence of diabetes | A | A | A | A |
| TAdult daily smokers rate | UN | A | A | UN |
| Excess weight | UN | A | A | A |
| Population without health insurance in the IHSDN | A | Not applicable | A | A |
| Has there been any study on equality of access by income, gender, or place of residence? | UN | UN | UN | UN |
| Population with the DPT vaccine | UN | A | A | A |
| Population vaccinated against hepatitis B | UN | A | A | A |
| Patients with parameters being monitored (glycosylated hemoglobin, LDL cholesterol, blood pressure) | UN | UN | A | UN |
| Glycemic control in diabetes patients | UN | UN | A | A |
| Lower limb amputation rate in people with diabetes | UN | UN | A | UN |
| Treatment for ventricular systolic dysfunction | UN | UN | A | UN |
| Anticoagulation in arterial fibrillation | UN | UN | A | UN |
| Monitoring blood pressure | UN | UN | A | A |
| Standardized hospitalization ratios for COPD | UN | UN | A | UN |
| Standardized hospitalization ratios for diabetes | UN | A | A | UN |
| Standardized hospitalization ratios for congestive heart failure (CHF) | UN | A | A | UN |
| Overall intra-hospital mortality | A | A | A | A |
| Overall percentage of readmissions | UN | UN | A | UN |

A= Data available. UN= Data unavailable. Source: Prepared by the authors with data from the case studies

**TABLE
9.1.****Availability of network indicators at the time of the study**

| Indicator/Availability of the data in the country | Argentina | Brazil | Colombia | Mexico |
|---|-----------|--------|----------|--------|
| Are people who seek care in the network given satisfaction surveys? | UN | UN | A | A |
| Citizens' level of satisfaction with the performance of the IHSDN | UN | A | A | A |
| Is cost information available? | UN | A | A | A |
| Was a budget for the last fiscal year balanced? | UN | A | A | A |

A= Data available. UN= Data unavailable. Source: Prepared by the authors with data from the case studies

On the other hand, very few indicators on processes related to launching the network are measured. Box 9.1 gives an example of simple indicators that provide a baseline for monitoring the progress of IHSDN.

6. Conclusions

The main channels for implementing the IHSDN in these four cases are based on changes in values and processes as adaptive responses to the current health policy context. Cultural transformation linked to values (integrated work, PHC approach) has led to growing support from the

organization's management and, eventually, joint development of protocols and guidelines. Processes were changed primarily through training professionals and sharing the new circumstances for working and interacting with patients.

Diffusion is much simpler and more streamlined in centralized networks with a strong presence, like the one in Mexico, because their values are already known. Support from leadership, like that given in Colombia, is essential, and Brazil sets a commendable example of establishing and designing joint working strategies for reaching goals. In Argentina, diffusion was informal, which led to coordination problems.

**BOX
9.1.****Indicators for strengthening IHSDN centered on primary care.
An example from the Redes program.**

For the first phase of the program, a baseline was established and three-year goals were set for ten indicators: six common to all projects and four specific to each jurisdiction (based on each project's unique objectives). The reporting of the indicators was tied to meeting financial incentives for reaching 40, 50, and 70% of the goals for each indicator.

The main aspects evaluated by the indicators for all projects were:

