


Analysis of network dynamics of Market concentration in healthcare companies in Brazil


Análise da dinâmica de redes dos atos de concentração econômica em empresas da área da saúde no Brasil

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Abstract

The promulgation of Law No. 13,097 / 15 extended the possibility of the participation of foreign companies in the health area in Brazil, until then accessible to some sectors, such as supplementary health. In this context, this paper seeks to characterize the dynamics of the networks of operations of economic concentration acts in hospitals and health plans in Brazil. For such purpose, data were collected from the processes available on the website of the Administrative Council for Economic Defense (CADE), organized from the corporate structure, originated by investors (foreign or national) and analyzed using network analysis software. In data analysis, 93 acts of economic concentration were identified from 2009 to 2017, the participation of 12 foreign companies with predominant origin from the United States of America. These acts of concentration evidenced the formation of a robust network composed of three economic groups with predominantly foreign corporate control and a latent need to establish policies to analyze the risks and benefits of this new reality to the Brazilian health market. In another scenario, potential reflexes in the Brazilian health system will be fortunate.

Keywords: Health; Concentration Acts; Network.

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Resumo

A promulgação da Lei nº 13.097/15 estendeu a possibilidade da participação de empresas estrangeiras na área da saúde no Brasil, até então acessível a apenas alguns setores, como o da saúde suplementar. Nesse contexto, o objetivo, no presente trabalho, foi caracterizar a dinâmica das redes de operações de atos de concentração econômica em hospitais e em planos de saúde no Brasil. Para isso, foram coletados dados nos processos disponibilizados no sítio do Conselho Administrativo de Defesa Econômica (Cade), organizados a partir da estrutura societária e da origem dos investidores (estrangeira ou nacional) e analisados com a utilização de software para análise de redes. Por meio da análise dos dados, foi identificada a realização de 93 atos de concentração econômica no período de 2009 a 2017 e a participação de 12 empresas estrangeiras com origem predominante nos Estados Unidos da América. Esses atos de concentração evidenciaram a formação de uma robusta rede composta por três grupos econômicos com controle societário predominantemente estrangeiro, bem como uma latente necessidade de que sejam estabelecidas políticas para analisar os riscos e os benefícios dessa nova realidade ao mercado da saúde brasileiro. Caso contrário, colocar-se-á à sorte os potenciais reflexos no sistema de saúde brasileiro. **Palavras-chave:** Saúde; Atos de Concentração; Rede.

Introduction

Financing and provision of health goods and services are carried out by public and private sectors in Brazil's healthcare system, characterizing it as a mixed system (Andrade et al. 2015).

This public-private relationship that provides healthcare services to Brazilian citizens is defined in article 197 of the 1988 Constitution (Brasil, 1988), even though this same Constitution defines health as a public, free and universal right, expanding the complexity of the system. In this context, given the private sector participation in healthcare services and due to this duality, over the last few years a relationship initially based on a "right" has become increasingly conflicting, and the right has turned into a "product." One of the main issues of this complex industrial organization with peculiar characteristics, compared to other markets, is how financing takes place.

In general terms, public policies related to healthcare financing are established, at times, for the benefit of the public sector and, at others, for the benefit of the private sector or, even, covered by reciprocal benefits, under the allegation that public and private services are precarious (Brasil, 2014). Faced with a precarious public healthcare system, which is unable to provide comprehensive and universal quality care, a favorable space is opened for a number of possibilities for the expansion of the private sector (Zocratto, 2014). Specifically regarding how the healthcare sector financing takes place, two examples of public policies can be highlighted. The first is related to the supplementary health insurance market, and the second refers to the hospital market in general, and both have participation of foreign capital in common.

Soon after the structuring of the supplementary health insurance market, in 1998, by Law No. 9.656 (Brasil, 1998), a little more than 10 years after the promulgation of the Constitution, Provisional Measure No. 1.908-18/99 (Brasil, 1999) introduced the possibility of foreign companies investing in health insurance providers. The 1988 Constitution (Brasil, 1988), in its article 199, established the need for specific legislation for this case, which was, therefore, defined by

the aforementioned Provisional Measure and later solidified in Provisional Measure No 2.177-44/01 (Brasil, 2001). The definition of this policy generated an anomaly in the healthcare sector, since, although there was specific legislation via provisional measure, there was also an express prohibition on the foreign investors' participation in this sector, as established in article 23 of Law No. 8.080, of 1990 (Brazil, 1990).

In this context, as clarified by document No. 002 of the Federal Attorney General's Office, of 2008, (PGF, 2008), it would be possible, for example, the existence of a foreign investor in a supplementary health insurance provider, which, in turn, could own a hospital in its own network, but there could be no hospitals that had the direct participation of foreign investment. This nonsense was maintained until 2015, when the aforementioned article 23 of Law No. 8.080 was amended by Law No. 13.097 (Brasil, 2015), allowing the unrestricted action of foreign investors in the Brazilian healthcare market.

This scenario of market opening to foreign investors and the growth of interest in the healthcare market on a global scale boosted operations involving economic concentration acts in health insurance providers and hospitals in the country, as evidenced by Andrade et al. (2015) and Menezes (2019). Through economic concentration acts, private healthcare companies can organize themselves in a network in order to explore market opportunities, reduce costs, facilitate the allocation of resources and expand their boundaries of operation. On the other hand, they can build anti-competitive structures that harm the market. Aiming at characterizing the dynamics of the networks of economic concentration acts in hospitals and health insurance providers in Brazil, this work was based on the following question: what are the characteristics of the dynamics of the network of concentration acts occurred from 2009 to 2017 in the health insurance sector and the hospital sector in Brazil?

For this purpose, data from 2009 to 2017 were collected in the processes available on the Administrative Council for Economic Defense (Cade) website, organized based on the investors' corporate structure and origin (foreign or national) and

analyzed using software for network analysis, specifically **Ucinet** and **NetDraw**. Based on this analysis, it was possible to present an evolutionary map of the operations carried out over these years, determining the predominant economic groups, their origin and the peculiar characteristics of each of the transactions.

Material and Methods

This is a descriptive study, with a quantitative approach, using secondary data collected based on volumes of processes available on Cade's website. The data and information on concentration acts and companies involved were extracted from the volumes of processes systematically obtained as follows: on Cade's website, in the section *Pesquisa Processual* [Procedural Research], one searched for the terms "hospital" and "health," establishing the period from January 1, 2009 to December 31, 2017, and with the following items selected: processes; generated documents and external documents; if the process was primary; and summary concentration act (simplified decision process) and ordinary concentration act (decision process with detailed analysis).

Summary concentration acts present the greatest offensive potential to competitors, given the simplicity of the operations; in turn, ordinary acts are the most offensive to competition and with a greater degree of operation complexity (Cade, 2012). "Concentration acts are justified, from a business point of view, by the prospect of exploring economic and financial synergies between companies and by the expectation of greater surpluses for applicants after the transaction" (Cade, 2016, p. 45).

The data collected were organized in spreadsheets and the analysis of the network dynamics was performed using **Ucinet software package** and the **NetDraw network visualization tool**. For the analysis of Network Dynamics, the database was formed by 211 companies and three individuals that performed economic concentration acts in Brazil from 2009 to 2017 involving hospitals and/or health insurance providers. Although it was not the scope of this work to address aspects related to the Decision Units Theory, proposed by Hermann

and Hermann (1989), the actors were initially treated as operational units, and later the decision units were identified through nodes, which in turn control the operating units in their link. For network

characterization, the indicators were calculated for density, average distance, degree centrality and betweenness centrality, described by Alejandro and Norman (2005), as shown in Chart 1.

Chart 1 - Indicators for network characterization

Indicator	Description
Density	It shows us the value, in percentage, of the Network Density, that is, the high or low connectivity of the Network. It is a measure expressed as a percentage of the quotient between the number of existing relationships and possible relationships.
Average distance	It is the smallest number of ties needed to connect, directly or indirectly, one actor to another in the network.
Degree centrality	It is the number of actors to which an actor is directly related.
Betweenness centrality	This is the possibility that an actor has to mediate communications between two other nodes. These actors are also known as "bridges."

