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The organization of working time and its effects in the health services sector: A comparative analysis of Brazil, South Africa and the Republic of Korea

Jon C. Messenger

Patricia Vidal

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1. Introduction

Working time arrangements in the health services sector are diverse across countries and even within countries, as well as among different types of health care institutions. In a framework which requires 24/7 continuous operations and highly-skilled staff, working time arrangements remain one of the main challenges to best meet the needs of patients, employees, and health care institutions. The uninterrupted provision of health care services can constitute a substantial physical, psychological and emotional pressure on workers. The working time arrangements—which include night and weekend work, excessive hours of work, and/or the lack of adequate resources or ineffective management—can impact on workers' well-being, as well as on both individual and organizational performance. Thus, reconciling workers' well-being, including their work-life balance, with critical performance objectives constitutes a complex but crucial challenge for the health services sector.

In most countries, the health sector faces health workforce challenges in terms of existing or prospective shortages, and also an unequal distribution, of health care workers. Globally, there is a shortage of around four million health professionals to provide for essential health care needs; 57 countries are facing a severe health workforce crisis, with 36 of them identified as being in Sub-Saharan Africa (WHO, 2006). For the European Region, it has been estimated that there will be a shortage of nearly one million health workers by 2020 due to demographic changes such as ageing populations, as well as emerging health care needs and new technologies (European Commission, 2012). Poor work environments have been shown to be a major reason for the increased migration of health care workers, and also for early exits from the profession. As the health services have to increasingly compete for talent with other economic sectors, an attractive work environment becomes a critical competitive factor for health care institutions. Working time arrangements that can effectively accommodate the individual needs and preferences of a predominantly female health workforce, particularly concerning work-life balance, are therefore a crucially important issue for organizational performance as well. In fact, the effects of working time arrangements are closely related to organizational performance in terms of patient outcomes and worker safety. The complexity of a sector that has to ensure 24-hour-a-day services seven days a week—with the inevitable shift work and non-standard hours (e.g., night work, weekend work) that this implies—poses enormous challenges for workers' well-being and organizational performance, but also provides opportunities for creating innovative solutions.

2. Research objectives and methodology

The research objectives of this study were, first, to identify the working time arrangements that currently exist in the health services sector in the selected countries, and second, to examine their effects on workers' well-being, including their work-life balance, and also on both individual and organizational performance.

The exploratory nature of this investigation of working time arrangements and their effects in the health services sector favoured a qualitative methodological approach. This approach involved gathering insights, opinions and recommendations from the target groups. It included both an international literature review and qualitative field research consisting of focus group discussions and key-informant interviews. The qualitative field research included (1) a series of focus group discussions with managers and workers in selected health care organizations/establishments in each country studied, and (2) interviews with key informants from key stakeholders in those same countries. These qualitative field research elements were aimed at:

- Identifying and "mapping" the existing working time arrangements in place in different health services sector work environments.
- Providing insights into the development of these working time arrangements, including:
    - o Determinants of/influences on these arrangements:
        - Legislation and regulations with regard to working time
        - Organizational needs (e.g., shift-staffing considerations)
        - Organizational administrative capacity, managerial innovation
        - Patterns of shift scheduling.
    - o Process/implementation considerations:
        - Mechanisms for consultation with staff (i.e., specific procedures)
        - Staff inputs (consultations, other suggestion mechanisms).
- Identifying key working time-related effects on workers' well-being and individual and organizational performance, including the following:
    - o Fatigue, stress, and other health issues (e.g., mental health)
    - o Work-life balance (e.g., work-family reconciliation, social life)
    - o Absenteeism and staff turnover rates
    - o Improvements in staff morale and performance due to new shift structures.
- Describing other factors affecting staff morale and performance (e.g. limited resources, inadequate facilities and equipment, hierarchy tensions, etc.).
- Describing the perceptions and preferences of both employees and managers in health care organizations regarding working time arrangements and their effects on both workers' well-being and individual and organizational performance outcomes.

The qualitative field research was conducted in Brazil, the Republic of Korea, South Africa, and was informed by a previous review of the international literature on the organization of working time and its effects in the health services sector (see Chapter 3). The results of this literature review suggested that further research on working time

arrangements in the health services sector should focus on information gaps in the field, especially those concerning working time arrangements in acute care hospitals and clinics in developing countries. The international literature review recommended proceeding with several country case studies, in order to gain a more in-depth understanding of current working time arrangements in the health services sector in specific countries. Given the abundance of literature available on working time arrangements in the health services sector in Europe and North America, the literature review recommended that the planned research focus on Brazil and South Africa as potential developing country case studies, and on either Japan or the Republic of Korea as a potential developed country case study. Brazil and South Africa promised a wide variety of experiences (urban, rural, ethnicity, public and private sector, and others) and both have important national health programmes, a variety of distinguished research establishments, and prominent health services sector unions. Both Japan and especially the Republic of Korea exhibit some of the longest working hours in the world, including in the health services sector, and both the governments and trade unions in those countries are keen to find ways to reduce the fatigue and stress of medical practitioners and also to cope with the demographics of an aging population.

Based on the results of this international literature review, further in-depth research concerning working time arrangements was conducted for the health services sector in three countries: Brazil, South Africa, and the Republic of Korea. This paper is based primarily on the findings from the case studies conducted in these three countries among a total sample of 448 participants. A qualitative analysis based on the information gathered from the field research using focus group discussions and in-depth interviews presents an overview of both working hours and working time arrangements in the health services sector in those three countries; the effects of those arrangements on workers' well-being, including their work-life balance, and individual and organizational performance; and also insights and recommendations aimed at improving the organization of working time in health care institutions. The country case studies aimed at covering as broad a range of health service settings as possible within the national health care system, given the available time and resources. As a result, the sample for the qualitative research on health care staff included study participants from hospitals, clinics, and university health care facilities in both urban and rural areas. Relevant stakeholders and key informants were different categories of health care personnel, such as physicians (including medical residents and interns), nurses, midwives, technicians, and health services managers. Trade union members, members of professional associations, health government representatives and health experts were also interviewed, in order to provide a broader analysis of the current working time arrangements in this sector.

Further information about the methodology applied in the country case studies, including the overall research protocol followed in all three countries and country-specific details regarding the sample in each country, is provided in Annex 1 of this paper.

3. International literature review of the organization of working time in the health services sector: A summary

The fundamental reality that shapes working time in the health services sector is that, in many cases, health care services need to be provided continuously 24 hours a day and 7 days a week. This particular characteristic has resulted in health care operations being by necessity structured in shift work, including night shifts, weekend and holiday work.

This responsibility to provide such 24/7 health care services has led to working conditions and working time arrangements that are often exempted in practice from labour laws and regulations for the vast majority of health care professionals. An extensive literature review documented patterns of working time arrangements and other working conditions that were common to health care institutions from both developed and developing countries. Shift work, including night work, combined with long daily and weekly working hours and quick returns[1] were identified as common arrangements and practices within the health services sector around the world.[2] This situation is often combined with the request to perform overtime work in order to compensate for the significant shortages of medical personnel— which extends shift lengths and also further reduces rest time between shifts. Moreover, shift work, including night work and weekend work, is usually accompanied by substantial on-call periods for both senior health care professionals and especially junior doctors (medical residents and interns). In addition, short rest periods are also encouraged by health care staff holding multiple jobs in order to supplement their incomes. A significant percentage of health sector employees in both developed and developing countries provide health care in second (often part-time) jobs, which results in long total working hours that impair workers' well-being, including their work-life balance, as well as their individual and organizational performance due, to the high levels of chronic fatigue.

In addition to the overall organization of working time in shift work in order to guarantee 24/7 operations, other specific characteristics are highlighted for particular health care scenarios, which increase the potential negative effects on workers and their levels of performance.[3] In the case of developed countries, differences between institutions concerning the organization of working time are often based upon the amount of available resources within health care facilities. Whereas workers from rural and poorer urban areas usually perform longer working hours, the availability of higher ratios of medical staff per dweller in small towns and university hospitals in larger cities permit operations with shorter working time arrangements, such as 6 to 8 hour shifts.

Similarly, health care systems from developing countries are characterised by budgetary constraints, poor managerial arrangements, and inadequate facilities that regularly result in high levels of fatigue and stress, and therefore lead to problems with workers' health as well as performance issues, such as medical errors. Longer shifts were identified as typical of working time arrangements in these environments, which are used to ensure 24-hour coverage in health care institutions. In addition, health care workers

[1] This term specifically refers to short periods of *scheduled* rest time between shifts.

[2] See Tucker, P. and Folkard, S. (2012).

[3] See Scott, L.D., et al. (2006).

may prefer to compress their working weeks (i.e. longer daily shifts but fewer workdays) to better balance work with personal life, or to hold multiple jobs in order to supplement their incomes.

Due to the overall effects of these working time shift structures, conclusions from this research initiative singled out various working time arrangements aimed at balancing paid work with personal life, including family responsibilities, and improving both individual and organizational performance. The following working time arrangements were identified by the international literature review (ILO, 2013) as being potentially beneficial to achieve these dual objectives:

- Compressed workweeks based on a reduced number of weekly working days and an increased length of daily shifts, which can be conducive to decreasing medical practitioners' absenteeism and turnover, as well as enhancing workers' capability to better balance work with personal life.

- Improved shift-structure organizations through specific working time arrangements such as time-banking schemes increasing workers' sovereignty in organizing their working time, and task-sharing structures distributing work between various professional categories to diminish the extent of individuals' workloads.

- Part-time work arrangements, including job-sharing arrangements—two workers fulfilling the same tasks on a part-time basis—while preserving non-wage and social benefits on a pro-rata basis.

- Inclusion of work shifts better aligned with workers' Circadian rhythms (their biological clocks), such as clockwise shift rotation, where longer rest intervals are included between shifts that rotate in a clockwise direction, in order to alleviate the negative health effects of the disruption of biological processes.

The international literature review proposed further, in-depth research on working time arrangements in the health care systems of Brazil, South Africa, and the Republic of Korea. The selection of the first two countries, Brazil and South Africa, was pursued to fill the substantial research gap regarding working time arrangements in the health services sector in developing countries, which is also relevant for initiatives regarding the improvement of their health care systems. The inclusion of the Republic of Korea in the research was designed to identify further information about working time arrangements in a developed country where working time is a major issue, and workers' representatives and the government are seeking new mechanisms to tackle concerns about health workers' well-being.

4. Overview of the national health care systems in Brazil, South Africa and the Republic of Korea

Health care systems in Brazil, South Africa and the Republic of Korea combine both public-service entities and privately operated hospitals and clinics with different managerial approaches and working time arrangements therein. This chapter presents an overview of the structure of the health care systems within each of these countries.

4.1. Brazilian national health care system

In Brazil, citizens have a constitutional right to health care, which is provided through both public and private health care institutions. Coverage of the public Unified Health System (*Sistema Único de Saúde, SUS*) institutionalized by the 1988 Brazilian Constitution has expanded slightly due to the recognition of private health care delivery, which has grown since 2003 until covering 25.1 per cent of Brazilian citizens in 2013. Nonetheless, the goal of universal health care access has been hindered by an on-going reduction in public investments, the uneven geographical location of health care institutions; and the overall lack of qualified personnel, especially in the case of imbalances in medical practitioners among the various regions of the country.

The unbalanced allocation of human resources between public and private health care facilities has also been a challenge in Brazil, due to non-equivalent funds and unequal working conditions between these two sub-sectors (Bahia, 2005), which has fostered high staff turnover rates. Data provided by the National Health Workers' Union (*Confederação Nacional dos Trabalhadores Na Saúde, CNTS*) indicates that in 2013 43.5 per cent of health care staff is working for private health care facilities, whereas 56.5 per cent works for public institutions. National statistical data identified 12.4 per cent professional nurses and 47.9 per cent technician and auxiliary nurses within the 1.4 million public health care workers in 2011. In addition, the literature review shows an overall higher volume of Brazilian physicians working in private health care facilities than in public health care institutions.

4.2. South African health care system

In a country with one of the highest HIV/AIDS infection rates in the world, high accident ratios, poor sanitary conditions in many homes, and significant violent crime, the percentage of patients requiring long-term hospital care has been increasing over the years. Since the end of apartheid, various initiatives have been undertaken in order to transform the health care system into a unified national service to provide broader essential care to disadvantaged people, especially in rural areas that lack basic municipal and provincial services. As a result, the South African health care system comprises a mixture of public and private sector institutions that are unevenly distributed among provinces.[4] Public health care institutions serve an essentially indigent population, while privately operated institutions cover the mostly affluent insured population and those who can afford a specific treatment. Data provided by the South African National Department of Health estimated that 84 per cent of the population relied on the public health care in 2011, but whose funds constituted only 49.2 per cent of total South African health care expenditures, the rest being consumed by private sector health care institutions (Fiscal Review of the National Treasury, 2011).

Despite a major national initiative aimed at achieving universal health care coverage (National Health Insurance, NHI), leadership deficiencies between political administrative levels, mismanagement, and significant financial and human resources shortfalls remain major causes of ineffectiveness and inefficiency in the South African health care system (Coovaida et. al, 2009). The inadequate distribution of qualified

[4] Data from 2008 evidences 70% of private health care institutions located in three out of the nine provinces in South Africa.

personnel among provinces in South Africa, as well as between rural and urban areas, and public and private sector institutions, impedes a proper response to the increased demand for health care services. For instance, the extremely low number of medical practitioners in the Eastern Cape Province, compared to both the Western Cape and Gauteng Provinces, or the lower number of professional nurses in Western Cape compared to Gauteng and KwaZulu-Natal[5] hinders the capability of health care facilities in the regions to provide adequate health care services. Concerning the overall number of health professionals in the South African health care system, the percentage of public health sector employees has grown since 2002 until covering 37 per cent of new vacancies (Department of Health, 2012) - albeit only 12 per cent of physicians were working for the public sector in 2011. Data from 2009 evidenced a higher number of medical specialists hired by the private sector, especially in the case of Dentists, Optometrists and Pharmacists. Moreover, whereas 80 per cent of nurses were working for health care facilities in 2011, only 19 per cent of nurses provide health care to 43.6 per cent of the total rural population (Department of Health, 2012), resulting in a lack of skilled medical practitioners to supervise health care provision in rural areas (Rawat, 2012).

4.3. National health care system in the Republic of Korea

Health care services in the Republic of Korea are mainly delivered by private clinics and private not-for-profit hospitals, as public facilities represent only 4.3 per cent of the total health care system (Korean Institute for Health and Social Affairs, 2011). Health care spending per capita in the Republic of Korea ranks as one of the lowest among OECD members. For instance, 90 per cent of health care resources were assigned to private medical care in 2003 (Jong-Chan Lee, 2003). Likewise, despite the limits fixed in the Korean *Medical Care Assistance Act* (2001) for employment ratios concerning physicians and nurses, the number of medical practitioners and nurses per capita was still below the OECD average in 2011.

Disparities across health care facilities and regions also exist in the Korean health care system. Despite governmental initiatives[6] to lower staff inequalities, public health care institutions, especially at the municipal level, and small and medium-sized hospitals in non-capital areas face regular budgetary constraints and staff shortages.[7] In the same year the Korean health care system only had 17 physicians per 10,000 inhabitants.[8] Moreover, data from 2007 indicated an average of 32.1 per cent non-regular workers within public health care institutions (Korean Health and Medical Workers' Union, 2007).

[5] Despite differences concerning the percentage of health care professionals in each of the provinces, the overall lack of personnel still remains one of the major issues constraining the effective functioning of the health care system. In the light of the significant public sector vacancies identified for the year 2010, 10% of all physicians' vacancies were unfilled in Gauteng province and an extremely high total of 79% of the overall nursing professionals' positions remained vacant in the Eastern Cape Province.

[6] An example is the differentiated reimbursement policy for nursing services according to the staffing levels from 2000.

[7] Data from 2007 determined that 16% of medical practitioners, 52% of nurses, and 10% of nurses' aides were working for public health care institutions unequally across territories and workplaces (Korea Health and Medical Workers' Union, 2008).

[8] The OECD average was 30.7 physicians per 10,000 inhabitants in the year 2007.

Table 1. Structure of the health care system per country

Brazil	South Africa	Rep. of Korea
Administrative levels	**Administrative levels**	**Administrative levels**
Federal State/District Municipal	Tertiary Regional District	Central Provincial
Health care tiers	**Health care tiers**	**Health care tiers**
- **Public tier:** mainly focused on primary care service provided by municipal health centres. - **Private tier:** hospitals and ambulatory facilities mainly targeted to secondary and tertiary care service.	- **Public tier:** tertiary, regional and district level hospitals, community clinics and community-based health care services responsible for primary care service, which is predominantly nurse-driven. - **Private tier:** hospitals and general practitioners.	- **Public tier:** clinics, hospitals and health centres. - **Private tier**: clinics and hospitals.

5. Hours of work: Law, regulations and actual practices

5.1. Legal and regulatory framework for working time in Brazil, South Africa and the Republic of Korea

Working time arrangements in the health services sector are operating in a context of diversified laws and regulations across countries. The demand for flexible arrangements to manage continuous 24/7 operations—including shifts, night work and weekend work—has led to an organization of working time and conditions of work that regularly transcends the regulatory framework of working hours. For instance, doctors in South African health care institutions are normally exempted from the national working time regulations because their monthly incomes tend to exceed the income threshold in this area.[9] The same situation applies to workers from temporary staffing agencies, whose working hours and other working conditions are not generally regulated in the basic labour regulations in the three countries.

The following table synthesizes the main legal provisions concerning daily and weekly working hours, overtime, work breaks, rest periods and night work for each of the three countries. In addition, sector-specific regulations and guidance regarding working hours in the health services sector are also presented in this chapter.

