CCG
Centro de Control de Gestión
Universidad de Chile

WORKING PAPER

WP-CCG-02

National Healthcare Policies in Chile: An Ontological Meta-Analysis

Autor: Alicia Nuñez M.

www.managementcontrol.cl

Departamento de Control de Gestión y Sistemas de Información
Facultad de Economía y Negocios de la Universidad de Chile

National Healthcare Policies in Chile: An Ontological Meta-Analysis

Alicia Núñez Mondaca[a], Arkalgud Ramaprasad[b], Thant Syn[c]

[a]Universidad de Chile, [b]University of Illinois at Chicago, [c]Texas A&M International University

Abstract

We present an ontological meta-analysis of the national healthcare policies in Chile. Using a logically constructed ontology based on the common body of knowledge as a lens, we map the 39 key policies to reveal the 'bright', 'light', and 'blind/blank' spots in them. The ontological maps are presented at two levels of granularity. They provide a synoptic, systematic, and systemic view of the policies, and highlight their emphases and biases. We discuss (a) how the results can be used to develop a roadmap for future healthcare policies in Chile, and (b) the method can be used to compare and contrast healthcare policies across countries.

Keywords:

Health Care Economics and Organizations [N03]; Health Care Quality, Access, and Evaluation [N05], Health Services Administration [N04], Health Policy [I01.655.500.608.400]

Introduction

Health Care System in Chile

Chile's healthcare system has changed significantly over the last few decades. Until 1981 healthcare in Chile was primarily funded by the state; after that, a major reform introduced private health insurance into the country. Now, Chile has a mixed system with a public insurance (FONASA) and several private insurance companies (ISAPRES). The system offers a mix both in financing and delivering healthcare services; the citizens can choose between public and private health insurance. There is an obligatory contribution by employees – an earmark of 7% monthly income tax. More than 11 million of the population (72%) is covered by FONASA, and approximately 16% by ISAPRES [1]. ISAPRES can negotiate additional premiums with their customers to improve their health plans. The whole system is regulated and supervised by Chile's Ministry of Health and the Superintendence of Health.

Healthcare Policy in Chile

The direction of Chile's healthcare policies is in close relation to the evolution of its economic policies [2]. We can distinguish four stages in the healthcare reform process: (1) consolidation of public health as a state responsibility (1920s), (2) centralization of the health system through the National Health Service (1950s), (3) neo-liberalization of the system extending the private sector involvement (1980s), and (4) re-assessment of the system, improving public insurance and care (1990s) [3].

Public health as a state responsibility

The first hospital in Chile was founded by Pedro de Valdivia in 1552, but it was not until 1918 that the first sanitary law was established. As a result, the existing health regulations at the time were reviewed and systematized [4]. In 1971, decree-law 602 empowered neighborhoods to create health councils that were able to decide on local health policy [5]. This decree-law was followed by law 4.054 which established mandatory social security for illness, disability and accidents for all workers and their families irrespective of age or sex [6]. Social security at the time followed the ideas of a Bismarck model, expanding the paternalistic role of the state [3]. To support this structure in 1936 the law 5.802 was passed and the Ministry of Hygiene, Assistance and Social Security was created [7]. This Ministry took the first steps to unify healthcare services in the country. At that time, the importance of prevention in the provision of public health services was recognized. So, in 1938 law 6.174 was approved. This law established preventive medicine to monitor healthcare status, to adopt measures to discover and prevent early development of chronic diseases, and to avoid labor derived diseases [8].

National Health Service

Till 1952 Chile's health policies shaped a system which was predominantly public, and with a tendency to centralization. In 1952, law 10.383 created the National Health Service (SNS). The SNS was in charge of the administration of the system and the protection of the health of all the people in the country [9]. The SNS was the result of the union of several health organizations which made it by far the major healthcare provider in Chile for almost forty years. The main emphasis during that period was maternal and child care [3]. In 1942, an institution was introduced to provide preventive care to employees in the formal sector (white collars). The National Medical Services for Employees (SERMENA) decree-law 232 sets its role and responsibilities [10]. In 1968 law 16.781 came into operation featuring free choice of providers to public and private employees – active or retired – and their families [11]. This law made a distinction between white-collar workers and manual laborers or blue-collar workers. The latter continued receiving just the SNS benefits. In the same year, mutual security institutions were founded in law 16.744 to protect workers from accidents and occupational diseases [12]. In 1979 the differences between blue-collars and white-collars workers were partially removed from the system, enabling NHS beneficiaries the free choice of providers (decree-law 2.575) [13].