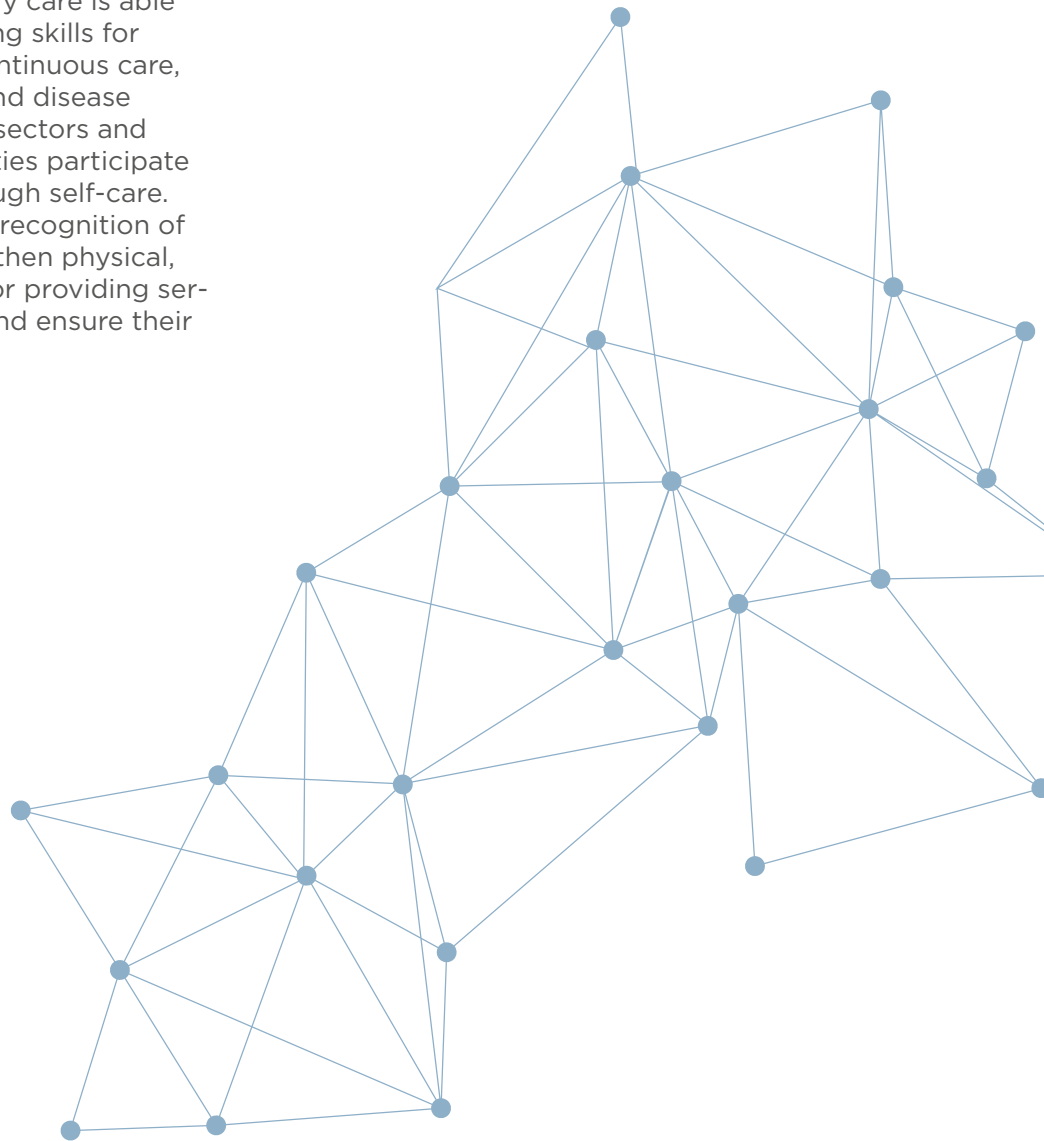
- The population's awareness of the network.
- Primary care events scheduled.
- Blood draws at the primary level.
- Coordination of care: referrals and back-referrals.

In the program's second phase, called Redes 2, the same indicators as the first phase will still be monitored. However, the indicators will now cover the quality of the processes. For example, to monitor the population's awareness of the network in the first phase of the Redes program, only the "Amount of the population registered/total population of the network" indicator was used. Redes 2 includes an indicator measuring the number of primary care facilities that accredit their processes for identifying the population they serve and their level of risk.

Perceived improvements in coordination and access played an important role in the uptake of the IHSDNs' changes, and they confirm the validity of the models and their positive effects on the health care provided to the population. Also, the focus on community and PHC reduces access problems in underprivileged areas, as was seen in Mexico. The study on these cases found improvements in access, coordination, and communication between the levels of care involved, with the ensuing rise in user satisfaction. Additionally, the primary health care approach enabled more comprehensive care and the implementation of community activities.

To overcome barriers to implementation, steps that need to be taken include upgrading training for health workers so primary care is able to resolve more problems, building skills for providing comprehensive and continuous care, emphasizing health promotion and disease prevention, collaborating across sectors and disciplines, and having communities participate and take joint responsibility through self-care. In Mexico and Colombia, there is recognition of a need to increase and/or strengthen physical, human, and financial resources for providing services, transcend the local level, and ensure their sustainability.

As for evaluating results, it has been very challenging to obtain and offer information on health outcomes and care activities for two reasons: difficulty obtaining the data (multiple sources, unverified collection procedures, lack of information) and the non-standardized format of the outcomes (the multiple data sources made it hard to compare and contrast data between networks). Guidelines for developing integrated networks need to include a proposed set of indicators and clearly define how they are collected, their sources, and units of measurement.





CHAPTER 10.

CONCLUSIONS AND RECOMMENDATIONS



CHAPTER 10.