[9] See Annex 2, characteristics of working time arrangements of medical practitioners in South Africa.

Table 2. Legal and Regulatory framework for working time in Brazil, South Africa and the Republic of Korea

	Brazil[1]	South Africa[2]	Republic of Korea[3]
Normal working hours' limit	- 8 hours a day. - 44 (40) hours a week.[4] - 24 hours a week for radiology technologists and technicians.[5] - 60 hours a week for medical practitioners.[6]	- 8 hours a day (for more than 5 working days). - 9 hours a day (for fewer or equal to 5 working days). - 45 hours a week.[7]	- 8 hours a day. - 40 weekly working hours.
Overtime	- 1-2 hours per day up to a maximum of 45 days a year. - Compensation of 50% of the normal wage, or compensatory time off.	- Maximum of 12 daily hours and 10 weekly hours beyond normal hours. - Compensation of at least time-and-one-half the normal wage, or compensatory time off.	- Maximum of 12 weekly working hours beyond normal hours.[8] - Compensation of 50% or more of the ordinary wage, or compensatory time off.
Work breaks	- 2 hours every 6 working hours. - 15 minutes for working days set up to 4-6 working hours.	- 1 hour for more than 5 continuous working hours.	- 1 hour for every 8 working hours. - 30 minutes for every 4 consecutive working hours.
Rest periods	- 11 consecutive daily hours. - 24 consecutive hours in a week.	- 12 daily consecutive hours. - 36 consecutive hours in a week, including Sundays.[9]	- No statutory provision for a daily rest period. - Weekly rest period fixed at 1 or more paid rest days per week.
Night work	▪ 22.00-05.00 Compensation of a premium rate of at least 20% of the normal wage.	▪ 18.00-06.00 Payment of a supplemental allowance or reduction of working hours.	▪ 22.00-06.00 Compensation of equal to or more than 50% of the ordinary wage.

Notes:

[1] The 1988 Constitution of the Federative Republic of Brazil, the Consolidation of Labour Legislation (Consolidação das Leis do Trabalho) governing labour rights for private sector workers and some public sector employees, the specific statutory law for civil servants (Lei 8112/90), Lei 7.394/1985, 1.234/1950 and Lei n° 6932/1981governing labour rights for radiology technicians and medical residents, and other ordinary Acts such as the Act No. 605 on Weekly Rest and Wage Payment on Public Holidays.

[2] The 1997 Basic Conditions of Employment Act, the 1998 Code of Good Practice on the Arrangement of Working Time, and the 1998 Protection of Employees during Pregnancy and After the Birth of a Child.

[3] The 1997 Labour Standards Act; the 1990 Occupational Safety and Health Act, and respective Enforcement Decrees; the 2001 Medical Care Assistance Act; and other regulatory provision such as the 1987 Act of Equal Employment and Support for Work-Family Reconciliation; and the 2006 Act on the Protection, etc. of Fixed-term and Part-time Employees.

[4] The specific statutory law for civil servants (Law 8112/90, article 129) establishes a minimum of 6 and a maximum of 8 daily working hours, and a normal hours limit of 40 weekly working hours.

[5] Law 7394/1985 and Law 1234/1950.

[6] Lei n° 6932/1981.

[7] The Basic Conditions of Employment Act allows compressed working weeks up to 12 hours a day (without overtime payments), for a maximum of 45 weekly working hours and 10 overtime hours performed over 5 days (shifts) a week.

[8] The 1997 Labour Standards Act (art. 51) allows an employer to have staff working for a specific week or day in excess of the general limit, if the average of working hours over a period of two weeks doesn't exceed the normal working hours limit (called the "flexible working hours system"). In addition, art. 52 allows employees to exceed the normal working hours in a given week, if the average working hours over a period of one month doesn't exceed the general limit for working hours (the so-called "selective working hours system").

[9] The 1997 *Basic Conditions of Employment Act* (Section 16) establishes a double-time payment for employees who occasionally work on a Sunday, and time-and-one-half of the normal wage for those who ordinarily work on a Sunday.

5.2. Actual hours of work in the health services sector

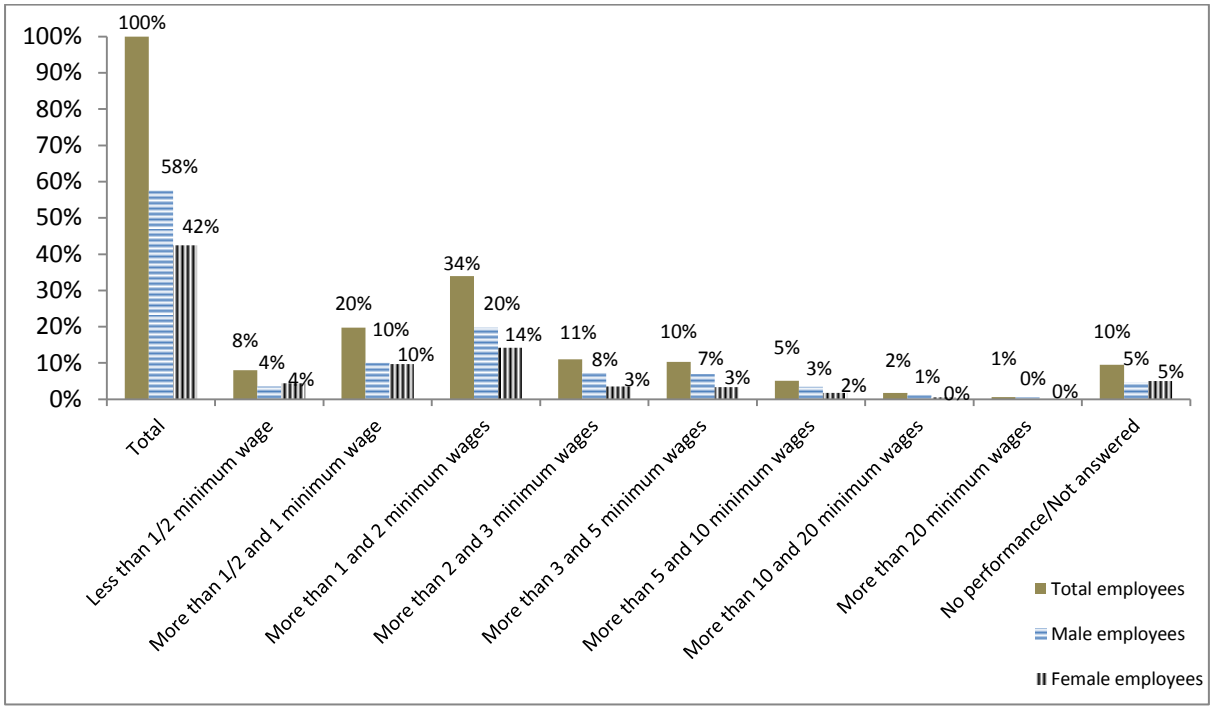
In the framework of national laws and regulations concerning working time, the vast majority of health care institutions structure the continuous 24/7 services with working time arrangements that often exceed the legal limits set up for working time in their respective countries.

With reference to Brazil, all health care employees with formal contracts are entitled to general labour rights, especially regarding maximum daily and weekly working hours and overtime work, with the exception of radiologist technicians and medical residents, whose maximum weekly working hours are limited to 24 and 60, respectively. Nonetheless, a different situation currently exists regarding the total length of working hours in the health care facilities. The 1988 legal reduction of weekly working hours from 48 to 44 occurred in tandem with regulatory changes aimed at fostering increased working time flexibility. These regulations enhanced overall benefits for workers—especially those working in the health services sector, who were able to increase their weekly working hours and thus their monthly incomes by holding multiple jobs.

In addition, the national regulation of weekly working hours based on *each job* performed fostered the practice of holding multiple jobs. Graphic 1 summarizes information from the 2012 National Time Use Survey in Brazil concerning the distribution of total weekly working hours disaggregated by sex and number of workers.[10] In general, employees earning between 1 and 2 times the minimum wage work the largest number of weekly hours in Brazil (34 per cent), followed by employees earning more than ½ the minimum but less than the minimum wage (20 per cent). Sex-disaggregated data also identifies men working more paid hours per week than women (58 per cent and 42 per cent, respectively). Additionally, both male and female workers earning more than ½ of the minimum wage but less than 2 times the minimum wage work longer weekly hours (see Graphic 1 below).

[10] All job categories.

Graphic 1. Brazil percentage of total weekly working hours of workers, by earnings (multiples of the minimum wage) and sex



Source: Developed by authors with data from "Pesquisa Nacional por Amostra de Domicílios, 2012," IBGE.

A similar situation can be found in the health services sector. Holding multiple jobs has become a common practice in this sector, in which health care personnel may perform shorter working hours in their main job, but lengthen their total weekly working hours with secondary jobs in private health providers. For instance, 2011 statistical data indicated that 95.3 per cent of Brazilian nurses were working more than 30 hours per week in the private sector, and nurses in the public sector worked an average of 45 hours per week—far above the 30-hour weekly limit advocated by nurses' unions.[11] In the case of physicians, they were engaged in a 39-hour main job per week, combined with an average of 13 weekly working hours in other jobs. Auxiliaries in nursing as well as technicians from the country case study reported total weekly working hours of up to 60 and 70 hours, respectively. What is more, despite the strict 24 weekly working hour limit set up for radiologists due to their exposure to X-rays, they reported working up to 72 hours a week. Medical residents regularly work up to a maximum of 80-100 weekly working hours due to on-call duty and overtime, as well performing multiple jobs to supplement their low incomes. In the light of this information, conclusions from the qualitative data evidence a shared perception of unconventional working hours directly associated with health care professions.

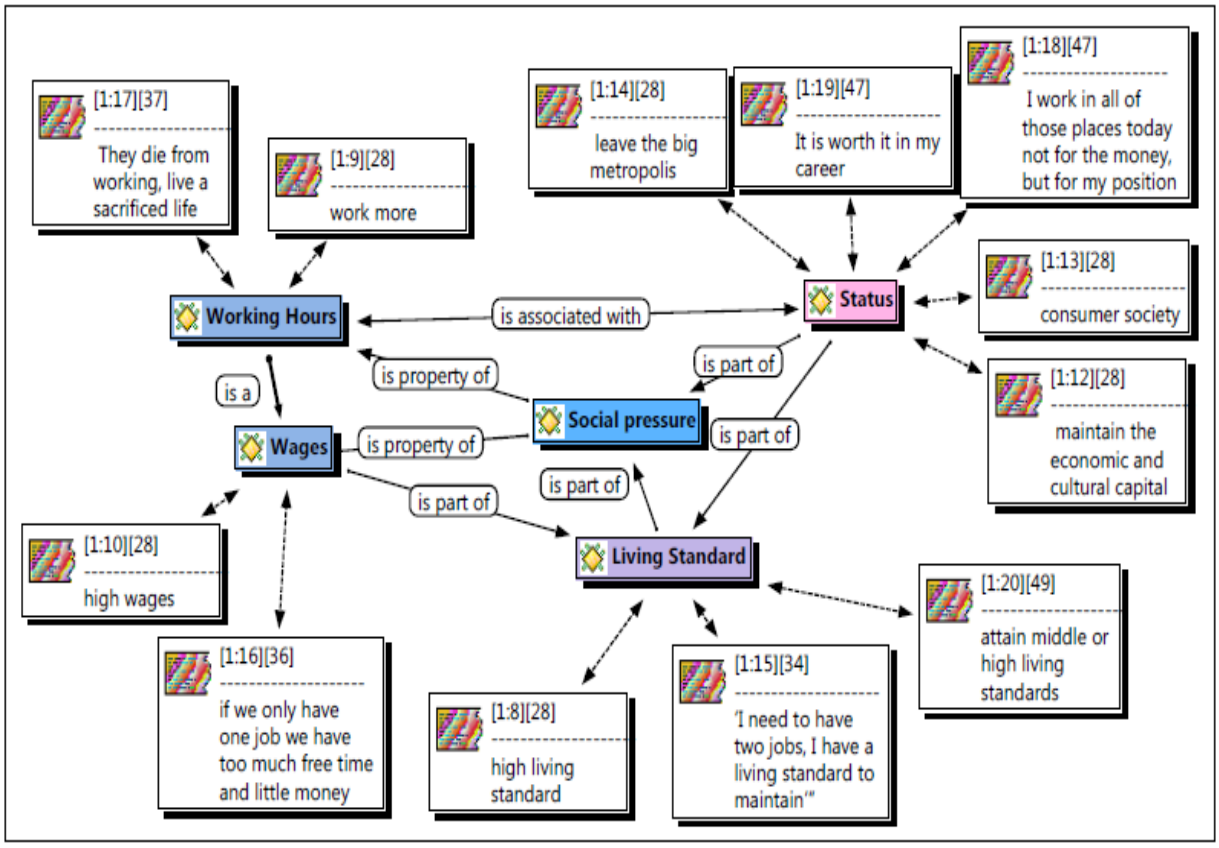
"*As a resident, I work 60h a week in this hospital. Until one month ago I worked between 84h and 120h a week, but now I have decreased it. I work maximum 112h a*

[11] A reduction from 40 to 30 weekly working hours for nurses has been considered in order to retain medical staff, but no agreement has been reached by Brazilian law makers (Vilela, 2009).

week. It is because I work in other places: in another place I work 36h more a week and I'm on call in other places 12h a week (...). A friend of mine, who is also a resident, worked 72h in other places, i.e., she worked around 132h a week. Then she acquired celiac disease. Now she only works 120h a week. Now the problem is "taken care of" (laughter)" (Study participant from Brazil).

Aside from the extremely long working hours of medical residents, the qualitative analysis of the data from the focus group discussions and interviews with health care workers and managers also evidenced a pattern concerning health care workers' preferences for performing multiple jobs. The analysis suggests that this is a consequence of the social pressure they perceive to achieve the high standards of living associated with their professions (see Figure 1 below).

Figure 1. Performance of multiple jobs in Brazil



Source: Developed by authors based on findings from the Brazilian country case study (Atlas-ti Software).

The official average wages for professional categories in the health services sector in Brazil supports this significant qualitative evidence. For instance physicians have the highest median wage among health care professionals (approximately R$ 8,000 proportional to 44 working hours (about USD 3,700), followed by a median weekly wage for nurses up to R$ 3,500[12] (about USD 1,500). The average wages for radiology

[12] The reported minimum wage proportional to 44 weekly working hours is reported at R$ 678 -about USD 300 (data gathered from FEMAN-National Federation of Physicians in the Country case study from Brazil).

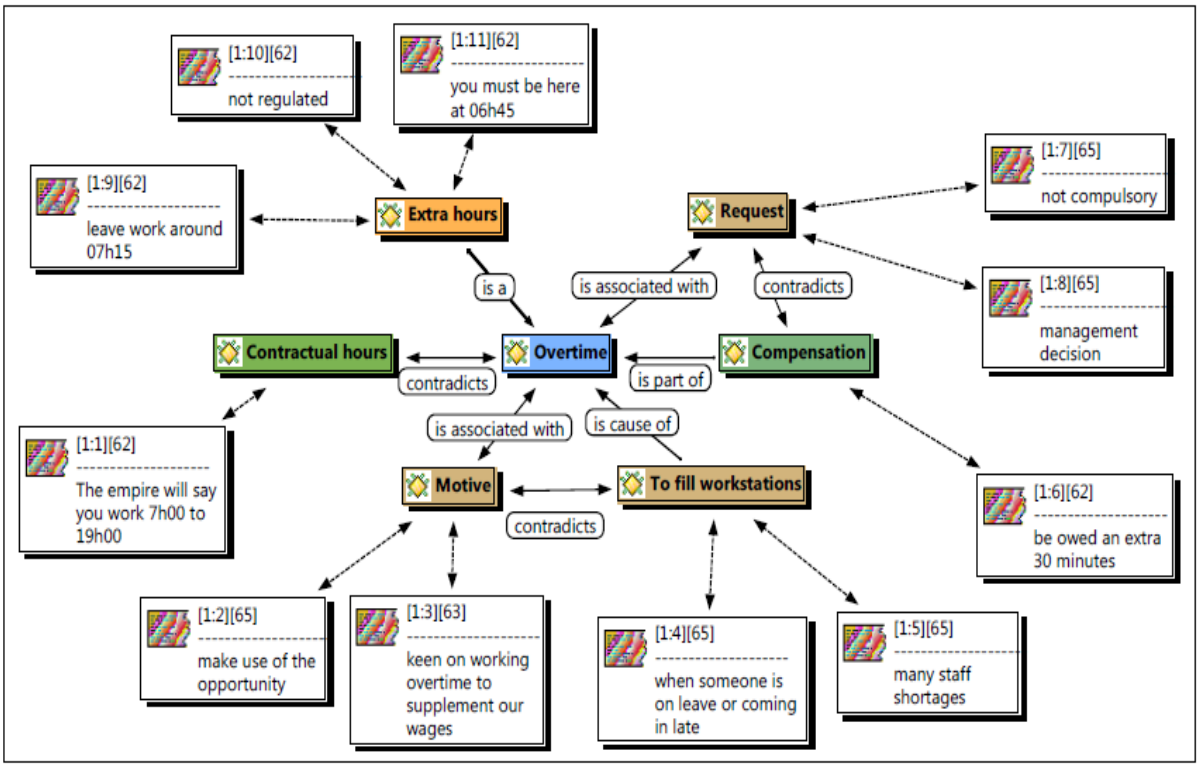
technicians is up to R$ 1,700 (about USD 740) for a 24-hour working week. As voiced by a study participant regarding the physician professional category:

"*Most colleagues want high standards, but a physician doesn't need to be rich. They die from working, live a sacrificed life. Sacrifice the family to do over-work. They are the ones that require themselves to work this many hours, want more and more and get stressed*" (Study participant from Brazil).

