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Regional-based Integrated Healthcare Network policy in Brazil: from formulation to practice

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Background Regional-based Integrated Healthcare Networks (IHNs) have been promoted in Brazil to overcome the fragmentation due to the health system decentralization to the municipal level; however, evaluations are scarce. The aim of this article is to analyse the content of IHN policies in force in Brazil, and the factors that influence policy implementation from the policymakers' perspective.

Methods A two-fold, exploratory and descriptive qualitative study was carried out based on (1) content analysis of policy documents selected to meet the following criteria: legislative documents dealing with regional-based IHNs; enacted by federal government; and in force, (2) semi-structured individual interviews were conducted to a theoretical sample of policymakers at federal (eight), state (five) and municipal levels (four). Final sample size was reached by saturation of information. An inductive thematic analysis was conducted.

Results The results show difficulties in the implementation of IHN policies due to weaknesses that arise from the policy design and the performance of the three levels of government. There is a lack of specificity as to the criteria and tools for configuring and financing IHNs that need to be agreed upon between involved governments. For their part, policymakers emphasize the difficulty of establishing agreements in a health system with disincentives for collaboration between municipalities. The allocation of responsibilities that are too complex for the capacity and size of the municipalities, the abandonment of essential functions such as network planning by states and the strategic role by the Ministry, the 'invasion' of competences among levels of government and high political turnover are also highlighted.

Conclusions The implementation of regional-based IHN policy in Brazil is hampered by the decentralized organization of the health system to the municipal level, suggesting the need to centralize certain functions to regional structures or states and to define better the role of the government levels involved.

Keywords Integrated delivery networks, health policy, Brazil, regionalization, decentralization, co-ordination of care

KEY MESSAGES

- Regional-based IHN policy, introduced in countries like Brazil, aims to overcome care fragmentation through improved co-ordination of health services at the supra-municipal level and through economies of scale.
- The results show that the lag in the implementation of IHNs in Brazil is related to the fact that network creation depends on negotiation, the allocation of complex responsibilities to a level of government generally too small to assume them and the weak leadership of states and federal entities.
- The results show structural obstacles related to the decentralized organization of the health system that indicate the need for centralization of certain health responsibilities at the supra-municipal level, rather than the use of financial incentives or reinforcement of administrative and financial capacity of municipalities to achieve their adherence to the policy.

Introduction

Health services fragmentation is considered to be one of the main obstacles to attaining effective healthcare outcomes in many healthcare systems around the world (World Health Organization 2008). To address this problem, integration of care has been promoted by international agencies and national governments (Pan American Health Organization 2010; World Health Organization 2008), through different approaches. These include the integration of vertical programmes into the mainstreaming of health services, the co-ordination between public and private health-related services and the integration of health with other sectors (World Health Organization 1996, 2008). In response to the particular problem of the lack of co-ordination across different levels of care, many governments—including the Brazilian (Ministério de Saúde 2006d; Presidência da República 1998)—have issued policies fostering the introduction of Integrated Healthcare Networks (IHNs). According to the Pan American Health Organization (2010), an IHN is a network of organizations that provides (or makes arrangements to provide) equitable, comprehensive, integrated and continuous health services to a defined population, and is willing to be held accountable for the clinical and economic outcomes and the health status of the population served. IHNs are not a new organizational model. They have been the subject of policy at intervals over last three decades, adopting different names and a wide range of forms depending on the world region and time: district health systems or local health systems [*sistemas locales de salud* (*SILOS*) in Latin America] were promoted in many low- and middle-income countries (Mills 1990; Unger *et al*. 2006; World Health Organization 1996) and integrated delivery systems and clinically integrated systems were frequent in the USA and Europe (Ham *et al*. 2011; Shortell *et al*. 1994). The regional-based IHN type is generally linked to the devolution of healthcare management to a lower tier of government (Hutchinson *et al*. 1999). Its aim is to overcome the fragmentation of care caused by decentralization to small units of government (Mills 1990; Pan American Health Organization 2010) through better co-ordination between care levels and through economies of scale by increasing the size of the reference population (Church and Barker 1998). The Unified Health System (SUS) in Brazil promotes this type of IHN.

The Brazilian Unified Health System (SUS)

The 1988 constitution created the SUS, which is characterized by universal access to care, that is free at the point of delivery (Paim *et al*. 2011). It was decentralized in accordance with the country's political structure, which includes three levels of government: federal, state and municipal (Dourado and Elias 2011). It declared healthcare a shared competence of the different levels of government; subsequent legislation has attempted to delimit the role of each (Ministério de Saúde 1996, 2001, 2006b,d).

The SUS is financed by taxes, levied mostly at the federal level and transferred to specific municipal and state funds depending on the health services they manage: for primary care and drugs, the budget allocated is based on capitation, and for specialized care, there is a prospective payment based on activity (Ministério de Saúde 2006d). The stewardship, both in health policy formulation and in the planning, control and evaluation of care/provision, is also a shared competence developed by each level of government within its scope of influence. Debate and negotiation takes place in Bipartite Intergovernmental Commission (CIB), with the representation of municipal and state secretaries, and Tripartite Intergovernmental Commission (CIT), also with federal representation (Lobato and Burlandy 2001). Finally, healthcare provision is the responsibility of municipalities, with states as subsidiaries (Ministério de Saúde 2006b,d), and is carried out by public and private providers.

Regional-based IHNs in Brazilian SUS policies

Regional-based IHNs are not new in Brazil. The 1988 constitution establishes that health services should be organized in regional hierarchical networks to ensure population access to all levels of care (Ministério de Saúde 2006d; Presidência da República 1998). Subsequently, Act 8080 assigned the planning and organization of healthcare networks to municipalities in co-ordination with the states. At minimum, the municipalities should provide primary care to their population and negotiate the provision of secondary and tertiary care with other municipalities, if necessary (Ministério de Saúde 2006b). Along with the federal government, the states should develop norms, co-ordinate and evaluate IHN implementation and also plan state's IHNs (Ministério de Saúde 2001, 2006b).