CONCLUSIONS AND RECOMMENDATIONS

Diana Pinto, Sergio Minué, Miguel Ángel Máñez, Ricardo Pérez-Cuevas, Ignacio Astorga

1. Introduction

Implementing IHSDN is one of the most important strategies for achieving robust and well-coordinated primary care. IHSDN are the operational expression of PHC, ensuring that when Dioselina seeks healthcare, she will receive a service that has the essential attributes of PHC, meaning very accessible services that meet most of her healthcare needs that continue throughout her lifetime (“from the cradle to the grave”) and that are organized into an integrated provider network that promotes care with continuity and coordination between the health system’s different providers and levels of complexity.

The first chapter raised three questions to determine how prepared the four IHSDN in this study are to provide user-centered care, and to identify where to focus improvement efforts:

- What are the characteristics of IHSDN in Latin America?
- What lessons and recommendations can be drawn from how IHSDN have been designed and implemented in Latin America?
- What will it take to consolidate the IHSDN model in Latin America?

The preceding chapters give a detailed analysis of how the IHSDN are set up in terms of the governance, funding, management model, and care model dimensions. This last chapter offers the main conclusions and gives recommendations meant to strengthen the IHSDN in Argentina, Brazil, Colombia, and Mexico, in accordance with each country’s context. The answers to the question about lessons and recommendations are primarily drawn from the results and elements highlighted for each dimension below. The chapter ends with the challenges of consolidating the IHSDN model in Latin America,

especially in the areas of evaluating implementation and performance, network approach, coordination, and funding.

2. Governance

| Governance model

The IHSDNs’ governance models have vertical and hierarchical mechanisms, as well as visible leaders and decision-makers. The networks in Mexico and Colombia are the most developed, with uniform and standardized processes, while the Brazilian and Argentinian networks are less developed.

Recommendations: The networks’ governance models should have clearly defined hierarchical levels and rules of operation so proper coordination between levels of care and healthcare establishments can be established. Achieving a network governance model starts with strengthening the organizational structure that promotes coordination between levels, standardizing processes, and establishing accountability and performance evaluation criteria.

| Community component and citizen participation

Citizen participation is incipient and has little influence on the networks’ decisions. Formal citizen participation mechanisms were found in the Brazil, Colombia, and Mexico networks, but only in Colombia was that participation found to impact decisions. The networks in these three countries have community participants with a specific role and a clear relationship to other network participants (directors, healthcare professionals, etc.).

Recommendations: One of PHC’s main features is person- and community-centered care, so it is recommended that networks provide effective opportunities for citizens to participate that

maintain clear and visible ties for decision-making, and that decisions be shared with the network's target population. To provide opportunities for citizen participation, networks need to set the objectives for that participation, create rules for interaction between users and services, define feedback mechanisms to foster transparency, clear communication, and the utilization of user suggestions to improve the services.

| Diffusion and exchanges with the community

Diffusion actions, exchanges of information, and mechanisms for communicating with the community were mixed, and the different network nodes had a marked lack of coordination in their communication strategies. The mechanisms ranged from informal communication and notices in healthcare establishments (Argentina) to websites (Brazil). Other networks used mass media and social media (Colombia), and in some cases the mechanisms were meant to educate the population and nonprofessional staff (Mexico).

Recommendations: Maintain effective and ongoing relationships to strengthen collaboration with the community and design communication strategies that are coordinated between the network's different nodes. It is also important to use modern and effective communication strategies capable of reaching the target population. At minimum, networks should use digital media. Different countries in the region already make significant use of digital technology for interactions between users and services. The purposes of the communication should be precisely defined, since in addition to educating and informing about health, the networks are also used to manage the services themselves, like requesting appointments and remote monitoring. The scope of these services depends on local conditions.

| Cross-sector collaboration

The four networks have made varying degrees of progress on relationships between the health sector and other government sectors. All four networks recognized the importance of cross-sector action and of the influence of social determinants on the population's health.

Recommendations: Achieve real integration in cross-sector relationships, which means planning, funding, and implementing public policies together to reach a shared social objective. To promote a cross-sector approach, start by identifying health-related issues that also concern other sectors. This step will require communication channels and clear rules for interacting. For example, early childhood development, nutrition, food security, and occupational health issues cut across the different sectors.

| Accountability

The financial accountability mechanisms are well-defined, and the networks are familiar with them. Although this information is public, it is shared with stakeholders in different ways and to different degrees. The networks are also held accountable for performance indicators or for reaching goals, but their mechanisms are rudimentary, and quality of care measurements need to be strengthened or included.