Regarding South Africa, employment contracts in health care institutions are subject to the specific regulatory provisions regarding working hours synthesized in Table 2 (above). Other than that, additional provisions serve as guidance for working time arrangements in the areas of workers' health, workplace safety and work-life balance—which is particularly relevant considering the significant percentage of female workers in the health services sector. For instance, the 1998 *Code of Good Practice on the Arrangement of Working Time* guides both employers and employees with recommendations and good practices for designing working environments considering staff's inputs, including working time arrangements, particularly in the cases of shift work and night work. Moreover, employment contracts have to observe the *Public Sector Bargaining Council*'s resolutions (PSCBC) that govern working time arrangements and work-life balance for the entire sector. Of particular interest for the purpose of this study is the 2012 PSCBC resolution on the *Re-arrangement of Working Time*, in which the Bargaining Council states their mission to periodically review working time arrangements in order to better improve the provision of health care services in the country.

Regardless of these regulations, health care personnel in South Africa still perform excessive working hours on a regular basis, mainly due to staff shortages and the high demand for health care services in both the public and private sectors.

Figure 2. The use of overtime hours in South Africa



Source: Developed by authors based on findings from South African country case study (Atlas-ti Software).

Conclusions from the qualitative analysis indicate a pattern in the chronic use of overtime work aimed at guaranteeing continuous operations in a context of significant shortages of qualified personnel (Figure 2 above). All categories of health workers reported performing additional hours, reaching a standard maximum of 20 overtime hours per week, and an actual working week of 52 hours, as in the case of nursing professionals. What is more, extra overtime shifts are regularly offered to 12h-shift workers, who can elect them voluntarily, with the exception of medical officers (registrars[13]), who are often asked to guarantee handovers after a 24h-shift—leading to a total of 28-36 consecutive working hours on duty. A similar (if less extreme) situation applies to community care workers attached to a fixed primary health care facility, who perform extended day-shift working hours into the late evening and on weekends. As voiced by study participants, this situation has led to a common scenario in which only overtime hours exceeding the 12-hour threshold are paid at the legal overtime rates. Moreover, a relevant quantity of study participants have voiced the chronic practice of undercounting overtime hours that coexists with regularly-delayed or non-existent overtime payments, and major constraints in the access to formal compensatory time off. As for the private health sector, working hours were reported by study participants to be

[13] Different job sub-categories exist in the case of medical practitioner in the South African health care system. Medical residents or 2-year trainees regularly operate within teams that include medical officers or registrars (fully qualified professionals operating in a 5-year in-post training contract) and senior doctors or consultants working for particular specialty departments.

an average of 50 hours per week. In terms of working time flexibility, the country case study evidenced a possibility for nurses to individually negotiate with managers for shorter or fewer working shifts in the following week, when they reach the limit of 12 overtime hours in a particular week.

In close connection with the above, the prevalent perception of the need to increase monthly incomes also leads to the performance of excessive weekly working hours. In contrast with Brazil, data from the country case study in South Africa has shown that monthly wages for public sector nursing professionals averaged R 7,200 to R 16,700 thousand (about USD 700 to USD 1,500)—depending on the professional grade in a full-time contract.[14] In particular, community care workers have voiced a very low daily wage of R 45 (about USD 4.5), leading to overtime work and performing additional jobs to make ends meet. In contrast, South African medical practitioners interviewed voiced no disagreement with their salaries, albeit some concerns were raised regarding the regular delays in payments for overtime work.

South African health care institutions also provide health care services with outsourced personnel from temporary staffing agencies. Despite the national initiative to increase wages in order to retain qualified medical personnel (*Occupational Special Dispensations, OSDs*), high vacancy rates mostly in primary health care facilities have endured, leading to the use of agency staff, especially nursing professionals, and increasing temporary part-time jobs with low wages and high levels of insecurity for workers. This uncertainty leads to poor conditions of work and excessive total working hours due to performing consecutive long shifts (up to seven consecutive 12h shifts) in a single institution, followed by quick returns in a second health care facility without adequate rest time. As voiced by a respondent from the country case study in South Africa:

"*Their salaries are very low and they are trying to make up for this by working shifts in different institutions. They are so tired that sometimes they fall asleep while eating their food. Their working hours and conditions of work are unthinkable for us as permanent staff.*"

With reference to the Republic of Korea, all health care workers are entitled to the general labour protections outlined in Table 2 (above), which includes specific provisions strengthening workers' protection from excessive working hours, as in the case of night work and holiday work for female workers[15] (1997 *Labour Standards Act, article 70*). Other provisions improve the working conditions, as in the case of the *Occupational Safety Health Act*[16] that protects workers' health and safety by for example requiring proper measures to help reduce occupational stress for shift and night workers.

[14] Information from the *ILO Working Conditions Legal Database* indicate that there is a minimum wage of R2,100 for the year 2011 (about USD 207)

[15] This regulation prevents female workers from being employed at nights and on holidays without their formal consent, and prohibits female workers with less than one year after childbirth from performing overtime work exceeding 2 hours a day, 6 hours a week and 150 hours a year.

[16] Under this Act, the Korean government has recently established special health examinations for night workers performing more than 4 consecutive night shifts in a month or more than 60 monthly night-shift hours.

Nonetheless, the nature of specific laws and regulations, such as the Korean *Labour Standards Act* results in exceptions to working time limits, particularly in the health care sector. Similar to the situation in Brazil and South Africa, staff shortages and the increased demand for health care services have frequently led to the application of the so-called "flexible" and "selective" working hours systems that favour exceeding general daily and weekly working time limits—in some cases making it nearly impossible for workers to access sick or maternity leaves. Moreover, specific regulations governing particular professional categories define a different legal framework in terms of working time. For instance, the exemption of independent contractors from the *Labour Standards Act* (*LSA*) results in different working conditions and working time limits for specific health care professionals. In the case of care aides, for example, this form of employment contract results in regular 24-hour care provision, with no designated rest breaks or meal breaks, and no reference to the rest and holiday rights specified in the *LSA*.

This general situation has led to total weekly working hours that bear no resemblance to the legal framework for working time in the Republic of Korea, and resulted in a considerable gap between paid hours and actual working time. In the light of this situation, the increase in weekly working hours also comes partly from voluntary extended work to supplement their incomes. Since night work and holiday work are compensated with premium payments, workers voluntary elect to perform night shifts and holiday work on a regular basis.

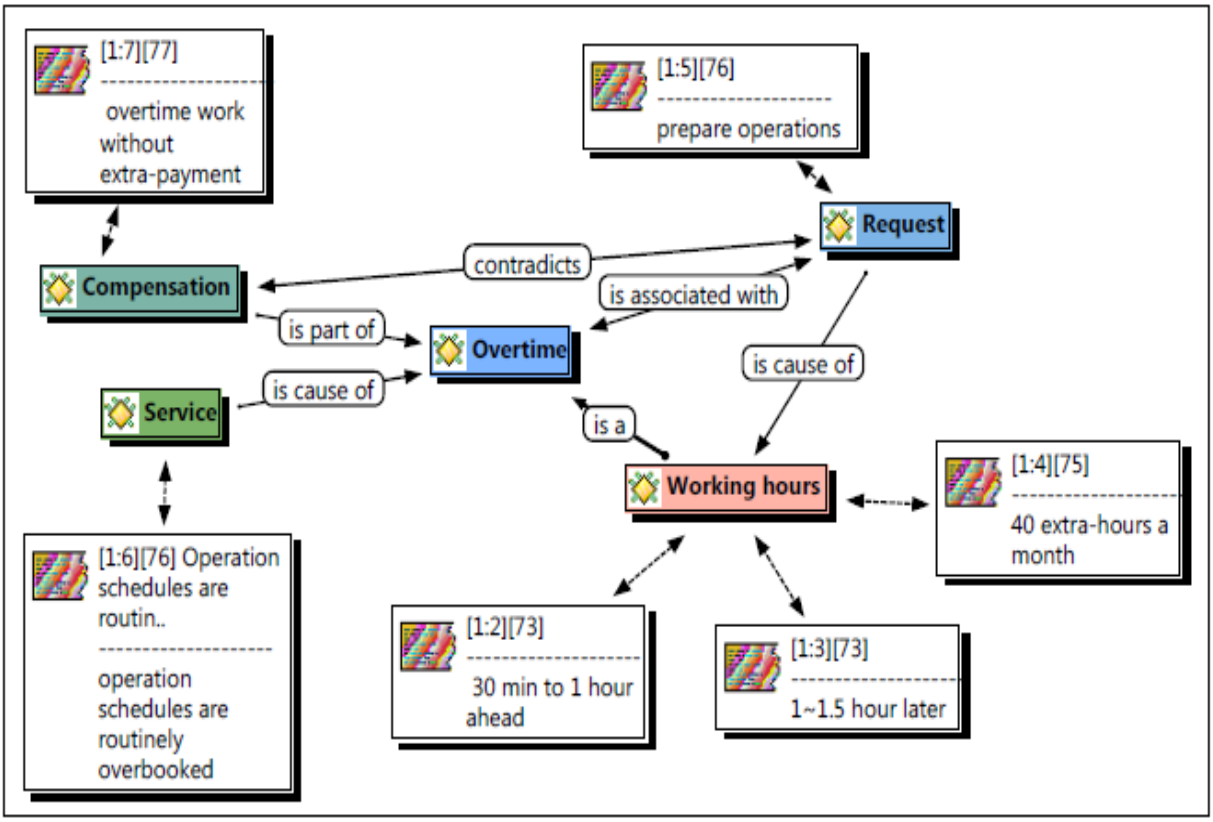
"*Because the wage is too low for young nurses with short tenure, they voluntarily ask a holiday-duty. 'Wanted' (holiday duty) is more common among them.*" (Study participant from Korea.)

Monthly incomes also vary by professional category. For instance, general practitioners earn a mean of KRW 5,600 (USD 5,320), registered nurses KRW 3,000 (USD 2,850), nurses' aides KRW 1,650 (USD 1,570), long-term care workers KRW 1,400 (USD 1,330) and care aides KRW 1,250 (USD 1,190). Since weekly working hours in the Republic of Korea are not sufficient for them to make wages adequate to meet their living expenses, the vast majority of health care workers voluntarily perform additional hours on a daily basis. Despite the fact that total weekly working hours have decreased since 2004—when weekly working hours averaged 47.4—a mean of between 42.9 and 43.9 weekly working hours remained in the health and welfare sector in 2011. More specifically, findings from the Korean Time Use Study identified 1.4 overtime hours per day for nurses, and 42 minutes of overtime work per day for head nurses. The average amount of extended work for night shift workers was 1.8 daily hours, followed by 1.47 and 1.19 overtime hours for day shift and evening shift workers, respectively.[17] In contrast with Brazil and South Africa, excessive working hours in the primary job has led to a reduction in the number of workers who hold multiple jobs. More specifically, the Korean Time Use Survey conducted in 2004 identified only 3.5 per cent out of all Korean workers holding secondary jobs.

Figure 3 below illustrates the main conclusions discussed above, as voiced by the study participants, concerning the prevalent use of overtime in the Korean health care services.

[17] Of relevant interest is the statement of an operation unit nurse, who said that she performed overtime work for 40 hours in a single month.

Figure 3. The use of overtime hours in the Republic of Korea



Source: Developed by authors based on findings from the Korean country case study (Atlas-ti Software).

6. Working time arrangements in Brazil, South Africa and the Republic of Korea

Shift work, quick returns,[18] and working hours extended into the night and on weekends are common practices in environments where 24/7 continuous operations are required. Nevertheless, their impact on workers' well-being and individual and organizational performance necessitates a broader diversity of working time arrangements that can mutually benefit both workers and heath care institutions. With this issue in mind, this chapter reviews the working time arrangements currently applied in the assessed health care institutions.

[18] This term specifically refers to short periods of scheduled rest time between shifts.

6.1. The arrangement of working time in the health services sector

6.1.1. Working time organization in Brazil

In Brazil, working time arrangements in the health services sector vary among regions, types of hospitals, contracts[19] and types of labour relations.[20] For instance, whereas poorer Northern and North-Eastern Brazilian hospitals regularly face resource constraints—which increases workers' workload and overtime—Southern Brazilian health care institutions have enough resources to promote more flexible working time arrangements favouring, for instance, 8-hour shifts (ILO, 2013). Furthermore, the wide variety of contracts also results in different working hours and conditions of work within a single health care institution. In general, public employees selected via an entrance exam regularly perform fewer working hours (especially at nights and on weekends) than those working for private health care facilities. Moreover, contracts for outsourced personnel require longer working hours than those performed by permanent staff. As highlighted in the previous chapter, such outsourced employees are in most cases public health care workers who voluntarily decide to hold second jobs, in order to increase their monthly incomes. Under the law, physicians, nurses and nurse technicians can register themselves into medical cooperatives or as "legal persons", thereby extending their working hours.

Findings from the Brazilian country case study lead to the distinction of a general pattern of working time arrangements within this sector. The vast majority of Brazilian health care workers are employed on 12h-shifts, such as the compressed working week model of 12 working hours followed by 36 consecutive hours off. Workers such as physicians, nurses, and radiology and laboratory technicians regularly adopt this type of compressed working week. Likewise, employees in emergency rooms and Intensive Care Units (ICUs) work on a shift work basis, including time-banking schemes[21] and shift arrangements organized in a clockwise direction.[22] Other employees elect to perform regular fixed schedules from 4 to 8 daily working hours over five or six days a week, combined with night, weekend, and holiday work. Medical residents commonly perform regular 8-hour shift work up to 60 working hours a week, followed by on-call work and overtime. Radiology technicians regularly perform 4 to 6 working hours a day or 12

[19] This chapter compiles overall information gathered from the three country case studies with reference to working time arrangements *included* in formal employment contracts. Nonetheless, further research should be made concerning the risks for health care workers to undertake working time arrangements outside the scope of the law, as in the case of Brazilian workers from particular places such as rural areas and small villages, who often lack formal employment contracts.

[20] Several attempts are being made in order to standardize workers' employment contracts and working time arrangements. As reported in the country case study report, the Brazilian Health Ministry has already opened discussions for new labour regulations for health care workers.

[21] The use of accumulated hours as extended leave is applied by health care workers normally performing multiple jobs. It is a regular practice in private sector health care institutions that function with electronic control mechanisms to clock the beginning and end of working hours. This practice has become increasingly popular among workers in Brazil.

[22] The organization of shifts in a clockwise direction contributes to mitigate the disruption of the 24-hour biological clock of humans (also known as Circadian rhythms), since it structures working time whilst reducing the interference of shift work with the biological rest requirements of human beings.

consecutive working hours up to a legal threshold of 24 hours a week (per job). Overall, all health care professional categories are frequently requested to perform overtime, with exception of those workers who have extended shifts, such as those performing more than 12 consecutive working hours.

6.1.2. Working time arrangements in South Africa

Working time arrangements in the South African health care system differ across regions, and between different contractual arrangements. Despite the national government's attempt to constitute a single national public health service, Gauteng Province and the Western Cape Province still maintain separate administrative levels that result in different terms and conditions of employment by professional category. In addition, health care facilities utilize various types of contracts as a way to tackle shortages of qualified personnel. "*According to contract law, when you sign a contract, you are supposed to be equal partners in the contract, but it is never like that*" (study participant from South Africa). For instance, m addition to the permanent staff, public health care institutions also hire nursing assistants who are not fully trained (the so-called "unregistered nurses"), whose working hours vary from those of their registered nurse counterparts. Moreover, the working time arrangements for medical practitioners do not adhere to the formal working time limits, since their salaries fall above the threshold fixed for the application of the BCEA. This situation leads to private negotiations with managers that result in unique schemes for this professional category depending on their specialty and patients' needs for health care assistance. Community-care workers attached to a primary health care facility perform similar work shifts as nursing staff, but their working conditions include unpaid overtime hours and they do not receive any health benefits. Furthermore, health care organisations hire staff from personnel agencies (called "labour brokers" in South Africa), especially nurses and non-professional employees (e.g. maintenance personnel), who are frequently public sector workers holding multiple jobs due to their irregular and low incomes (see also Chapter 5). Conditions of work and working time schemes for agency staff have been reported to be less favourable than those for public sector workers, with terms and conditions of employment that result in low monthly wages, long working hours, and quick returns with insufficient rest periods.

Findings from the South African country case study indicate that working hours are arranged in shift schemes within 24/7 continuous operations, and formal 8-hour daytime-shifts in the case of clinics and community day centres that operate only during daytime hours. Within this context various types of working time arrangements are unevenly applied to all professional categories. Theatre nurses, nurses from rural areas, trainee nurses in the public sector and community workers commonly perform fixed working hours of 8 hours per days over 5 days a week.[23] As mentioned above, medical practitioners negotiate particular work shifts, normally adopting fixed working hours and staying on duty as necessary, in accordance with the specific requirements of the institution. A different situation applies to medical practitioners, whose 8h shifts are

[23] There is a general increased demand for compressed working weeks in South Africa due to the regular long commutes for workers in the health care sector, and the inadequate public transportation. This situation has militated against workers' general preference for performing 8-hour shifts, in order to reduce commuting time and increase workers' security, especially at night.

extended with six on-call night shifts per month and unexpected overtime work. Registered nurses, theatre nurses and community-care workers from the public sector normally perform compressed working weeks with 12-hour shifts during 3 days on the first week and 12-hour shifts during four days in the following week. Private sector nurses and nurses from rural areas also compress their working weeks, performing 36 hours in the first week (12-hour shifts over three days) and 48 hours in the second week (12-hour shift over four days). Working time arrangements are different for workers from the personnel agencies, who are regularly employed on 12-hour shifts up to 10-13 straight working days, getting only an occasional day off.