The competences assumed by municipalities and states in the organization of healthcare networks depend on their capacity, as assessed by an accreditation process (Ministério de Saúde 1996, 2001). Various directives have introduced tools —with different emphases (Ministério de Saúde 1993, 2001)— for creating healthcare networks (based primarily on planning), such as the Health Regionalization Plan [Plano Diretor de

Regionalização (PDR)] and the Investment Plan (PDI) for network design, and Integrated and Negotiated Programming in Healthcare (Programação pactuada e integrada) (PPI) for establishing patient flows between the municipalities that make up the network (Ministério de Saúde 2006c). The most recently introduced rules concerning healthcare networks are the Health Pact of 2006 (‘*Pacto pela saude*’), Ordinance 4279 in 2010, and Decree 7508 in 2011, which replaced those mentioned above and established new guidelines for healthcare network organization as well as instruments for their development at the macro and micro levels.

The evaluation of IHNs in the international context

Although experiences with IHNs are growing at the international level, there has been little research on them. What research exists has been conducted primarily in North America and Europe (Strandberg-Larsen and Krasnik 2009) and focuses on the analysis of IHN strategies, structures and performance results. In low- and middle-income countries, systematic analysis and evaluation of IHNs (or also ‘district health systems’) has been even more limited (Herrera Vázquez *et al*. 2007; Pan American Health Organization 2010; Vázquez *et al*. 2009), and is mostly focused on the decentralization process in which they are involved (Atkinson *et al*. 2000; Bossert and Mitchell 2011; Maluka *et al*. 2011) rather than on the configuration of the network itself. In Brazil, the literature concerning regional-based IHNs is abundant, but the majority is made up of opinion articles that reflect the evolution of policy and its limitations (Dourado and Elias 2011; Silva 2011; Trevisan and Junqueira 2007) or theoretical proposals for IHN implementation and evaluation (Hartz and Contandriopoulos 2004; Mendes 2010; Santos and Andrade 2011). The few evaluations that exist focus on the implementation of a specific policy instrument, e.g. the regional governance body (‘colegiados de gestão regional’) (Assis *et al*. 2009; d’Avila Viana *et al*. 2010), inter-municipal consortia (de Lima 2000; Neves and Ribeiro 2006), on local networks, or programmes related to a specific pathology (Lima and Rivera 2006; Spedo *et al*. 2010). Very few analyse the factors that influence healthcare networks implementation (de Lima *et al*. 2012). However, the results of some studies indicate that in many states in Brazil health services are not working as a network (Paim *et al*. 2011). These studies raise questions about the elements that may be hindering IHN implementation.

The objective of this article, which presents partial results from a larger study (Garcia-Subirats *et al*. 2014a,b), is to contribute to knowledge through the analysis of the content of the IHN policies in force in Brazil, and the factors that influence policy implementation from the perspective of policymakers.

Methods

Study design and study area

A two-fold, exploratory and descriptive qualitative study was carried out based on (1) content analysis of the regional-based IHN policies in Brazil to determine the policy elements that may influence their implementation and (2) semi-structured individual interviews with federal, state and municipal policymakers to identify those factors that are influencing the implementation of the IHN policy and why, from their perspective based on their experience in the process (Patton 1990). The purpose of an exploratory and descriptive qualitative study is to build rich descriptions of complex phenomena that are unexplored in the literature, based on the analysis of particular cases (Marshall and Rossman 2011). Walt *et al*.’s definition of health policy was adopted; i.e. ‘courses of action (and inaction) that affect the set of institutions, organizations, services and funding arrangements of the health system’ (Walt and Gilson 1994). Two analytical frameworks —Walt and Gilson’s (1994) for policy analysis and (Pan American Health Organization 2010) for IHN conceptualization— oriented the study. First, different groups of factors potentially influencing policy results related to policy design (*content)*, to the implementation of the policy (*process)* and to the stakeholders’ influence (*actors)* were analysed (Walt and Gilson 1994). Second, to analyse the content of the policy, the essential attributes of IHNs and the policy instruments for their implementation were used (Pan American Health Organization 2010). These attributes include the clear definition of the population/territory and services covered; the alignment of financial incentives with network goals; and the existence of mechanisms to co-ordinate healthcare throughout the health service continuum.

Table 1 Brazilian IHN-related legislative documents analysed

- Constituição Federal de 1988 (Presidência da República 1998)
- Lei Orgânica da Saúde. N°. 8080 de 1990 (Ministério de Saúde 2006b)
- Portaria n° 399/GM para a divulgação do Pacto pela saúde de 2006 (Ministério de Saúde 2006d)
- Portaria n° 4.279 que estabelece diretrizes para a organização da rede de atenção à saúde no âmbito do SUS de 2010 (Ministério de Saúde 2010)
- Decreto n° 7.508 que regulamenta a lei no 8.080, para dispor sobre a organização do SUS de 2011 (Presidência da República 2011)
- Portarias n° 1.020 de 2002 e n°1097 de 2006 para definir a programação pactuada e integrada (PPI) (Ministério de Saúde 2002, 2006c)

Sample

Policy documents were selected by applying the following criteria: (1) legislative documents dealing with IHNs (constitution, laws, decrees and official orders); (2) enacted by the federal government, and (3) in force at the time of the search. The collection of documents took place from 2010 till December 2012, to allow for the inclusion of any new relevant policy that might be issued (Table 1). Criterion sampling (Fernández de Sanmamed 2006) was used to select informants, applying the following criteria: policymakers (health secretaries, head of departments or intermediate managers) belonging to all three levels of government: federal, state and municipal. The state (Pernambuco) and municipalities (Recife, Caruarú, Paulista and Santa Cruz de Capibaribe) were the areas of study selected for the larger study (Garcia-Subirats *et al*. 2014a,b). The municipalities’ selection was based on the criteria that they are predominantly urban areas and encompass different