Source: Alejandro and Norman (2005).

For the indicator calculation on **Ucinet** and generation of charts on **NetDraw**, binary relational matrices were created in spreadsheets. The construction of these relational matrices is exemplified as follows: in cell A3, if company X (column) had performed an economic concentration act with company Y (row), cell A3 was indicated with the number 1. Otherwise, the number zero was indicated.

By analyzing the dynamics of networks of 211 companies and three individuals, it was possible to define the main actors involved in the operations and their connections, with a network having two main elements, the "nodes" (or actors) and the link. Nodes/actors are people or groups of people that come together with a common goal. The link is the ties that exist between two or more nodes/actors, which are represented by lines (Ghiradini, 2015).

In this research, the "nodes" are the companies and the links are the concentration acts that occurred between hospitals and/or health insurance providers from 2009 to 2017, whose operations were submitted to Cade's assessment. Companies that are part of the same economic group are also characterized as a link. In this way, a line between two actors (companies) shows that they participated in the same concentration act or are part of the same economic group. For example, in Figure 1, there was

an economic concentration act between *Bradesco Dental* and *Odontoprev*, which established a link between these companies; in turn, *Amil* and *Amico* have a connection, since *Amico* is part of *Amil*.

With regard to the colors adopted on the maps, black indicates "buying" companies, that is, those that acquired a shareholding/portfolio in other companies or carried out the request for the operation with Cade, configuring themselves as the most interested in performing the operation; white indicates "selling" companies, that is, those that were selling shares, portfolio or issuing debentures, and called "object of the operation" by Cade in the volumes of the processes; finally, black, in Figure 11, indicates foreign companies. After the initial clarifications, results and discussions are presented below.

Results and discussions

One hundred economic concentration acts were identified in hospitals and health insurance providers in Brazil from 2009 to 2017; those with no consummation by the companies and those rejected and not recognized by Cade have been removed, with a total of 93 acts being reached. The highest number of operations occurred in 2010, 2012 and 2015. In 2009, the lowest number of operations was registered - five -, as shown in Table 1.

Table 1 – Economic concentration acts in hospitals and health insurance providers, by year

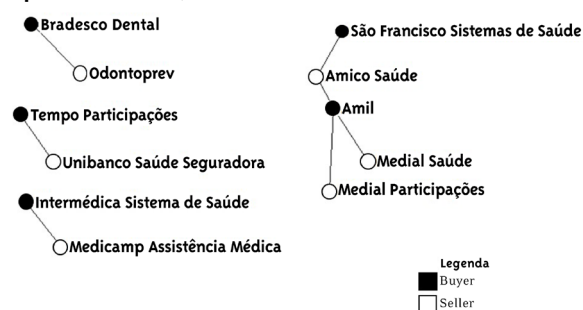
Year	Number of operations	Ordinary operations	Summary operations	Number of Companies
2009	5	2	3	11
2010	13	4	9	29
2011	12	0	12	31
2012	15	4	11	42
2013	10	3	7	20
2014	6	0	6	18
2015	13	1	12	37
2016	9	6	3	30
2017	10	3	7	32
Total	93	23	70	250

It was found that most operations performed from 2009 to 2017, 79 (85%), were approved by Cade without restrictions, and 14 (15%) approved with restrictions, a factor that can favor increased economic concentration in the health sector. Economic concentration acts strengthen a company, as these operations bring advantages, such as cost reduction, infrastructure expansion and increased profits (Hitt; Ireland; Harrison, 2001).

When verifying the origin of the companies involved in the operations, most were concentrated in the state of São Paulo (49%), followed by Rio de Janeiro (22%), and Pernambuco (10%). Based on this information, it can be seen that the companies that most participated in economic concentration acts in the period studied were located in the Southeast region (72%).

In 2009, there were five economic concentration acts, four approved without restrictions by Cade, and one with restrictions. Two were classified as ordinary and three as summary. As for the type of operation, there were three shareholding acquisitions, one portfolio acquisition and one merger, which involved 11 companies, as shown in Figure 1.

Figure 1 – Network of companies that performed operations, 2009



One operation stood out in 2009, when *Amil Assistência Médica Internacional*, a health and dental insurance provider, acquired shareholdings in two companies, *Medial Participações* and *Medial Saúde*, which also operated as health and dental insurance providers.

When analyzing the year 2010, it was noticed that the number of economic concentration acts more than doubled when compared to 2009, jumping from five to 13. There were 10 operations approved without restrictions by Cade, and three approved with restrictions, four classified as ordinary and nine as summary, and all operations were shareholding acquisitions. In Figure 2, it is possible to verify that 29 companies were involved.

FMG Empreendimentos Hospitalares was involved in five economic concentration acts with 12 companies in 2010, as shown in Figure 2. Also in 2010, it is possible to note that there were foreign investments in the country, when The Carlyle Group, a globally active US asset management holding company, acquired a shareholding in *Qualicorp Participações*, which operates as a collective health insurance provider.

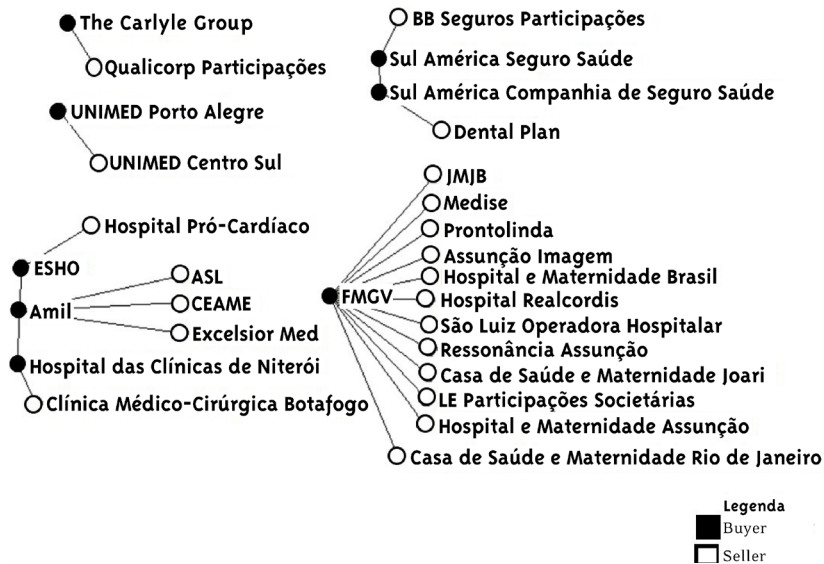
Amil Assistência Médica Internacional was the only company to carry out economic concentration acts in 2009 and 2010, expanding its operation to five companies, namely: *ASL Assistência à Saúde*, *Ceame - Centro Especializado de Atendimento Médico*, *Excelsior Med*, *Medial Saúde* and *Medial Participações*. From these acquisitions, *Amil*

Assistência Médica Internacional expanded its operation in the states of Pernambuco, Rio Grande do Norte and São Paulo.

There were 12 economic concentration acts in 2011, eight approved without restrictions by Cade, and four with restrictions. All were classified as summary operations, with 10 shareholding acquisitions and two assignments of rights, involving 31 companies, as shown in Figure 3.

Qualicorp, *Qualicorp Corretora de Seguros* and *Qualicorp Administradora de Benefícios* were part of the *Grupo Qualicorp* - acquired in 2010 by The Carlyle Group -, and carried out three operations in 2011 involving seven companies, expanding its operation in health insurance activities in the states of Rio de Janeiro and São Paulo.

Figure 2 – Network of companies that performed operations, 2010



Also in 2011, *Rede D’Or São Luiz*, a group of companies that provide hospital services, carried out three operations involving five companies; *Oncotech Oncologia*, one of those companies, also performed an operation with six companies in hospital activities, expanding activities in the states of Rio de Janeiro and Rondônia. Two companies that already belonged to *Grupo Rede D’Or São Luiz*, namely, *Hospital Norte D’Or de Cascadura* and *Centro de Tratamento em Oncologia*, performed two operations. *Hospital Norte D’Or de*

Cascadura acquired a shareholding in *Unimed-Rio Participações e Investimentos*, which is part of *Rede de Cooperativas Unimed*.