Recommendations: To improve accountability and determine whether the network is performing as intended, as well as to identify areas of improvement in order to achieve the network's fundamental objectives, networks need to: (i) implement an effective and permanent system to report progress towards healthcare goals and the status of performance and quality indicators; (ii) analyze (not just compile) the information reported to find success stories, gaps, and opportunities for improvement, and (iii) improve the communication process (diffusion, dissemination, and change management) among managers and administrative and operating personnel at the network's different levels and nodes.

3. Funding

In the countries analyzed, the public funding models were marked by fragmentation: they have different funding sources and ways of collecting funds. The budgetary model centers on separate funding for the different levels of care. For networks in federal programs, like in Mexico, there is shared funding, but it does not take the network's local needs into account since its management is centralized.

Resources are channeled to the networks through systems that do not align with local needs or work models, and they are not adjusted according to the population's risk. In other words, resources continue to be allocated according to levels of care or political/administrative levels. Community care and social needs go unfunded. There is a widespread perception that not enough resources are allocated to PHC and that it is chronically underfunded.

Recommendations: Analyze and implement funding models that align with the network model and the community's needs. Policies that incentivize working as networks are needed in order to achieve integration and reach goals. These policies should be sound, clear, and widely circulated among the networks' managers, care levels, and operational parties.

The networks analyzed were in rural areas or small cities. To implement IHSDN in large cities or geographical areas with a significant presence of private providers, the network's planning and design should include funding, planning, and proper operational and geographical distribution. In these cases, there should be additional financial mechanisms to offset any financial delays by providers.

4. Management Model

The goal of managing a healthcare services network is to match the services offered with the health needs. An analysis of the management model of a health service delivery network covers the main organizational mechanisms, human resources, motivation and incentives options, leadership and coordination, and support systems, all through the lens of whether they achieve the network's objectives.

I Leadership and organization

The networks have vertical leadership and organizational structures that mirror the health system they form part of. All the networks have formal and ongoing opportunities to interact with local, subnational, or national authorities, although the intensity and dynamics of this interaction vary. The hierarchical structure of the health system the network belongs to shapes and prioritizes interaction between the two.

The main purposes of the interaction are planning, training, management and organization of service delivery, progress monitoring, and planning improvements. The networks have weak, innovative organizational structures that primarily react to demand and show little proactivity and capacity to readjust to new demands, whether due to cultural factors, a shortage of human resources, or the inertia of pre-existing, bureaucratic administrative structures.

The networks and the community interact through formal and informal ties. However, it was not possible to determine the extent to which the community helps improve the networks' organization and leadership.

Recommendations: The networks' leadership and organization needs to evolve into a substantial component of the health system. When network leadership and organization models mirror the health system's model, the network is not necessarily able to provide an agile response to the health conditions and demand for services of the population it serves. It is necessary to build institutional capacity for interacting with the community in a dynamic and productive way.

I Motivation and incentives systems

Networks have different incentives policies, but they are not designed to promote network coordination or quality. Rather, they are associated with productivity, with achieving national the goals of programs, or with employee attendance and punctuality. One network has no incentives system at all.

Incentives are for individuals (healthcare workers), and the study found no incentives for groups of employees, services, or healthcare establishments. Networks are just starting to apply outcome-based financial incentives, a trend connected to the weak and fragmented information systems for monitoring information and tracking progress towards goals.

The non-financial incentives for workers found in the study were tied to skill building or providing better work conditions (equipment for services, work supplies, etc.). It is questionable whether these can be considered incentives, since providing training and supplies to improve people's work should actually be the default at any modern organization. The tendency to promote better training for those who perform the best is paradoxical; in practice, people who perform poorly are those most in need of training.

Recommendations: Incentives systems could be reoriented towards achieving quality and improving performance instead of productivity or attendance. This shift would be a major organizational improvement. Incentives have two main goals: (i) motivate employees to continue performing well or to perform better, and (ii) achieve lasting improvements in performance. However, most of the incentives are individual, despite the fact that each health worker is part of a complex organization where providing services or improving performance depends on everyone's activity. It would thus be helpful to design and evaluate network-wide incentives. The first steps for implementing an incentives system are defining performance indicators, setting goals that align with the local context, and having information systems that provide the necessary data. There also needs to be a structure for determining the steps for improving performance and feedback systems for health-care workers and directors.

I Information systems

The networks' information systems are linked to those of the health system they form part of, and the systems vary widely in terms of scope, maturity, and use. In most cases, networks have multiple information systems that serve different purposes and are not interconnected. These systems lack the attributes a network needs in order to make decisions, manage the network, make evaluations, and provide services. The networks are just starting to introduce and use digital systems. The study did not find that information systems were efficiently designed to coordinate and give continuity to the services, and they are rarely used for planning, decision-making, evaluating performance, and improving quality.