6.1.3. Working time arrangements in the Republic of Korea

Working time arrangements in the Republic of Korea vary across facilities, types of contracts and professional categories. Employees from non-metropolitan and small hospitals with a lack of qualified personnel tend to have more night shifts and holiday duties, while staffs from university hospitals are more likely to perform long working hours due to high workloads. What is more, whereas health care workers' contracts generally comply with the national legal provisions concerning working time, working conditions including working hours vary for independent contractors (these are mainly care aides), to whom the overall *LSA* labour rights cannot be applied.

Findings from the Korean country case study have contributed to the classification of major types of working time arrangements within the health services sector in that country. Whereas registered nurses and long-term care nurses usually perform rotating shift work (on a formal two or three 8-hour shift model), on-call duties and overtime work, physicians, medical residents and technicians operate on a fixed 8-hour shift scheme that is commonly extended by irregular night and holiday work.[24] Of relevant interest is the case of physicians and medical residents, whose working hours are extended from regular daytime work into the night or the following day. Other than that, care aides and some long-term care workers also perform consecutive 24-hour shifts followed by 24 hours off-duty, based on the particular health care requirements of patients. In addition to these working time arrangements, the vast majority of professional health care employees are requested to perform the so-called "flexible shift" of 10 to 12 hours. This working time arrangement operates as an "add-on" day shift for shift workers. For instance, individual nurses work according to the regular three-shift scheme and can be occasionally assigned to the "add-on" team. Hence, it is not considered to be a compressed working week.

More detailed information concerning specific working time arrangements in the health services sector in Brazil, South Africa and the Republic of Korea is synthesized in Annex 2.

[24] Results from a survey conducted by the Korea Health and Medical Workers' Union (2008) identified 57.5% shift workers, 48.5% working on a three-shift system and 9% working on a two-shift system.

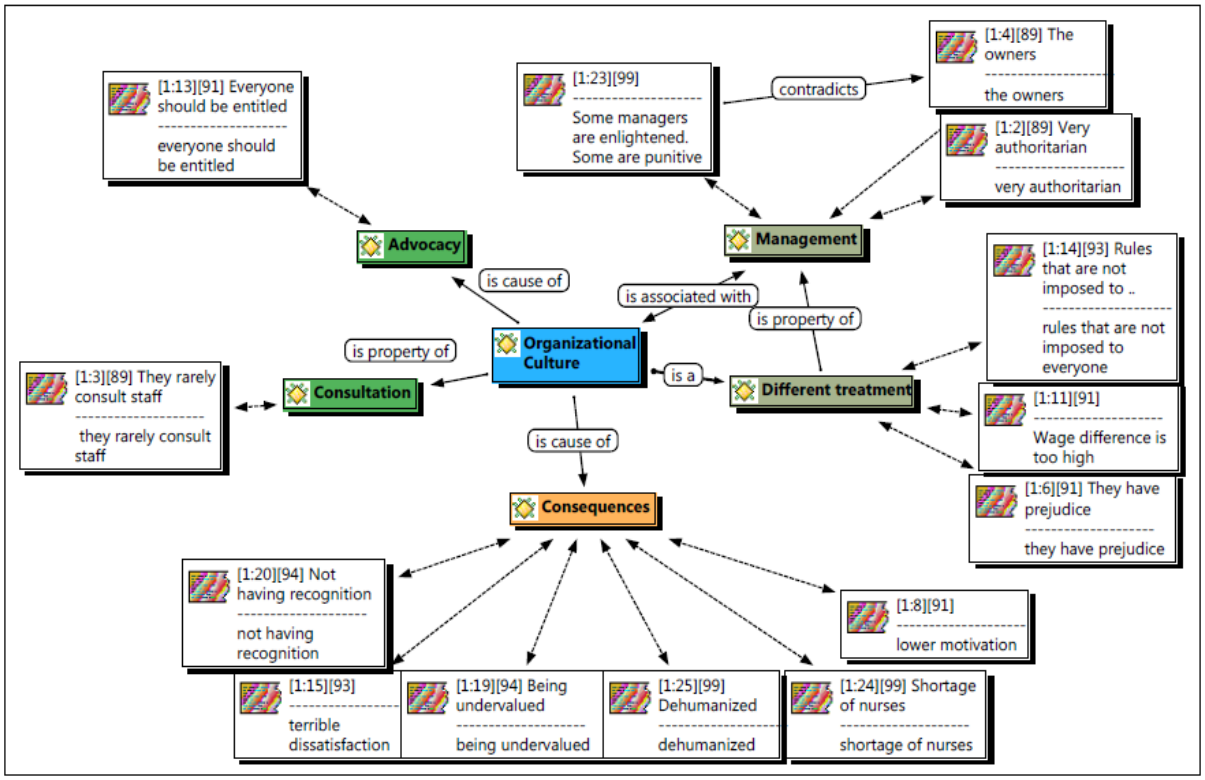
6.1.4. Determinants of the organization of working time

Structural components within health care systems and institutions influence the way work is organized and performed. Organizational culture, hierarchical systems, and administrative capacity have a broad impact on working time arrangements and working conditions affecting workers' physical and psychological well-being and levels of individual and organizational performance.

i. Organizational culture

Shift work, night and weekend work have become regular practices in the health services sector, in order to guarantee a 24/7 provision of health care. The vast majority of health care study participants from the three countries studied reported rigid hierarchical structures and unclear or ineffective lines of communication. The following figure, Figure 4, illustrates patterns in the perception of workers from the three countries' health service sectors regarding the prevailing organizational culture in the health care institutions.

Figure 4. Organizational culture in the health services sector



Source: Developed by authors based on findings from the three country case studies (Atlas-ti Software).

More specifically, findings from the Brazilian country case study have evidenced a general perception of a differential treatment among categories of health care personnel within a single institution. In particular, nurses' representatives have specifically mentioned what they perceived as a broad undervaluing of the nursing profession by both colleagues and medical teams.

Likewise, South African public health care institutions are perceived as structures with ineffective communication lines and rigid internal structures. However, the working environment varies substantially depending on the nature of managerial practices,

ranging from managers who "protect" staff to those who treat workers in a so-called "unfair" manner.

"*There is often no one to talk to about problems. There was a time where instead of supporting a nurse management gave her warnings, because they said she was not productive. It's not that she was not productive; she was tired and together they could have worked out a solution together.*"(Study participant from South Africa)

A specific cultural perception reported for the nursing profession in South Africa results from employees being hierarchically controlled (see Lund, 2009) with rigid authority lines, in which "*nurses feel dehumanized, demoralized and demotivated. We find we are overruled"* (Study participant from South Africa). Similarly, there is a general managerial perception that medical residents "serve their time" under the guidance of the superior medical specialist. Moreover, lower paid staff voice a lack of promotion systems or the provision of financial incentives. Staff from personnel agencies similarly reported a lack of intervention from managers to better improve their working hours, since these workers are not part of the health care institution.

"*Management merely wants to know how many agency staff we have and don't want to get involved further*" (Study participant from South Africa)

Difficult relationships between hospital staff and agency workers were identified in some health care facilities from South Africa. Seeing that only permanent hospital personnel are provided with training, conflicts concerning different approaches and protocols to respond to emergencies regularly occur within health care facilities in this country.

"*There seem to be no or very little training for most of the agency workers. This causes conflict with hospital workers and the agency workers. There are real fights. Only permanent hospital staff are provided with training. Agency staff have no training on interpersonal skills. This affects performance of workers when there is no sound interpersonal skills. We need to know how to respond*" (Study participant from South Africa)

Similarly, Korean health care services are subject to distinctive organizational cultural practices commonly reflected in a reported strong hierarchy. The existence of a scale among professional categories and between seniority grades affects the way that working time is arranged. For instance, whereas senior medical practitioners operate in formal shifts, junior medical practitioners are disproportionately allocated to night shifts and holiday duty. Moreover, the prevalent managerial mindset typically assumes individual excellence, which results in considering extended work as a visible sign of ineffective individual performance.

"*The hospital says that she did not finish her job in time because she has poor ability to manage work. But, I think it's not the case except for the newcomers. I usually claim overtime allowance for RNs in my unit.*" (Study participant from the Republic of Korea).

ii. Organizational administrative capacity

Health care institutions from the three assessed countries have reported shift management problems, structural constraints, staff shortages and excessive working hours aimed at meeting organizational goals. Staff, equipment and funding shortages in the Brazilian Unified Health System (SUS) compromise working conditions and patients' care across regions. Demands to increase working hours have been regularly advocated by management to alleviate shortages of qualified personnel.

Similarly, staff and equipment shortfalls, combined with lack of effective health workforce planning, management and communication channels, also affects the capacity of South African health care institutions to respond to 24/7 continuous operations. Overtime work is therefore a regular management decision that affects both the well-being and performance levels of health care staff (see Chapter 5). Moreover, staff shortfalls have led to frequent requests for medical students and agency staff to conduct highly specialized work regardless of their lack of technical knowledge. Thus, head nurses have reported a decrease in both individual and organizational performance, especially in terms of patients' safety. Levels of performance are also affected by qualified personnel filling staff shortfalls by performing non-clinical responsibilities such as ordering and organizing stores, a so-called "added task" that takes employees away from their normal duty stations.

"*We are often challenged with nonclinical responsibilities such as ordering, organizing the stores and the medical equipment etc. They need to get a manager for the store, otherwise it is taking 3 to 4 hours away from a registered nurse at her station. We need a non-clinical assistant nurse who can be in control of the ordering etc. Because there is such a grave shortage of staff, we would like a non-clinical staff assistant nurse who is in charge of administration.*" (Study participant from South Africa)

The vast majority of workers from Korean health care institutions are likewise requested to perform excessive working hours due to demands for health care provision, coupled with personnel shortages, especially during the evening shift where there is a lesser quantity of workers than during day shifts. Moreover, the need to guarantee 24/7 coverage leads managers to arrange longer night shifts than the formal 8-hour one, and assign an extra 30 minutes to the normal shift in order to fully cover shift handovers between nurse teams.

"*When we (=trade union) surveyed nurses, it was found that nurses come to the hospital by 30 min to 1 hour ahead of the designated time and go home 1~1.5 hours later.*" (Study participant from Korea)

Thus, nurses can perform a total amount of nine night shifts per month, which almost certainly exceeds the legal rule that prohibits consecutive night duties. Despite Korean health care managers' apparent mind-set that the need for overtime work is caused by workers' inefficiency, employees voiced the need to perform excessive working hours due to the inappropriate organization of working time:

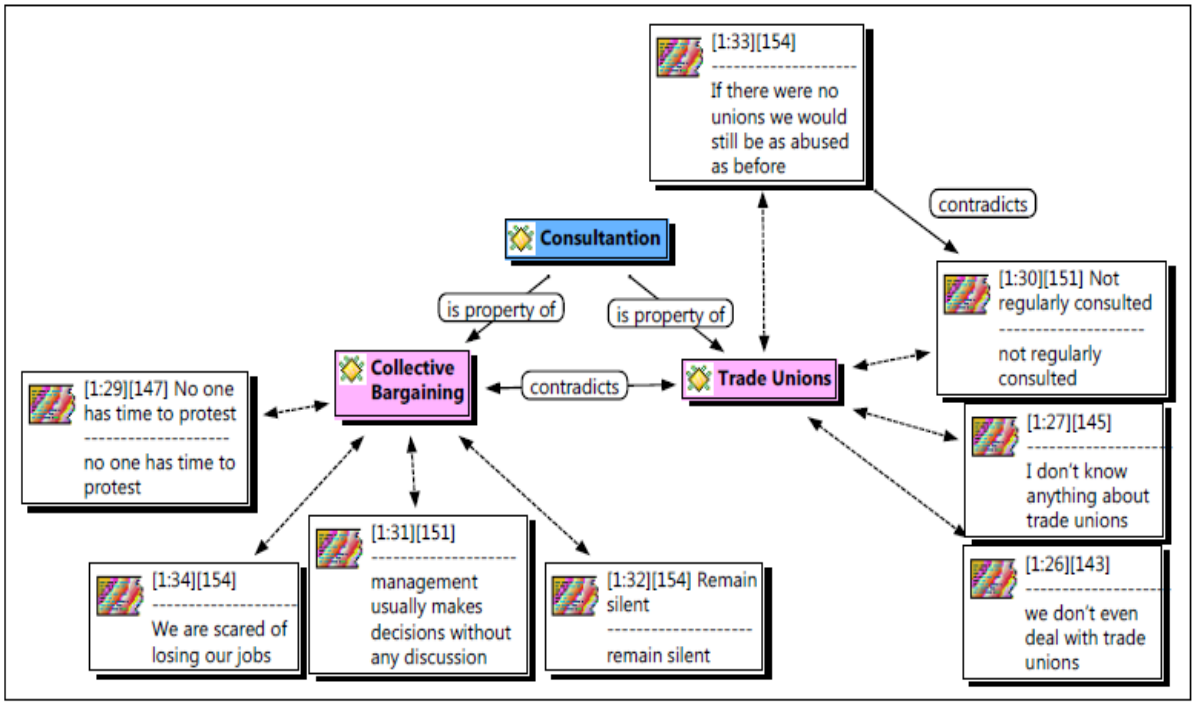
"*It's so ridiculous. One day, a manger proudly said that his hospital introduced a forward rotation system. But there were not enough RNs (to organize 4 teams for 3-shifts). So while one shift team goes forward, another team has to go backward.*" (Study participant from the Republic of Korea)

iii. Mechanisms for consultation regarding working time arrangements

Workers' flexibility to organize working hours and collective agreements based on both employers' and employees' inputs has been cited by the study participants as fostering both individual and organizational performance. The literature review has also evidenced a lesser health impact of working time schemes among workers who have the ability to arrange their own work shifts (see e.g. Sveinsdóttir, 2006), as well as improved staff morale while being part of decision-making processes (ILO, 2013). Nevertheless, the reported rigid administrative hierarchy in the three assessed countries constitutes a current constraint to finding working time arrangements that are adequate for balancing work with personal life, including family responsibilities.

Figure 5 below illustrates the pattern identified through the qualitative analysis concerning the rarity of staff consultations and collective bargaining aimed at restructuring working time arrangements.

Figure 5. Mechanism for consultation on working time arrangements



Source: Developed by authors based on findings from the three country case studies (Atlas-ti Software).

In the case of Brazil, relationships with managers vary among professional categories. As reported, managers seem to consider physicians' inputs as more important than those of other employees, who have voiced their awareness of the reduced possibilities they have to change working time within the existing organizational culture. For instance, nurses' representatives from Brazil voiced their lack of autonomy and participation in consultations to define working time arrangements.

In a broader scenario, the extent of workers' participation in trade unions varies across health care institutions. In general, health care personnel from Brazil participate in trade unions' activities only to a low extent, which decreases unions' awareness and capability to advocate for their labour rights in the workplace. Interestingly, Brazilian unionised health care workers from the public sector are more aware of the political demands regarding their rights, whereas private sector health care workers have reported not even being aware of the category of trade union to which they belong.

Similar conclusions can be inferred for South African health care institutions, in which personnel have a general perception of a different recognition of staff inputs depending on their professional category, especially in the case of nurses. Staff input initiatives aimed at obtaining better balanced working time arrangements are therefore not perceived as a real option by the vast majority of respondents. Moreover, managers' initiatives to better adapt working time schemes to employees' needs depend on the nature of the individual, their capability and their managerial knowledge. Study participants described so-called "managers' ignorance" regarding how to organize working time arrangements in a context of staff shortages and inadequate infrastructure as a main cause of poor working time arrangements in South African health care

institutions. On one hand, neither permanent staff in public health care institutions nor community-care workers have clear channels to negotiate over their terms and conditions of employment. Against this situation, workers have stated their strong reliance on trade unions to advocate for their labour rights, and trade unions strongly advocate that *"staff should not just be seen to be part of the problem; they need to provide inputs towards the possible solutions"* (study participant from South Africa). On the other hand, workers from staffing agencies decline to participate in trade unions due to the fear of losing their jobs. As a consequence, trade unions from South Africa are still advocating for staffing agencies to adhere to the BCEA labour provisions and to ensure workers' protection.

"*The agency management say 'go to the office and complain and don't bother coming back'. As a punishment they are sent home and agency management say 'we'll contact you when we next need you'. Also money gets deducted, sometimes up to R1,000 monthly. The staffing agencies/companies are using people*" (Study participant from South Africa)

The hierarchical structure and the non-democratic culture in the Korean health services sector hinder the capabilities of health care workers to advocate for compliance with national regulations.

"*I think the most significant difference between public hospitals with unions and ours is the staffing strategy; either increase the workforce with reducing working hours or curtailment of workers with extending working hours*" (Study participant from Korea)

As highlighted in the country case study those health care facilities that recognize partnerships with trade unions tend to have a better observation of labour standards, where "*at least the rule of extra-payment for overtime work or holiday duties is better kept*" (study participant from Korea). Nonetheless, this factor doesn't guarantee an adequate observance of labour rights, especially in the case of certain professional categories, because "*vulnerable workers including care aides, long-term care workers, and those employed in subcontract firms or temporary agencies, rarely have unions*" (study participant from Korea).

Similar poor working conditions are voiced for junior-level medical practitioners, since "*it is difficult (for junior or young health care workers) to raise their voices against their disproportionate allocation on night and holiday duties*" (study participant from Korea). Constraints on advocating against excessive working hours lead workers to simply agree to perform such excessive hours, as in the case of a medical resident who voiced performing "*313 hours a month before the trade union was organized*" (Study participant from Korea).

"We union argued that on-call waiting time should be regarded as a working time to be paid, in that workers cannot do anything all the while. In response, the hospital eliminated the on-call waiting list. Then once something to need workers happens, they start calling workers in off-duty by phone… in such a situation, the hospital contacts workers in a seniority order so that a worker in the most vulnerable position has to accept the request." (Study participant from Korea)

In addition, the frequent lack of leisure time combined with reported barriers in the access to paid leaves impedes workers from having time to participate in trade unions or associations that are able to enhance working conditions, including working time arrangements.