Neoliberalism and the health system

In 1979, the military government introduced several reforms privatizing and decentralizing the health system. Decree-law 2.763 started the decentralization process, where a separate public system was established through the creation of FONASA, the National Health Services System (SNSS), the Procurement Center (CENABAST) and the Public Health Institute, which integrated both SNS and SERMENA [14]. In 1980 the responsibility of primary care was transferred to municipal governments, which was enacted in decree-law 1-3.063 and 3.477 [15, 16]. The same year, decree-law 3.500 and 3.501 reformed the pension system, and a compulsory contribution of 4% for healthcare was introduced [17, 18]. Beginning in 1981 a major reform took place through decree-law 3 creating a private insurance market to offer individual

health plans [19]. Following this law, in November 1985 law 18.496 was enacted establishing a contribution system based on ability to pay, which provided equal access to health care services and allowed free choice either to the public or private system [20]. This law eliminated the differences that still existed among workers.

In order to incentivize middle-class adhesion to ISAPRES, in 1986 law 18.566 established an additional tax-deductible contribution of 2% of the taxable income to be paid by the employer [21]. Then, in 1987, law 18.675 increased the tax base for social security contributions for the public sector [22]. And, in 1988 law 18.754 set a uniform compulsory health insurance contribution of 7% of the wage [23], which still remains in the country. In 1990 law 18.933 amended the legislation for ISAPRES and created the superintendence of ISAPRES [24].

Improving the public system towards universal care

Migration of high income groups to private insurance companies, and cuts in government transfers to the health care system in the 1980s reduced the financing of public health, deteriorating the provision of services [2]. Thus, the return to democracy in 1990 was accompanied by changes in healthcare policy. During the period 1990-1992 a tax reform increased the public health spending by 33% [25]. So, in 1993 there were regulations that improved workers conditions, for example decree-law 745, which regulated minimum health and environmental conditions in the workplace [26].

One of the major health reforms in the country took place on the 2000s, where a plan called AUGE (Regime of Explicit Health Guarantees) was created. AUGE (now GES) is a health program organized by the government that benefits all Chileans without discrimination of age, gender, economic status, health status, or place of residence. This reform is supported by several laws. Among them:

1. Law 19.895 of 2003 which established financial solvency and protection of people affiliated to ISAPRES, private pension plans, and insurance companies [27];
2. Law 19.937 of 2004 on health authority created networks of self-managed hospitals, and promoted citizen participation [28];
3. Law 19.966 of 2004 created a system of universal access with explicit guarantees in health, the core of the reform [29];
4. Law 20.015 of 2005 modified law 18.933 on ISAPRES, regulating health plan costs and protecting affiliates, especially risky affiliates [30];
5. Law 20.317 of 2009 regulated the affiliates' rights over excesses generated by the difference between the price of the explicit guarantees in health and the price agreed for health insurance coverage [31]; and
6. Law 20.531 of 2011 exempt totally or partially to a group of pensioners from the responsibility of payment for health care coverage [32].

The evolution of the laws indicates that Chile is moving towards universal access to affordable and quality healthcare. However, it is necessary at this point to have a global view of the policies that have been implemented in the country, assess them, and then decide the future direction of the healthcare system. Ontological meta-analysis will help us to efficiently formalize, standardize, and manage the information regarding the policies that have shaped today´s healthcare system, and design future policies to fill the gaps.

