“Who will take care of healthcare workers?”: working time in the health sector in Brazil – Ana Luíza Matos de Oliveira

Abstract:
This article aims at identifying existing working time arrangements in place in the health service sector in Brazil and studying their influence on workers' well-being, including their work–life balance and organizational performance. Therefore, we will present the legislation regarding working time in Brazil and in the healthcare sector; organizational needs of health-care establishments; patterns of shift scheduling adopted in the country; and mechanisms for consultation with staff (exact procedures). We will also identify key working time-related factors affecting staff morale and performance, and describe staff and managerial perceptions and preferences of working time arrangements.
Keywords: Working time, Health Sector, Brazil, Healthcare workers, Working time in the health sector

Resumo:
Este artigo tem como objetivo identificar as formas de organização da jornada de trabalho no setor da saúde no Brasil e estudar a sua influência sobre o bem-estar dos trabalhadores, seu equilíbrio trabalho-vida e desempenho organizacional. Portanto, apresentaremos: a legislação relativa ao tempo de trabalho no Brasil e no setor da saúde; necessidades organizacionais dos estabelecimentos de cuidados de saúde; padrões de jornadas adotadas no país e mecanismos exatos de consulta com a equipe. Também buscaremos identificar os fatores relacionados com o tempo de trabalho que afetam o moral e o desempenho pessoal e descrever percepções e preferências de organização do tempo de trabalho dos gestores e trabalhadores.
Palavras-chave: Jornada de trabalho, Setor da saúde, Brasil, Trabalhadores da saúde, Jornada de trabalho na saúde.

1. Introduction

This article aims at identifying existing working time arrangements in place in the health service sector in Brazil and studying their influence on workers' well-being, including their work–life balance and organizational performance. Therefore, we will present the legislation regarding working time in Brazil; organizational needs of health-care establishments; patterns of shift scheduling adopted in the country; and mechanisms for consultation with staff (exact procedures). We will also identify key

working time-related factors affecting staff morale and performance, and describe staff and managerial perceptions and preferences of working time arrangements.

In this study, the Brazilian Institute of Geography and Statistics (Instituto Brasileiro de Geografia e Estatística, IBGE) division of the country has been used. The Brazilian states and districts composing the regions are: i) South Region: Rio Grande do Sul, Santa Catarina, Paraná; ii) Southeast Region: Minas Gerais, São Paulo, Rio de Janeiro, Espírito Santo; iii) Midwest Region: Mato Grosso, Mato Grosso do Sul, Goiás, Distrito Federal; iv) North Region: Acre, Amapá, Amazonas, Pará, Rondônia, Roraima, Tocantins; v) Northeast Region: Alagoas, Bahia, Ceará, Maranhão, Paraíba, Piauí, Pernambuco, Rio Grande do Norte, Sergipe. Each region has similarities in terms of social and geographical characteristics and this division is the background for our sampling process. In a country of continental dimensions and regional inequalities such as Brazil, it is important to consider regional specificities such as availability of health-care workers, social and financial difficulties and how these affect working time for health-care workers (Travassos et al., 2000).

This research was conducted in 2013 with International Labour Organization (ILO) funding and is one of the products of a research initiative jointly carried out by the ILO Working Conditions and Equality Department (WORKQUALITY) and the ILO Sectoral Policies Department (SECTOR), in follow-up to the Conclusions of the Tripartite Meeting of Experts on Working Time Arrangements (2011).

2. Background

The health sector in Brazil in context

Article 196 of the Brazilian Constitution (1988) states: “Health is a right of all and a duty of the State and shall be guaranteed by means of social and economic policies aimed at reducing the risk of illness and other hazards and at the universal and equal access to actions and services for its promotion, protection and recovery.” The Brazilian health system is composed of both public and private institutions, as legislated in the Constitution (section II, articles 198 and 199) and Law 8080/1990. Both public and private (profit and non-profit) health actors are dedicated to delivering, financing and managing services; researching, producing and distributing health products and technologies; and building human resource capacity. The regulatory function in this sector is performed by two distinct bodies: (a) the National Agency for Health Surveillance (Agência Nacional de Vigilância Sanitária, ANVISA), dedicated to regulating health products, food, ports, airports and borders; and (b) the Supplementary Health Agency (Agência Nacional de Saúde Suplementar, ANS), dedicated to regulating private health care.

The public health system, termed the Unified Health System (Sistema Único de Saúde, SUS), is structurally decentralized between the federal, state and county governments. The SUS has been at the centre of unrelenting political debate and has never attained its main goal of universal access: since 1988, governments have failed in the task of reversing a situation of private sector dominance in the absence of public services.

> Macroeconomic adjustments and liberalizing reforms adopted since 1990 have undermined its funding bases and restricted investments necessary to expand the public offering. … A consequence of this is the deep social and regional inequality, perceived by queues and delays in care consultations, examinations and admissions (Fagnani, 2013 – free translation).

Bahia (2005) affirms that there is an identifiable tension between the public and private health-care systems: public resources finance demand for private health-care plans, private institutions profit from both public infrastructure and human resources developed with public funding, and openings are created for managers of private health companies to take over public posts (Bahia, 2005, p. 11).

Higher-income citizens typically have access to private health plans: they access health services mainly through private entities that vary from less expensive to luxury health plans. Ability to buy a private health plan is considered as an indicator of being part of the middle- or high-income groups (Bahia, 2013). Meanwhile, lower-income citizens rely almost solely on the public system.

The private health sector in Brazil is large and growing, rising from coverage of 17.9 per cent of the population in 2003 to 25.1 per cent in 2013 (ANS, 2013). The rate of coverage of private health-care plans in June 2013 was 43.8 per cent for populations living in state capitals, while 25.1 per cent of the total Brazilian population had coverage. Nonetheless, the regional factor has to be considered, as Brazil is a large country with considerable differences between regions, as illustrated in table 1: the South and Southeast Regions, as well as the Distrito Federal (areas with the highest Human Development Index), show higher levels of health-care plan coverage than the North, Northeast and the rest of the Midwest Region.

Also, distribution of human resources in health-care services is an ongoing challenge in Brazil. The majority of nursing and medical schools are concentrated in the South and Southeast Regions, with a higher Human Development Index. This distribution generates clusters of specialization, high technology, attractive wages and access to the facilities of big cities (Seixas and Stella, 2002). These areas also have higher coverage of health-care plans. According to CFM/CREMESP (2011, p. 8), there are more physicians available for private health care than for the SUS. Table 1 presents data on density of nurses and physicians, Human Development Index, health coverage and other indicators for Brazilian states.