In 2012, 15 operations were registered, six approved without restrictions by Cade, and nine with restrictions. As for classification, four operations were classified as ordinary and 11 as summary. As for the type, there were two portfolio acquisitions, 11 shareholding acquisitions, one assignment of rights and one issuance of debentures, involving 42 companies as shown in Figure 4.

During the period analyzed, the health insurance providers and hospitals carried out economic concentration acts with companies performing

several activities, expanding the portfolio of services and products, which indicates search for a greater vertical integration.

Figure 3 – Network of companies that performed operations, 2011

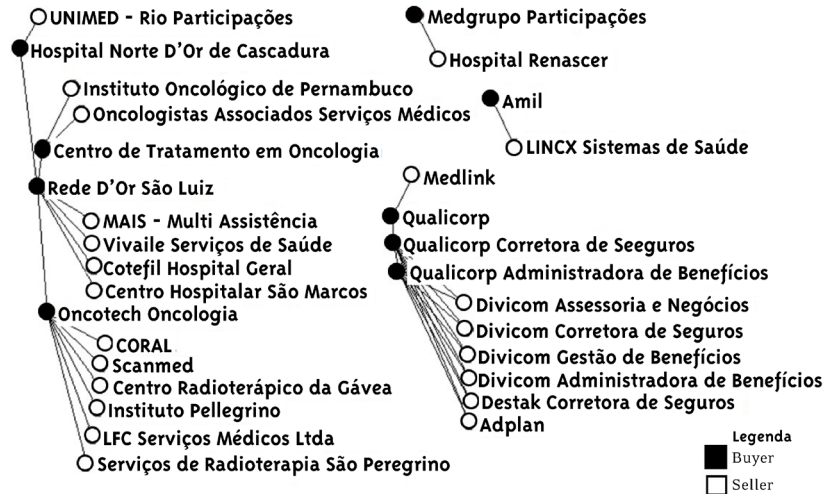
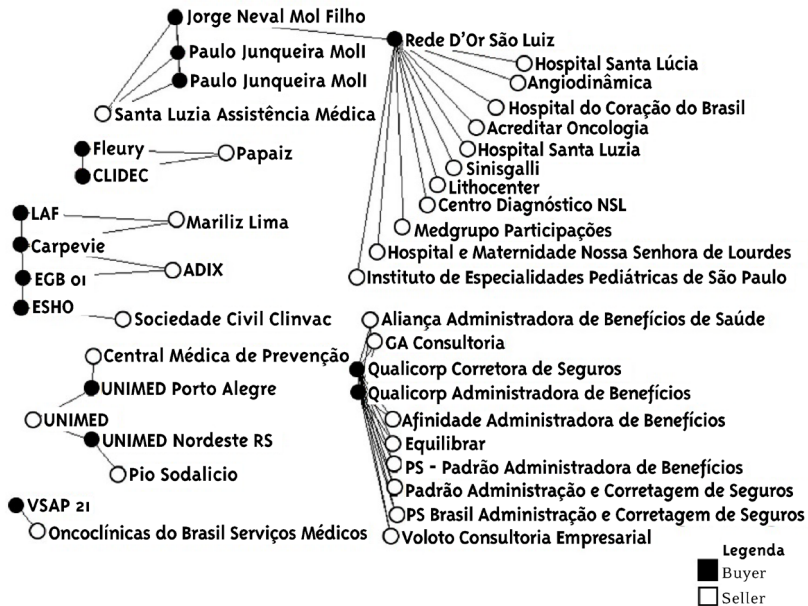


Figure 4 – Network of companies that performed operations, 2012



Also in 2012, the companies previously controlled by Edson de Godoy Bueno, *LAF - Empresa de Serviços Hospitalares*; *Carpevie - Centro de Medicina Integrada*; *EGB 01 Empreendimentos e Participações*, and *ESHO - Empresa de Serviços Hospitalares*, performed three operations.

It is worth noting that, in 2012, foreign investments were made through an operation in which *Oncoclínicas do Brasil Serviços Médicos* issued debentures to the Canadian *VSAP 21 Fundo de Investimento em Participações* - which operates acquiring shares, debentures, subscription

bonuses and other securities in other companies, in accordance with the interest of their shareholders - and is part of Victoria Capital Partners Group.

In 2013, there were 10 operations, all approved without restrictions by Cade, with three classified as ordinary and seven as summary. As for the type, there were four portfolio acquisitions, four shareholding acquisitions and two mergers, which involved 20 companies, as shown in Figure 5.

In 2013, *Rede de Cooperativas Unimed* stood out for being involved in 50% of the operations. It made four portfolio acquisitions and one merger. *Unimed Odonto* carried out two operations, acquiring *Unimed Vitória's* and *Unimed Recife's* dental insurance portfolios. Even after the operation, *Unimed Vitória* and *Unimed Recife* continued to exist in the health insurance market, except for dental insurance.

Figure 5 – Network of companies that performed operations, 2013



The UnitedHealth Group, from the United States, which operates in health insurance and provision of medical and hospital services, acquired control of *Amil Assistência Médica Internacional* in 2012; however, this operation was not part of the scope of this work, since it was not submitted for evaluation by Cade for not having met the legal notification requirements. Even so, this is important information for the health market in Brazil, considering that *Amil Assistência Médica Internacional* was a group with a large activity, with more than 26 companies in the health area and that was directly linked to *Grupo EB*, which also has several companies in this market, both controlled, until then, by Edson de Godoy Bueno.

Also in 2013, another foreign company invested in the healthcare market in Brazil. Swiss Re Direct Investments Company, from Switzerland, which belonged to the Swiss Re Group and operates worldwide as reinsurance, insurance and other forms of insurance-based risk transfer provider, acquired a shareholding in *SulAmérica*, which offers several products and services, including insurance, pension plans, asset management, health insurance and health care services.

In 2014 there were further reductions in the number of operations, going from 10 in 2013 to only six in 2014. All operations in 2014 were approved without restrictions by Cade, all classified as summary acts, with five shareholding acquisitions and one merger, involving 18 companies as shown in Figure 6.

Figure 6 – Network of companies that performed operations, 2014



From Figure 6, it can be seen that only four companies performed operations in 2014: *Caixa Seguros Holding*, *Qualicorp*, *Rede D'Or São Luiz* and *Bain Capital Brazil Participações*.

Bain Capital Partners, a US global private investment company that manages several capital investments, including private equity, venture capital, public investment, credit products and absolute return investments, acquired shareholdings through *Bain Capital Brazil Participações* in the country, in *Intermédica Sistema de Saúde*, *Interodonto - Sistema de Saúde Odontológica*, and *Notre Dame Seguradora*, which were part of *Grupo Notre Dame Intermédica*, a private healthcare provider that offered health insurance in Brazil, with

a focus on corporate packages for small, medium and large customers.

In 2015, 13 operations were carried out, all approved without restriction by Cade, one classified

as an ordinary act, and 12 as a summary act. As for the type, there were 12 shareholding acquisitions and one portfolio acquisition, involving 37 companies as shown in Figure 7.

Figure 7 – Network of companies that performed operations, 2015



In 2015, the greatest volume of foreign investments was made in Brazil’s health market, with four operations being carried out, as described below.

Broad Street Principal Investments, from the United States, a Goldman Sachs Group’s company, acquired a shareholding in *Grupo Oncoclínicas’ Oncoclínicas do Brasil Serviços Médicos*.

AXA Group’s *AXA Corporate Solutions Brasil e América Latina Resseguros*, from France, acquired a shareholding in *Grupo Sulas’a’s SulAmérica Companhia Nacional de Seguros*.

Pacific RDSL Participações, from Singapore, managed by GIC Ventures Group, acquired a shareholding in *Rede D’Or São Luiz*.