Ontology of Healthcare Policy

The ontology of healthcare policy is shown at the top of Figure 1. Three illustrative components derived from the ontology are listed below it. Further below is the glossary of dimensions of the ontology. The categories constituting the dimension are self-explanatory. In the following we will discuss the construction of the ontology. A detailed description of ontological meta-analysis and synthesis is provided by Ramaprasad and his coauthors [33] [34] [35].

Healthcare policies are complex and fragmented. An ontology is a way of structuring and deconstructing their combinatorial complexity. The dimensions (columns) of the ontology are derived directly from the construct. Healthcare entails different forms of Care of different Populations. These two form the two right most dimensions (columns) of the ontology (Figure 1). A policy is defined by its Scope, Focus, and Outcomes. These three form the three dimensions on the left of the ontology. Thus the ontology has five dimensions: Scope, Focus, Outcomes, Care, and Population.

Each dimension of the ontology is expressed by a taxonomy of its constituent elements (Figure 1). The taxonomies are derived from the common terminology in body of knowledge on each dimension, especially in the healthcare policy domain. A few categories/subcategories (for example: Pregnancy, Palliative, Adolescents) were added during coding to accommodate the associated policy emphasis. Thus, the Scope of a policy may be Global, National, Local-Urban, Local-Rural, or restricted to the Provider. The Focus of the Policy may be Drugs, Educational, Financial, Insurance, Information, Personnel, Regulatory, Technology, Treatment, or Administration. The Personnel focus may be on the Physician, Nurses, or Staff. The Outcomes of the Policy may be Accessibility, Cost, Quality, Satisfaction, Safety, Parity, or Timeliness of healthcare. Further, the Care could be Preventive, for Wellness, Pregnancy, Illness (Episodic or Chronic), or Palliative. Last, the Population care for may be the Individual, Family, or Community. The Individuals may be Children (Pre-natal or Post-natal), Adolescents, Adults (Mothers, Workers), and Aged. The sub-categories and the sub-sub-categories in the Population taxonomy indicate the fine-grained attention to these groups in the policies.

The five dimensions are arranged left to right with adjacent symbols, words, and phrases such that reading left to right concatenating a category from each dimension forms a natural English sentence. Each such sentence is a potential component of healthcare policy. Three illustrative components are shown in Figure 1 – the sub-categories of a taxonomy are shown as subscripts. They are:

1. National financial policies on accessibility of preventive care for family;
2. Local $_{\text{urban}}$ regulatory policies on cost of palliative care for individual $_{\text{aged}}$;
3. Provider administration policies on cost of illness $_{\text{episodic}}$ care of individual $_{\text{adolescents}}$.

These three and 21,837 others encapsulated in the ontology are logically the potential components of healthcare policy. The ontology presents the combinatorial complexity of healthcare policy concisely and thus helps us take a systemic view of the problems it addresses.

A component may or may not be instantiated in a policy. Studying across policies, some components may be instantiated frequently, some infrequently, and others not at all. We will label the frequently instantiated components the 'bright' spots; the infrequent ones the 'light' spots, and the overlooked ones the 'blind/blank' spots.

The luminosity of each spot is a product of two opposing dynamics. A 'bright' spot may be so because it is effective and important; it may also be a consequence of habit and herd effect, irrespective of whether is effective or important. A 'light' spot may be so because it is ineffective and unimportant; it may also be a consequence of difficulty of implementing it, irrespective of its potential effectiveness or importance, or its recent emergence in importance. A 'blind/blank' spot may have been simply overlooked by design or by accident; or, it may be infeasible.

Knowing the 'bright', 'light', and 'blind/blank' spots in the policies and the antecedent reasons will help develop more systemic and systematic approaches to the challenge of healthcare policies. In the following we present an ontological map of healthcare policies in Chile, highlight the 'bright', 'light', and 'blind/blank' spots, and discuss possible reasons for the same. Before presenting the results, we will first describe the method we used for mapping. In the conclusion we will present the potential implications of this program of research and the planned extensions to what is presented here.