Table 2 Final composition of the sample of informants

Informant group		N
Federal	Ministry of Health[a]	6
	CONASS, CONASEMS[b]	2
	Total	8
State	Secretariat of Health of Pernambuco[c]	2
	Regional Health Departments[d]	3
	Total	5
Municipal[e]	Secretariat of Health of Recife	1
	Secretariat of Health of Caruaru	1
	Secretariat of Health of Paulista	1
	Secretariat of Health of Santa Cruz de Capibaribe	1
	Total	4
Total		17

[a]Department of Co-ordination of the Healthcare Network (*'Diretoria de Articulação de Rede Assistencial'* DARA), Department of Primary Care (*'Departamento de Atenção Básica'*), Department of Decentralization Policy Development (*'Coordenação Geral do Desenvolvimento de Politica Descentralizada'*), Department of Secondary Care (*'Departamento da Atenção Especializada'*), Department of Co-ordination of Patient access and Evaluation *('Coordenação Geral da Regulação e Avaliação'*).

[b]CONASS: National Council of State Health Secretaries; CONASEMS: National Council of Municipal Health Secretaries.

[c]Department of co-ordination of patient access (*'Departamento de Regulação'*).

[d]Deconcentrated units of the State Health Secretariat (*'Gerencias regionais de saúde'*).

[e]Secretaries of Health and co-ordinators of areas such as: co-ordination of patient access across care levels, health services evaluation, primary care, etc.

socioeconomic groups. Pernambuco is the state where the Brazilian research team is located. Informants were those holding a public office related to IHN policy design and implementation in different areas including co-ordination of access across care levels and primary and secondary care. Informants were contacted and invited to participate. No one declined the invitation. The final sample size (Table 2) was reached by saturation of information (Patton 1990).

Data collection

To gather data, document analysis and semi-structured interviews with policymakers were conducted using topic guides (Patton 1990). To elicit data from the documents, a list of analytical categories was developed including IHN definition and key characteristics, IHN policy objectives and tools and strategies for IHN development. A topic guide was developed with the themes to be addressed during the interviews. This included opinions and perceptions of the content of IHN policies, experience in the process of policy implementation and factors perceived as influencing the process. All themes were addressed as they came up during the interview. In addition, all emerging themes relevant to the study objectives were followed up during the interview. Interviews were conducted mostly in the workplace and lasted between 1 and 2 h. They were audio-recorded and transcribed verbatim.

Data analysis and quality of information

A thematic analysis (Miles and Huberman 1994) was conducted using Atlas-ti software. Data from documents were segmented by themes, and the main categories were mix-generated from the topic guide and the data. Data from interviews were segmented by informant groups and themes. The process of category generation was mainly inductive, emerging from the data. Themes were identified, coded, re-coded and classified, identifying common patterns by looking at regularities, and convergences and divergences in data, through a process of constant comparison, going back and forth in the data. To ensure data quality, triangulation of results took place by using different methods (document analysis and individual interviews) and informant groups (policymakers from all levels of government). In addition, the first and last authors worked collaboratively in the analysis, and regularly discussed the interpretation of the data. Differences were discussed until an agreement was reached. Researchers involved in the analysis had different backgrounds and an in-depth knowledge of qualitative methods and the research topic and its context (Patton 1990; Vázquez *et al*. 2006).

Ethical considerations

Conditions of study procedure, risk evaluation, benefit evaluation, confidence and privacy, and informed consent were obtained by the approval of the Centro Integrado de Saúde Amaury de Medeiros (CISAM)/University of Pernambuco's Ethical Committee in 2008. Free and informed consent was obtained from every participant participating in the study. The recordings and transcripts were coded in such a way that the individual origin could not be identified, before being appropriately stored.

Results

How are the regional-based IHNs designed within current policy?

The Health Pact and—to a lesser extent—the other policies analysed, underscore some of the important factors already proposed in previous legislation. This includes the sharing of responsibilities among levels of governments in IHN development, the negotiation between them for the configuration of the network and planning instruments for IHN development. While retaining elements of uncertainty, they introduce new elements in the design of regional-based IHNs. These are set out below.

The definition of IHN and its basic characteristics

On the one hand, these IHNs—called healthcare networks (*'redes de atenção a saúde'*)—are defined as 'a set of actions and health services, articulated at levels of increasing complexity, with the aim of ensuring the integral delivery of healthcare' (Presidência da República 2011). They are associated with several key features (Table 3): a supra-municipal territorial base, the vertical integration of services of different care levels, the agreement (or pact) as a form of relationship between the municipal and state governments involved, formalized by a contract, and a healthcare organizational model by which primary care is the gateway—together with other recognized entry points such as emergency care—and the care co-ordinator along the continuum of care.

Table 3 Key characteristics of IHN design in the policies analysed

– *Population covered:* geographically assigned with supra-municipal scope (Ministério de Saúde 2006b,d, 2010; Presidência da República 1998).
– *Integration width*: at minimum, primary care, emergency care, psychosocial care, specialized outpatient and hospital care and health surveillance (Presidência da República 2011).
– *Participation of private service providers*, complementary when available public services are insufficient and preferably of non-profit entities (Ministério de Saúde 2006b; Presidência da República 1998).
– *Inter-organizational relationship:* the 'pact' (Ministério de Saúde 2006d) formalized in a organizational contract for public health action (COAP) (Presidência da República 2011) and other forms of co-operation such as public health consortia (Ministério de Saúde 2006b, 2010). Between the public funder and the private and public healthcare provider (Ministério de Saúde 2006b, 2010), are the services contracts.
– *Model for organization of services*: hierarchical organization with primary care as gateway along with other open entry points: emergency care, psychosocial care and specialized care (HIV, occupational health) (Presidência da República 2011). The primary care level acts as a co-ordinator of care along the continuum of care (Ministério de Saúde 2006b,d, 2010; Presidência da República 1998).