Table 1. Selected indicators for Brazil, by state

	State of the Federation	Nurses per 1000 inhabitants, 2008 (a)	Physicians per 1000 inhabitants, 2009 (a)	Human Development Index, 2010 (b)	Rate (%) of coverage of health-care plans: Medical assistance per state, 2013 (capitals) (c)	Rate (%) of coverage of health-care plans: Medical assistance per state, 2013 (total per state) (c)	Gini coefficient, 2011 (d)	GDP per capita, 2010 (e)
North	Rondônia	0.48	1.11	0.690	27.4	13.4	0.465	15 098
	Acre	1.02	1.03	0.663	10.9	5.7	0.492	11 567
	Amazonas	1.82	1.12	0.674	29.1	15.6	0.469	17 173
	Roraima	0.95	1.45	0.707	10.1	6.6	0.503	14 051
	Pará	0.54	0.83	0.646	26.9	9.8	0.507	10 259
	Amapá	0.71	0.99	0.708	14.2	10.5	0.468	12 361
	Tocantins	1.01	1.35	0.699	21.9	7.1	0.507	12 461
Northeast	Maranhão	0.50	0.64	0.639	29.9	6.6	0.545	6 888
	Piauí	0.75	0.92	0.646	21.9	7.6	0.550	7 072
	Ceará	0.77	1.05	0.682	35.3	13.3	0.523	9 216
	Rio Grande do Norte	0.74	1.32	0.684	37.3	15.4	0.528	10 207
	Paraíba	1.07	1.27	0.658	29.6	10.6	0.532	8 481
	Pernambuco	0.61	1.41	0.673	44.9	17.4	0.464	10 821
	Alagoas	0.55	1.18	0.631	28.0	13.1	0.467	7 874

	Sergipe	0.80	1.36	0.665	37.2	14.3	0.530	11 572
	Bahia	0.59	1.10	0.660	28.1	10.9	0.534	11 007
Southeast	Minas Gerais	0.74	1.84	0.731	55.8	26.8	0.476	17 931
	Espírito Santo	0.83	2.03	0.740	70.7	32.3	0.487	23 378
	Rio de Janeiro	1.20	2.71	0.761	53.2	36.6	0.492	25 455
	São Paulo	1.06	2.52	0.783	59.9	44.3	0.468	30 243
South	Paraná	0.76	2.00	0.749	52.6	24.4	0.459	20 813
	Santa Catarina	0.98	1.89	0.774	43.5	22.2	0.436	24 398
	Rio Grande do Sul	1.28	2.31	0.746	47.5	24.1	0.476	23 606
Midwest	Mato Grosso do Sul	0.66	1.63	0.729	25.4	18.5	0.499	17 765
	Mato Grosso	3.97	1.24	0.725	33.0	14.2	0.476	19 644
	Goiás	0.66	1.64	0.735	30.3	15.9	0.465	16 251
	Distrito Federal	1.66	3.80	0.824	31.2	31.2	0.584	58 489

Sources:

(a) Brazilian Health Ministry, Secretary of Work Management and Health Education (Secretaria de Gestão do Trabalho e Educação em Saúde): Information System for Human Resources at SUS (from administrative records of professional councils) and demographic base of IBGE.

(b) Human Development Index 2010 – Atlas do Desenvolvimento Humano.

(c) Rate of coverage SIB/ANS/MS – 06/2013, and Population – IBGE/DATASUS/2012.

(d) Base de dados do Estado de Pernambuco from IBGE http://www.bde.pe.gov.br/visualizacao/Visualizacao_formato2.aspx?CodInformacao=918&Cod=3.

(e) IBGE – Contas Nacionais 2010, in Brazilian reals.

Working time in Brazil

The labour legislation that applies to private sector workers and some public sector workers in Brazil is the Consolidation of Labour Laws (Consolidação das Leis do Trabalho, CLT) from 1940. Workers covered by these are often referred to as the *carteira assinada* (signed card), meaning that these workers, who have their *carteira de trabalho* (labour card) signed by their employers, are entitled to various rights, such as the Severance Indemnity Fund for Employees (Fundo de Garantia por Tempo de Serviço, FGTS), to which employers contribute, and unemployment insurance. Other public service workers – public servants – have a different status and are regulated by a specific statutory instrument – Law 8112/1990 – which establishes a different legal framework. Workers with formal contracts (*carteira assinada* or public servants) have access to the system of social security and the labour rights included in the legal framework.

Unregistered employment is illegal but very common in Brazil. In addition to a high level of informality, other forms of employment relationships that have received legal status have become more common as the flexibility of labour laws was increased in the 1990s. These employment forms include work as an external service provider, outsourced employee, employee on a temporary contract, autonomous worker, intern or apprentice (Fornazier and Oliveira, 2011; Baltar et al., 2010; Oliveira, 2013).

The maximum weekly working time in Brazil is 44 hours and eight hours a day according to the Brazilian Constitution of 1988, article 7, paragraph XIII. A 44-hour working week was only possible due to pressure from organized workers in the 1980s, who demanded a reduction in weekly working time from 48 to 44 hours. Ironically, the successful decrease of maximum working time in Brazil coincided with an increase in overtime work, intensification of work and other more flexible arrangements on the part of employers (DIEESE, 2010, p. 3). A very important observation is that the weekly limit of 44 hours refers to *each* job a worker has, i.e., a worker can have two formal jobs of 30 hours a week, and in this study there are many examples of this practice in the health sector.

The daily overtime limit is two hours and part-time workers, i.e., those that work less than 25 hours a week, are prohibited from doing overtime work. However, it is very common that overtime is requested by employers and constitutes a way to complement income, particularly for health-care workers. Statistics from 2009 show that 36.1 per cent of Brazilian wage earners worked more than the legal working time of 44 hours a week (DIEESE, 2010, p. 5).

In the 1990s, the Federal Labour Court showed greater resistance to strikes and allowed for greater private negotiations between employers and workers. The Ministry of Labour also weakened its regulatory functions, decreasing fines and inspections, giving consistent preference to "negotiated over legislated". Some of the more flexible measures adopted in the 1990s were time banking (Law 9601/1998); allowing work on Sundays (*Medida Provisória* (Provisional Measure) - MP 1878-64/1999); flexible remuneration, with the introduction of profit sharing and the end of wage policy (MP 1029/1994); ending wage indexation (MP 1053/1994); allowing greater flexibility for professional cooperatives in providing services (Law 8949/1994); and, later, allowing for workers to perform "intellectual work" under the form of legal persons, with no employment relationship recognized (article 129, Law 1196/2005).

In the context of rapid and consistent economic growth throughout the 2000s, public institutions and unions both worked to reduce fraud and push companies to hire according to current legislation, which improves the situation of workers. The labour movement has contributed to the acquiring of rights despite being fragmented. Since 2004, collective bargaining has started to show more promising results for workers.