Policy

Scope		Focus	[policies on]	Outcomes	[of/with]	Care	[care for/of]	Population
Global	[+]	Drugs		Accesibility		Preventive		Individual
National		Educational		Cost		Wellness		Children
Local		Financial		Quality		Pregnancy		Pre-natal
Urban		Insurance		Satisfaction		Illness		Post-natal
Rural		Information		Safety		Episodic		Adolescents
Provider		Personnel		Parity		Chronic		Adults
		Physician		Timeliness		Palliative		Mothers
		General						Workers
		Specialist						Aged
		Nurses						Family
		Staff						Community
		Regulatory						
		Technology						
		Treatment						
		Administration						

Illustrative components (total = 5*13*7*6*8 = 21,840):

National financial policies on accessibility of preventive care for family.

Local $_{urban}$ regulatory policies on cost of palliative care for individual $_{aged}$.

Provider administration policies on cost of illness $_{episodic}$ care of individual $_{adolescents}$.

Glossary of dimensions -- the categories are self-explanatory:

Policy: Healthcare policy.

Scope: Scope of the policy.

Focus: Focus of the policy.

Outcomes: The intended outcomes of healthcare policy.

Care: The different types of healthcare.

Population: The population targeted by the policy.

Figure 1: Ontology of Healthcare Policy

Method

We searched all the current policies related to healthcare in Chile and downloaded them into Zotero. We selected the major policies that have shaped the current system. A few which are primarily minor amendments to existing policies were excluded. The search yielded 39 policies. These represent the population of policies.

A research assistant studied the text of each policy (in Spanish) and using tags in Zotero mapped it to the elements of the ontology it addresses. His supervising instructor (one of the authors of this study proficient in Spanish) reviewed the coding, questioned the reasoning, and sometimes suggested modifications. In each instance, they sought explicit words or phrases identical to or synonymous with the terms in the ontology. They sought to minimize their personal interpretation. The final coding was based on a consensus of the research assistant and the instructor.

We note that a policy may instantiate multiple components, a component, parts of multiple components, or part of a component of the ontology. Thus, there was no restriction on how many elements of the ontology could be encoded with reference to a policy, or a requirement that a policy should be encoded with reference to all the dimensions of the ontology. Thus a policy could be encoded to: (a) an element from each dimension, (b) multiple elements from each dimension, (c) an element from some dimensions, or (d) multiple elements from some dimensions.

Of the 39 policies all but 8 were coded on all the dimensions. A total of 6,509 components out of the possible 21,840 in the ontology are instantiated in the corpus. The 6,509 instantiated components occur 8,809 times in the corpus. The 41 partial components occurred 47 times.

We also note that the coding was binary – whether the element (or its synonym) was present or not in the policy. The coding was not weighted; each policy and each element was assigned equal weight.

The tagging data were exported to and analyzed using an Excel tool developed by one of the authors. It was used to generate the following ontological maps of healthcare policies in Chile: (a) the frequency of occurrence of each element (monads) in the ontology, and (b) the frequency of occurrence of each pair of elements (dyads) in the ontology.

Results

The ontological map of monads – individual categories in the ontology – is shown in Figure 2. The number in parentheses adjacent to the category indicates its frequency of occurrence in the 39 policies. The bar below the category is a visual indicator of the same scaled to the maximum number of occurrences of any one category (National – 39). The 'bright' spots are other categories with the larger numbers and bars; the 'light' spots are the ones with the smaller numbers and bars, and the 'blind/blank' spots are the ones with close to zeroes and no virtually no bars. There are no objective frequency cut-offs between 'bright', 'light', and 'blind/blank' spots. Yet, the visualization in Figure 2 clearly highlights the areas of emphases and of limited or no emphasis. On the one hand, Financial and Regulatory Policies and National focus are highly emphasized; Technology policies and Satisfaction and Timeliness outcomes are hardly emphasized. Yet, almost all elements in the ontology find expression in at least one policy – an indicator of their extensive coverage.