"I've hardly seen anyone take a leave for just play and rest, other than sick leave" (Study participant from Korea.)

7. Analysis of the effects of working hours and working time arrangements

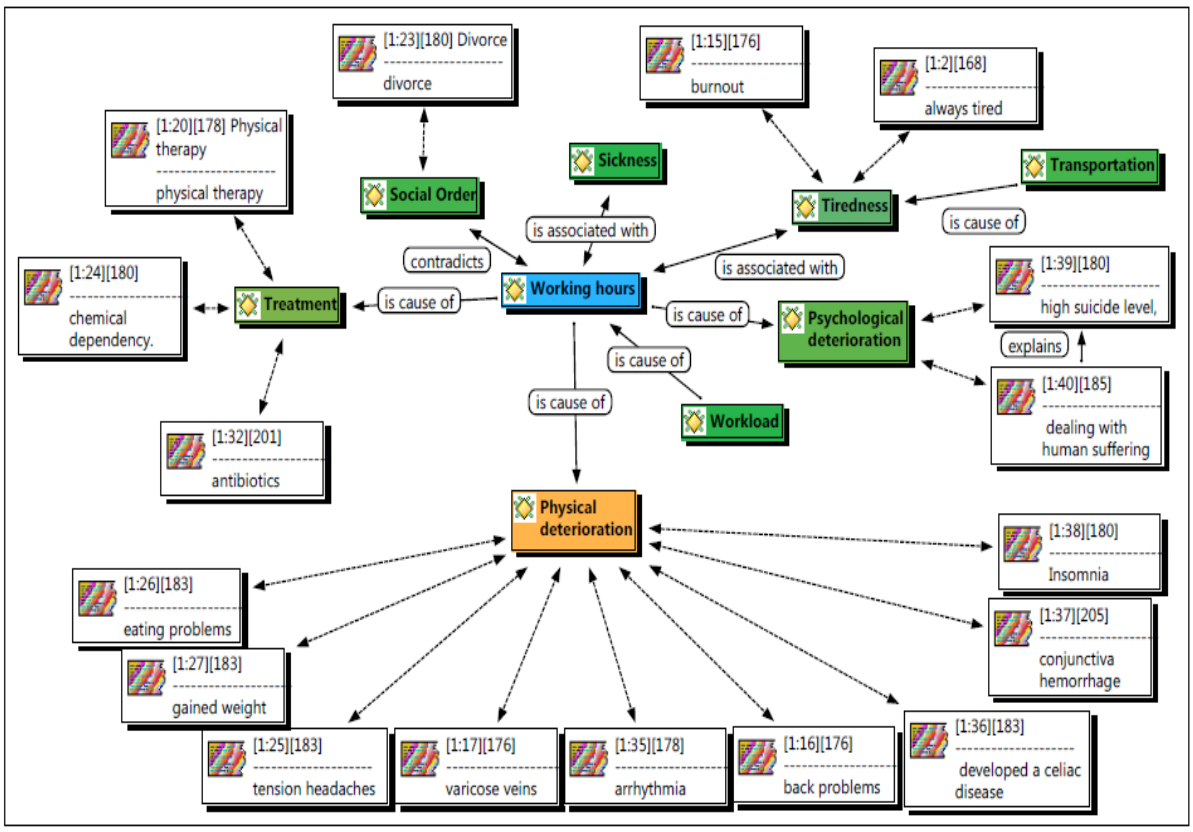
7.1. Effects of working hours and working time arrangements on workers' well-being, including work-life balance

Inadequate working time arrangements are associated with negative health effects, mainly due to fatigue and to the disruption of Circadian rhythms,[25] leading to a deterioration of workers' physical and psychological well-being (ILO, 2013). Empirical studies concerning the effects of particular working time arrangements on workers' health conclude that long working hours, heavy workloads and highly stressful working environments have negative effects on workers' health and workplace safety (see e.g. Tucker and Folkard, 2012). The request to perform involuntary overtime hours and the arrangement of long shifts (more than 12.5 hours) result in insufficient recovery time as well as increased fatigue, musculoskeletal disorders and other adverse symptoms (*ibid.*; Golden, 2012). In order to provide further in-depth analysis of these issues, this chapter brings out the links between how working hours are arranged in the countries studied, and how workers perceive the consequences of these arrangements on their well-being. These in-depth perceptions will contribute to developing recommendations for redesigning alternative working time arrangements aimed at improving workers well-being, including their work-life balance (see Chapter 9).

The following figure (Figure 6) illustrates patterns of overall health care effects of long hours among workers from the three country case studies.

[25] This refers to the disruption of the 24-hour biological cycle of human beings that "programmes the daily sequence of metabolic and behavioural changes" (Arendt, J., 2010).

Figure 6. Overall health care effects of long working hours performed by workers in Brazil, South Africa and the Republic of Korea



Source: Developed by authors based on findings from the three country case studies (Atlas-ti Software).

Large numbers of patients to assist, staff shortages, lack of infrastructure and inappropriate equipment increase workload levels and working hours for all workers in the three assessed health care systems, leading to negative effects on workers' health. For instance, performing unhealthy working time arrangements such as long shifts followed by quick returns can disrupt Circadian rhythms, resulting in physical and psychological impairment, fatigue, lack of concentration, and an increased risk of accidents (see e.g., Tucker and Folkard, 2012). Moreover, since working during rest days and overtime work have become common mechanisms to obtain extra payments in the health services sector, the risk to workers' well-being and reduced individual and organizational performance appears to be high in the three assessed countries. More specifically, chronic fatigue and insomnia, frequently combined with sleep disruption and gastrointestinal disorders, were often identified by study participants as a consequence of quick returns and short meal breaks. For example: "*one resident told an experience of his friend: while going home, he spontaneously fell asleep at a stop sign, losing control over the break, and crashed [into] another car in front of his*" (study participant from the Republic of Korea). Specific attention has to be given to care aides and long-term care workers, for whom rest and meal breaks have to be reconciled within a 24-hour continuous provision of health care services. More specifically, the typical requirement that care aides sleep in an auxiliary bed next to the patient leads to sleep disruptions and increased levels of fatigue.

"After three days' continuous work without sleep, she [the care aide] came to the office with conjunctiva haemorrhage, saying "I cannot do it anymore. Please replace someone for me. I have to go home and take a rest" (Study participant from the Republic of Korea)

Similarly, heavy workloads and working weeks exceeding 48 hours a week (as in the case of the typical 55 weekly working hours in some South African health care facilities) have been identified as a cause of high levels of fatigue and health problems among health care workers. Moreover, financial penalties related to absenteeism also harm workers' well-being and performance, since they are being required to fulfil their tasks without considering their physical and mental capabilities to achieve them.

Specific attention has to be given to the astonishingly excessive working hours performed by medical residents, in order to understand the detrimental effects on their health and well-being. As part of their learning process, medical residents from the three countries are requested to perform longer shifts and on-call work that is frequently combined with overtime hours, in order to fill staff shortages and supplement their low incomes. Hence, weekly working hours in Brazil for medical residents total an astonishing 108-120 hours, and between 80 and 88 weekly working hours in South Africa (with overtime hours up to a maximum of 160 monthly hours), including 12-hour shifts, and weekend work.

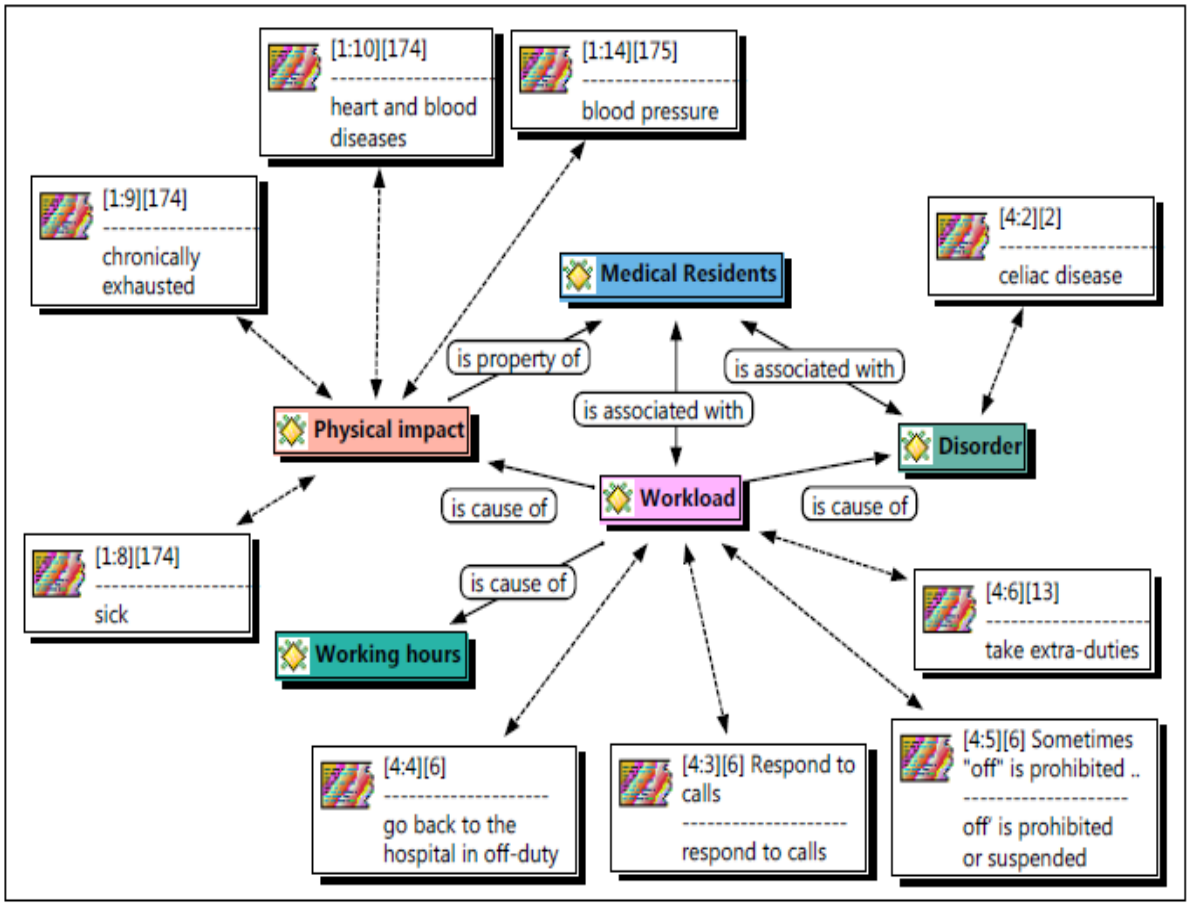
"As a resident I work 60h a week here and 20h more on weekends, as well as night shifts at another private hospital. It is really tiresome, especially for residents" (Study participant from Brazil)

The Korean Intern-Resident Association has reported more than 100 weekly working hours for this professional category, a figure that has been accepted by the Ministry of Health and Welfare and the Korean Hospital Association. These working hours are combined with difficult working conditions, such as the example below:

"One resident broke her ankle bone by accident. In such a condition, it's not easy to properly work as an anaesthesiologist. But she tried to continue her job in an operation room; for three days, she conducted mask ventilation in a sitting position or did an intubation procedure standing by one leg. One day, a professor watched her weeping alone in pain, and then he allowed her sick leave." (Study participant from Korea)

The following Figure 7 presents the main health effects reported by these workers, which are closely connected with high levels of fatigue and physical disorders.

Figure 7. Health effects of working hours on medical residents



Source: Developed by authors based on findings from the Korean country case study (Atlas-ti Software).

In the case of the Republic of Korea, it should be noted that workload-related barriers in the access to sick leaves and time off work reinforce this health deterioration—which can seriously harm workers' well-being, especially in the case of medical residents. As voiced by study participants, difficult access to sick leave and maternity leave has been associated with adverse working conditions for this professional category. One medical resident stated the following:

"An R3 (medical resident) could not get sick leave when he got an operation for his tuberculosis lymphadenitis under the general anaesthesia. He had to continue his work with a bandage on his neck. In another hospital, an R1 (medical resident) who had been admitted for pneumonia issued a discharge order for herself two days later. She could not take a rest lying on a bed because she grasped the uneasy feeling of other residents."(Study participant from Korea)

As was voiced repeatedly by medical residents across different facilities and countries, the excessive working hours and stressful working conditions faced by these workers hinder their rest, sleep, and nutrition. For instance, the survey conducted by KIRA in 2013 found that 71.4 per cent of respondents with less than 6 hours of rest a day reported that their lack of rest increased their fatigue and harmed their capability to respond to their duties. This finding is confirmed by statements from study participants from the Republic of Korea, such as the following one:

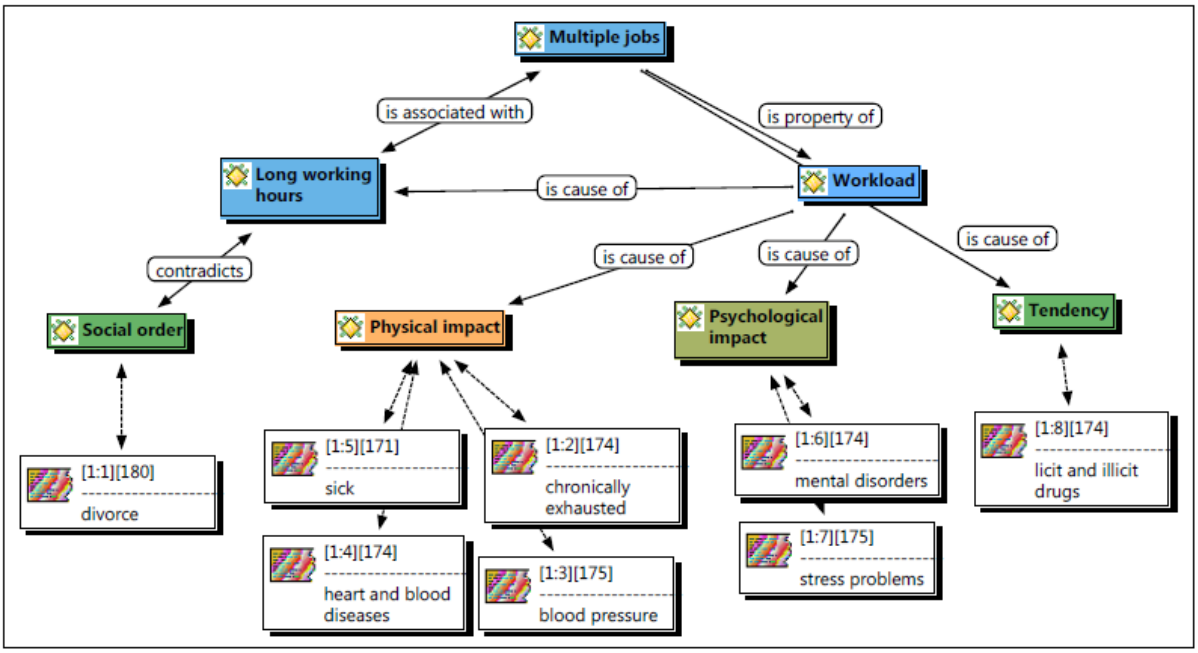
"After a harsh night-duty, I feel I make decision more slowly. In a state of apathy, I don't understand what other people are saying, and I perceive that my motion is growing sluggish. It's usual to miss the phone calls, while sleeping for 30 min to one hour." (Study participant from Korea).

With reference to the health effects of specific working time arrangements, studies conducted in Brazil have identified a connection between double work shifts and more than 10 daily working hours with so-called "psychiatric symptoms" of health care personnel, especially women (Fernandes, 2005). This evidence is supported by findings from the international literature highlighting the negative mental health outcomes for workers operating on extended shifts and overtime hours in highly demanding workplaces (Tucker and Folkard, 2012). The inappropriate use of compressed working weeks of long-hour shifts, such as 12-hour working time schemes extended with overtime work, as in the case of South Africa, has been identified as a cause for sleepiness and fatigue in working environments with high workloads, inadequate staff resources, insufficient rest breaks or extended commuting times (Tucker and Folkard, 2012).

Such negative health effects have also been voiced by Brazilian health care workers who report overwork-related health problems. As study participants reported, colleagues with certified health problems such as psychological and physical diseases are largely those who are employed in multiple jobs. As a consequence, 12-hour night shifts followed by 36 consecutive hours of time off—when that "time off" is used to perform a second job—is evidenced as a prevalent situation for decreased alertness, increased sleep complaints, and a range of health problems.

The following figure, Figure 8, provides qualitative evidence of this situation in Brazil:

Figure 8. Overwork-related health problems caused by the performance of multiple jobs in Brazil



Source: Developed by authors based on findings from the Brazilian country case study (Atlas-ti Software).

Night-shift workers also report psychological problems and increased fatigue, mainly due to the disruption of Circadian rhythms and resulting sleep problems.