Regulation of professions in the health sector in Brazil

For the purpose of this work, we will concentrate on the following professions: i) physicians; ii) nurses (university degree); iii) technicians and auxiliaries in nursing; iv) medical and pathology laboratory technicians; v) pharmacists and biomedics (performing laboratory analysis); vi) technicians and technologists in radiology.

The practice of the profession of a physician, nurse, technician in nursing, radiologist, or laboratory assistant requires a qualification recognized by a public institution (Dedecca et al., 2005, p. 125). In Brazil, there are some specific norms that need to be observed. Nursing professionals, physicians and radiology professionals each have a specific national council, the Federal Council (Conselho Federal), which regulates those categories. Those entities are legal entities under public law – called *autarquias* – and have considerable autonomy. There are also regional councils (*conselhos regionais*), responsible for regional regulation of those professions and to which workers should be affiliated. Additionally, professional associations and trade unions defend workers' rights and articulate their views. The nursing professionals and physicians are the most organized category in terms of representations, councils, associations and trade unions.

The nursing profession is the largest category providing health services in Brazil and is mostly female (DIEESE, 2006): according to Barreto, Krempel and Humerez (2011), in 2011, 87.24 per cent of nursing professionals were women in Brazil, while for physicians the proportion was 41.26 per cent (CFM/CREMESP, 2011).

Working time regulations and practices in the Brazilian health sector

In terms of direct trade union activity related to the working hours of these professionals, we can highlight the mobilization of the nursing professionals (nurses, technicians and auxiliaries in nursing) to reduce maximum working time at the national level to 30 hours a week via Bill 2295/2000. Radiology technologists and technicians already have a clear working time limit of 24 hours a week, due to their exposure to radiation, as stipulated by Law 7394/1985 and Law 1234/1950. Nonetheless, there is a legal understanding that they can have more than one job, if in each job the limit of 24 hours a week is respected and working hours are compatible (according to Regimental Appeal of Extraordinary Appeal 633.298 STF). In fact they are allowed to have two or even three jobs, working 48 or 72 hours a week or more, if in each job the limit of 24 hours is respected and there is not a conflict in working hours. Other than radiology workers, there is no specific legislation for the other categories studied to limit the amount of weekly working time regarding one job. In this case, the general laws for Brazilian workers are applied to each job (maximum of 44 hours a week).

The difficulty in measuring the precise number of health-care workers arises from the specific characteristics of this sector: many workers have more than one job and some statistics for this sector present the number of existing jobs, not the number of workers employed. An additional problem is that in some cases, workers do not have a formal contract if they are part of a cooperative or similar organization, so they are thus not taken into account in formal employment statistics.

Thus, while it is important to focus on the need to expand the health-care network in Brazil, this must be done without increasing the precariousness of work (Junqueira et al., 2010), as that would have negative effects for patients and workers. Efforts to limit uncertainty in labour relations in the SUS include improved working time arrangements (Nogueira, Baraldi and Rodrigues, 2004). State reforms in the health sector have also modified the employment relationships that regulate human resources. Reforms have been focused on increasing flexibility, efficiency and deregulation (Pierantoni, 2000). Following the trend of the broader Brazilian labour market, the tendency towards insecurity of labour contracts in this sector is clear (Dedecca, 2008). This trend began with the increased outsourcing of activities considered

non-core to health services, such as cleaning services or transportation, and was completed with the hiring of services via cooperatives and non-governmental organizations. Most measures of flexibility adopted after the 1990s enable the hiring of workers with less structural access to basic rights.

> It can be said that although the wage has not been reduced, the increase of the occupation has been accompanied by greater precariousness in employment contracts, increasing the fragility of working conditions in the various segments of the occupational health sector. Even if some of these are distinct, in terms of conditions of employment, from the general labour market, it is observed that they have not escaped the trend towards the greater instability and fragmentation of the 1990s (Dedecca, 2008, p. 101 – free translation).

Research in the Distrito Federal from 2000 to 2002 came to the conclusion that the health sector was following the same trends as other sectors in the Brazilian economy, showing an increase and intensification of working time, job sharing, versatility, etc. (Dal Rosso, 2008, p. 71). According to DIEESE (2011b, p. 11), if working time is more intense due to technological and organizational changes to such a degree that workers are extremely tired, sick or suffer incidents at work, they will not have the disposition or health to work, which is economically negative for employers and disadvantageous to the personal life of employees.

This has increased pre-existing insecurity in the health sector due to the necessity for some workers to hold multiple jobs. According to the 2006 National Household Sample Survey (Pesquisa Nacional por Amostra de Domicílios), 47 per cent of physicians and 23 per cent of nurses reported having more than one job (Dedecca, 2008). This has implications for both performance and for the personal lives of workers. Albuquerque et al. (2006) draw the same conclusions for professionals of the Family Health Programme (Programa Saúde da Família, PSF).

Dieese (2009) shows that a significant number of workers in the health sector work more than 44 hours per week: average weekly working hours are high. It is important to note that according to the ILO (2011), working longer than 48 hours a week is considered a long working week.

A multivariate ranking for university degrees and the labour market, authored by the Institute for Applied Economic Research (Instituto de Pesquisa Econômica Aplicada, IPEA), presented data showing that physicians have the best median wages in Brazil (8,459.45 Brazilian reals (BRL), proportional to 44 hours worked in a week), but are also one of the three categories that work the most hours in a week, with an average of 41.94 hours. Nurses have an average wage

of 3,495.07 BRL and work 41.27 hours a week. They are one of the 15 professions that work the most hours (IPEA, 2013).

DIEESE (2006) shows that many workers in the health sector hold multiple jobs and this proportion is 3 times greater than for the rest of the population in the regions studied. More than 10 per cent of health-care workers accumulated a mean of 58 hours a week in the region of Recife. These hours of work do not vary significantly from other metropolitan regions studied.

> Such professionals, when they experience labour intensity much beyond the limits indicated by legislation designed to protect the worker in Brazil, undoubtedly become even more vulnerable to illnesses. In this case in particular, the interpretation given to information becomes essential, because it is known that health workers, by the nature of their work, are among the groups most exposed to suffering at work. Thus, not only do they put themselves at risk, which is already severe, but they also submit the population they assist to these effects (DIEESE, 2006, p. 10 – free translation).

According to DIEESE (2011a), 43 per cent of workers in the health sector are employed by the private sector, while 57 per cent are employed by the public sector. Furthermore, there has been a deepening of the existing inequalities among those employed in the health sector. The difference in the wages of employees in the public and private sectors has increased. This was the case for all cities studied by DIEESE (2009). Wages were consistently higher in the public sector and that difference showed an increase.