Recommendations: Information systems are constantly evolving, and the different networks in this study have made varying degrees of progress on digitizing health information. This study recommends working on several fronts: (i) governance of health information, to reorient and standardize the collection, analysis, use, and dissemination of information to the different levels of the network, including users; (ii) investments in proper infrastructure to build robust information systems; (iii) training for healthcare personnel, from directors to community health workers, on how to use the information in their daily work; (iv) building a powerful information system and valid indicators to effectively run and evaluate the IHSDN, allowing coordination between levels of care and evaluations of the performance of both individual providers and healthcare establishments.

The bodies driving the formation of networks should create indicators, equipping organizations with information systems for health care and management that can be used to improve processes and collect relevant information for patients and professionals. One of the most important tools for inter-organizational coordination is information system and indicators and outcomes that are standardized between levels. All the networks see this area as needing work, especially with regards to recording information (paper tallies yield unreliable information, for example); implementing technological solutions, like electronic health records; making different organizations' systems compatible; or gearing the systems toward comprehensive care for people.

I Human resources

The networks use a pyramidal structure to hire and assign human resources. National or central authorities establish the hiring criteria, profiles and assignments, evaluation, and training. In most cases, these powers are defined and regulated and have different degrees of maturity in the networks in this study. They are also constantly shifting and follow national policies that do not necessarily match the networks' characteristics and needs.

Researchers found a shortage and poor distribution of human resources in the IHSDN. Health services have little leeway to overcome these limitations because staff hiring, and assignment decisions are made by national or subnational authorities. Another aspect to consider is the health workers' high level of turnover rate because of how the networks are organized.

There are set hiring criteria specifying the mandatory skills and competencies for healthcare workers. The workers have the skills needed to do their jobs, and the networks hold training activities, with varied intensity and coverage. Usually national programs define the scope and content of the training programs, which are not always linked to the network's tasks. Though offered on a continual basis in all networks, training varied widely between the different cases, with specific lines of care through national programs (Argentina), coordination with universities (Brazil), and an Institutional Training Plan (Colombia).

Recommendations: Human resources are the cornerstone of health services. The networks' operations would benefit from participating with the central authorities in making decisions about the number, distribution, and training needs of health personnel. The shortage of resources leaves networks chronically understaffed. However, this shortage can be mitigated by making organizational changes and putting a greater emphasis on using digital technology to improve professionals' efficiency and availability, making the services more accessible. For example, telemedicine is just starting to be used in Latin America. A study conducted at hospitals in nine countries (Argentina, Chile, Colombia, Costa Rica, Guatemala, Mexico, Panama, Peru, and Uruguay) reported that telemedicine use ranges from 25% in Colombia to 65% in Chile, although major obstacles still hinder its expansion (Le

Rouge, Gupta, Corpart, and Arrieta, 2019). Latin America has a growing number of teleconsultation and telemedicine experiences, which have allowed a better distribution and response to the demand for services.

I Support systems

In the case studies, the goal was to learn whether the networks had (i) an adequate supply of essential medications (supplier relations and supply to patients), and (ii) means of transporting patients in emergencies.

Since the networks are part of the national health systems, they depend on the systems' mechanisms for funding, selecting, procuring, and distributing medications. These mechanisms vary in scope and complexity. There are official lists establishing the type of medications available in the network, and most of the medications are distributed to the population free of charge.

The main goal of the access policies is to make essential medications available to the population; but the continuity and availability of medications is spotty due to multiple budgetary and supply-chain factors. This means prescriptions cannot always be filled, so users may have to pay out-of-pocket or their treatments may be interrupted because they did not receive the quantities of medicine they needed.

All the networks have systems in place for transporting patients in emergencies and urgent situations. Response times and capability, as well as level of organization, varied from one IHSDN to another. Some networks have the ability to track users from where they received a referral to the next level of care. The networks lacked the ability to take measurements to generate statistics on the performance of emergency services.

Recommendations: Support systems are essential to structuring and delivering care. Importantly, enhancements at the national or subnational level, which eventually affect the networks, are not the only drivers of support system improvements. The networks themselves, at the local level, can also contribute very useful innovations and experiences. It is best to take a network-centered approach when working to improve support systems. This would help cement networks' place within the health system.

Stronger support systems start with information systems. Information systems' architecture and functionality should be carefully reviewed to match the capacity to offer services and the supplies needed to do so with the population's care demands.