Uncertainty in the criteria and process for IHN creation

On the other hand, there is uncertainty in various aspects of the healthcare network creation. First, the criteria for network delimitation is not concrete: in terms of 'geographic reference' criteria established are the contiguity between municipalities, the existence of roadways; resolution capacity of services available; and, the balancing of equity in geographic access and economies of scale (Ministério de Saúde 2006d, 2010). In terms of 'width of services', the only requirement is that the network comprises at least primary care, emergency care, specialized and psychosocial care and health surveillance (Presidência da República 2011). There are no established criteria related to the 'depth' of the services (number of establishments by level of care), nor for their 'geographical distribution'.

Second, rules about the organization and operation of the healthcare networks are to be established by agreements of the intergovernmental commissions for their respective areas — national, state and supra-municipal (regional)— without specifying what each committee should establish nor how they are to co-ordinate with each other. Finally, the accreditation of the capacity of municipal and state governments to fulfil their responsibilities is eliminated, and the only guarantee is the commitment formalized by intergovernmental agreements (Presidência da República 2011).

Lack of specificity in the instruments and strategies for the development of healthcare networks

First, new co-ordination instruments are defined at the meso and micro levels, which are added to those macro level regulations previously established (Table 4). For the healthcare network governance, these include the Regional Intergovernmental Commission ('*Comissão intergestores regional*') (CIR) or the Regional Governance Body (*'Colegiados de gestão regional')* (CGR) and Organizational Contracts for Public Health Action (COAP). For patient access to care in the network, there are patient referral centres (*'Centrais de regulação'),* responsible for the referral of emergency care patients, co-ordinating hospital admissions, referral to outpatient specialized care, diagnostic tests, etc. For patient care, there are clinical guidelines, etc. The most important instrument introduced is the CIR (or CGR). These are spaces of negotiation and collaboration in the organization of the network that include mandatory participation of all municipal health secretaries in the network and representatives of the state government (Ministério de Saúde 2012). They must define the responsibilities and resources of the entities participating in the network, plan and formalize the COAP (Presidência da República 2011); co-ordinate patient access ('regulação'); follow up the PPI fulfilment; and evaluate the network (Figure 1). The implementation responsibility of most of these instruments lies with municipalities (co-ordinated by the states) or with the CIRs, but how they are to co-ordinate is not specified. For other instruments, the entity responsible is not defined (Table 4), nor is the financing of the CIRs defined, nor the administrative structure for developing their functions (Ministério de Saúde 2006d).

Second, the policies analysed establish strategies to promote the implementation of healthcare networks, which are diverse and generally vague. These include economic measures such as incentives to create and deploy networks and implement tools for their development (Ministério de Saúde 2006d, 2010) and investments to reform and expand the range of services (Ministério de Saúde 2006d). They also include policy measures such as the development of specific rules agreed to by intergovernmental commissions (Ministério de Saúde 2006d) and training measures like training of municipal secretaries that make up the CIRs (Ministério de Saúde 2006d, 2010). Financial resources for creating healthcare networks are included in the federal funds transferred to state and municipal governments without specifying the allocation criteria (Ministério de Saúde 2006d).

What has been the implementations of IHN policy from the perspective of policymakers?

The policymakers interviewed coincide in highlighting that IHN policy has been implemented in a very limited way, despite the fact that discussion about it intensified after the publication of the 2006 Health Pact (Box 1).

> 'I would not speak of it as a policy in Brazil today; I think it is a strategy under construction' [Federal Policymaker (PM)]

Most informants mention some progress in the development of IHNs in some Brazilian states, but they mainly refer to isolated initiatives limited to organizing care in a particular area or process—such as maternal and child health or emergency care, etc.—or the introduction of a specific co-ordination mechanism, mainly patient referral centres *('central de regulação'*). They attribute the slow implementation of the IHN policy to elements of the health system, to the performance of municipal, state and federal governments, and to political turnover, all of

Table 4 Strategies and instruments for the development of IHN

Level	Type of strategy/tool	Responsible
Macro	• **Tools for network planning**	
	– Health Regionalization Plan (PDR), Investment Plan (PDI) (Ministério de Saúde 2006d)	States
	– Integrated and Negotiated Programming in Healthcare (PPI) (Ministério de Saúde 2002, 2006c,d, 2010)	States and Municipalities
	• **Tools for purchase of services in the networks**	
	– Service contracts between funders and public and private service providers (Ministério de Saúde 2010)	Municipalities (Ministério de Saúde 2006d)/ Municipalities, States and the Union (Ministério de Saúde 2010)
Meso	• **Instrument for co-ordination of healthcare network governance**	
	– Regional Intergovernmental Commissions (CIR)/Regional Governance Body (CGR) (Ministério de Saúde 2006d)	Municipalities and States (Ministério de Saúde 2006d)
	– Organizational public health action contracts (Presidência da República 2011)	
	• **Tools for IHN planning**	
	– Regional Investment Plan (PDRI), health diagnostic guide (Ministério de Saúde 2010)	CIR (Ministério de Saúde 2010)
	• **Tools for the purchase of services from the networks**	
	– Service contracts	Municipalities and States (Ministério de Saúde 2006d)/
	• **Strategies for co-ordinating access**[a] **(*'regulação'*)**	
	– Access co-ordination central, protocols (Ministério de Saúde 2006d)	CIR (Ministério de Saúde 2010)
Micro	• **Mechanisms for co-ordination of care**	
	– Clinical protocols (Ministério de Saúde 2006d, 2010; Presidência da República 2011)	Municipalities and States (Ministério de Saúde 2006d)
	– Clinical practice guidelines (Ministério de Saúde 2010), Disease management programme (Ministério de Saúde 2010), Case management programme (Ministério de Saúde 2010), clinical audit	Not defined (Ministério de Saúde 2010)

[a]Intermunicipal and interstate patient referrals.

which are interrelated and act as obstacles to the creation of networks (Figure 2).