In the fourth operation, Carlyle Hill South America Buyout Fund, *America Hill do Sul Investimentos*, SA Partners Hill, Brazil Hill Buyout Coinvestment and *Fundo Brasil de Internacionalização de Empresas - FIP 11*, from the United States, The Carlyle Group’s investment funds, acquired a shareholding in *Tempo Participações*, which belonged to *Grupo Tempo*.

In 2016, nine operations were carried out, all approved without restrictions by Cade, in addition to six ordinary acts and three summary acts, seven shareholding acquisitions and two assignments of rights, involving 30 companies as shown in Figure 8.

There was a reduction in operations in 2016, concentrated in three groups: *Rede D’Or São Luiz*, *GIF V Fundo de Investimento em Participações* and the group of companies controlled by *Amil*, which is part of *Fundo de Investimentos em Participações Genoma I*, *Esho - Empresa de Serviços Hospitalares*, *Amil Assistência Médica Internacional* and *Hospital Alvorada Taquatinga*.

Ten operations were identified in 2017; all were approved without restrictions by Cade, three classified as ordinary and seven as summary. As for the type, nine shareholding acquisitions and one portfolio acquisition were carried out, involving 32 companies as presented in Figure 9.

Figure 8 – Network of companies that performed operations, 2016

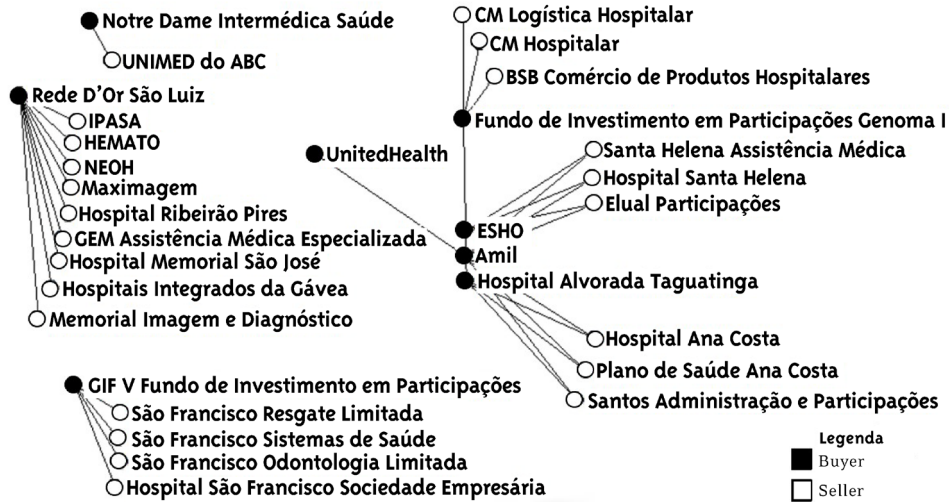
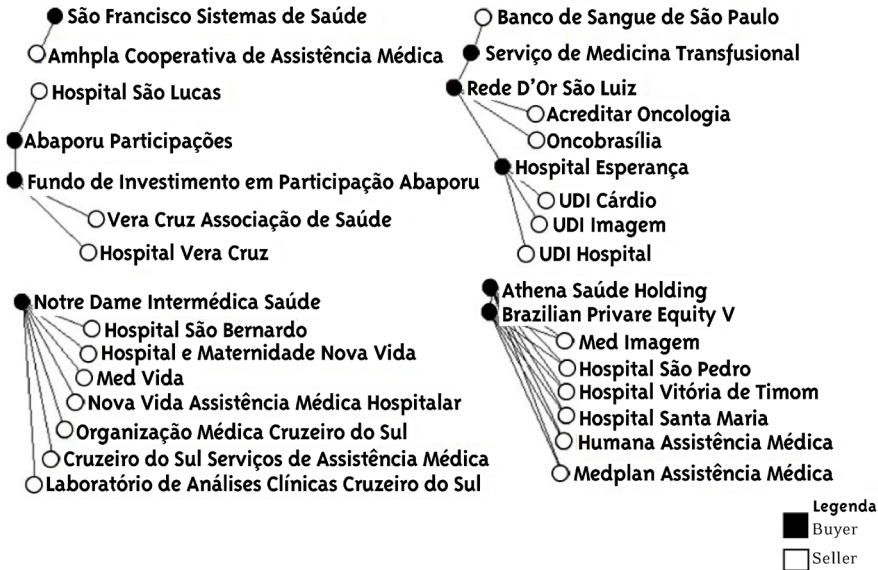


Figure 9 – Network of companies that performed operations, 2017



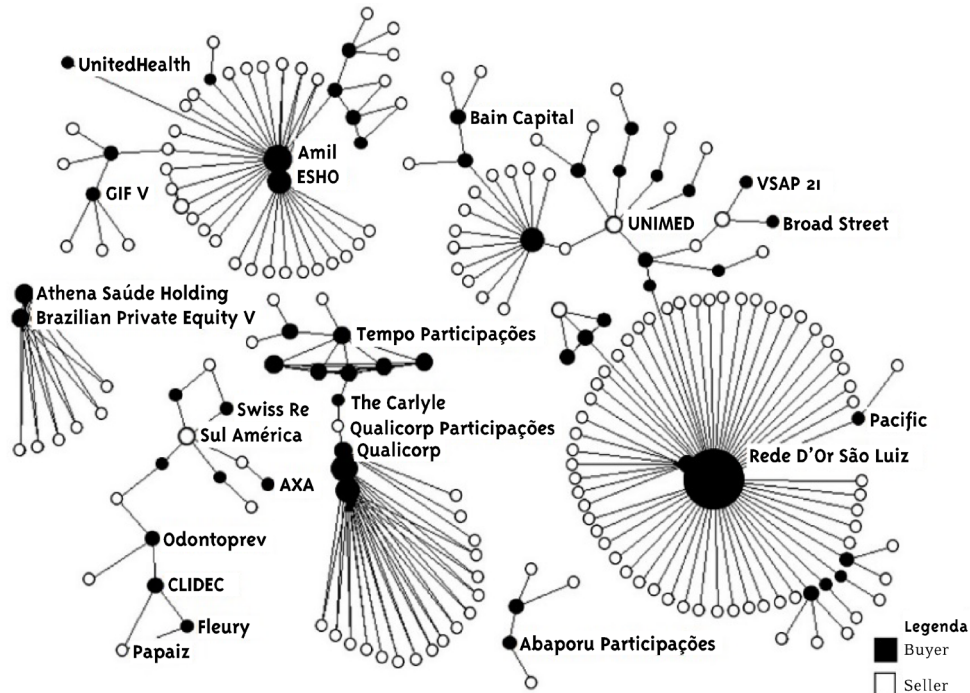
In 2017, *Rede D'Or São Luiz* and *Notre Dame Intermédica Saúde* stood out, which participated in three operations each. *Grupo Cyrela's Abaporu Participações* and *Fundo de Investimento em Participação Abaporu* participated in two operations.

During the research period (2009 to 2017), 93 economic concentration acts were carried out, involving 211 companies and three individuals. In Figure 10, it can be seen that, during the period studied, three groups were consolidated in Brazil's hospitals and

health insurance market, namely *Rede D'Or São Luiz*, *Amil Assistência Médica Internacional* and *Qualicorp*.

In addition to finding horizontal operations of hospitals and health insurance providers, vertical operations between hospitals and/or health insurance providers with companies in other healthcare services were identified. Moreover, there were conglomerate operations, that is, those carried out with unrelated markets (Angeli; Maarse, 2012; Ross; Westerfield; Jordan, 2016).

Figure 10 – Network of companies that performed operations, 2009 to 2017



Analyzing the average distance between the actors, it appears that, on average, an actor is 6.23 actors from another actor in the network. This means that the distance between any actor in the network is 6.23 actors, and the smaller this value, the closer the actors in a network. The Network Density was 0.011, that is, there are 1.1% of connections out of the number of possible connections in the network, or even, of all possible connections in the network, there are 1.1% of connections. The larger this result, the denser a network.