The ontological map of dyads (Figure 3) profiles the policies at a different level of granularity. The frequency of occurrence of each dyad is marked in the cell. The darkness of the cell indicates the relative frequency. As might be expected from the map in Figure 1 (but may not necessarily be so), the three pairs of triads formed my National-Scope and Financial- and Regulatory-Policies are the most frequent. At the second level we observe National, Financial, and Regulatory policies related to Administration (Focus), Accessibility and Cost (Outcomes), Wellness (Care), and Individual-Adult-Workers (Population). The subjects of these policies seem to be a central concern of Chile's healthcare. It is noted that a very large number of the possible dyads find expression in at least one policy – another indicator of their extensive coverage.

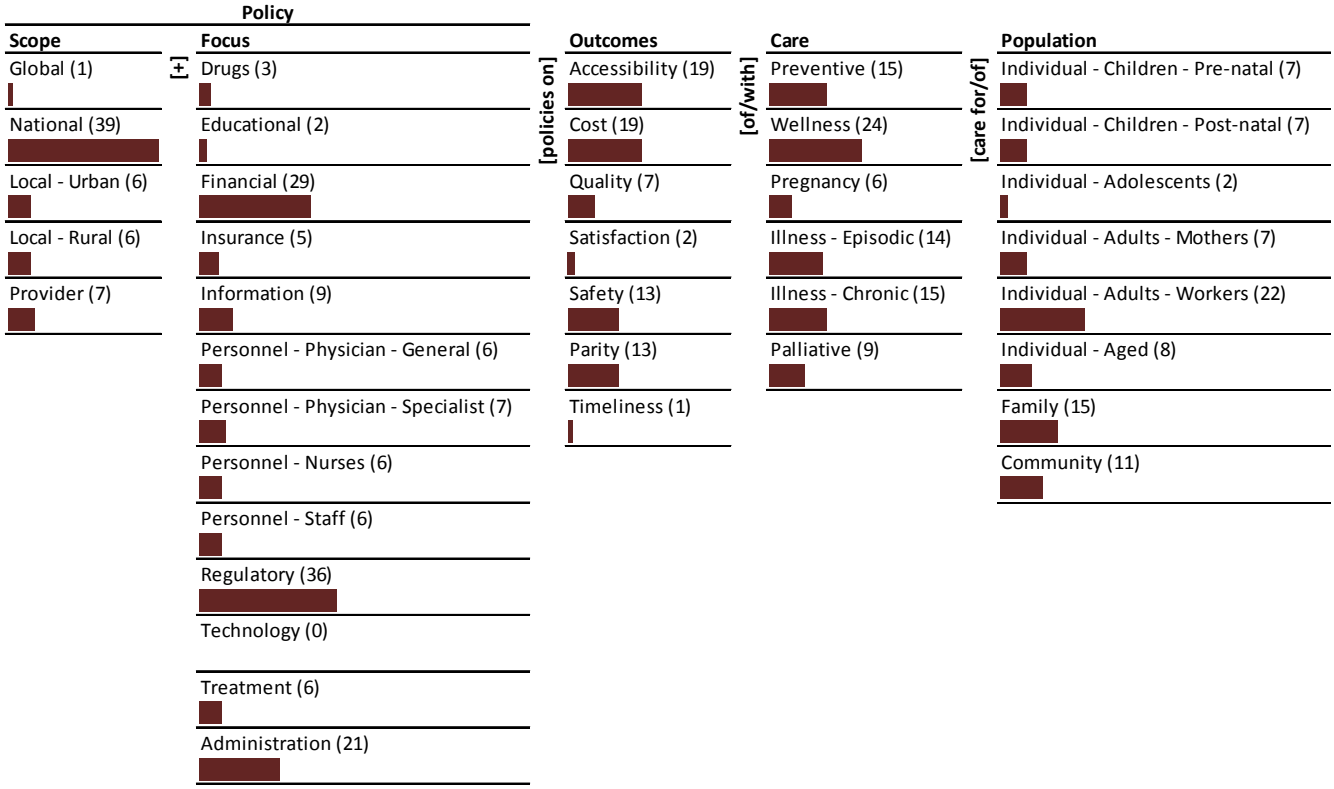

Figure 2: Ontological Map of National Healthcare Policy in Chile (Monads)