Disincentives to create IHN in a decentralized health system

In the majority of informants' discourses, decentralization emerges as a difficulty for implementing regional-based IHNs, but each group highlights different aspects (Box 2). On one hand, the federal policymakers strongly emphasize the difficulty supposed by the decision-making autonomy of the state and municipal governments, given that adhering to IHN policy depends on 'political will'. On the other hand, state policymakers signal the elements that run contrary to the creation of supra-municipal IHNs: planning and organization of the network centred in the municipality, little practice of negotiation between municipalities; and, municipal competition for federal funds. This competition, according to the informants, is reinforced by the mechanism for resource allocation to municipalities, which is based on the production of services. This leads to municipalities opposing the closing of facilities or services—even if inefficient—or to providing services but without the necessary structure to avoid loss of resources,

> '(...) Nobody wants to give up, for example, healthcare resources. I want to keep my resources; I do not want to give them away, even if I don't have the conditions to fully understand the needs of my population' (State policymaker).

Some informants also attribute this behaviour to the political desire to win votes in the elections.

Limited capacity of municipalities to develop broad competences

Most informants point to the limited capacity of many municipalities to assume the 'broad and complex' responsibilities assigned by IHN policy as one of the obstacles to implementation and as an element that differentiates regions that are more advanced (Box 3). The application of IHN policy requires municipalities to guarantee secondary and tertiary care to the population and, therefore, involves the technical and policy competence of the municipal health secretary in negotiating with other secretaries involved in the network. It also involves the availability of qualified technical teams to put complex processes into practice, such as contracting, coordination of access and evaluation of services, etc. The informants signal the 'insufficiency and low skills of technical teams and policymakers' in many municipalities of Brazil related to their small size—that includes those of medium size—and to the high turnover of the teams due to the fact that appointments are based on political affiliations. This is considered to involve a lack of expertise and interest in training and the lack of expertise of many municipal health secretaries, who have no public health training or experience, and frequently only work part time and have no time available for training.

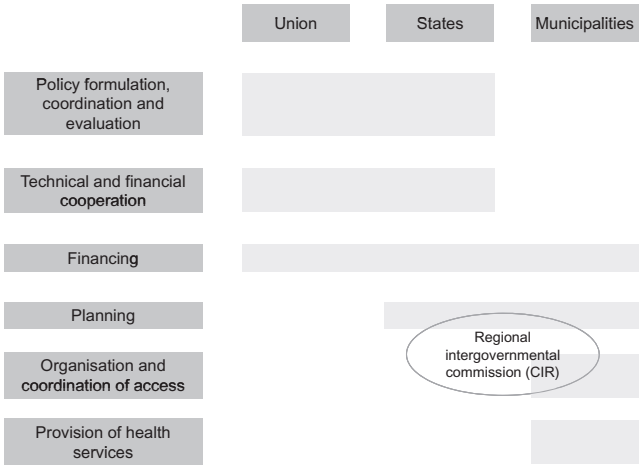

Figure 1 Federal responsibilities in the process of health network implementation.

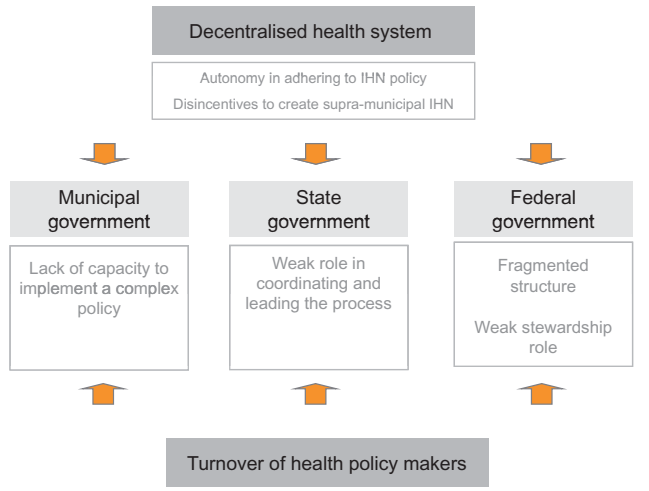

Figure 2 Obstacles to IHN policy implementation in Brazil emerging in the study.

In addition to the limited capacity, most state and federal policymakers highlight the 'lack of interest of municipalities' in exercising this responsibility. This is encouraged by the historically 'paternalistic' behaviour of the states, which have replaced them in the provision of health services. However, the local policymakers do not consider it to be due to disinterest but rather to the 'insufficiency of the funding' for municipalities to guarantee secondary and tertiary care, along with the opposition of the states to decentralising the management of services or to share the co-ordination of access to their units with municipalities.

> 'How can I say that I will guarantee admission in paediatrics, say, for my population when I don't co-ordinate hospitalization. It is the state that regulates, right?' (Municipal policymaker).

Weak state leadership in configuring IHN

Most informants relate the difference in the implementation process of networks among states to the state government leadership (Box 4). According to respondents, this leadership implies the definition of services provided by the networks and the transfer of resources, establishment of patient flows between municipalities that make up the network, as well as the monitoring and compliance of municipalities with their responsibilities in the provision of services. For most informants, those states with weaker leadership are those who have served as direct healthcare providers, engaging less in co-ordinating the process of the IHN development.

> '(...) In my understanding, the Brazilian states must stop worrying about opening health services—today many do this, they are hospitals providers etc. etc.— and put resources into organization of the network, right?' (Federal policymaker).

On the contrary, those states with stronger leadership and prior experiences in implementing tools for IHN development, had made some progress in configuring IHN.