The degree centrality consists of the number of actors to which an actor is directly linked, demonstrating the influence and power of an actor over others (Ghiradini, 2015). The 10 companies with the highest degree centrality established connections with 36% of the companies in the network. *Rede D'Or São Luiz* had the highest degree centrality (54), that is, it has a direct influence on 13% of the actors in the network. Table 2 lists the 10 companies that registered the highest degree centrality in the network that was formed from the concentration acts from 2009 to 2017, which involved hospitals and health insurance providers.

Table 2 – Degree centrality

Company	Degree centrality	%
Rede D'Or São Luiz	54	13%
Amil Assistência Médica Internacional	20	5%
Qualicorp	16	4%
ESHO – Empresa de Serviços Hospitalares	14	3%
Notre Dame Intermédica Saúde	14	3%
Tempo Participações	8	2%
Oncotech Oncologia	7	2%
Athena Saúde Holding	7	2%
Brazilian Private Equity V	7	2%
Rede UNIMED	6	1%

The betweenness centrality considers the importance of each actor in the connections that are established in the network; it is the distance between actors, the possibility that an actor has to mediate communications between two other actors (Ghiradini, 2015). Table 3 presents the 10 companies with the highest betweenness centrality.

Table 3 – Betweenness centrality of Actors

Company	Betweenness centrality	%
Rede D’Or São Luiz S.A	4,929,000	22%
UNIMED – Rio Participações	2,744,000	12%
Hospital Norte D’Or de Cascadura	2,590,000	11%
Rede UNIMED	2,489,000	11%
Notre Dame Intermédica Saúde	1,656,000	7%
UNIMED do ABC	1,602,000	7%
Amil Assistência Médica Internacional	876,000	4%
Oncotech Oncologia	621,000	3%
Intermédica Sistema de Saúde	415,000	2%
ESHO – Empresa de Serviços Hospitalares	320,00	1%

Rede D’Or São Luiz presented the highest betweenness centrality (22%), followed by *Unimed – Rio Participações* (12%); *Hospital Norte D’Or de*

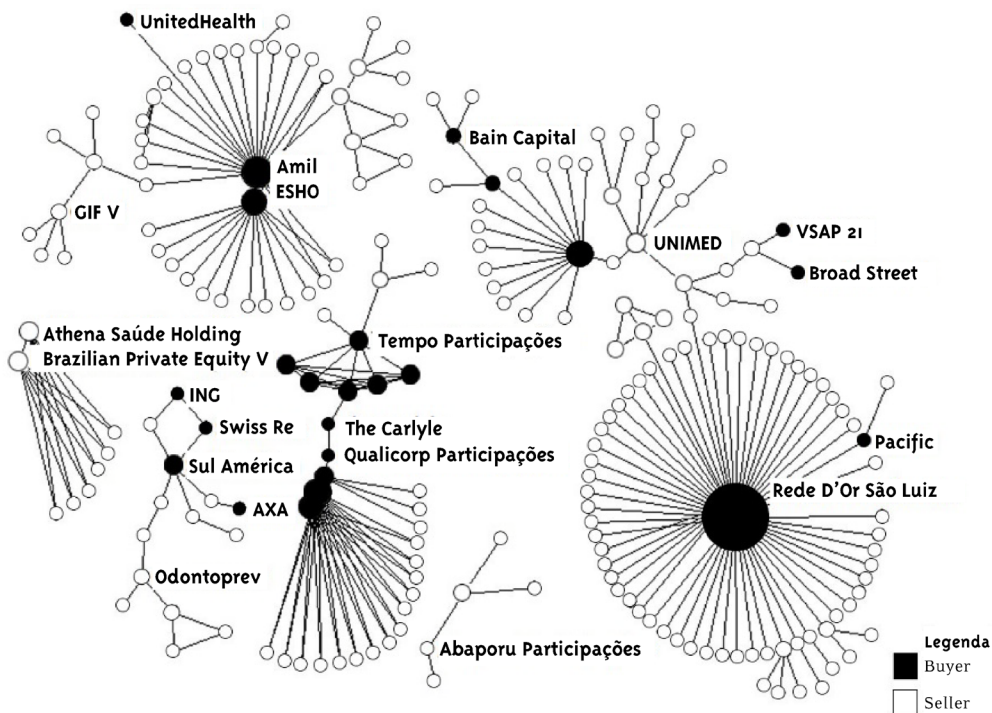
Cascadura, and *Rede Unimed* (11%). In this way, these companies are characterized as “bridges” between the companies.

Rede D’Or São Luiz has the highest betweenness centrality, as it is directly and/or indirectly linked to several companies in the network; it participated directly in concentration acts with 54 companies, and indirectly in six operations, through its Group’s companies. As an example, in 2017, *Hospital Esperança* (belonging to *Rede D’Or*) acquired shareholdings in three companies of *Grupo UDI*, namely *UDI Córdio*, *UDI Imagem* and *UDI Hospital*.

Hospital Norte D’Or de Cascadura ranked second, with 12% of betweenness centrality, and was the “bridge” between *Rede D’Or São Luiz* and *Rede Unimed*. In 2012, *Hospital Norte D’Or de Cascadura* (belonging to *Rede D’Or*) acquired a shareholding in *Unimed – Rio Participações*.

Analyzing foreign capital participation, based on Figure 11, it is observed that the main groups in the network receive foreign investment and that practically the entire network presents a direct or indirect influence of foreign capital.

Figure 11 – Network of companies that performed operations – foreign capital, 2009 to 2017



Pacific RDSL Participações, from Singapore, managed by GIC Ventures Group, was one of the main international actors, since, in 2015, it acquired a shareholding in the largest group in the network, *Rede D'Or São Luiz*. The Carlyle Group also stands out, as it acquired two other prominent groups in the network, *Qualicorp*, in 2010 and *Tempo Participações*, in 2015. Although it has not been analyzed by Cade, it was also possible to identify the entry of the UnitedHealth Group, having acquired control of *Amil Assistência Médica Internacional*, in 2012.

Generally speaking, with regard to foreign capital participation in the health area, the results are similar to those of Outreville (2007) and Angeli and Maarse (2012), since it was also possible to identify predominance of cross-border operations carried out by companies from the United States, a country that also leads, on a global scale, the number of operations of mergers and acquisitions, according to Unctad (2017).

Based on the data presented in Figure 11, it is possible to verify formation of a network with 214 actors, grouped into three main groups, *Rede D'Or São Luiz*, *Amil Assistência Médica Internacional* and *Qualicorp*. *Rede D'Or São Luiz* presented the highest degree centrality and betweenness centrality, that is, it was the actor with the greatest influence, power and importance, exerting direct influence on 13% of the actors in the network.

The companies that moved the most to carry out concentration acts in the hospital and health insurance market were *Rede D'Or São Luiz*, *Amil Assistência Médica Internacional* and *Qualicorp*, all with the foreign investors' participation.

It was found that these groups concentrated investments in the country's most populous regions, with higher income and greater coverage of health insurance. Through network analysis, it is clear that these companies have expanded and diversified their performance in the market, which can increase their influence and, specifically, their power, the latter stressed even by Cade (2018).

This strong presence of foreign investors in healthcare can pose risks and benefits. As benefits, the considerations of Smith (2004) can be highlighted, which present foreign investment as a cost-free source, representing additional resources - provided

that they are regulated - for the improvement of the service quality and efficiency, freeing up public resources for other health segments, even though this improvement is conditioned to an increase in the current productive capacity.

In terms of risks, the aforementioned author emphasizes the fact that large corporations, with better financial flow, create a shift of health professionals from the public sector to the private sector, making it an even more polarized system, which will allocate more resources to the rich at the expense of the poor and even forcing the reallocation of large public spending to equalize public sector inequalities due to the strong presence of private capital (Smith, 2004).

Accordingly, Scheffer (2015) points out that the increase in foreign investment and the enhancement of the private health sector promote unfair competition with the public sector, opening space for the formation of a "segmented system, incapable of ensuring access to all levels of care, in all regions, including in sanitation voids and for vulnerable and neglected populations" (Scheffer, 2015, p. 664), as these are places the private sector is not interested in, since they offer less financial return.