"I feel sunk and depressed…. Sometimes, I fall asleep with skipping my dinner and then I used to have binge eating in the next morning. In addition, I feel difficulty in dealing with anger. I get nervous even with trivial things and keen to external stimulus, and think everything in a negative way… When I told to my seniors that my personality seemed to be changing, they said that it's a natural consequence of night work." (Study participant from Korea)

Female workers attributed menstrual irregularities and pregnancy difficulties to their excessive working hours and exhausting working conditions, especially at night. Moreover, both the national literature reviews and qualitative data from South Africa and the Republic of Korea highlight health disruptions and sleep problems among nightshift workers and physicians working in emergency centres, due to the insufficient number of auxiliary staff and lack of specific designated rest areas—which increases fatigue and stress levels. As was voiced by study participants:

"With night shift the world is upside down and there is often too much noise to sleep. It takes a long period to adapt to sleeping in the day. Many of us only fall asleep for a few hours and are then very tired when we get to work. Part of the tiredness has got to do with our very heavy workload every time we are at work" (Study participant from South Africa)

"At first, I liked the night shift because I could enjoy late-morning sleeping. However, I realized that, I slept more compared to day-shifts, but felt more fatigue… finally, I began to suffer from insomnia. Sometimes I try to get asleep at midnight but have to stay alert till 5AM, seeing the sun rise."(Study participant from Korea)

7.2. Work-life balance, including work and family reconciliation

"*He lives at the hospital and takes shifts at home*" (Study participant from Brazil)

Working time arrangements can hinder workers' personal lives, including their family responsibilities, especially for those who are working night shifts, during weekends, or holding multiple jobs. All health care professionals from the three assessed countries described difficulties in balancing their work schedules with their social and family responsibilities. Working time arrangements currently in practice in the health care institutions studied worsen workers' rest and personal life to the extent of *"not having time for anything: neither family, nor health"* (Study participant from Brazil).[26] South African and Korean health care personnel, especially nurses, have also described difficulties in harmonizing their working hours with their family responsibilities and leisure time.

"I had to re-new my driver license in three months. But the office opens only weekdays, even not on Saturday. The allowed three months didn't fall on my summer vacation. So, I had to pass the deadline and barely got a renewed license with paying a penalty fine." (Study participant from Korea)

[26] As Brazilian Trade Unions reported, health care professionals are often away from their homes for 16-17 hours per day due to commuting time and the performance of more than one job.

Despite the fact that some personnel have voiced their preference to be on night duty, the vast majority of nurses reported that they preferred to remain on day shifts, in order to better balance their paid work and personal life. Nonetheless, the excessive and unpredictable workload constrains the daily balance of work with personal life, including family responsibilities. Moreover, the reported impossibility for some South African nurses to request part-time contracts after childbirth and the general inflexibility to arrange working time schemes in line with family and leisure leads to a reported negative impact on family responsibilities, causing some female professionals to delay pregnancy until reaching an upper level position in their careers—especially in the case of medical practitioners. In the specific case of Brazil, excessive working hours and the choice to hold multiple jobs results in short periods of time that workers are able to spend at home (as voiced in the quote at the beginning of this chapter). Formal long-shifts also hinder Korean workers' work-life balance, due to the regular combination of such shifts with overtime work:

"*If I don't attend the meeting (with friends) once or twice, they just stop inviting me thereafter. I've spent traditional holidays with my family just four times since I was hired by this hospital (17 years of tenure). Getting 'off' at such holidays is a good luck."(*Study participant from the Republic of Korea*)*

The above situation is particularly relevant in the case of junior professionals, who describe the acute difficulty for this professional category to balance work with family responsibilities, especially due to quick returns and potential requests to respond to calls while being off-duty:

"… finally, the professor decided to do a c-section for my wife. However, at that time, I was making the rounds in wards and could not answer the phone from my wife. When I arrived at the operation room, my wife already had suffered too much pain waiting for me… I was not ready to greet our baby. I just dropped by on the way and saw my baby while carrying other patients' charts. Then, I realized that other husbands next to me were recording all the details with a camcorder. They were taking so many photos as if it's a kind of special festival. I was really depressed." (Study participant from Korea)

"*While working as an intern or a resident, all social relationships are disrupted. It is very hard for me to realize that I become socially disabled and fall away from friends*" (Study participant from the Republic of Korea)

Other than that, factors such as long commuting distances to the workplace, inadequate transportation and a deficit of child care facilities worsen employees' chances of balancing paid work with family and social life.

Inadequate public transportation is highly relevant in the case of South Africa. Despite the fact that the *Basic Conditions of Employment Act* mandates transportation for workers, especially for those working on night shifts, respondents still complain of insufficient and non-guaranteed resources to provide an adequate transport service. As a result, long distances to the workplace combined with long working hours result in reduced time for social and family life, which is voiced as deteriorating chances for children to receive education and life orientation from their parents.

We leave when it's dark, and arrive home when it's dark (…) You do not grow up with your child (…) Our children may end up with no values." (Study participant from South Africa).

Everybody is tired and is complaining about transport. How can we get up at 04h00 to be on duty at 07h00 (and) then by the end of the day, by the time you get home, it is after 20h30? There is no time for nothing. Then when you come to work the next day you are exhausted. How can we give proper care to our patients when we have nothing left to give? Where is the work-life balance you asked about and where are our families?" (Study participant from South Africa)

Only a small number of health care institutions offer the possibility for employees who live in distant areas to sign a contract with different working time arrangements to better balance paid work with family and social life, such as a 07h00-18h00 shift.

Lack of child care facilities, insufficient breast-feeding locations and the limited access to maternity leave were also voiced as being problematic for balancing work with family responsibilities for female study participants in Brazil and South Africa:

"*It is difficult to find a day care centre that accepts children very early in the morning, when she starts working. She tries to reconcile working with the hours of the day care centre*" (Study participant from Brazil)

"Nurses on the 07.00 am shift have to get up before the dawn and schedule a meeting with a family member or someone hired to leave the children on their way to the workplace. These arrangements constrict workers' flexibility to perform specific working time schemes and long working hours, especially 12-hour shifts, since they have to leave their job earlier to attend [to] their family responsibilities" (Study participant from South Africa)

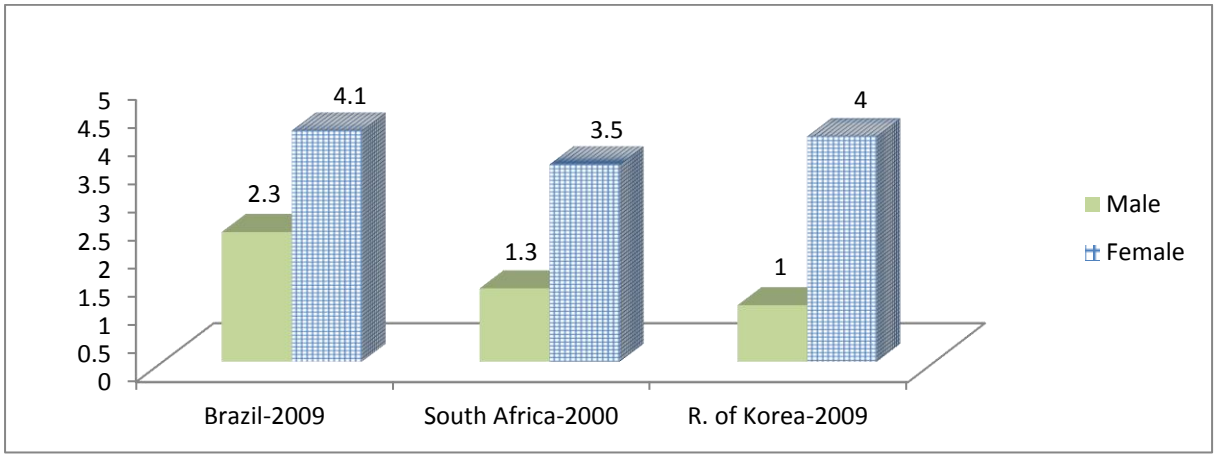
Within these environments, appropriate managerial decisions aiming at improving work-life balance are fundamental in terms of workers' physical, mental and emotional well-being, and both individual and organizational performance.

7.3. A gender impact within the health care sector

Regardless of the lengthy working hours performed by men at the workplace, women continue to be engaged in longer total working hours of paid and unpaid work due to their responsibility for performing unpaid housework and child care (ILO, 2011). The case studies from the three countries highlight the social expectation for female health care workers to perform household tasks, since these are still generally considered to be women's duties. For instance, conclusions from the Brazilian literature review show that there is no relationship between women's entrance into the labour market and their responsibilities for performing housework, which remain essentially unchanged (Soares, et al., 2007). The main reason lies in the continuing rationale of the "male breadwinner" household, which defines women's role in the execution of housework (Fontoura, et al., 2010). Similarly, findings from the Korean Time Use Survey (2004) indicated that 49.2 per cent of male respondents agreed with the statement "*men are supposed to earn money, whereas women are supposed to take care of their household*".

This scenario has led female health care workers to perform paid jobs plus the added mental and physical responsibility of unpaid housework. The Time Use Survey in Brazil found 86.3 per cent of females and 52.1 per cent of males undertaking household work in 2009, whereas in the same year 92 per cent to 95 per cent of women and 50.9 per cent of men performed the same tasks in the Republic of Korea. Findings from the National Time Use Surveys in the three assessed countries concerning the time spent in performing household work are summarized in the following graphic, which shows that women typically perform between two and four times as much housework as men:

Graphic 2. Time spent in household work per day, by country and sex (in hours)



Source: Developed by authors with data from the Official Time Use Surveys from the three assessed countries.

The combination of gender inequality and inadequate working time arrangements has resulted in a severe work overload on women in the health services sector that affects them physically, psychologically and emotionally. As voiced by a study participant from Brazil:

"*She has to think of her performance at work, of her son/daughter, of the other job, so you feel at deficit in your current job. And you stay longer at the hospital than at home*".

In addition, the literature review provides evidence of the negative effects of the amount of time spent on housework on women's well-being. For example, the 2005 Fourth European Working Conditions Survey showed the negative work-related effects on employed mothers completing at least two hours of housework or child care a day (Fagan et al., 2012). As a result, female health service workers can be considered to be a group suffering from a chronic work overload and a chronic lack of time.

7.4. Occupational health and workplace safety

Daily exposure to inadequate and even dangerous working conditions constitutes another risk for workers' health and workplace safety. In general, Brazilian country study participants reported exposure to radiation and toxic chemicals, deficient ventilation, and a lack of potable water and disinfection facilities. This lack of proper technical equipment to treat patients is also combined in some cases with highly risky working conditions, in which lack of security, threats, assaults, and even robbery and kidnapping have resulted in professionals' absenteeism.

"Our patients are dangerous; sometimes you have in the same place the victim and the aggressor. We had once a nurse that had to change her shift, dye her hair, everything because she was threatened. Sometimes you have patients that have an escort. It is difficult to manage risks in health care provision. These situations increase the chance of mistakes" (Study participant from Brazil)

Despite the current legal advice on the *Working Environment and Performance of Safety-Critical Tasks* included in the South African *Code of Good Practice on the Arrangement of Working Time*, health care workers in this country still face substantial challenges in performing their duties in an entirely healthy and safe workplace. In a

context of high rates of HIV/AIDs and Tuberculosis, there is a reported lack of adequate materials to provide safe health care services, with high infection risks for workers via needle stick injuries or cuts. Similarly, the Korean country case study identifies significant worker exposure to health risks, including infections and other physical dangers (e.g., X-ray exposure, lifting patients, etc.) Moreover, staff shortages have led staffing agencies to provide false information about their workers' technical knowledge of infection and safety controls, in order to obtain contracts with health care facilities. Staff shortages have also driven nurses to multi-task in specific areas where lack of technical knowledge and specific training increase the chances of medical errors and the risks to patients' safety. This exposure is deepened by initiatives related to the inclusion of less qualified personnel within health care facilities, such as home care workers who may be requested to perform specific tasks without adequate additional training.

In addition, lack of security for workers while commuting to and from the workplace has been highlighted as a major risk for workers' safety, especially for night-shift employees. In general, health care personnel suffer from high rates of robbery and physical violence while commuting to and from the workplace. For instance, Brazilian nurses commonly commute alone, which increases the chances of robbery from gangsters. As voiced by one study participant: "*the uniforms put us at risk. That white dress shows we have money on certain days*" (study participant from Brazil). The same situation applies to South African health care workers, whose exposure increases due to high rates of sexual assaults, especially at night. A similar situation also applies to Korean female health care workers, whose reported extended hours into the late evening and night increase their risks while commuting from the workplace—to the extent that some hospitals even reimburse taxi fares and check on the status of nurses through the use of electronic devices. This situation has been reported as enormously challenging in terms of shift-work schemes, especially at night.

7.5. Effects of working hours and working time arrangements on individual and organizational performance in the health services sector

7.5.1. Definition of "performance" and "productivity" in the health services sector

Whereas *productivity* is narrowly defined as the arithmetic ratio between the volume measure of output and the volume measure of inputs used (see e.g. OECD, 2001), the concept of *performance* is broader and includes a wider range of factors that contribute to achieving individual and organizational goals. A comprehensive definition states that performance is the execution of activities and the achievement of results (WHO, 1994) through professional competences based on knowledge, technologies and resources (WHO, 2003). Thus, performance within health care systems is closely related to the idea of having a "capable workforce within healthy and productive workplaces" (Lowe, 2012; 30). Scholars conceive of health care organizational performance as the combination of multiple variables, in which the nature of tasks, staff ability, expectations, motivation, working conditions, and management are prominently highlighted as major contributors to performance achievement (Kumar, R, et al. 2011). Moreover, health care institutions are thought to achieve a high-level of performance by developing activities and results that are effectively integrated in a vertical dimension i.e., alignment with the national health care policy framework; a horizontal dimension i.e. intersectorial work between various health services components, such as other health promotion institutions, accident

prevention, etc.; and an internal dimension i.e., maximization of available operational resources within the institution (WHO, 1994).

In 2003 the WHO Hospital Advisory Group agreed on a concept of performance based on the way that institutions define and achieve goals among different stakeholders (patients, relatives, health care staff, health care community, and the health care system). The following table presents the theoretical model for a high-level of performance within public health care organizations.

Determinants of organizational performance	Concept
Clinical effectiveness	Conformity and appropriateness of processes of health care, including medical knowledge, in order to provide appropriate patients' care and response to patients' needs (WHO, 2007). Measurements can be done through **ratios of patients' health or timely and appropriate care**.
Patient-centeredness	Health service provision oriented to the needs and expectations of patients, family and caregivers (WHO, 2007). Levels of patients' satisfaction are used to measure sub-dimensions such as **respect for patients or the appropriateness of care.**
Staff orientation	Qualified staff working in a supportive environment that includes initiatives on enhancing the working environment and working conditions, identification of individual needs and promotion of safety and workers' satisfaction (WHO, 2007). Staff t**urnover, absenteeism, workload and employees' satisfaction** can be used as indicators for its measurement.
Safety	Patients, staff and environmental safety through the application of structures and processes to prevent and minimize risks (WHO, 2007). Measurements can be done through **ratios of patient and staff safety**.
Responsive governance	Extent of the organization's relationship with community health care needs and demands without barriers to users' accessibility to health care provision (WHO, 2007). **Community integration** of the health care institution and the **application of a public health orientation** can measure the vertical and horizontal integration of the institution.
Efficiency	Optimal use of available resources to achieve appropriateness of health care interventions and patients' care (WHO, 2007) by means of a careful use of resources and professional standards (WHO, 1994), staffing ratios and financial management (WHO, 2004). The empirical approach has been limited in practice to measures of **ratios of inputs related to outputs of care**.

Individual performance can be inferred from the aforementioned dimensions, since the way in which an organization defines and implements performance goals impacts on the extent of employees' engagement with their duties. Deficient individual performance is not only related to shortages of qualified staff, but also includes other variables such as personal life style factors (individual level); working conditions-related factors, management activities, and workplace safety (health care facility level); and health care system-level elements (e.g. policies, regulations and planning) (WHO, 2006). Variables such as inadequate work-life balance arrangements, inappropriate working environments, inadequate workplace safety, improper health care provision, and health care services that are unresponsive to users and community needs (Dieleman et al., 2006) diminish employees' motivation and result in a fragile staff engagement with the organization that impacts negatively on both individual and organizational performance.

7.5.2. Effects of the organization of working time on individual and organizational performance in the health services sector

Intensive work schedules combined with staff shortages and lack of adequate material and infrastructure result in negative effects on workers' motivation and satisfaction, ultimately decreasing levels of both individual and organizational performance. This chapter synthesizes insights from the study participants concerning their perceptions of the key effects of working time arrangements on both individual and organizational performance.

7.5.3. Patients' health and safety

Scholars have identified a correlation between the deterioration of health care workers' well-being and how this impacts on patients' safety (see e.g., Dorrian, 2006; Erasmus, 2012). Excessive workloads, overtime, stress and work-life conflicts reduce workers' physical and psychological wellness and lead to poorer individual performance, which in turn increases risks for patients' safety. In addition, scholars have identified a positive correlation between so-called non-standard or "unsocial" hours and substandard patient outcomes at night and on weekends compared to those achieved during weekdays (see e.g. Cordova, 2012). Staff shortages are also a key factor in reducing workers' health care responsiveness, which thus increases chances of medical errors and risks to patients' health and safety.

Health care workers from Brazil have reported organizational performance levels measured by the amount of procedures executed, especially for Intensive Care Unit employees and physicians, who voiced the demand to assist a patient within the prescribed standard performance time of 8 minutes. Similarly, extensive shift work for specific professional categories, such as the 24-hour shift of care aides, results in a reported increase of stress levels and chances of medical errors.

"In health care, professionals cannot work under pressure. They make mistakes. And a mistake can be lethal" (Study participant from Brazil).

In addition to the above, shortfalls of qualified personnel in South Africa and the need to perform particular tasks without proper technical knowledge and training is also perceived by workers as highly dangerous in terms of patients' health and safety. Moreover, the practice of staffing agencies avoiding being held responsible for workers' injuries and illnesses acquired at the workplace, as reported in the South Africa study, causes staff to be responsible for receiving and paying for medical care on their own, which in turn leads to a lack of proper treatment and an increased exposure to hazards risking both workers' and patients' health, safety, and well-being.