Fragmented structure and weak strategic role of the federal entity

In the discourse of the informants, particularly at the federal level, organizational elements of the Ministry of Health emerge that limit its role as a formulator of IHN policy and contribute to slow implementation. First of all, its fragmented structure discourages the co-ordination of activities and plans; e.g. departments involved in IHN policy do not communicate with each other and work in isolation (such as primary and secondary care divisions); another example is the existence of vertical disease programmes that fragment the activities and the resources allocated to the health services (Box 5-1).

> 'We have great fragmentation in all areas of policy... We struggle to create a single Ministry of Health due to the fragmentation of the Ministry itself (...) they have separate departments and speak amongst themselves very little' (Federal policymaker).

Box 1 Examples of the category 'General opinion of policy implementation in Brazil and Pernambuco'

– Non-implementation of policies

'It's not happening yet. In fact we are fighting, that's obviously what is happening, right? For example, in some municipalities we dazzle with this, right? But still, it is still just beginning isn't it?' (Federal PM).

– Isolated initiatives without a health system perspective

'We have incredible experiences with very important secretaries of health, even in smaller states like Sergipel. We have some very interesting experiences, but it is not the logic of the system. It is not easily observable. They are focal points, punctual [experiences]. We have a lot of thematic networks. We do not have a healthcare network where we say: ''this is the example for people to follow''' (Federal PM).

Box 2 Examples of the category 'Disincentives in a decentralized health system'

– Autonomy of decision making by federal and municipal entities

'We try to establish the tripartite pact, but this does not oblige the municipality to implement the policy, (. . .) the municipality can decline to adhere to it, just as the state also adheres to national policies, or not, just as it supports municipalities, or not. We respect each other's autonomy' (Federal PM)

– Lack of interest in the creation of supra-municipal networks

'(. . .) that is, the illusion that municipalities would be autonomous [they would implement] complete health systems was created by decentralization. This was awful for the SUS because it stimulated very little solidarity between municipalities in terms of basic things like: economizing, guaranteeing the structure of an inter-municipal network that would handle the things that I am not able to handle within the municipality' (State PM)

– Competition for resources

'The Ministry of Health makes resources available for each state. These resources should be destined to guaranteeing elective surgeries (. . .) for example: cataract, hysterectomy, some elective surgeries (. . .) the resources come to the state and the state negotiates with COSEMS, with the municipalities (. . .) about how they should be distributed (. . .) Therefore, this is where the quarrel starts, each one wants his cake (. . .) They are very small municipalities, tiny, that do not have any infrastructure, or services or professionals for surgery' (State PM)

'There are problems, with people saying things like: ''I am not going to disable my service here, I am not going to let health services be concentrated in another municipality, because for me it is important to have a functional hospital here''. So there is much of this competitiveness that is a problem of management and the historical structure of the Brazilian federation' (Federal PM)

– Electoral motives for direct service provision

'There is the question of pre on the part of the managers, of opening services, of setting things up, and this gives them a lot of visibility with the population, even if it doesn't always bring results, it gives visibility' (State PM)

Box 3 Examples of the category 'Limited municipal capacity for development of broad competencies'

– Policy complexity

'(. . .) you work on scale and scope, you work on project management, and contracting, and these are processes very much related to the management process and managerial administration. And we really do not have this qualification; it is event in the majority of cases of Brazilian municipalities' (Federal PM).

– Relay on the states

'they [the municipalities] many times lean on the state: ''let this be the state's responsibility''' (State PM)

– Insufficient financing

'I think it is not a question of not taking charge, and they don't take charge, it is the structure itself. For example, the municipalities have difficulties with resources, and not just a few, they do not have resources to maintain themselves, they are poor municipalities' (State PM)

– Inadequate profile of managers

'we observe in practice that many [secretaries of health] are not even familiar with the system. This is not uncommon, it is simple. (. . .) many times secretaries have no experience' (Federal PM)

– Insufficiency and low skills of technical teams

'There is great turnover principally at the municipal level. The secretary of health changes, an election comes, another team comes, everyone leaves. There you go. . .there is a need to train everyone, again. We have this too, because today. . .there are few effective public servants. This turnover is, then, another complication to strengthening this process' (Federal PM)

Among the causes identified are internal elements such as ideological differences that hinder collaboration and external elements such as the pressure of interest groups to ensure that disease programmes prevail.

Second is the federal exercise of a weak strategic role in regard to policy (Box 5-2). On one hand, the emphasis on the definition of rules and requirements for the transfer of funds for micromanagement and the direct provision of services limits the autonomy of municipalities. On the other, it implies a lack of definition of relevant standards for the creation of IHNs, such as the resource allocation formula, accreditation criteria or strategies for strengthening regional intergovernmental commissions (CIR).

High turnover of health policymakers

Finally, for the informants, the limited implementation of IHN policy is strongly related to the high turnover of political posts in the three levels of government (Box 6). The continuous change

Box 4 Examples of the category 'Weak state leadership in configuring healthcare networks'

– Importance of state leadership

'it is important that the State have co-ordination and discussion about regionalization' (State PM)

'so today the state becomes a regional co-ordinator in putting together these regions of care [supra-municipal IHN], in which the municipality really becomes involved in investing and working on its operational capacity for healthcare' (Municipal PM)

– Role in healthcare provision

'with a municipality in Brazil, the state loses a bit its role and it is now being recuperated, so we had many states and we still have state secretaries of health still in the role of carrying out health actions, and this is not the role of the state, nor that of the Ministry, this is a role of municipalities' (Federal PM)

– Prior experience in regional decentralization

'the states that have always historically valued regional decentralization have evolved more than others that are more centrist (...) For example, we have states with a history of their own consortia within municipalities' (Federal PM)

Box 5 Examples of the category 'Fragmented structure and weak strategic role of the federal entity'

Box 5-1. Fragmentation of the Ministry

– Lack of communication and collaboration between departments involved in IHN policy

'I would say that of the three government levels, that with which we have most difficulty in integration is the Ministry of Health, why in integration? Because it is the Ministry that has, due to its own organization in programmes. People that end up focusing only on their piece, right? I take care of women's health, so I don't speak with the girl next to me who works in child health or the other who works on cancer, but it is the same woman' (Federal PM)

– Fragmentation of policies in vertical disease programmes.