In this sense, the considerations of Outreville (2007) are also consistent with the fact that the capacity of this type of investment strengthens or weakens the health system, and it is likely to strongly contribute to market segmentation, concentrating it on higher-income segments.

That being said, given the changes in public health policy, regarding the permissibility of foreign investments, both in supplementary health and in the health market as a whole, it is urgent that policies be established to analyze these risks and benefits for the country.

Final considerations

The general objective of this work was to characterize the dynamics of the networks of operation of economic concentration acts in hospitals and health insurance providers in Brazil. Ninety-three economic concentration acts were identified that involved hospitals and/or health insurance providers from 2009 to 2017.

It was observed participation of 211 companies and three individuals in those economic concentration acts. Nine companies participated in 66% of the operations carried out, with *Rede D'Or São Luiz*, in an individual analysis, being responsible for 22% of these operations, and which became controlled by the foreign GIC Ventures Group, from Singapore. It was found that most of the operations performed were approved by Cade without restrictions, a factor that may be favorable to increased economic concentration in the health sector.

As for the dynamics of networks, based on the database, there was a network with three large groups, in which *Rede D'Or São Luiz*, *Amil Assistência Médica Internacional* and *Qualicorp*, which are controlled by foreign groups, present the highest degree centrality, that is, the companies that have the highest number of connections in the network.

In this sense, it is possible to understand the consequences of the opening of the Brazilian healthcare market to foreign investors, the predominance of operations of acquisitions of companies by these groups and the latent need to establish policies to analyze the risks and benefits of this new reality for the Brazilian health market, so that any effects on the health system are foreseen. Although the impact of these operations on Brazilians' health has not yet been measured by the scientific community, the notes by Filippou (2015) and Hiratuka, Rocha and Sarti (2016) show the importance of discussions about this adopted economic policy and the challenges it represents.

In this research, the analysis was limited to mapping acts of concentration in the health area, specifically health insurance providers and hospitals, from 2009 to 2017, with analysis of the public version of the processes made available on Cade's database; contracts entered into between the interested parties were not analyzed. Also as a limitation, non-verification of the value of the operations is mentioned, as it is confidential information in most of the processes made available by Cade.

Also, it is highlighted that future research can be conducted aimed at verifying impacts on this industrial organization, its structure, conduct and performance, as well as reflections on the prices and

quality of services offered by companies subject to an economic concentration act.

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Authors' contribution

Oliveira and Menezes substantially contributed to the conception or design of the research and to data collection, analysis and interpretation. All authors prepared the work, critically reviewed the manuscript for intellectual content, and approved the final version to be published.

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Appendix I - List of economic concentration acts in hospitals and/or health insurance providers from 2009 to 2017

Process	Year	Stakeholder	Sector of the main stakeholder (s)
08012.007443/2009-41	2009	1 – São Francisco Saúde Sociedade Empresária LTDA 2 – Amico Saúde LTDA	Health Insurance
08012.009906/2009-17	2009	1 – Amil Assistência Médica Internacional LTDA 2 – Medial Participações S.A 3 – Medial Saúde S.A	Health Insurance
08012.002248/2009-24	2009	1 – Intermédica Sistema de Saúde S.A 2 – Medicamp Assistência Médica LTDA	Hospital and Health Insurance
08012.008325/2009-50	2009	1 – Tempo Participações S.A 2 – Unibanco Saúde Seguradora S.A	Health Insurance
08012.008989/2009-19	2009	1 – Bradesco Dental S.A 2 – Odontoprev S.A	Health Insurance
08012.003389/2010-06	2010	1 – AMIL Assistência Médica Internacional LTDA 2 – ASL Assistência a Saúde LTDA. 3 – CEAME Centro Especializado de Atendimento Médico LTDA.	Health Insurance
08012.004902/2010-78	2010	1 – ESHO – Empresa de Serviços Hospitalares LTDA 2 – Hospital Pró-Cardíaco S.A	Hospital
08012.006190/2010-21	2010	1 – Sul América Seguro Saúde S.A 2 – BB Seguros Participações S.A	Health Insurance
08012.010274/2010-60	2010	1 – FMG Empreendimentos Hospitalares S.A 2 – São Luiz Operadora Hospitalar S.A	Hospital
08012.000917/2010-67	2010	1 – UNIMED Porto Alegre Sociedade Cooperativa de Trabalho Médico LTDA. 2 – UNIMED Centro Sul, Sociedade Cooperativa de Trabalho Médico LTDA.	Health Insurance
08012.004756/2010-81	2010	1 – FMG Empreendimentos Hospitalares S.A 2 – Hospital e Maternidade Brasil S.A	Hospital
08012.010675/2010-10	2010	1 – FMG Empreendimentos Hospitalares S.A 2 – Hospital e Maternidade Assunção S.A 3 – Assunção Imagem S.A 4 – Ressonância Assunção S.A.	Hospital
08012.010734/2010-50	2010	1 – Amil Assistência Médica Internacional LTDA 2 – Excelsior Med LTDA	Health Insurance
08012.011280/2010-34	2010	1 – FMG Empreendimentos Hospitalares S.A 2 – Casa de Saúde e Maternidade Rio de Janeiro S.A 3 – Casa de Saúde e Maternidade Joari S.A 4 – JMJB Diagnósticos e Serviços Hospitalares S.A 5 – LE Participações Societárias S.A 6 – Medise Medicina Diagnóstico e Serviços S.A 7 – Hospital Realcordis S.A	Hospital

continues...

Appendix 1 – Continuation

Process	Year	Stakeholder	Sector of the main stakeholder (s)
08012.012150/2010-19	2010	1 – FMG Empreendimentos Hospitalares S.A 2 – Prontolinda S.A	Hospital
08012.013181/2010-97	2010	1 – Sul América Companhia de Seguro Saúde 2 – Dental Plan Ltda	Health Insurance
08012.013200/2010-85	2010	1 – Hospital das Clínicas de Niterói 2 – Clínica Médico-Cirúrgica Botafogo S.A	Hospital
08012.008112/2010-61	2010	1 – The Carlyle Group 2 – Qualicorp Participações S.A	Health Insurance
08012.000596/2011-81	2011	1 – Hospital Norte D’Or de Cascadura S.A 2 – Unimed-Rio Participações e Investimentos S.A	Hospital and Health Insurance
08012.002872/2011-46	2011	1 – Medgrupo Participações S/A 2 – Hospital Renascer Ltda	Hospital
08012.004596/2011-51	2011	1 – Hospital e Maternidade São Luiz S.A 2 – Oncotech Oncologia Ltda 3 – Cotefil Hospital Geral Ltda	Hospital
08012.006525/2011-92	2011	1 – Centro de Tratamento em Oncologia S.A 2 – Oncologistas Associados Serviços Médicos Ltda 3 – Instituto Oncológico de Pernambuco Ltda	Hospital
08012.006542/2011-20	2011	1 – AMIL Assistência Médica Internacional S.A 2 – LINCX Sistemas de Saúde LTDA	Health Insurance
08012.009232/2011-67	2011	1 – Qualicorp S.A 2 – Medlink Conectividade em Saúde Ltda	Health Insurance
08012.009582/2011-23	2011	1 – Centro de Tratamento em Oncologia S.A 2 – Instituto Oncológico de Pernambuco Ltda	Hospital
08012.011059/2011-67	2011	1 – Rede D’Or São Luiz S.A 2 – Vivaile Serviços de Saúde Ltda	Hospital
08012.011421/2011-08	2011	1 – Oncotech Oncologia Ltda 2 – Centro Radioterápico da Gávea Ltda. 3 – Serviços de Radioterapia São Peregrino Ltda. 4 – CORAL – Centro de Oncologia e Radioterapia Ltda 5 – LFC Serviços Médicos Ltda 6 – Scanmed – Aluguel de Máquinas e Equipamentos Ltda	Hospital
08012.011602/2011-26	2011	1 – Rede D’Or 2 – MAIS – Multi Assistência Incorporada à Saúde Ltda 3 – Centro Hospitalar São Marcos S.A	Hospital
08012.004653/2011-00	2011	1 – Qualicorp Administradora de Benefícios S.A. 2 – Qualicorp Corretora de Seguros S.A. 3 – Divicom Administradora de Benefícios Ltda. 4 – Divicom Gestão de Benefícios Ltda. 5 – Divicom Corretora de Seguros S.S 6 – Divicom Assessoria e Negócios S.S.	Health Insurance

continues...