		Scope					Focus													Outcomes							Care							Population									
		Global	National	Local - Urban	Local - Rural	Provider	Drugs	Educational	Financial	Insurance	Information	Personnel - Physician - General	Personnel - Physician - Specialist	Personnel - Nurses	Personnel - Staff	Regulatory	Technology	Treatment	Administration	Accessibility	Cost	Quality	Satisfaction	Safety	Parity	Timeliness	Preventive	Wellness	Pregnancy	Illness - Episodic	Illness - Chronic	Palliative	Individual - Children - Pre-natal	Individual - Children - Post-natal	Individual - Adolescents	Individual - Adults - Mothers	Individual - Adults - Workers	Individual - Aged	Family	Community
Scope	Global																																							
	National	1																																						
	Local - Urban	1	6																																					
	Local - Rural	1	6	6																																				
	Provider	1	7	3	3																																			
Focus	Drugs		3	1	1	1																																		
	Educational	1	2	1	1	1	1																																	
	Financial	1	29	4	4	6	1	2																																
	Insurance		5						5																															
	Information	1	9	3	3	3	2	2	7	1																														
	Personnel - Physician - General	1	6	2	2	3	2	2	5	1	3																													
	Personnel - Physician - Specialist	1	7	2	2	3	2	2	6	1	3	6																												
	Personnel - Nurses	1	6	2	2	3	2	2	5	1	3	6	6																											
	Personnel - Staff	1	6	2	2	3	2	2	5	1	3	6	6	6																										
	Regulatory	1	36	6	6	7	2	2	28	5	9	6	7	6	6																									
	Technology																																							
	Treatment		6	1	1	1	3	1	3	2	3	3	3	3	3	5																								
	Administration	1	21	4	4	5	3	2	16	3	8	4	5	4	4	19		4																						
Outcomes	Accessibility	1	19	3	3	4	3	2	15	5	6	4	4	4	4	18		5	13																					
	Cost	1	19	1	1	4	1	2	18	5	6	3	3	3	3	19		3	9	11																				
	Quality	1	7	2	2	2	3	2	5	1	5	4	4	4	4	6		4	6	5	4																			
	Satisfaction		2				1	1	2		1	2	2	2	2	2		1	1	1	1	2																		
	Safety	1	13	3	3	2	3	2	6	3	5	4	4	4	4	12		6	7	9	6	5	1																	
	Parity		13	2	2	1	3	1	8	3	3	3	3	3	3	11		5	8	11	5	4	1	8																
	Timeliness		1						1		1					1			1		1	1																		
Care	Preventive	1	15	3	3	3	3	2	10	3	7	4	4	4	4	14		5	11	12	8	6	1	10	10	1														
	Wellness	1	24	4	4	6	2	2	20	3	8	6	6	6	6	23		4	10	12	14	6	2	9	8	1	9													
	Pregnancy		6	1	1	1	1		5	2	2	1	1	1	1	6		1	4	4	5	2		3	3	1	4	5												
	Illness - Episodic	1	14	2	2	3	3	2	12	5	6	4	4	4	4	13		5	11	13	11	6	1	8	7	1	11	9	5											
	Illness - Chronic	1	15	2	2	3	3	2	12	5	6	4	4	4	4	14		6	11	13	11	6	1	9	7	1	11	9	5	14										
	Palliative	1	9	2	2	2	3	2	7	2	5	3	3	3	3	8		4	8	8	6	6	1	7	6	1	8	7	4	8	8									
Population	Individual - Children - Pre-natal		7	2	2	1	1		6	1	2	1	1	1	1	7		1	4	5	4	2		2	4	1	5	5	5	5	5	3								
	Individual - Children - Post-natal		7	2	2	1	1		6	1	2	1	1	1	1	7		1	4	5	4	2		2	4	1	5	5	5	5	5	3	7							
	Individual - Adolescents		2	1	1				2							2				1	1				1			2	1			2	2						
	Individual - Adults - Mothers		7	2	2	1	1		6	1	2	1	1	1	1	7		1	4	5	4	2		2	4	1	5	5	5	5	5	3	7	7	2					
	Individual - Adults - Workers		22	2	2	5	1		18	4	4	4	4	4	4	22		2	10	12	13	3	1	7	8	1	9	15	5	9	9	5	5	5	1	5				
	Individual - Aged		8	1	1				7	1	1					7			3	4	5				3		1	5	1	2	2		2	2	1	2	4			
	Family	1	15	2	2	2	2	2	12	4	7	3	3	3	3	14		5	10	12	10	5	1	8	7	1	11	9	3	11	12	7	3	3		3	8	3		
	Community	1	11	5	5	3	3	2	6	1	5	3	3	3	3	10		5	8	8	3	5	1	7	6		7	7	1	6	7	5	3	3	1	3	2	1	6	