5. Care model

| Care model

The four networks' care models stand as an example for the countries in the region. The networks are an embodiment of the national health policies focused on universal coverage, equality, and financial protection. The PHC-based care model for IHSDN has been adopted by all networks in the study and is organized in the way permitted by each network's health system, funding criteria, and type of governance. The networks in this study are institutionalized and adapted to meet the health needs of the population they serve, although the services are delivered in a context of limited physical and human resources and organizational weakness.

Recommendations: The IHSDN should be the gateway to the network. Coordination and continuity of care are beginning to take root, but the networks do not deliver comprehensive services. The IHSDN are currently making strides towards providing user-centered care.

The networks' current model needs better problem-solving capabilities, more coordination, and enhanced continuity of care. These challenges stem from limited resources and the fragmentation of the health systems the networks belong to. One care-related challenge is improving referrals and back-referrals. Only Brazil reported following regulations, and the other systems face difficulties because of the lack of control over this part of the process. Networks' ability to resolve cases, which is curtailed by insufficient infrastructure, needs to be improved.

A focus on primary health care and community-centered care is one ingredient of a successful network. To achieve this orientation, there needs to be a cultural shift towards integrated work and user-centered services; the proposed shared processes break with the traditional culture of health organizations. Also, the new values that give primary care a leading role lead

to better health outcomes and can help make the system less fragmented.

| Formulas for coordination

The networks in this study are not able to dynamically adjust health services according to demand, and the care provided does not entirely match up to health needs. Instead, there are fragmented networks both within the different care levels and between them. The study found little coordination for teamwork at the local level and between the different levels of care, as well as deficiencies in keeping up to date both on clinical management and local epidemiology information and also a poor match of human resources to changing needs. The services do not take into account patient participation during follow-up, and there are problems with continuity of care. This situation poses a significant obstacle to care for patients with chronic diseases, and it diminishes the likelihood of achieving favorable health outcomes.

The main strength of the four networks lies in their PHC approach, which is key to how they are structured. But PHC has been overwhelmed by demand and the lack of resources, decreasing the quality of the healthcare and, consequently, its effectiveness.

Recommendations: Networks need to design strategies to strengthen coordination and integration, especially to address the current issue of chronic diseases. To achieve this, it is crucial to create and strengthen networks where the different subsystems can be organized vertically and horizontally to meet care needs in a collaborative way. Coordination is the foundation of the IHSDN model, so it is essential that the network's organizations work to implement improvement mechanisms to avoid defective relationships or faulty care for patients. In complex models with a number of organizations, whether public or private, there should be a network coordinator or manager that consolidates the processes and prevents the problems mentioned throughout this book. The care guidelines and protocols should also address how to achieve a balanced distribution of the functions and services assigned to the organizations.

6. Challenges for consolidating the network model

The main challenge for the network model is the difficulty of rigorously evaluating its implementation and outcomes for the population. Having standardized indicators for evaluating and correcting the steps taken to launch a network is crucial, as is creating a dashboard with reliable and standardized data and health outcomes, and setting up systems and theoretical guidelines for establishing this model.

An uninformed population is a closely related challenge. Several networks (Argentina) mentioned the lack of information directed toward the population about the network itself and the services offered. Even in the Colombia network, which has a very well-established participation model, users did not know the network existed. The population needs to be informed so it uses health services properly and avoids mass use of hospitals.

Another major challenge is the network approach. IHSDN should support PHC, so their launch must be accompanied by a shift away from the traditional hospital-based culture (Suter *et al.*, 2009). Evidence demonstrates (Burns *et al.*, 2002) that this cultural shift cultivates trust, shared objectives, recognition of professionals at other levels of care, and recognition for interdisciplinary work. Centralized networks (Mexico) should allow a local culture unique to each organization to emerge to keep centralized decision-making from curbing health workers' freedom to implement innovative initiatives to support the population or collaborate with other sectors.

The lack of coordination and of shared process designs are other challenges to be considered. Again, roles, procedures, and workflows need to be clearly designed in order to implement a network in which various nodes work with the same patients, diseases, and geographical area. Launching the network without this prior reflection and work can lead to organizational chaos, as occurred with the referral and back-referral system in the Santiago del Estero network (Argentina). Support from politicians and health authorities is also crucial for properly implementing the network.