In terms of working hours, DIEESE (2011c, p. 25) showed that 87.5 per cent of private sector health-care workers in the state of São Paulo and 89.5 per cent of health-care workers in Brazil worked more than 30 hours a week per job. Of nursing professionals, 93.6 per cent in the state of São Paulo and 95.3 per cent in Brazil as a whole worked more than 30 hours a week per job. Physicians maintained a 39-hour main job and an additional job of 13 hours per week, while nurses worked 45 hours per week. Thus, the situation of the nursing professionals regarding working time is relatively more insecure (DIEESE, 2011c).

As to collective bargaining and other labour regulations specific to this sector, on 4 June 2003 the National Negotiation Table (Mesa Nacional de Negociação) was installed on a permanent basis as the Permanent National Negotiation Table of the SUS (Mesa Nacional de Negociação Permanente do SUS, MNNP-SUS). The Ministry of Health has had an important role at this table, as part of the National Permanent Negotiation System of the SUS (Sistema Nacional de Negociação Permanente do SUS, SiNNP-SUS) via Resolutions CNS 52/1993, 229/1997 and 331/2003 (Ministério da Saúde, 2003). The MNNP-SUS is a joint forum that brings together

managers and workers in order to address inherent labour relation conflicts (Ministério da Saúde, 2013a). These are formal spaces for collective bargaining on labour relations and working conditions that are attended by representatives of government, private service providers and trade unionists or workers' representatives.

In some places, particularly in rural areas or smaller cities and villages, workers do not have a formal contract even if they are employed by the local government. The absence of a formal contract obviously impacts capacity to regulate working time. Municipal government employment without a contract has increased since the 1990s, when those governments faced increasing financial constraints with regard to the employment of workers (Ministério da Saúde, 2013b).

ILO Labour Relations (Public Service) Convention, 1978 (No. 151), was signed by former President Lula in May 2010. Convention No. 151 ensures new rights to public (municipal, state and federal) employees, including freedom of association and inclusion of these professionals in negotiations about working conditions, via Legislative Decree 206 (DIEESE, 2012a). Private sector workers have the right to collective bargaining. Other instruments for collective bargaining and discussion at the public level are (a) the Chamber of Work Regulation in the Health Sector (Câmara de Regulação do Trabalho na Saúde, CRTS), a permanent consultative body also established under Law 8080/1990; and (b) the National Interinstitutional Committee for Protection of Employment Relationships of the SUS (Comitê Nacional Interinstitucional de Desprecarização do Trabalho no SUS), created in December 2013, which seeks to address problems affecting labour relations of workers in the SUS who have unconventional contracts (PAHO, 2013).

Effects of working time

There is a wide variety of working time arrangements in Brazil for health-care workers, according to (a) the private or public sector; (b) municipal, state or federal level; (c) those that have a contract (even in the public sector), those that excelled at an entrance examination and thus have more job security in the public sector (*concursados*), and those that have no formal contract and are service providers; (d) those that work on their own for cooperatives and health plans; and (e) those that are outsourced to a private or public establishment. Thus, the total number and organization of working hours vary according to the contract and type of labour relations that govern the employment relationship that workers have with the health establishments where they work. We found workers performing the exact same function but with very different working time arrangements within the same health establishment.

Efforts to reduce the diversity of workers' contracts in the health sector are being made in order to meet social needs in a more efficient manner. The Ministry of Health has opened discussions on a new regulation for workers in both the sectors included in this study and those that are not. These discussions were advanced at the International Seminar on Labour Regulation of Health Professions that took place in Brasília in August 2013, but implementation will require time and political power and will.

Much of the emergency room and intensive care unit work is organized on a shift basis. Workers in these areas are most likely to be under a shift structure organization, including time banking schemes and shift structures such as a clockwise shift. Others work from 9 a.m. to 6 p.m. from Monday to Friday and are subject to more flexible working time arrangements, including time banking, overtime, and working on weekends and holidays (Fares and Oliveira, 2011; Oliveira, 2013). There is also the possibility that workers combine a 9 a.m. to 5 p.m. job with another at night or on weekends.

It is necessary to have shift, night or weekend work in this sector, given that health services are required 24 hours a day, seven days a week. However, we should note that increasing flexibility beyond what is actually needed to secure health-care assistance at all times may actually be hazardous and inefficient for both health workers and society. Risks include increased workload and diminished leisure and rest time, which may affect work and even have irreversible consequences for patients (Dedecca, 2008). A further risk is that workers' lives and the lives of their families become completely subordinated to the economic sphere (Krein, 2007).

Working time arrangements in the sector evolve in the same context of unequal power that exists in all labour relations. Particularly in the private sector, the employer has more power to impose conditions of work than the employee, given that employers are free to choose whom to hire and fire while workers need employment to fulfil their livelihood needs. Extreme flexibility can contribute to precarious work. In the public sector, however, workers, especially physicians, have more autonomy.

Numerous publications have described the negative effects on sleep and performance in shift workers, non-diurnal workers, and those with irregular work schedules, including in Brazil (Fischer, 2004). Shen et al. (2006) found shift workers with chronic fatigue. A broad and recent literature review on the topic of excessive working hours in the health sector in Brazil (Robazzi et al., 2012) found that overwork-related health problems included job stress, burnout, violence, musculoskeletal disorders, absenteeism, accidents, medication errors, and other mental or physical illnesses.

Studies in Brazil have shown accumulated sleep deficits, excessive sleepiness during and after work, biological disorders, difficulties in performing work, increased rates of accidents and other consequences of unsafe or unhealthy working conditions (occupational and environmental stressors, including shift work organization), unhealthy lifestyles (such as smoking, alcohol consumption, sedentary habits, and poor nutrition), lack of social support, and other negative psychosocial factors (Fischer, 2004). Health-care workers are in a particularly difficult situation due to the nature of their job, which requires high degrees of emotional involvement. The emotional component of care work differentiates it from other professions that do not deal directly with care (Dal Rosso, 2008, p. 198). Papadopoulos et al. (2010) suggest a link between the disruption of circadian rhythms caused by rotating shifts and night work with carcinogenesis and peptic ulcers, metabolic diseases, coronary diseases, disturbances of the menstrual cycle, preterm births, low birthweight, sleep disorders, stress, burnout, depression, excessive alcohol use, smoking, chronic fatigue, etc. There is a growing body of scientific literature demonstrating the effects of long and non-standard working hours on health and well-being, including stress, fatigue, sleep disorders, adverse health behaviour such as smoking and sedentary lifestyle, as well as cardiovascular disease, gastrointestinal disorders, and musculoskeletal and mental disorders (Johnson and Lipscomb, 2006, p. 924). Medical residents and truck drivers have basically similar sources of fatigue and are likely to react the same way because of sleep debt and disturbed circadian rhythms (Johnson and Lipscomb, 2006, p. 928). Matejovic et al. (2011) evaluated health consequences for physicians after working a 24-hour shift and found alterations in the blood coagulation mechanism before and after work. All of those conditions can affect the level of safety for workers and patients. Cordova at el. (2012) show that patient outcomes on weekends and at night are worse than during the day, possibly due to long working hours and less rest as well as lower staffing levels, differing from weekly day shifts.