Highest Frequency (36)

Zero Frequency

Figure 3: Ontological Map of National Healthcare Policy in Chile (Dyads)

Discussion

Chile is moving towards universal care to ensure healthcare access to all without financial hardship to pay for them. It is a clear pursuit of equity. However, structural constraints have prevented its advance and created inequities in the system. From the ontological meta-analysis we can conclude that an efficient and well-run system needs specific laws to provide social protection and enhance the insurance function; it requires that policy-makers recognize the importance of managing the system, not just funding it [36]. Based on our analysis a majority of the policies are financial, regulatory, and administrative; just a few of them target the insurance structure. The country needs policies intended to create a system for financing health services that at the same time is adequately managed. A system that guarantees outcomes such as quality and safety, which have been addressed in past health policies, should always be a priority. A clear 'blank' spot in this direction is the lack of policies targeting satisfaction, which is critical to assess the provision of services and can also impact patients' recovery.

Policies should also provide access to essential medicine and technologies. Technology is a 'blank' spot and has not been covered in previous policies. Consequently it is a matter of concern. Universal care should include policies that affect health professionals, i.e. their shortage, training and incentives. It should include policies that affect underserved areas (mainly rural) and address issues of shortage of weak infrastructure, among others.

Conclusion

Chile's healthcare policies have evolved over a long period of time in response to the needs of its people, economic development, and political philosophy. The evolution has been episodic and incremental. The meta-analysis of Chile's national healthcare policy using an ontology places the individual policies in perspective and paints their 'big picture'. It provides a synoptic view of their Scope, Focus, Outcomes, and the Care and Population they cover. The ontological map of monads and dyads highlight the 'bright', 'light', and 'blind/blank' spots in their coverage. Thus, the results of the meta-analysis can provide a roadmap for future policies. The method can be extended to study other national health policies. The corresponding ontological maps will help compare and contrast them in their entirety.

References

[1] ISAPRE (retrieved on August 5, 2011). http://www.isapresdechile.cl

[2] Barrientos, A. (2002). Health Policy in Chile: The return of the public sector? Bulletin of Latin American Research, 21(3): 442-459.

[3] Jimenez, J. & Bossert, T. (1995). Chile´s health sector reform: lessons from four reform periods. Health Policy, 32(1-3): 155-166.

[4] Miranda, E. (1990). Descentralización y pivatización del sistema de salud chileno. Estudios públicos, 39: 5-66.

[5] Decree-law 602. (retrieved on November 11, 2014) http://www.leychile.cl/Navegar?idNorma=169362

[6] Law 4.054. (retrieved on November 11, 2014) http://www.leychile.cl/Navegar?idNorma=24431

[7] Law 5.802. (retrieved on November 11, 2014) http://www.leychile.cl/Navegar?idNorma=25208

[8] Law 6.174. (retrieved on November 11, 2014) http://www.leychile.cl/Navegar?idNorma=25309

[9] Law 10.383. (retrieved on November 11, 2014) http://www.leychile.cl/Navegar?idNorma=26387

[10]Decree-law 232. (retrieved on November 11, 2014) http://www.leychile.cl/Navegar?idNorma=5134