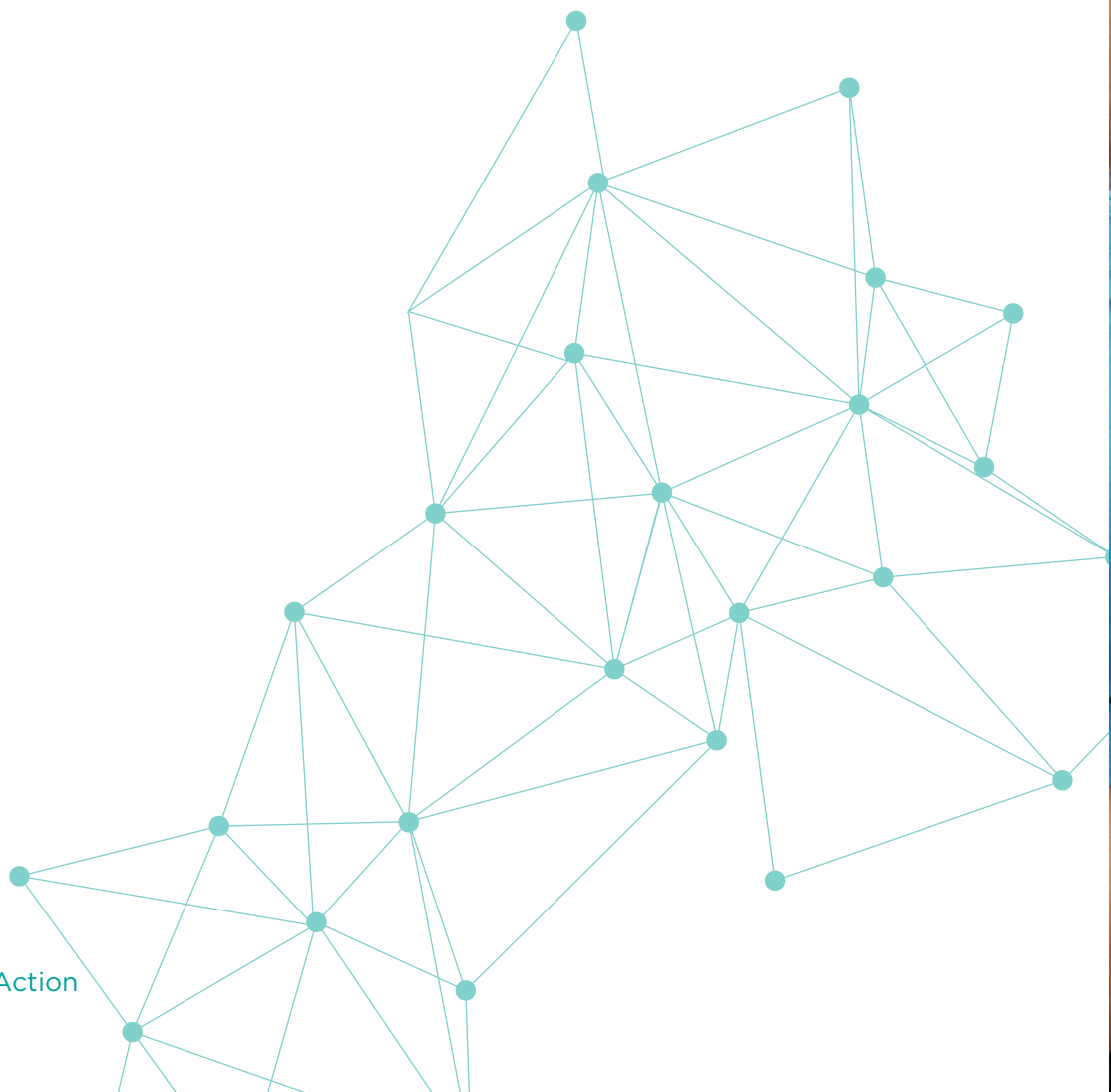
While insufficient funding was already mentioned as a problem, failure to identify funding sources and flows is another related problem that could be considered a challenge for network operations. To define a medium- and long-term strategy for the network, with improvements and health outcomes tied to its implementation, there needs to be clear, exclusive, and stable funding sources to give participants certainty about the network's solidity and sustainability. Networks that depend on several subsystems or high number of participants (Colombia, Brazil, Argentina) are somewhat provisional in terms of funding, since different decision-makers have a hand in whether they will be funded.

7. Final notes

Health networks are dynamic. Their configuration, composition, and performance changes over time. Contextual circumstances, public policies, demographic shifts, and other factors all affect the work of a health system as a whole, as well as that of each of the network's participants. The networks in this study are dynamic; their configuration, composition, and performance respond to these circumstances. However, the networks' responses do not keep pace with environmental changes, which is due in part to the fact that the networks are part of complex and fragmented health systems.