Pires et al. (2010) argue that witnessing pain, suffering and disease, as well as shift working on weekends and holidays, added to poor working conditions and undervaluation, lead to dissatisfaction, diseases and increase in professional changes among nursing professionals. Portela, Rotenberg and Waissmann (2005) indicate that both professional and home environments are relevant in the evaluation of the effect of work overload on nurses' health and their family and social life. According to Martins et al. (2009, p. 2), health professionals in Brazil form a group of mostly female workers with a rigid hierarchical structure and almost always have an insufficient number of workers.

According to Martins et al. (2009), working conditions are worse for nursing professionals as they have fewer possibilities to alter the organization of work and working time. Silva et al. (2006) show that there is a deficit in assistance by nurses due to a long and heavy working time. Johnson and Lipscomb (2006, p. 925) say nurses are a particularly important population to study because the effects of their exhaustion and fatigue are also likely to have an adverse impact on the safety of their patients. Silva, Rotenberg and Fischer (2011) found that many workers in the health-care system reported having little time for rest and leisure and that current working time arrangements combined with multiple jobs could provoke psychological and musculoskeletal disorders, exhaustion, fatigue, lack of sleep, insomnia, complaints of little family time, etc.

Another risk for health-care workers is the daily exposure to unhealthy conditions, including radiation and toxic chemicals in addition to many diseases. Prüss-Üstün, Rapiti and Hutin (2003) report that health-care workers worldwide suffer about 3 million accidents a year with needles, with serious effects: 37 per cent of hepatitis B, 39 per cent of hepatitis C and 4.4 per cent of HIV infections in health-care workers are due to occupational needle-stick injuries.

Working time arrangements found in health-care establishments visited and those depicted by workers' representatives are described in the results section below. Many of the testimonies corroborate the scientific studies quoted in this section.

3. Methodology

The exploratory nature of this investigation also favoured a qualitative approach. This involved gathering insights, opinions and recommendations from target groups and a qualitative research element consisting of focus group discussions with managers and workers in selected health-care organizations and establishments and interviews with key informants.

For representational purposes, it was important to visit health establishments from the five different regions of the country according to the IBGE division previously mentioned. This meant travelling over 14,000 kilometres in order to perform interviews from June to August 2013. At least one capital of each of the five regions was visited. The choice of health establishments was made considering their size, availability to contribute to this study and variety of representation (private and public, small and large establishments).

For this study, we visited:

- three university hospitals (which is connected directly to a university and is used as a centre for the teaching of professionals) in the North, Midwest and Northeast Regions;

- one *casa de saúde* (health centre, which is a complex sanitary unit, with ambulatory services) in a metropolitan area in the Southeast Region;
- two private elite hospitals in the South and Southeast Regions;
- one small private orthopaedic hospital in the Midwest Region.

Out of 18 health-care establishments contacted, seven were visited, including at least one in each region of the country, while 11 refused authorization to perform focus group discussions and interviews with workers of the establishment. Additionally, we interviewed individual workers not associated with the establishments visited. Those workers have different working experiences and added to our study in terms of variety (urban and rural experiences; private and public; regional and income variations). Individual workers interviewed worked in a public trauma hospital in the Southeast Region, in a general public hospital in the Midwest Region, in other private hospitals and private clinics in the Southeast Region, at health centres in metropolitan areas of the Midwest Region and at federal government buildings in the Midwest. We interviewed (individually or in focus groups) a total of 164 health-care workers (physicians, nurses, auxiliaries and technicians in nursing, laboratory workers, radiology workers and receptionists). Managers of these establishments and health-care workers with managing experience were also interviewed.

Key informants included representatives of trade unions (two were of workers in public institutions (state level), two were of physicians (state level) and one of nurses (state level), members of professional associations (two nursing class associations at state level, two nursing class associations at national level and one doctors' association at national level), patients' organizations, government officials, and national experts in the fields of working time and occupational safety and health. Of 10 patients' associations contacted, eight refused interviews. Also, more than four trade unions and seven professional associations of the health sector refused to be interviewed. The main objective of meeting with specialists in the health sector and on labour relations was to collect new data so as to identify the working time arrangements in place in the health service sector and to examine their impact on workers' work–life balance and organizational performance. In total, 30 key informants were interviewed.

We contacted seven members of employers' organizations or the organizations directly, including owners of private health service organizations and establishments as well as administrators of private health plans. In several cases we did not receive a response. In other cases, employer contacts were not interested in being interviewed. This represents a limit to our study, as we only interviewed seven health-care establishment managers and no members

of employers' organizations or health-care plan representatives. Most interviews and all focus group discussions were conducted in person. One was made by telephone and six by email. Tables 3 and 4 show key informants and workers interviewed, by category and region.

Table 3. Key informant interviews, by category and region

Categories	Southeast	North	Midwest	South	Northeast	National
Professional associations	1	0	0	1	1	3
Trade unionists	3	1	0	1	3	0
Patients' associations	0	0	0	0	0	2
Managers of health-care establishments	2	1	2	1	1	0
Specialists (universities, government, organizations)	0	0	0	0	0	7
Key informants interviewed by region	6	2	2	3	5	12
Total key informants interviewed	30					

Table 4. Workers interviewed, by category and region

Categories	Southeast	North	Midwest	South	Northeast
Nurses	2	3	4	4	7
Technicians and auxiliaries in nursing	6	6	4	12	5
Physicians	10	6	10	6	7
Radiology technicians and technologists	5	3	7	5	6
Laboratory technicians and other analysis workers	0	2	5	4	6
Managers and health professionals with managing position	2	3	7	3	1
Receptionists	0	0	1	1	0
Technicians and auxiliaries in nursing working in laboratories	5	4	0	2	0
Professionals interviewed by region	30	27	38	37	32
Total professionals interviewed	164				

In the following section, we will comment on results obtained from our focus groups and interviews, including what working arrangements we encountered. All interviews were conducted in Portuguese.

4. Results

In visiting the health establishments and interviewing specialists, we found a range of working time arrangements, as summarized in table 5.