[11] Law 16.781. (retrieved on November 11, 2014) https://files.zotero.net/12949610811/LEY-16781_02-MAY-1968.pdf

[12] Law 16.744. (retrieved on November 11, 2014) http://www.leychile.cl/Navegar?idNorma=28650

[13] Decree-law 2.575. (retrieved on November 11, 2014) http://www.leychile.cl/Navegar?idNorma=6963

[14] Decree-law 2.763. (retrieved on November 11, 2014) http://www.leychile.cl/Navegar?idNorma=6999

[15] Decree-law 1-3.063. (retrieved on November 11, 2014) http://www.leychile.cl/Navegar?idNorma=3389

[16] Decree-law 3.477. (retrieved on November 11, 2014) http://www.leychile.cl/Navegar?idNorma=7139

[17]Decree-law 3.500. (retrieved on November 11, 2014) http://www.leychile.cl/Navegar?idNorma=7147

[18] Decree-law 3.501. (retrieved on November 11, 2014) http://www.leychile.cl/Navegar?idNorma=7148

[19] Decree-law 3. (retrieved on November 11, 2014) http://www.leychile.cl/Navegar?idNorma=3570

[20] Law 18.496. (retrieved on November 11, 2014) http://www.leychile.cl/Navegar?idNorma=29872

[21] Law 18.566. (retrieved on November 11, 2014) http://www.leychile.cl/Navegar?idNorma=29959

[22] Law 18.675. (retrieved on November 11, 2014) http://www.leychile.cl/Navegar?idNorma=30061

[23] Law 18.754. (retrieved on November 11, 2014) http://www.leychile.cl/Navegar?idNorma=30134

[24] Law 18.933. (retrieved on November 11, 2014) http://www.leychile.cl/Navegar?idNorma=30304

[25] Oyarzo, C. (1994). La mezcla público-privada: una reforma pendiente en el sector salud. Estudios públicos, 55.

[26] Decree-law 745. (retrieved on November 12, 2014) http://www.leychile.cl/Navegar?idNorma=15384

[27] Law 19.895. (retrieved on November 12, 2014) http://www.leychile.cl/Navegar?idNorma=214042

[28] Law 19.937. (retrieved on November 12, 2014) http://www.leychile.cl/Navegar?idNorma=221629

[29] Law 19.966. (retrieved on November 12, 2014) http://www.leychile.cl/Navegar?idNorma=229834

[30] Law 20.015. (retrieved on November 12, 2014) http://www.leychile.cl/Navegar?idNorma=238102

[31] Law 20.317. (retrieved on November 12, 2014) http://www.leychile.cl/Navegar?idNorma=285989

[32] Law 20.531. (retrieved on November 12, 2014) http://www.leychile.cl/Navegar?idNorma=1028994

[33] Ramaprasad, A. & Syn, T. (2013). Ontological Meta-Analysis and Synthesis. Proceedings of the Nineteenth Americas Conference on Information Systems Chicago, IL, USA.

[34] Ramaprasad, A., Syn, T. & Thirumalai, M. (2014). An Ontological Map for Meaningful Use of Healthcare Information Systems (MUHIS) in M. Bienkiewicz, C. Verdier, G. Plantier, T. Schultz, A. Fred & H. Gamboa (eds.). Proceedings of HEALTHINF 2014 – International Conference on Health Informatics, Angers, France: SCITEPRESS.

[35] Ramaprasad, A., Syn, T. & Win, K. (2014). Ontological Meta-Analysis and Synthesis of HIPAA. Proceedings of PACIS 2014, Chengdu, PRC.

[36] Kutzin, J. (2000). Towards Universal Health Coverage: A Goal-oriented Framework for Policy Analysis. World Bank, Washington, DC. © World Bank. https://openknowledge.worldbank.org/handle/10986/13772 License: CC BY 3.0 Unported.

Address for correspondence

Alicia Núñez Mondaca; E-mail: anunez@fen.uchile.cl; Phone: +5622978344

www.managementcontrol.cl