Appendix 1 – Continuation

Process	Year	Stakeholder	Sector of the main stakeholder (s)
08012.009575/2011-21	2011	1 – Qualicorp Administradora de Benefícios S.A 2 – Qualicorp Corretora de Seguros S.A 3 – Adplan Administração e Planejamento de Benefícios Ltda 4 – Destak Corretora de Seguros Ltda	Health Insurance
08012.002189/2012-90	2012	1 – Central Médica de Prevenção LTDA 2 – UNIMED Porto Alegre Sociedade Cooperativa de Trabalho Médico LTDA	Health Insurance
08012.005776/2012-31	2012	1 – Pio Sodalicio das Damas de Caridade de Caxias do Sul 2 – UNIMED Nordeste RS Sociedade Cooperativa de Serviços Médicos LTDA	Health Insurance
08012.000309/2012-14	2012	1 – Qualicorp Administradora de Benefícios S.A 2 – Qualicorp Corretora de Seguros S.A. 3 – Afmidade Administradora de Benefícios Ltda 4 – Equilibrar Corretora de Seguros Ltda	Health Insurance
08012.002520/2012-71	2012	1 – Rede D’Or São Luiz S.A 2 – Sinisgalli Administração e Participações S.A 3 – Hospital e Maternidade Nossa Senhora de Lourdes S.A 4 – Instituto de Especialidades Pediátricas de São Paulo S.A 5 – Angiodinâmica S.A 6 – Lithocenter S.A 7 – Centro Diagnóstico NSL S.A	Hospital
08012.002680/2012-11	2012	1 – Carpevie – Centro de Medicina Integrada Ltda 2 – LAF – Empresa de Serviços Hospitalares Ltda 3 – Mariliz Lima – Ginecologia e Obstetrícia e Erickson Élun – Cirurgia do Aparelho Digestivo Ltda	Hospital
08012.002866/2012-70	2012	1 – Carpevie – Centro de Medicina Integrada Ltda 2 – EGB 01 Empreendimentos e Participações Ltda 3 – ADIX Empreendimentos Imobiliários Ltda	Hospital
08012.005539/2012-70	2012	1 – Rede D’Or São Luiz S.A 2 – Hospital Santa Luzia S.A 3 – Hospital do Coração do Brasil S.A.	Hospital
08012.005540/2012-02	2012	1 – Jorge Nevai Moli Filho 2 – Pedro Junqueira Moll 3 – Paulo Junqueira Moll 4 – Santa Luzia Assistência Médica S.A	Health Insurance
08012.006134/2012-59	2012	1 – ESHO – Empresa de Serviços Hospitalares S.A 2 – Sociedade Civil Clinvac LTDA	Hospital
08700.004065/2012-91	2012	1 – Qualicorp Administradora de Benefícios S.A 2 – Qualicorp Corretora de Seguros S.A 3 – Aliança Administradora de Benefícios de Saúde Ltda 4 – GA Consultoria, Administração e Serviços Ltda	Health Insurance

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Appendix 1 – Continuation

Process	Year	Stakeholder	Sector of the main stakeholder (s)
08700.004150/2012-59	2012	1 – Rede D’Or São Luiz S.A 2 – Medgrupo Participações S.A 3 – Hospital Santa Lúcia S.A	Hospital
08700.004151/2012-01	2012	1 – Rede D’Or São Luiz S.A 2 – Acreditar Oncologia Ltda	Hospital
08012.003324/2012-14	2012	1 – Qualicorp Administradora de Benefícios S.A 2 – Qualicorp Corretora de Seguros S.A 3 – PS – Padrão Administradora de Benefícios Ltda 4 – Padrão Administração e Corretagem de Seguros Ltda 5 – PS Brasil Administração e Corretagem de Seguros Ltda 6 – Voloto Consultoria Empresarial Ltda	Health Insurance
08700.005472/2012-15	2012	1 – VSAP 21 Fundo de Investimento em Participações 2 – Oncoclínicas do Brasil Serviços Médicos S.A	Hospital
08700.008474/2012-66	2012	1 – CLIDEC – Clínica Dentária Especializada Cura D’ars Ltda 2 – Fleury Centro de Procedimentos Médicos S.A 3 – Papaiz Associados Diagnósticos por Imagem S/S Ltda	Health Insurance
08700.010284/2013-90	2013	1 – Swiss Re Direct Investments Company Ltd 2 – ING Insurance International B.V 3 – Sul América S.A	Health Insurance
08700.005729/2013-10	2013	1 – Unimed Odonto S.A 2 – Unimed Vitória Cooperativa de Trabalho Médico	Health Insurance
08700.006494/2013-83	2013	1 – Unimed-Rio Cooperativa de Trabalho Médico do Rio de Janeiro Ltd 2 – Golden Cross Assistência Internacional de Saúde Ltda	Health Insurance
08700.008540/2013-89	2013	1 – Amil Assistência Médica Internacional S.A 2 – Seisa Serviços Integrados de Saúde Ltda 3 – Hospital Carlos Chagas S.A	Hospital and Health Insurance
08700.003059/2013-05	2013	1 – Sulasapar Participações S.A 2 – ING Insurance Intemational B.V	Health Insurance
08700.005730/2013-44	2013	1 – Unimed Odonto S.A 2 – Unimed Recife Cooperativa de Trabalho Médico	Health Insurance
08700.006171/2013-90	2013	1 – Odontoprev S.A 2 – BB Seguros Participações S.A	Health Insurance
08700.007610/2013-81	2013	1 – Rede D’Or São Luiz S.A 2 – Hospital Norte D’Or de Cascadura S.A	Hospital
08700.009118/2013-40	2013	1 – UNIMED – Rio Participações e Investimentos S.A 2 – Oncoclínica – Centro de Tratamento Oncológico Ltda	Hospital and Health Insurance
08700.010530/2013-03	2013	1 – Unimed Seguros Saúde S.A 2 – Tempo Saúde Seguradora S.A	Health Insurance

continues...

Appendix 1 – Continuation

Process	Year	Stakeholder	Sector of the main stakeholder (s)
08700.000181/2014-00	2014	1 – Rede D’Or São Luiz S.A 2 – Brospar Participações Ltda 3 – Proncordis – Pronto Atendimento Cardiológico Ltda 4 – Rede Lav Lavanderia Industrial Hospitalar Ltda	Hospital
08700.001329/2014-16	2014	1 – Caixa Seguros Holding S.A 2 – Tempo Participações S.A 3 – Odonto Empresas Convênios Dentários Ltda 4 – Prevdonto Odonto Empresa Assistência Odontológica Ltda	Health Insurance
08700.002568/2014-93	2014	1 – Bain Capital Brazil Participações Ltda 2 – Intermédica Sistema de Saúde S.A 3 – Interodonto – Sistema de Saúde Odontológica Ltda 4 – Notre Dame Seguradora S.A	Health Insurance
08700.004443/2014-06	2014	1 – Qualicorp S.A 2 – Connectmed CRC Cons, Adm e Tecnologia em Saúde Ltda 3 – Gama Saúde Ltda	Health Insurance
08700.010625/2014-08	2014	1 – Rede D’Or São Luiz S.A 2 – Hospital Vília-Lobos Ltda	Hospital
08700.011555/2014-05	2014	1 – Rede D’Or São Luiz S.A 2 – Associação Hospitalar Sino Brasileiro 3 – Tomo-Med Centro de Diagnóstico e Tratamento Ltda	Hospital
08700.003676/2015-64	2015	1 – ESHO – Empresa de serviços hospitalares S.A 2 – COL – Clínicas Oncológicas S.A	Health Insurance
08700.001601/2015-49	2015	1 – Rede D’Or São Luiz S.A 2 – Hospital e Maternidade Bartira Ltda	Hospital
08700.002317/2015-90	2015	1 – Broad Street Principal Investments, L.L.C 2 – Oncoclínicas do Brasil Serviços Médicos S.A	Hospital
08700.003123/2015-10	2015	1 – BTG Pactual Saúde Fundo de Investimento em Participações 2 – Rede D’Or São Luiz S.A	Hospital
08700.003337/2015-88	2015	1 – Rede D’Or São Luiz S.A 2 – Oncologia Rede D’Or S.A	Hospital
08700.005963/2015-17	2015	1 – AXA Corporate Solutions Brasil e América Latina Resseguros, S.A 2 – SulAmérica Companhia Nacional de Seguros	Health Insurance
08700.008189/2015-98	2015	1 – Notre Dame Intermédica Saúde S.A 2 – Santamália Saúde S.A 3 – Hospital Bosque da Saúde S.A 4 – Hospital Montemagno S.A 5 – Acqua Blue Transporte de Água LTDA 6 – Acqua Magma Lavanderia LTDA	Hospital and Health Insurance

continues...