Study participants from the Republic of Korea perceive an association between staff shortages and an increased risk of medical errors that are mainly attributable to excessive workloads, especially in the case of Intensive Care Units (ICUs). For instance, excessive workloads assigned to medical residents result in sleep disruption, stress and fatigue that leads to an increased likelihood of medical errors. The vast majority of study participants have voiced their experiences concerning medical errors at night or when operating in a state of sleep deprivation, such as the following examples:

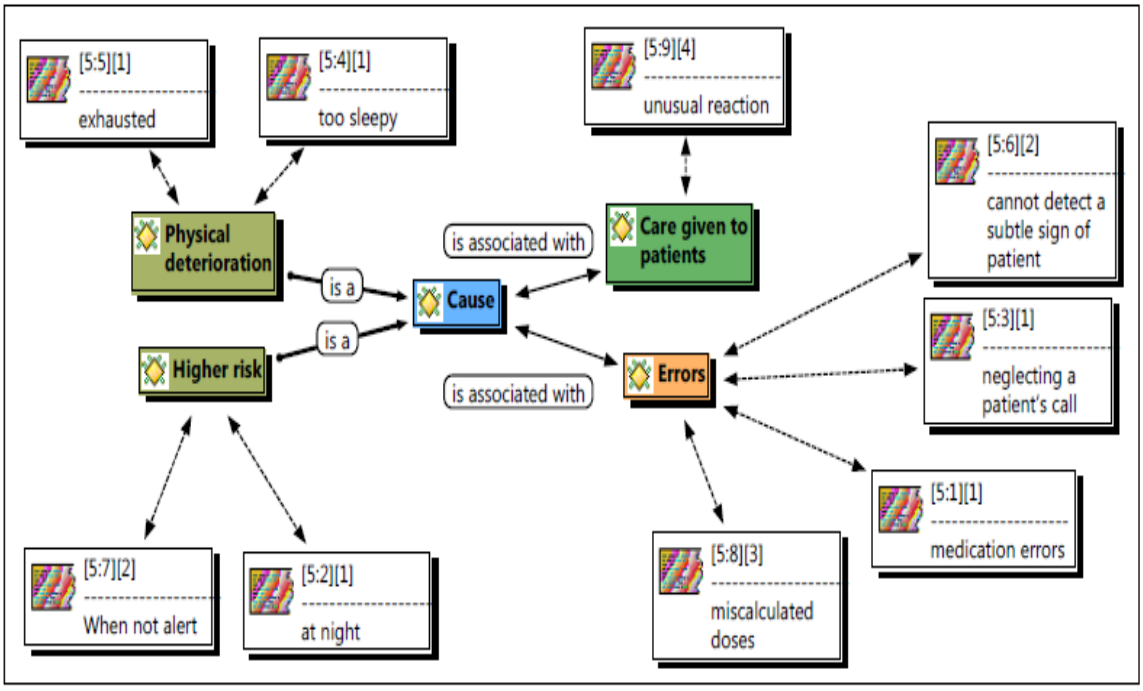
"After a harsh night-duty, I feel I make decision more slowly. In a state of apathy, I don't understand what other people are saying, and I perceive that my motion is growing sluggish. It's usual to miss the phone calls, while sleeping for 30 min to one hour." (Study participant from Korea)

"When not alert, we cannot detect a subtle sign of patients. Then, if lucky, nothing happens. But a serious accident can happen, with a bad luck." (Study participant from Korea)

Health workers themselves have recognized that the lack of health surveillance systems for themselves is a major contributor to the increased risks of negative effects on patients' health and safety.

Figure 9 below presents patterns identified through the qualitative analysis that support the major conclusions presented in this chapter.

Figure 9. Patients' health and safety



Source: Developed by authors based on findings from the three country case studies (Atlas-ti Software).

7.5.4. User/patient satisfaction

Concerning the Brazilian scenario, study participants have reported different levels of user/patient satisfaction in the public and the private health sectors. Whereas patients from the public sector don't usually question the services provided by medical practitioners, patients from the private sector tend to be more demanding with their complaints to the health care facility, especially concerning medical procedures. Hence, health care workers, in particular those in private health organizations, perform their tasks while managing the voiced "dissatisfaction of the user"—even suffering in some situations from verbal and physical violence.

"*Stressed patients that want to tell us how to do our job...(...) They want us to pinch them here or there, not to pinch them here, etc. It is a differentiated public. In a public hospital the patient doesn't question, but here they are more demanding*" (Study participant from Brazil)

Staff shortages are also a key factor in explaining lower satisfaction of users/patients with health care services. Moreover, as voiced by public health care workers, employees'

absences due to illnesses and periods of leave result in an increased workload per employee that affects the care provided to patients, which frequently leads to patients' complaints about long waiting times in order to obtain medical care.

"*Sometimes they come, see that they have to wait or that things are late and then they think we are guilty of it. Then they say they pay taxes and that they want assistance as high as the taxes they pay"* (Study participant from Brazil).

As reported by one respondent from a health care institution in South Africa:

"It profoundly affects the care we give the patients who will ask where we are and why their medicine is taking so long to come. We will try to explain that we are short staffed, but sick people need greater care than we can give. It is not fair to the patients that we are short staffed."

Study participants from the Republic of Korea have also highlighted the negative effects of staff shortages to both patients' and employees' satisfaction. As described in Chapter 4, one of the main characteristics of the Korean health care system is the enduring shortage of qualified personnel that affects 24/7 continuous operations. In this context, views from study participants in managerial positions describe the adaptation of working time arrangements to achieve health care provision that enhances patients' satisfaction. Specifically, long-shift operations are arranged in order to guarantee continuous service on weekends and at nights, as well as to reduce the time spent on shift handovers, hence contributing to a continuous functioning of health service operations.

"*Well, patient safety is the top priority in hospital accountability. So, all the things are focused on that issue. Working time arrangements are also managed to meet such demands. Hence, it is unlikely that the (patient safety) level could vary according to the working time arrangements*" (Study participant from the Republic of Korea)

Regardless of this fact, study participants have voiced patients' complaints when they're not treated respectfully. This situation leads many patients to choose health care services from university hospitals instead of small facilities, since they feel that the former's medical personnel are nice and responsive. Some workers argued that many patients have a clear understanding of the effect of working conditions on the medical services they receive:

"All of them are too weary, and too busy. So, nurses always say the same - 'please, wait a minute'- and it's very difficult to see a doctor's face."(Study participant from Korea)

7.5.5. Employees' satisfaction

Conclusions from a range of research studies (see e.g. Tucker and Folkard, 2012) have identified inadequate working conditions, stressful working environments, poor organizational climate and low salaries as accurate predictors of workers' satisfaction and performance, and these findings are confirmed by insights from the three country case studies.

For example, findings from Brazil link stressful and highly demanding working conditions with intensive working time arrangements in order to compensate for colleagues' absences, such as double-shift operations followed by quick returns. Health care workers' representatives have made public their difficulties to concentrate and coordinate their tasks within such work environments. As reported, stress, lack of

materials, inadequate infrastructure, excessive numbers of patients to assist, absenteeism, and occasional lack of respect from patients and colleagues have repercussions on workers' ability to perform their tasks effectively. "*What professionals don't appreciate is being undervalued and not having recognition of their job and dedication*" (Study participant from Brazil). Thus, this situation has a negative effect on employees' satisfaction and performance, which is subsequently linked with lower levels of both patients' and workers' safety as well as poorer organizational performance.

Likewise, poor working conditions, low salaries, inadequate equipment, lack of safety, and lack of respect for health care workers have contributed to overall dissatisfaction amongst South African public sector health care workers. An intense emigration of medical staff to more developed countries, and movements from public to private health care institutions were reported as a common practice in the health care system. Conclusions from the international literature review (ILO, 2013) highlight the higher satisfaction of those nurses working in urbanized provinces in South Africa, compared with nurses working in rural provinces. Furthermore, public sector nurses have been highlighted being less satisfied than those in the private sector (Pillay, 2009).

Scholars have also raised inadequate incentive systems as a cause of the deterioration in both employee satisfaction and performance levels, since workers are affected by such practices both personally and economically (see e.g., Tucker and Folkard, 2012).

"Every hospital has its own incentive system. Professors work for that, and they don't care about us residents." (Study participant from Korea)

Insights from health care workers from both South Africa and the Republic of Korea have identified a general trend towards extended, unpaid working hours in order to guarantee shift handovers—which can lead to diminished worker motivation. As voiced by one study participant:

"(They say) 8-hour shift, but one shift usually runs for more than 8 hours, even 10 hours. What is worse, we're not paid for such overtime work." (Study participant from the Republic of Korea)

7.5.6. Workload levels and their effects in health care institutions

Study participants from Brazilian health care institutions attribute high workload levels to the so-called "systematic incorrect proportioning of the professional staff needed". More specifically, workers have complained about requests to perform overtime hours due to the inadequate size of the staff for achieving organizational goals, especially in the private sector. These effects tend to be increased by the large number of patients to assist, as well as the reportedly inadequate infrastructure and equipment. "*Working time in the public sector is better than in the private, because in the private the worker is sucked, is forced to work 12 to 14 hours non-stop, and it is more difficult for us to keep an eye on that*" (Study participant from Brazil).

The quote: *"Their bodies are here but their minds are not"* (study participant from South Africa) captures the general effects of the excessive working hours and other conditions of work in which health care workers operate in South African health care institutions. The rapid growth of the population, linked with shortages of qualified personnel, high levels of staff turnover, absenteeism, and often dysfunctional management result in an excessive workload for health care workers: "*part of the tiredness has got to do with our very heavy workload every time we are at work*" (Study

participant from South Africa). Studies have reported an overall nurse/patient ratio of 1:18, which tends to increase at the beginning and end of work-shifts for those workers commuting to work by their own transport, since the remaining worker tends to end their shifts earlier due to the inadequate public transportation (Joubert, 2009). Workload is also increased by managerial requests for employees to undertake both colleagues' work during their absence, as well as non-clinical responsibilities due to the lack of qualified personnel or specific supervision of non-qualified personnel such as trainees, community-care workers, and personnel agency employees. Workers' absenteeism and insufficient staff to fill in for employees on leave increase individuals' workload and stress, by compelling staff to multitask in order to guarantee operations in an environment of significant patient load.

"*Nurses need to multi-task all the time because we face the patients. We do the work of pharmacists, of messengers, of midwifes, of counsellors or porters all in one day. Even though some of us have never been trained to do the work of midwives, we may be required to monitor the machine that monitors the baby's heart. This happens because we are short of staff*." (Study participant from South Africa)

In addition, nursing professionals report being on duty beyond their formal work schedule due to the need to attend to community members, since the social service aspect of this profession still remains highly relevant within South African culture. This high social expectation among nurses intensifies their overall workload.

"Community members go to nurses for advice (...) Being 'on duty' where does it start, does it apply on the way to work? If you are in a uniform then you need to assist with accidents on the road." (Study participant from South Africa)

The rapid growth in the number of health care users of the Korean health care system was also identified as a major cause of the staff's excessive workload (Jones, 2010). Demands for health care provision have extended working hours, especially in metropolitan areas and health care facilities with a reduced workforce. Study participants (mainly nurses) have voiced the need to perform overtime work in order to complete medical procedures. Sudden sick leaves and workers' absences that commonly occur in Korean health care facilities also increase employees' workload, as they attempt to provide a full provision of health care services with fewer staff:

"When I was an acting RN in the ICU, I really hated to hear 'Don't come today' on the cell-phone while going to the hospital... one day I just kept going to the hospital, ignoring the order. Then my boss came to me and advised that I always have to keep in my mind at least 4 wishes for unexpected 'emergency off'" (Study participant from Korea)

Additionally, workload levels normally increase in the late evening and at night, when the availability of backup teams is not sufficient to maintain the required performance levels. This reduced number of workers, particularly for specific work schedules, such as the evening shift, results in the requirement for day-shift workers to perform overtime in order to guarantee operations. As voiced by Korean nurses, there is a regular need for them to work 10 daily working hours plus approximately 3 overtime hours for those working in the evening shift.

"I know the case, one rural private hospital operates in 2-shift system, but even it's not kept well. Since they failed to recruit enough RNs, the majority of ward staff are nurse aides, not RNs. Sometimes they take double-shift, such as continuing day-evening without break – we call it 'long day shift'. Such shift continues to 10PM." (Study participant from the Republic of Korea)

Chapter 5 identified regular excessive working hours, based on extended work shifts and overtime hours in the Korean context. Moreover, long-term care workers are only entitled to a 4-hour sleeping break during night shifts. However, the frequent request to remain on duty to fill staff shortages results in an extension of their regular shifts. In addition, the almost limitless work schedule conceived for medical residents results in a substantial increase in the workload assigned to this professional category.

"*In order to increase (a medical professor's) incentives, [the] workload of residents cannot but become larger. In subtle ways, professors manage to adopt various methods to facilitate competition. Then… residents of that part have to face tough working conditions*." (Study participant from the Republic of Korea)

This heavy workload for medical residents results in a stated average of 100 working hours per week, according to the Korean country case study. First-year residents are requested to respond to calls even while being off-duty, which can be enforced by a managerial mandate imposing consecutive night shifts on residents as a penalty. Due to the managerial view that medical trainees need to overcome the so-called "ordeal" of residency in order to become a good physician, working conditions and working hours are excessively intensified for this professional category.

In addition, the workload for the health care staff overall is burdened by excessive diagnostic tests and exhaustive procedures ordered by physicians who operate within the so-called "system revenue" (fee for service system), which provides financial incentives for such practices. Moreover, the Korean management model in health care institutions has been transformed into a more strategic approach capable of facing challenging business environments. As voiced by managers, this rationale has influenced health care facilities to open outpatient clinics on Saturdays, in an attempt to face challenges from market and patients' demands.

"*There are patients' demands for outpatient clinic service on Saturday. Then we just sit and watched the other hospitals take them. It's unbearable… Then, our revenues decreased and the already existing financial strain aggravated, while other private hospitals work on Saturday. There was no choice but to open the clinic on Saturday with the consent of the trade union, although the Confederation did not allow that officially*." (Study participant from the Republic of Korea)

7.5.7. Absenteeism rates within health care institutions

Absenteeism has been identified as a common occurrence in the vast majority of health care institutions, especially in resource-poor areas (see e.g., Dieleman, 2006). Poor working conditions, combined with financial and staff shortfalls, results in excessive working hours that increase absenteeism and turnover rates. The Brazilian case study has been able to identify a link between high levels of sick leave and inadequate working time arrangements, work overload, and very unequal staff-patient ratios. These absences are fostered by workers' physical and psychological illnesses, particularly among those who hold multiple jobs (as previously described):

"*Most absences are for osteomuscular diseases and psychiatric disorders and these absences are more frequent in those professionals that have two jobs. Of course they are not going to come to us and say 'I am sick because I am working too much', but we can infer*" (Study participant from Brazil)

In the case of South Africa, the general pattern of overtime work negatively affects employees, such as increasing burnout, fatigue and stress that lead to sick leaves and high absenteeism rates, especially for nurses.

"*Our remuneration is below the breadline. Nurses work themselves to a standstill because they want more money. We can work 55 hours per week and get extra pay. This promotes absenteeism, as we get tired and burnt-out*" (Study participant from South Africa)

Difficulties in harmonizing work with family responsibilities, extended unpaid working hours to guarantee shift handovers, and the substantial financial penalties for workstation absences in a scenario of constraints to balanced working time arrangements, are key factors in the increased absenteeism levels in the South African scenario. These workers' significant exposure to HIV-AIDS and Tuberculosis also exacerbates absenteeism from health care facilities. From the management perspective, the difficulty to commute to the workplace and family responsibilities also increases workers' absenteeism from their normal duty stations before the end of their shifts, which increases patient load for workers who have their own means of transport (Joubert, 2009). As identified by the international literature review, there is a higher productivity level among those workers who spend less time commuting to work (Golden, 2012). It should be noted that doctors appear to be an exception, as they voiced their personal commitment to remaining at their duty stations, in order to avoid an increased workload for their colleagues.

7.5.8. Staff recruitment and turnover

High rates of turnover among medical staff can also impact negatively on overall organizational performance. Differences in working time arrangements and conditions of work result in differential treatment of certain professional categories, which increases staff migration between regions. This rationale was voiced by permanent staff from South African health care institutions, in which the impossibility of balancing work demands with family and social life results in high turnover rates from the public to the private sector or the exodus of health care workers to more developed countries.

As reported by the South African National Department of Health (2012), turnover rates of medical staff were notably high within the public health care sector. This situation is compounded by staff shortages and the limited range of qualified individuals available to hire, frequently combined with managerial responses to staff shortages that fail to consider staff needs and inputs. The literature review has shown this connection between employer-centred work schedules and a significant negative impact on employees, frequently leading to staff turnover (see e.g., Golden, 2012). For instance, data from South Africa identified an average 14.9 per cent turnover rate in the Western Cape Province for the year 2012—essentially by medical officers and specialists, as well as professional nurses—mainly due to difficulties in accessing reduced working time schemes after childbirth.

Similarly, findings from the Republic of Korea establish an annual turnover rate of 17 per cent in 2013 and an average tenure of registered nurses estimated at 5.7 years. The main reasons are the need to work at night, accompanied by the relatively low salaries assigned to this shift. Managers participating in the study also voiced that young workers have low motivation and a lack of patience to overcome work burdens.

Job satisfaction has also been identified as a key factor concerning staff turnover rates, which is closely connected to the lack of managerial strategies for worker retention,

inadequate working environments, funding shortfalls, and low incomes. For instance, poor working conditions in some Brazilian health care facilities have increased nursing professionals' dissatisfaction, illnesses and turnover among those workers not well-adapted to existing working time arrangements, resulting in a "brain-drain" from certain hospitals to health care institutions with lower workloads and better facilities.