'(...) there is vertical integration that ends up limiting the course of health actions very much (...) I am going to carry out a health action to a woman, but it can only be for diabetes, I cannot call her for a joint action on prevention....' (Federal PM)

– Influence of ideological differences, executive role and interest groups

'In the struggle for the budget, they (social movements) go to the congress and when we go to vote on the budget they have to have a ''box'' for each one of them, with a specific budget, and this is fragmenting the process' (Federal PM)

Box 5-2: Weak strategic policy role

– Interference in micromanagement

'The Ministry creates many regulations, my goodness! (...)' because our normative rigidity tells me to the surgical needle what I have to have in my unit, in my residence centre for cardiac surgery' (Federal PM) '[The Ministry] directs the municipality too much. So, the Brazilian federation is very dependent on the ''grand master'', on the grand funder, the national level, even the federal level. So, it is a federation that's not much of a federation, in truth' (Federal PM)

– No definition of rules for IHN policy implementation

'I think we should stop creating regulations and have more directives, organizational principles and (...) have a Ministry more apt to formulate directives and principles of the system. In my view, states and municipalities in common have to jointly define how it applies operationally in each state' (Federal PM).

– Direct provision of services

'Many state and municipalities were incapable of implementing actions properly (...) and there the Ministry goes and interferes, intervenes, and it eventually comes to: ''oh, if you can't handle it, let me do it for you!''' (Federal PM)

in the government members, in addition to weakening technical capacity, leads to the retreat of processes initiated and sometimes to paralysis due to political differences between successive governments.

> 'You train a health professional and place them there to work on the question of IHN regulation and in no time the staff changes. Then you have to retrain and begin again from scratch, got it?' (Federal policymaker).

The high turnover is associated with the confluence of multiple political interests in the health sector and the increase in political removals due to greater surveillance of public control bodies.

Box 6 Examples of the category 'high turnover in health policy posts'

'It's like one government ends, another one comes and everything starts again, everything changes and no one evaluates (...) sometimes we see very interesting experiences that end, right (...) because you are in the opposition... ''I am not going to let you take credit for this [project].'' I am not going to say that I will continue this project' (Federal PM).

'I think that within a prefecture is a more unstable post [secretary of health]. Certainly, I have no doubt. There is too much change, you understand? Because you have to attend to many interests, normally health is a critical node of the prefecture because you never manage to fully provide, indeed as much as the health services expands it is never enough for the population' (Municipal PM)

Discussion

This study analyses the Brazilian experience implementing a complex policy measure, the organization of health services provision through regional-based IHNs, to understand the factors that influence the process and how they do so, so as to inform the future development of policy. The approach adopted in the study—an exploratory qualitative research—does not aim at generalizing findings from a representative population sample, but instead from the process of abstracting ideas from the specifics of one case, to understand the experiences of policymakers in the IHN policy implementation and to extract policy lessons to be applied to similar contexts (Gilson 2012).

Although regional-based IHNs were considered in the 1988 constitution and reiterated in subsequent legislation, the policymakers interviewed highlighted their limited implementation. This coincides with the few published evaluations, which show that despite the high number of municipalities that signed the Health Pact (de Lima *et al*. 2012)—the number differs by state and Pernambuco is somewhere in the middle (Ministério de Saúde 2012)—few have planned and developed healthcare networks or implemented the necessary tools for doing so (PDR, CIR, etc.) (de Lima *et al*. 2012). Existing reviews agree in that many of the initiatives launched are focused on thematic healthcare networks that are centred on specific health problems (Mendes 2011), i.e. vertical programmes, which entail the risk of contributing to further fragmenting the health system.

The results of this analysis show more obstacles than facilitators to the implementation of IHN policy arising from weaknesses in policy design as well as from the performance of the three levels of government. There is a remarkable coincidence between the discourses of federal policymakers on the one hand and that of the state and municipal policymakers on the other, indicating that identified problems are not only present in the study areas but also in other states and municipalities in Brazil. These difficulties can be grouped in four main areas: the creation of healthcare networks based on negotiation rather than planning, the assigning of broad responsibilities for a local level of government with limited capacity to develop them, gaps in the exercise of planning and co-ordination competencies for IHN development and lack of clarity in the rules for policy implementation.

Creation of healthcare networks based on negotiation rather than planning

The policies analysed establish negotiation as the basis for the design and operation of IHNs. The criteria established for delimiting the geographic area and the levels of care included are unclear and must be defined by agreement between the states and municipal governments. The IHN design process is perceived by most of the informants as an obstacle to its implementation due to the difficulty in reaching an agreement in a health system that is decentralized to the municipal level, with disincentives for collaboration and for the creation of supra-municipal networks. For this reason, it is suggested that states should carry out the planning of IHNs.

Although some authors advocate negotiation to introduce greater flexibility and allow for adaptation to each context (Dourado and Elias 2011; Trevisan and Junqueira 2007), there are aspects—such as the minimum size for a network's reference area, those services that must be integrated to obtain economies of scale, the co-ordination of patient access to different levels of care or the allocation of resources to health services—that, for reasons of equity and efficiency, are more appropriately defined in a planned way at a central level, e.g. by states (Church and Barker 1998; Hunter *et al*. 2000; Mills 1990). On the one hand, negotiation is an inefficient mechanism because, as the interest of the municipality prevails, it does not allow for decisions about the allocation of resources to be made from a regional perspective. These decisions include issues about substitution between and within levels of care, integration of services, etc. On the other hand, negotiation may increase inequity in access given the unequal bargaining power of the municipalities due to differences in size and installed supply (Dourado and Elias 2011).