Table 5. Overview of working time arrangements

Arrangement	Characteristics
12x36	Workers have a shift of 12 hours and rest 36 hours
6x1	Workers work six days and have one day off, while usually working six hours a day
Shift working arrangements of 12 hours/24 hours	The worker compresses his/her working time in intense periods of 12 or 24 hours
Fixed working arrangements	Daily work of four, six or eight hours a day, usually on weekdays, sometimes working on one weekend day
60 hours a week	For residents
24 hours a week	Radiology professionals (technicians and technologists) have a maximum workload per week of 24 hours
Combined extended work and leave periods	Characterized by a number of weeks working in remote areas of the country and a number of weeks off work
On-call work, zero hours or “as and when required” arrangements	Characterized by a requirement that physicians or coordinators of sectors or departments be available to work when called
Working time banking arrangements	Characterized by the possibility of accumulating hours, which can be taken off as extended leave in a subsequent period
Regular overtime hours arrangements	Characterized by hours worked in addition to the contractual or hours usually worked, compensated at a higher rate by the employer

The difficulties in measuring real working time for health-care workers include:

- **Multiple jobs.** In the health sector, most workers have multiple jobs. Some statistics that measure working time via declaration of the employer consider working time in a specific working place and thus do not capture the real situation of the health-care worker.
- **Practice.** Some physicians choose to open a private practice, working unlimited hours per week.

- **Cooperatives.** It is very common that physicians are associated to medical cooperatives. Payment depends directly on the number of hours worked, and the value of those hours can depend on productivity indexes.
- **Legal persons.** Some health establishments do not hire physicians as employees but as "legal persons", and this allows the physician to work longer hours than allowed by law.
- **Home care.** There are enterprises that offer home care and have a formal contract with the professional that provides the care, but in some cases home care is an informal activity and very difficult to measure.
- **Domestic work.** Female workers usually state that they are also responsible for unpaid domestic work, which generates an increase in working hours in an uneven gendered manner.

Key factors underlying the developing of existing working time arrangements in the health service organizations and establishments studied include current legislation, pressure of trade unions and professional associations, will of employees and government policies. Working hours and the structure of hours is usually defined at the time of the contract or entrance examination. Other influencing factors and effects of working time arrangements include:

- **Available resources.** In the public sector there are financial constraints; in the private sector there are constraints due to commodification of the care work (Bahia, 2013). As for available health-care workers, there is a shortage of qualified health-care personnel. This tends to increase pressure on existing qualified workers to increase working time.
- **Organizational culture.** For some workers, it seems natural to have unconventional working hours.
- **Workload and working in public and private institutions.** Working time in the public sector can be stressful due to structural constraints, while in private establishments the pressure is to work a greater number of hours and to strictly follow the organizational needs of the establishment.
- **Autonomy and trade unions.** Trade unions and professional associations and organizations are seen as distant by workers in general.
- **Feedback from patients.** In private high-class establishments, including some of the institutions visited, workers feel patients are very demanding. In public hospitals where workers face more constraints in terms of infrastructure and materials and often work in conditions of overcapacity, they also have to deal with complaints of patients that

wish to be helped. Professionals working at other non-elite establishments made similar complaints about structural and material constraints on their ability to provide care for patients.

- **Family life and domestic work.** Most female workers interviewed are responsible for domestic work and described the role of the husband or partner as "help". Given that the workforce in the Brazilian health sector is mostly female (Martins et al., 2009; Pires et al., 2010), most health-care workers are also responsible for unpaid domestic work.
- **Working on weekends and holidays and at night.** Working nights and weekends does not favour family life or rest, and most workers interviewed reported difficulties managing a balance between work and family life. The resultant stress increases chances of social and psychological problems (Fischer, 2004). Cordova et al. (2012) shows patient outcomes on weekends and nights to be worse than on weekdays.
- **Living standards and the choice to work more.** Many physicians reported social pressure for a high living standard, which resulted in pressure to work more (Carapinheiro, 1991; Bourdieu, 1979). Other workers also reported working more to maintain their living standards. Working unconventional hours gives workers the chance to offer their nights and weekends in order to achieve higher living standards.
- **Leisure and working time.** Due to unconventional working hours, workers reported that they had little time for leisure.
- **Security and working time.** Verbal and physical violence is a risk at some health establishments. This clearly increases stress at that workplace (ILO et al., 2002). Security reasons inside and outside the workplace are constraints when defining working hours.
- **Adverse incidents and working time.** Professionals interviewed claimed that stress and excessive working time reduced organizational performance while job satisfaction had the opposite effect. Unconventional working hours, according to many studies, can also compromise patients' and workers' safety (Johnson and Lipscomb, 2006; Silva, Rotenberg and Fischer, 2011; Cordova et al., 2012).
- **Performance measures and organizational objectives.** While some measures may indicate a greater number of patients move through the system (possibly due to an intensification of working time), those same measures may provide evidence of an increase in health and safety in the workplace, which has clear impacts on workers' well-being (Nogueira, 2010; Fares and Oliveira, 2011).

- **Working time and workers' health.** Various health problems were sourced directly to the workplace. The majority of the complaints we heard are confirmed by other studies on this matter (Fischer, 2004; Shen et al., 2006; Robazzi et al., 2012; Papadopoulos et al., 2010; Johnson and Lipscomb, 2006; Pires et al., 2010; Silva, Rotenberg and Fischer, 2011).
- **Emotional and psychiatric disorders.** The workers' testimonies confirmed Dal Rosso (2008) and Pires et al. (2010), in that health-care workers deal with human suffering and that requires emotional involvement. Trying to manage work and family in this context generates stress (Silva, Rotenberg and Fischer, 2011; Martins at al., 2009).
- **Staff input in design mechanism.** Regarding inputs into changes at the workplace and negotiating power, trade unionists and class representatives complained that workers' inputs were not taken into account. In most workplaces, workers claim that physicians' inputs are considered more than others (Carapinheiro, 1991; Bourdieu, 1979).

5. Final considerations

One of the main problems found in our research is the high amount of hours worked per week, possible through combining multiple jobs. Therefore, the results we found in the research confirm the literature revision that shows the many effects working time has on workers life, as well as on their performance, which affects the society. Given this picture, we come back to an expression used by one of the healthcare workers interviewed: "Who will take care of healthcare workers?" In a context of reported long working hours and difficult working conditions, their well being – as well as the patients' and the society's – is at jeopardy in Brazil. Decent working conditions for health workers are absolutely essential to the provision of quality health services and to ensure that all members of society have access to social health protection. Therefore, we would recommend the following: i) Guarantee necessary public financing for SUS; ii) Increase the number of health professionals; iii) Extend and support discussion of a maximum working time of 30 hours per week for nursing workers; iv) Recognize overtime for all workers and at all times; v) Introduce more flexibility for workers to organize their schedule; vi) Reduce working hours; vii) Diminish gap between private health-care workers and unions or professional associations; viii) Consider workers with family responsibilities; ix) Increase management training; x) Offer psychological support for workers; xi) Guarantee a safe working environment.