Appendix 1 – Continuation

Process	Year	Stakeholder	Sector of the main stakeholder (s)
08700.010373/2015-06	2015	1 – ESHO – Empresa de Serviços Hospitalares S.A 2 – Hospitais Associados de Pernambuco Ltda 3 – Diagnóstico por Imagem Ltda 4 – Dilab Medicina Nuclear Ltda 5 – Multiângio Ltda 6 – Hemonefro – Hemodiálise e Nefrologia Ltda 7 – Medalliance Net Ltda	Hospital and Health Insurance
08700.011192/2015-99	2015	1 – Fundo de Investimento em Participações Genoma I 2 – CM Hospitalar Ltda 3 – CM Logística Hospitalar Ltda 4 – BSB Comércio de Produtos Hospitalares Ltda	Hospital
08700.012624/2015-89	2015	1 – ESHO – Empresa de serviços hospitalares S.A 2 – Sociedade Hospital Samaritano	Hospital and Health Insurance
08700.012652/2015-04	2015	1 – São Francisco Sistemas de Saúde Sociedade Empresária Ltda 2 – Fundação Waldemar Barnsley Pessoa	Health Insurance
08700.011951/2015-13	2015	1 – Pacífic RDSL Participações S.A 2 – Rede D’Or São Luiz S.A 3 – Banco BTG Pactual S.A	Hospital
08700.008541/2015-95	2015	1 – Carlyle HILL South America Buyout Fund, L.L.C 2 – America HILL do Sul Investimentos, L.L.C 3 – SA Partners HILL, L.L.C 4 – Brazil HILL Buyout Coinvestment, L.L.C 5 – Fundo Brasil de Internacionalização de Empresas – FIP II 6 – Tempo Participações S.A.	Health Insurance
08700.005620/2016-25	2016	1 – GIF V Fundo de Investimento em Participações 2 – São Francisco Sistemas de Saúde Sociedade Empresária Limitada 3 – Hospital São Francisco Sociedade Empresária Ltda 4 – São Francisco Odontologia Limitada 5 – São Francisco Resgate Limitada	Hospital and Health Insurance
08700.000266/2016-42	2016	1 – Rede D’Or São Luiz S.A 2 – Hospital Memorial São José Ltda 3 – NEOH-MEMORIAL Núcleo Especializado em Oncologia e Hematologia Ltda 4 – Memorial Imagem e Diagnóstico Ltda 5 – Maximagem – Diagnóstico por Imagem Ltda 6 – HEMATO – Serviços de Hemoterapia Ltda 7 – IPASA – Investimento Participação e Administração S.A.	Hospital
08700.000430/2016-11	2016	1 – Fundo de Investimento em Participações Genoma I 2 – CM Hospitalar S.A 3 – CM Logística Hospitalar S.A 4 – BSB Comércio de Produtos Hospitalares S.A	Hospital

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Appendix 1 – Continuation

Process	Year	Stakeholder	Sector of the main stakeholder (s)
08700.003459/2016-55	2016	1 – Amil Assistência Médica Internacional S.A 2 – ESHO – Empresa de Serviços Hospitalares S.A 3 – Santa Helena Assistência Médica S.A. 4 – Hospital Santa Helena S.A 5 – Elual Participações S.A	Hospital and Health Insurance
08700.006574/2016-81	2016	1 – Notre Dame Intermédica Saúde S.A 2 – UNIMED do ABC – Cooperativa de Trabalho Médico	Health Insurance
08700.007004/2016-17	2016	1 – Rede D’Or São Luiz S.A 2 – Hospital Ribeirão Pires Ltda	Hospital
08700.007555/2016-72	2016	1 – Rede D’Or São Luiz S.A 2 – GEM Assistência Médica Especializada Ltda	Hospital
08700.007556/2016-17	2016	1 – Rede D’Or São Luiz S.A. 2 – Hospitais Integrados da Gávea S.A	Hospital
08700.008061/2016-13	2016	1 – Amil Assistência Médica Internacional S.A 2 – Hospital Alvorada Taguatinga Ltda 3 – Santos Administração e Participações S.A 4 – Plano de Saúde Ana Costa Ltda 5 – Hospital Ana Costa Ltda	Hospital and Health Insurance
08700.005455/2017-92	2017	1 – Notre Dame Intermédica Saúde S.A 2 – Organização Médica Cruzeiro do Sul S.A 3 – Cruzeiro do Sul Serviços de Assistência Médica S.A 4 – Laboratório de Análises Clínicas Cruzeiro do Sul LTDA	Hospital and Health Insurance
08700.004084/2017-21	2017	1 – Rede D’Or São Luiz S.A 2 – Acreditar Oncologia S.A. 3 – Oncobrasília – Instituto Brasileiro de Oncologia Clínica Ltda	Hospital
08700.001221/2017-76	2017	1 – Notre Dame Intermédica Saúde S.A 2 – Hospital São Bernardo S.A	Hospital and Health Insurance
08700.005859/2017-86	2017	1 – Serviço de Medicina Transfusional SMTS Ltda 2 – Banco de Sangue de São Paulo e Serviços de Hemoterapia Ltda	Hospital
08700.002013/2017-94	2017	1 – São Francisco Sistemas de Saúde Sociedade Empresária Ltda 2 – Amhpla Cooperativa de Assistência Médica	Health Insurance
08700.008007/2017-41	2017	1 – Hospital Esperança S.A. 2 – UDI Hospital – Empreendimentos Médico-Hospitalares do Maranhão Ltda 3 – UDI Córdio – Unidade de Diagnóstico e Tratamento Cardiológico Ltda 4 – UDI Imagem – Unidade de Diagnóstico por Imagem Ltda	Hospital
08700.004255/2017-12	2017	1 – Abaporu Participações S.A 2 – Hospital São Lucas S.A	Hospital

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Appendix 1 – Continuation

Process	Year	Stakeholder	Sector of the main stakeholder (s)
08700.003803/2017-97	2017	1 – Athena Saúde Holding S.A 2 – Brazilian Private Equity V – Fundo de Investimento em Participação 3 – Med Imagem S/C 4 – Hospital São Pedro S/C 5 – Hospital Vitória de Timon S/C 6 – Hospital Santa Maria Ltda 7 – Humana Assistência Médica Ltda 8 – Medplan Assistência Médica Ltda	Hospital and Health Insurance
08700.002450/2017-16	2017	1 – Notre Dame Intermédica Saúde S.A 2 – Hospital e Maternidade Nova Vida Ltda 3 – Med Vida Assistência Médica Hospitalar Ltda 4 – Nova Vida Assistência Médica Hospitalar Ltda	Hospital and Health Insurance
08700.002164/2017-42	2017	1 – Fundo de Investimento em Participação Abaporu 2 – Hospital Vera Cruz S.A 3 – Vera Cruz Associação de Saúde	Hospital and Health Insurance