Broad responsibilities for a local level of government with limited capacity

The insufficient capacity of municipalities to develop their competences in the SUS that emerges strongly in the discourse has been pointed out repeatedly from the beginning of the reform (Collins *et al*. 2000; Lobato and Burlandy 2001). This inability is further illustrated in IHN policy, in which municipalities are attributed more complex responsibilities, such as those guaranteeing comprehensive care, the organization of healthcare networks, the purchase and evaluation of services, co-ordination of patient access along the continuum of care and the implementation of mechanisms for clinical co-ordination. These functions, while carried out in co-ordination and with advice from states and from the Ministry of Health, require the presence of qualified municipal technical teams, led by health secretaries with leadership skills and good knowledge of policy. Most municipalities do not have these teams, primarily —informants indicate— due to small size; more than 40% of the 5506 Brazilian municipalities have fewer than 10 000 inhabitants (Trevisan and Junqueira 2007).

This is also associated with insufficient funding. In addition, patronage practices and the political appointment of technical positions, together with political instability, lead to frequent replacement of technical teams and politicians (e Silva and Bezerra 2011; Ministério de Saúde 2006a).

Gaps in the exercise of competences for IHN development across levels of government

The gap in the exercise of those competences that are fundamental for IHN development—strategies for the implementation of healthcare networks that lack definition by the Ministry and underdevelopment of planning and co-ordination of networks by states—emerges as an obstacle to the implementation of IHN policy. The informants attribute the gap to the 'invasion' of responsibilities between levels of government (the Ministry with an operative role and states as health service providers). The insufficient definition and delimitation of the responsibilities of the different actors involved in the policies analysed is highlighted among the causes (Lobato and Burlandy 2001): a single actor is not typically identified as responsible for many of the functions and tools. According to informants, primarily at the federal and state levels, an added difficulty is the low administrative capacity of municipalities. Local policymakers signal resistance to the state decentralization of power to the supra-municipal level, and this is also described in the literature (Arretche 1999; Gómez 2008; Pasche *et al*. 2006; Trevisan and Junqueira 2007).

Lack of clarity in the rules for the implementation of IHN policy

The analysis of the Health Pact and the norms that implement it (Ministério de Saúde 2010; Presidência da República 2011) in addition to the opinions of policymakers show that the application of instruments that are considered key for IHN policy, such as CIRs or the financing of healthcare networks, are insufficiently defined. As signalled by some authors (de Lima *et al*. 2012), it is unlikely that CIRs can operate without funding and an administrative structure, and without defining those competences of the states and/or municipalities that are to be transferred, or how they should be co-ordinated among these entities to avoid duplication. Moreover, the policies do not define the funding mechanism of regional-based IHNs, although they indicate the need to develop one (Ministério de Saúde 2010; Presidência da República 2011). The design of an overall budget at the regional level (e.g. capitation based) could be a key to countering (Shortell *et al*. 1994; Ugá *et al*. 2008): (1) the incentives to compete between municipalities for the secondary care funds that generate health services duplication instead of integration and (2) the disincentives to co-ordination between levels of care that is due to the combination of capitation-based allocation for primary care and activity-based allocation for specialized care (Vargas 2002).

Policy lessons for national and international policymakers

Many of the factors that emerge in the results are more related to health system decentralization at the municipal level and the difficulties of its implementation, than to the IHN policy in particular. In fact, some have been identified by the literature as obstacles for the decentralization of the health system in Brazil (Lobato and Burlandy 2001; Paim *et al*. 2011) and in the international context (Atkinson 2007; Collins 1995). Therefore, one of the most important lessons from this study is that even though regional-based IHNs have been proposed by national governments and international agencies as organizational ways to overcome the fragmentation due to decentralization, they may not be the right formula because implementation is hampered precisely by the characteristics of decentralization itself.

So where does the solution lie? On one hand, there is a school of thought that proposes strengthening the current decentralized model and correcting the dysfunctional parts of the system (inherent in federal states). This could take place through the implementation of strategies and financial incentives to ensure the adherence of autonomous municipalities and states, as well as by improving autonomy and administrative and financial capacity required for municipalities to implement a complex policy and strengthening the technical and fiscal support of the states (Arretche 1999; Trevisan and Junqueira 2007). On the other hand, other authors (in smaller numbers) (Collins *et al*. 2000) question whether decentralizing responsibility for the organization of healthcare to the municipal level is ideal. They propose strengthening competences, either at the state level or through a decentralized administrative structure at the regional level with institutional power, of certain functions such as healthcare network planning, establishment of patient referrals, or funding and purchasing healthcare provision and the development of mechanisms for co-ordination of care. The results of this study, supported by other experiences of some decentralized health systems such as those in the Nordic countries and Canada (Axelsson *et al*. 2007; Church and Barker 1998; Mills 1990), suggest the need for centralizing these functions. This also means strengthening the planning of IHN rather than letting it depend on a negotiation process, defining more clearly the criteria for IHN creation and the rules for organization, and changing the resource allocation system for municipalities and states in such a way that provides incentives for collaboration instead of competition.

Conclusions

Regional-based IHN policy, such as that of Brazil, aims to overcome care fragmentation through improved co-ordination of health services at the supra-municipal level. The lessons learnt from this study are relevant for states in Brazil, and other similar contexts, because the results are based on different research methods and groups of informants and the coincidence with other evaluations carried out in Brazil and in the international context. They show that the lag in the implementation of IHNs in Brazil is related to the fact that network creation depends on negotiation, on the allocation of complex responsibilities to a level of government too small to assume them and the weak role of states and federal entities. It suggests the need to centralize certain functions to regional structures or states and to strengthen the planning of IHNs.

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