Due to the gaps in information we found in preparing this article, we recommend that further research should focus on: i) building a database on the number of hours worked per

professional, with a broader sample, at national level, and should also include time spent on unpaid domestic work; ii) building statistics on workplace accidents that are the result of fatigue, stress or excessive working time; iii) creating a database to monitor leaves from work and why they were taken, with partnership with specific trade unions, professional associations or governments; more focus on studies on health-care workers that are not nursing professionals or physicians.

Reference list

Agência Nacional de Saúde Suplementar (ANS). 2013. *Dados gerais*. Available online at http://www.ans.gov.br/perfil-do-setor/dados-e-indicadores-do-setor.

Albuquerque, P.C.; Santos, A.L.G.; Costa, A.C.M.; Santana, V.B. 2006. *Os múltiplos vínculos de trabalho dos profissionais do PSF x cumprimento das ações previstas no programa*. Fundação Oswaldo Cruz, Centro de Pesquisas Aggeu Magalhães, Departamento de Saúde Coletiva, Curso de Especialização em Gestão e Política de Recursos Humanos para o SUS (Recife).

Bahia, L. 2005. "Padrões e mudanças no financiamento e regulação do sistema de saúde brasileiro: Impactos sobre as relações entre o público e privado", in *Saúde e Sociedade*, Vol. 14, No. 2, pp. 9–30.

—. 2013. *Ligia Bahia: As ruas disseram não à privatização*. Available online at http://www.abrasco.org.br/site/2013/09/ligia-bahia-as-ruas-disseram-nao-a-privatizacao/.

Baltar, P.E.A.; Santos, A.L.; Krein, J.D.; Leone, E.; Proni, M.W.; Moretto, A.; Maia, A.G.; Salas, C. 2010. "Trabalho no Governo Lula: Uma reflexão sobre a recente experiência brasileira", in *CESIT Carta Social e do Trabalho*, no. 12.

Barreto, I.S.; Krempel, M.C.; Humerez, D.C. 2011. "O COFEN e a enfermagem na América Latina", *Enfermagem em Foco*, Vol. 2, No. 4, pp. 251–254. Available online at http://revista.portalcofen.gov.br/index.php/enfermagem/article/viewFile/195/131.

Bourdieu, P. 1979. "Los tres estados del capital cultural", in *Revista Sociológica UAM-Azcapotzalco*, No. 5, pp. 11–17.

Carapinheiro, G. 1991. "Poder médico e poder administrativo no quotidiano hospitalar", in *Revista Crítica de Ciências Sociais*, No. 33, pp. 83–91. Available online at http://www.ces.uc.pt/publicacoes/rccs/artigos/33/Graca%20Carapinheiro%20-%20Poder%20Medico%20e%20Poder%20Administrativo%20no%20Quotidiano%20Hospitalar.pdf.

Conselho Federal de Medicina (CFM)/Conselho Regional de Medicina no Estado de São Paulo (CREMESP). 2011. *Demografia médica no Brasil* (São Paulo).

Cordova, P.B.C.; Phibbs, C.S.; Bartel, A.P.; Stone, P.W. 2012. "Twenty-four/seven: A mixed-method systematic review of the offshift literature", in *Journal of Advanced Nursing*, Vol. 68, No. 7, pp. 1454–1468.

Dal Rosso, S. 2008. *Mais trabalho! A intensificação do labor na sociedade contemporânea* (Boitempo Editorial).

Dedecca, C.S. 2008. "O trabalho no setor saúde", in *São Paulo em Perspectiva*, Vol. 22, No. 2, pp. 87–103. Available online at http://produtos.seade.gov.br/produtos/spp/v22n02/v22n02_07.pdf.

Dedecca, C.S.; Rosandiski, E.N.; Carvalho, M.S.; Barbieri, C.V. 2005. "A dimensão ocupacional do setor de atendimento à saúde no Brasil", in *Trabalho, Educação e Saúde*, Vol. 3, No. 1, pp. 123–142.

Departamento Intersindical de Estatística e Estudos Socioeconômicos (DIEESE). 2006. *O trabalhador da saúde em seis regiões metropolitanas brasileiras*, Nota Técnica Número 33, Setembro de 2006.

—. 2009. "O trabalho na saúde 1998–2008", in *Boletim Trabalho na Saúde*, Ano 1, No. 1, Dezembro.

—. 2010. *Redução da jornada de trabalho: Uma luta do passado, presente e futuro*, Nota Técnica Número 87, Abril de 2010 (Escritório Regional de São Paulo).

—. 2011a. *Perfil dos trabalhadores da saúde no setor público*, Confederação dos Trabalhadores em Seguridade Social (CNTSS), Outubro de 2011 (Escritório Regional São Paulo).

—. 2011b. *O tempo de trabalho no Brasil: O negociado e o não negociado*, Número 105, Novembro de 2011 (Escritório Regional de São Paulo).

—. 2011c. *Perfil dos trabalhadores do setor de saúde suplementar do estado de São Paulo*, Dezembro/2011 (Escritório Regional São Paulo).

—. 2012a. *Negociação coletiva no setor público*, Março de 2012.

Fagnani, E. 2013. *SUS: Entre o estado e o mercado*. Available online at http://www.jb.com.br/plataforma-politica-social/noticias/2013/05/01/sus-entre-o-estado-e-o-mercado/.

Fares, L.S.; Oliveira, A.L.M. 2011. *Working time and working time flexibility: A Marxian approach on contemporary labor relations*. Anais do XVI Encontro Nacional de Economia Política (SEP), Uberlândia.

Fischer, F.M. 2004. "What do petrochemical workers, healthcare workers, and truck drivers have in common? Evaluation of sleep and alertness in Brazilian shiftworkers", in *Cadernos Saúde Pública*, Vol. 20, No. 6, pp. 1732–1738.

Fornazier, A.; Oliveira, A.L.M. 2011. *O ideário neoliberal no Brasil e suas implicações nos setores produtivos.* Ponencia en Asociación de Economia para el Desarollo de Argentina.

Instituto Brasileiro de Geografia e Estatística (IBGE). 2010. *Atlas do censo demográfico 2010*. Available online at http://www.ibge.gov.br/home/estatistica/populacao/censo2010/default_atlas.shtm.

Instituto de Pesquisa Econômica Aplicada (IPEA). 2013. *Radar: Tecnologia, produção e comércio exterior*. Diretoria de Estudos e Políticas Setoriais de Inovação, Regulação e Infraestrutura, No. 27 (Brasília). Available online at http://www.ipea.gov.br/portal/images/stories/PDFs/radar/130703_radar27.pdf.

International Labour Office (ILO). 2011. *Working time in the twenty-first century*, Report for discussion at the Tripartite Meeting of Experts on Working-time Arrangements, 17–21 October 2011 (Geneva).

International Labour Office (ILO), International Council of Nurses (ICN), World Health Organization (WHO), Public Services International (PSI). 2002. *Framework guidelines for addressing workplace violence in the health sector* (Geneva).