With optimism, based on a better understanding of the experiences of implementing IHSDN in LAC, the study identifies opportunities for accelerating progress so that in the near future Dioselina will have the following to share about her patient journey:

"I really trust the health center where I always receive care. Every year they tell me when I should visit my doctor, do tests, or get a check-up for my feet, my eyes... If I need additional care, like when I have to get my legs treated, they give it to me without any hassle. I like my doctor because he gives me a clear explanation of what's happening to me and what I need to do to get better, although I don't always follow his advice. The other doctors at the hospital who have given me care, like the ones who checked my eyes, are also familiar with my problem, and I don't have to repeat my story every time I have an appointment with them. They report back to my doctor about my status. I don't have a cell phone, but the social worker makes an arrangement with my neighbor to remind me of the appointments and check on how the medicines they gave me are working. The staff at the health center put me in contact with a group of diabetic patients in my neighborhood, and I meet with them to exchange tricks for improving our health. At the health center, they work hard to keep me well!"



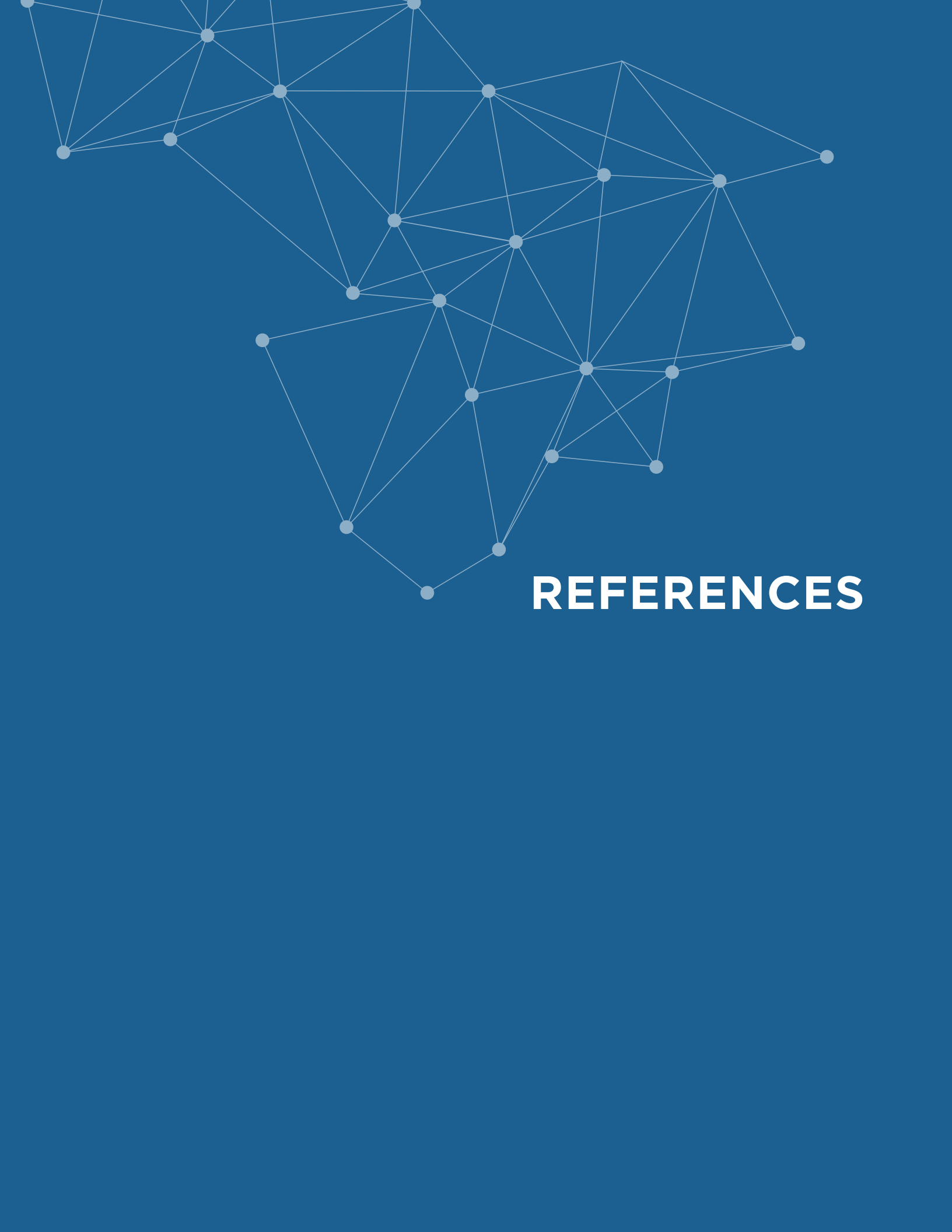




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