Johnson, J.V.; Lipscomb, J.L. 2006. "Working hours, occupational health and the changing nature of work organization", in *American Journal of Industrial Medicine*, Vol. 49, pp. 921–929.

Junqueira, T.S.; Cotta, R.M.M; Gomes, R.C.; Silveira, S.F.R.; Siqueira-Batista, R.; Pinheiro, T.M.M.; Sampaio, R.F. 2010. "As relações laborais no âmbito da municipalização da gestão em saúde e os dilemas da relação expansão/precarização do trabalho no contexto do SUS", in *Cadernos Saúde Pública*, Vol. 26, No. 5, pp. 918–928.

Krein, J.A. 2007. “Tendência de flexibilização do tempo de trabalho”, in *Revista ABET*, Vol. VI, No. 2.

Martins, P.F.; Nascimento Sobrinho, C.L.; Silva, M.V.; Pereira, N.B.; Gonçalves, C.M.; Rebouças, B.S.; Cartaxo, L.A. 2009. “Afastamento por doença entre trabalhadores de saúde em um hospital público do estado da Bahia”, in *Revista Brasileira de Saúde Ocupacional*, Vol. 34, No. 120, pp. 172–178.

Matejovic, M.; Chvojka, J.; Sykora, R.; Krouzecky, A.; Radej, J.; Parizkova, R.; Dostal, P.; Novak, I.; Cerny, V. 2011. “A 24-h work shift in intensive care personnel: Biological pathways between work stress and ill health”, in *Journal of International Medical Research*, Vol. 39, pp. 629–636.

Ministério da Saúde. 2003. *Mesa Nacional de Negociação Permanente do SUS: Democratização nas relações de trabalho no Sistema Único de Saúde SUS* (Brasília, Ministério da Saúde, Secretaria de Gestão do Trabalho e da Educação na Saúde, Conselho Nacional de Saúde).

—. 2013a. *Mesa de Negociação Permanente do SUS*. Available online at http://portalsaude.saude.gov.br/index.php/o-ministerio/principal/secretarias/sgtes/sgtes-gestao-do-trabalho/mesa-nacional.

—. 2013b. *Mesa Nacional de Negociação Permanente do SUS: Uma década pelo trabalho no SUS*, Secretaria de Gestão do Trabalho e da Educação na Saúde.

Nogueira, R.P. 2010. “O trabalho nos serviços de saúde”, in R.P. Nogueira and A.B. Oliveira (eds.): *Reflexões sobre diferentes temas: Capital e trabalho nos serviços de saúde; o estado, as agências e a saúde; vínculos de trabalho na administração pública brasileira*, UnB/CEAM/NESP/ObservaRH, Série Formulação 1 (Brasília).

Nogueira, R.; Baraldi, S.; Rodrigues, V.A. 2004. *Bases normativas e conceituais da política de desprecarização e regularização do trabalho no SUS*. Relatório Final (Brasília).

Oliveira, A.L.M. 2013. *Regulação estatal das relações de trabalho no capitalismo contemporâneo: Uma crítica ao discurso da flexibilização e desregulamentação*, Dissertação de Mestrado apresentada ao Instituto de Economia da Unicamp para obtenção do título de mestre em desenvolvimento econômico – Área de concentração: Economia Social e do Trabalho.

Pan American Health Organization (PAHO). 2013. *Políticas de gestão do trabalho em saúde*. Available online at http://www.paho.org/bra/index.php?option=com_content&view=article&id=262&Itemid=1.

Papadopoulos, G.; Georgiadou, P.; Papazoglou, C.; Michaliou, K. 2010. “Occupational and public health and safety in a changing work environment: An integrated approach for risk assessment and prevention”, in *Safety Science*, Vol. 48, pp. 943–949.

Pierantoni, C. 2000. “As reformas do Estado, da saúde e recursos humanos: Limites e possibilidades”, in *Ciência e Saúde Coletiva*, Vol. 6, No. 2, pp. 341–360.

Pires, D.; Lopes, M.G.D.; Silva, M.C.N.; Lorenzetti, J.; Peruzzo, S.A.; Bresciani, H.R. 2010. “Jornada de 30 horas semanais: Condição necessária para assistência de enfermagem segura e de qualidade”, in *Enfermagem em Foco*, Vol. 1, No. 3, pp. 114–118.

Portela, L.F.; Rotenberg, L.; Waissmann, W. 2005. “Health, sleep and lack of time: Relations to domestic and paid work in nurses”, in *Revista de Saúde Pública*, Vol. 39, No. 5, pp. 802–808.

Prüss-Üstün, A.; Rapiti, E.; Hutin, Y. 2003. *Global burden of disease from sharp injuries to health-care workers*, Environmental Burden of Disease Series, No. 3 (Geneva, World Health Organization, Protection of the Human Environment). Available online at http://www.who.int/quantifying_ehimpacts/publications/en/sharps.pdf.

Robazzi, M.L.C.C.; Mauro, M.Y.C.; Secco, I.A.O.; Dalri, R.C.M.B.; Freitas, F.C.T.; Terra, F.S.; Silveira, R.C.P. 2012. “Alterações na saúde decorrentes do excesso de trabalho entre trabalhadores da áea de saúde”, in *Revista Enfermagem UERJ*, Vol. 20, No. 4, pp. 526–532.

Seixas, P.H.D.; Stella, R.C.R. 2002. “Recursos humanos em saúde: Política, desenvolvimento e mercado de trabalho”, in B. Negri, R. Faria and A. Viana (eds.): *Recursos humanos em saúde: Política, desenvolvimento e mercado de trabalho* (Campinas, SP, Unicamp, IE).

Shen, J.; Botly, L.; Chung, S.; Gibbs, A.; Sabanadzovic, S.; Shapiro, C. 2006. “Fatigue and shift work”, in *Journal of Sleep Research*, Vol. 15, No. 1, pp. 1–5.

Silva A.A.; Rotenberg, L.; Fischer, F.M. 2011. “Jornadas de trabalho na enfermagem”, *Revista de Saúde Pública*, Vol. 45, No. 6, pp. 1117–1126.

Silva, B.M.; Lima, F.R.F.; Farias, F.S.A.B.; Campos, A.C.S. 2006. “Jornada de trabalho: Fator que interfere na qualidade da assistência de enfermagem”, in *Texto Contexto Enfermagem*, Vol. 15, No. 3, pp. 442–448.

Travassos, C.; Viacava, F.; Fernandes, C.; Almeida, C.M. 2000. “Desigualdades geográficas e sociais na utilização de serviços de saúde no Brasil”, in *Ciência & Saúde Coletiva*, Vol. 5, No. 1, pp. 133–149.