8. Discussion of findings

8.1. Insights for the reorganization of working time in the health services sector

Improving the way that working time is structured can lead to a better reconciliation of workers' well-being with individual and organizational performance requirements, when inputs from all parties are integrated into the design of working time arrangements. Nonetheless, this goal entails efficient and consultative managerial decision-making that can guide the organization of 24/7 continuous operations, while enhancing workers' well-being and performance levels. With the objective of encouraging the organization of working time to be better adapted to both workers' needs and individual and organizational performance requirements, this chapter brings out the major findings emerging from the discussions with study participants that can provide guidance regarding how to design and implement "balanced" working time arrangements.

Findings from the country case studies indicate overall agreement concerning the need to reduce total weekly working hours across professional categories. For example, this objective is strongly advocated by health care professionals in Brazil, especially physicians and nurses who indicate their desire to reduce their weekly working hours to 44 and 30, respectively.

"*If I could, I'd like to have a smaller working time, be able to arrive a little bit later at the hospital, so I could have some time with my family. And have at least two afternoons free.*" (Study participant from Brazil)

Concerning specific working time arrangements, findings from the country case studies evidence a desire for a broader range of options linked with workers' preferences, depending upon the specific work environment and context where they live. Whereas some health care professionals would prefer to work shorter hours in fixed 4-hour to 6-hour shifts (as in the case of the Republic of Korea), others prefer working on longer shifts in order to, for example, be able to hold multiple jobs (as in the case of Brazil) or to have more days to attend to their personal responsibilities, including childcare (as in the case of South Africa).

Favouring flexible working time arrangements, such as compressed working weeks without overtime work and "time banking" schemes, has been shown to be beneficial for both employees and organizations within particular contexts. Such working time flexibility practices help to engage and retain personnel by enhancing workers' motivation and individual performance where workers positively value having such flexibility (see Golden, 2012, for a review of the recent literature on this topic). The primary reason remains the positive effects of workers' autonomy and control over their work schedules on improved well-being and a better work-life balance (see e.g., Fagan, et al., 2012). In addition, conclusions from the international literature review also evidence a positive correlation between psychological well-being and job satisfaction, especially when individuals experience lower levels of time-based work-life conflict.

Moreover, the effects of longer shifts on both individual and organizational performance have been demonstrated by the decrease in physical work-related symptoms and the negative correlation between job satisfaction and turnover intention (ILO, 2013). For instance, a study conducted among nursing professionals from health care institutions in Pretoria, South Africa, concluded that there was increased staff retention among those workers who worked a compressed working week of 12-hour shifts during three or four consecutive working days (Bhaga, 2010). Study participants voiced the following situation:

"*I reckon the 3-shift system could work better than the 12-hour system. It doesn't tax you so much. Even so I think they will stick to the 12-hours shifts. They know it and if they work longer, they are off longer, (but) they can't work for more than 12 hours*" (Study participant from South Africa)

Nevertheless, the success of flexible working time arrangements depends critically upon the ways in which the shifts are arranged (see e.g., Tucker and Folkard, 2012), in order to tackle the negative effects of longer hours caused by high workloads and the non-standard work schedules applied in health care institutions. Despite the fact that longer shifts are conceived of as an effective alternative to guarantee improved shift handovers, such shifts have also been correlated with increased negative effects on workers' well-being, acute fatigue and reduced performance levels, depending upon the distribution of work breaks and rest periods (Tucker, 2012); in particular, those shifts that deprive or disrupt sleep can increase medical errors, as evidenced in the three countries (see Chapter 7). In order to tackle these negative effects, an exemplary solution would be the following: forward shift rotation; the inclusion of napping on-shift in health facilities (especially during night shifts); and straightforward access to paid leave. Moreover, regulations regarding the number of consecutive night duties should be addressed in particular contexts. For example, study participants raised tackling the prevalent practice of performing fixed night shifts over a permanent period of six months to two years as a major step for to improving the Korean health care system. Well-designed work schedules that include rapidly (forward) rotating shifts lead to a lesser disruption of circadian rhythms (see e.g., Tucker and Folkard 2012)—which is highly relevant, especially in the case of night shift workers whose biological clocks are voiced by study participants as not being well-adapted to night work. A similar concern is given to strengthening regulations on minimum breaks and rest periods between work shifts, particularly in the cases of South Africa and the Republic of Korea.

Working time arrangements based on 8-hour shifts are preferred by some study participants, due to the perceived benefits in terms of both worker well-being and individual performance, especially in the case of the Republic of Korea. As study participants representing the labour force of Korean health care facilities stated, workers strongly disagree with adopting 12-hour shift schemes, anticipating the common managerial request in that country to further extend working hours (shift lengths should generally not be extended beyond 12 hours; see Tucker and Folkard, 2012). It should be noted, however, that the application of this work shift should observe the legal prohibition against extending overtime work over the threshold of 12 consecutive working hours—except for emergency situations. Additional reasons to adopt 8-hour shifts are closely connected to the positive perception of their facilitating work-life balance, while operating in a fixed working time arrangement—such as the classic 8-hour shift during 5 days a week adopted, for instance, by private sector nurses in South Africa. Closely connected with the above, the vast majority of study participants from this country voiced difficulty in adhering to rotating night shifts, due to a perceived permanent disruption of circadian rhythms and insufficient numbers of napping facilities at the workplace.

The inclusion of part-time work arrangements, such as job-sharing, or improved shift-structures with innovative practices, such as task-sharing and more flexibility for workers in their starting and ending times, can also enable health care facilities to reduce individual workloads, absenteeism, and staff turnover in the context of 24/7 continuous operations.

"In the UK they have found that job sharing affects training; they are struggling to train specialists as they don't get a lot of experience. So better working hours would mean longer training. I think within units you should be able to work for mornings and opt to have afternoons off. It's about a different way of thinking. It needs to be an attitude change. In the UK some people work a 5 – 11 shift or they work just nights. Not having a series of options is a problem. It's a combination of understaffing and just a way of thinking of it" (Study participant from South Africa)

It should also be noted that a human resources manager from a health care facility in South Africa voiced that part-time work arrangements are beneficial for workers' well-being (especially in the case of female workers) and also for improving organizational performance. This qualitative view is linked with findings from the country case study highlighting the mobility of female workers among health care facilities, due to the difficulties encountered in reducing their working hours after childbirth.

*"There is also no option for part-time work. I know 2 radiographers, who needed to sleep in for their on-call. They requested reduced hours and were told to leave; since then they have gone into the private sector" (*Study participant from South Africa*).*

Moreover, specific attention needs to be paid to female workers in the health services sector, for whom part-time work can provide a better work-life balance when equal treatment regarding working conditions, social protection and career development are ensured.

The need to design working time arrangements taking into consideration the structural determinants of health care institutions should be noted as well. As visualized by the qualitative analysis, fundamental factors can lead workers to a different preference in terms of how working time should be organized (see Chapter 6). For instance, the organization of working time using compressed working weeks in a context of long commuting distances, inadequate public transportation, and a lack of childcare facilities has been voiced as unsustainable in terms of both workers' well-being and organizational performance:

"*If travelling has to be for an hour or more, and some staff still have to prepare meals for the day, then leave an hour before to catch the transport, then the rest period is minimal. We don't recommend 12 hours. It's basically there for operational needs. They came up with it through the years. I am sure it can work*" (Study participant from South Africa)

Moreover, the actual benefits for both workers' well-being and individual and organizational performance are dependent on the specific characteristics in each health care institution. The diversity of employment contracts, resulting in different working conditions and working time arrangements and the unequal distribution of earnings among occupational statuses, lead to the negative effects of extended shifts. Moreover, longer shifts and more consecutive shifts are still predominantly performed by junior workers or those in lower status occupations—precisely those workers who have less control over their working time. This is particularly the case regarding the excessive workloads of junior doctors (medical residents and interns).

"We already know that the shift order of day-evening-night (=forward rotation) is more favourable; however, it's rare to keep such order or even the original schedule. Since it's important to guarantee that 'old' (=experienced) and 'young' (=inexperienced) nurses work together at night-duty, first of all, night-duty schedule is determined. Then the remaining duties are filled according to the situation, with less care for the order." (Study participant from Korea)

Therefore, the organization of working time in the health services sector—shift patterns, shift length, and the distribution in time of rest breaks during shifts and daily and weekly rest periods—should be structured to ensure adequate and equalized working conditions that help to decrease the health-impairing effects of longer work shifts and night work. These measures would help to avoid problematic situations such as the one voiced by a study participant from Korea:

"It's shameful to say this, but it's a real story. In my hospital, residents can take maternity leave for full 3 months. Then, the other residents in the same grade have to endure the burden. Well, when two residents in a unit became pregnant simultaneously, someone in the unit suggested an idea and all the members agreed on that. They re-arranged the duty schedule that one's maternity leave would not impose extra-duties to the others. It means that a pregnant resident has to take extra-duties, in equal amount of maternity leave, before her childbirth. It's very harsh."

Efficient management therefore implies taking into consideration structural determinants that have a direct impact on both workers' well-being and levels of individual and organizational performance. For instance, the significant percentage of female workers in all three countries' health care systems constitutes an added complexity in the reorganization of working time. Determinants such as housework, domestic responsibilities and childcare have to be addressed with measures aiming at an equal treatment of workers in terms of their conditions of work and social protection. Moreover, night shift work in environments with a limited availability of adequate transportation and napping rooms, as in the cases of South Africa and the Republic of Korea, has to be reorganized with careful consideration of the implications for all stakeholders.

"There are not enough places for residents in night duties. I had to sleep in a room with male residents, because there was no room females could use separately." (Study participant from Korea)

Nonetheless, improved working time arrangements will succeed only when the institutional capacity permits it, especially in the context of the health staff shortages existing in the three countries studied. A study participant from Brazil voiced addressing staffing as an urgent need for the health care system: "*hiring more workers and investment in the nursing category*". Increasing the numbers of qualified personnel would enable more days off, as well as the reduction of consecutive night shifts and excessive overtime—thus, tackling the negative effects on both workers' well-being and performance in situations such as the following one:

"The hospital blamed us that we took too much money for overtime allowances. Then the shift system was modified to subdivide day-shifts…. They proposed us to take additional offs instead of overtime allowances. I agreed at first…. However, I couldn't get 'off' when I wanted... (the change) justified the overtime work without extra-payment by the hospital." (Study participant from Korea)

Moreover, an adequate number of health care professionals would help to prevent the multi-tasking practices regularly performed across health care institutions in the three countries.

As a teacher I can make a mistake in one class, but get there the next day and correct the information I gave. In health care no, many times a mistake can be irreversible or lethal. So in health care you need to have prepared people, good environments that are what we want. We need to check that, also the wages, take better care of those that care for others". (Study participant from Brazil)

In addition, efficient managerial adjustments are essential to the overall optimisation of the organisation of working time. This means ensuring adherence to the daily working hour limits and the maximum overtime limits mandated by law, in order to restrain shift lengths and ensure adequate periods of rest between shifts. In addition, this also means observing the premium payments mandated by legal provisions concerning overtime work:

"Occasionally, I work for one hour more, before and after the official work time, Of course there's no overtime payment. However, my work record indicates 40 hours a week. We work on every Saturday, but get paid only for half of them" (Study participant from Korea)

Finally, the implementation and management of working time arrangements through participatory approaches results in increased chances of their success (see e.g., Tucker, 2006). Studies conducted across health care institutions have identified lower stress levels of medical staff who have some control over their working conditions than medical staff with a lower capability to decide on their working arrangements (ILO, 2013). For instance, workers from one of the assessed health care institutions in Brazil highlighted the perceived benefits of including a specific number of shift changes in their working time arrangements. In addition, nurses from South Africa positively valued the possibility to negotiate increasing their lunch break within their team to better fit their workload with their personal needs. Hence, broader initiatives towards enhancing individual performance need to be adopted by health care institutions, such as increasing flexibility for workers to arrange their working times to meet their personal needs. As voiced by a management participant from the South African country case study:

"Interpersonal care of the nurses is what makes the hospital care good or bad. You can train anyone to take blood pressure, but you need to listen to the challenges nurses have. You need to make the work environment good. I look after the nurses".

9. Conclusions

9.1. General conclusions

Overall, the major conclusion of the research is that certain key factors have to be taken into consideration in order to promote favourable outcomes concerning new approaches to the organisation of working time in the health services sector. For example, the findings and conclusions from the country case studies have identified the compelling need to increase the funding of the health care systems in all three countries; expand the existing health care facilities; and make essential structural improvements in those facilities. Similarly, there is a broad agreement concerning the need to tackle the endemic health staff shortages in all three countries, in order to improve the often-stressful

working conditions and alleviate overburdened working time arrangements. All of the above actions need to be combined with a respect for the national legislation regarding working time.

Another important conclusion is that favouring certain flexible working time arrangements, such as compressed working weeks without overtime work and "time banking" schemes, has been shown to be beneficial for both health employees and organizations within particular contexts. Nevertheless, as discussed in the previous chapter, the success of such flexible working time arrangements depends critically upon the ways in which the shifts are arranged (see e.g., Tucker and Folkard, 2012), in order to tackle the negative effects of longer hours caused by high workload and the non-standard work schedules specifically applied in health care institutions. Working time arrangements regularly fixed at 8-hours are also supported by some study participants, especially in the case of the Republic of Korea, due to the perceived benefits in terms of both well-being and individual performance. This is particularly the case where there is an expectation that normal working hours will be extended by overtime work (shift lengths should generally not extend beyond 12 hours; see Tucker and Folkard, 2012).

Work shifts that are better aligned with circadian (biological) rhythms, such as clockwise shift rotation, adequate minimum rest periods, and regular medical check-ups should be contained within the new structure of working time arrangements in health care organizations. Managerial training was also identified as a key determinant for more confident health managers who would be more capable of developing and implementing improved working time arrangements.

"For me to be able to organize better the working time we'd have to have more active managing, I don't feel capable in the managing sense. You have to have training to deal with others." (Study participant from Brazil)

Conclusions from the Brazilian country case study specifically suggested options for promoting "balanced" working time arrangements through various mechanisms. In line with the provisions of the ILO Night Work Convention, 1990 (No. 171), the new organization of working time has to include health and safety measures meant to tackle the adverse health effects of shift work on workers, especially those who are working on night shifts.

"When working time was increased [from 30 to 40h a week], workers started getting more sick. In the fourth or fifth year people reach a level in which they start getting sick for the complexity and stressful working times. (...) The number of professionals is declining, as the state doesn't have entrance exams to hire workers. But the demand is growing. So this growing demand causes stress and diseases for workers." (Study participant from Brazil)

A related conclusion is that the introduction of new alternatives to the organization of working time and related conditions of work is still perceived by workers as an initiative that primarily remains in the hands of governments.

"*There is room for improvement, but it will have to come from government. We cannot do it on our own from the grass roots up. Government must be proactive and do something to address the major staff shortages. They must open more colleges to reinstate the necessary training and boost the morale of nurses*" (Study participant from South Africa)

A final important conclusion, voiced by the vast majority of study participants across the three countries, is that shorter working hours could also improve workers'

health, personal life and leisure, hence improving both workers' satisfaction and individual and organizational performance. As reported by Brazilian health care workers and trade union representatives, various actions are being taken in that country in order to improve these workers' situation, such as initiatives towards reducing nurses' weekly working hours from 44 to 30.

"The 30-hour working time would come to improve working conditions and professionals' life, assuring more care and safety to patients. Assistance is the result of conjugating working conditions, worker's performance, disposition, concentration, competence, ability. The nurse is the coordinator of the nursing team, gives away functions according to the competence of each team member. The nurse needs time to coordinate, reason clinically, which s/he cannot do under stress, lack of materials, excess of patients." (Study participant from Brazil)

National studies from the Statistical and Economic Studies Department of Brazil estimated a low added cost of this measure for the government, which in contrast could impact positively on both workers' well-being and organizational performance. Nevertheless, further initiatives have to be taken by different stakeholders in order to design, implement and sustain alternative working time arrangements that are better aligned with workers' well-being, and which can also help to improve individual and organizational performance. In this context, researchers have concluded that there is a positive correlation between human resource practices to promote better work-life balance and sustained decreases in absenteeism rates (see e.g., Golden, 2012), which in turn should foster a better organization of working time.

9.2. Policy recommendations for promoting "balanced" working time arrangements

Improving the way that working time is structured can lead to a better reconciliation of workers' well-being with individual and organizational performance requirements, when inputs from all parties are integrated into the design of working time arrangements. As scholars have highlighted, the organization of shift work—including inputs at both individual and organizational levels—helps to maximize employees' control over shift structures (see e.g. Pisarski, et al., 2006), leading to improved psychological well-being and increased job satisfaction. Nonetheless, this goal entails efficient and consultative managerial decision-making that can successfully guide the organization of 24/7 continuous operations, while simultaneously enhancing workers' well-being and performance levels. With the objective of encouraging the organization of working time to be better adapted to both workers' needs and individual and organizational performance requirements, this chapter brings out some overall recommendations which emerge from the discussions with study participants that can provide guidance regarding how to design and implement "balanced" working time arrangements.

First, working time arrangements in the health services sector are heavily influenced by structural factors, including inadequate facilities and staff shortages that lead to excessive overtime, which in turn leads to health problems, burnout, etc. For example, investments in both improving the physical infrastructure and increasing the number of qualified staff (e.g. the *Mais Médicos* programme in Brazil) were identified as key structural factors in order to enable more balanced working time arrangements. Recommendations from the country case study in the Republic of Korea also address the need to meet the minimum-staffing standard established by the *Medical Care Act*. Also, the link between low salaries and multiple jobs indicates either the need for better

collective bargaining mechanisms or that many challenges cannot be solved from within the health sector, but rather need coherent national policies.

In South Africa, for example, the reported consequences of the high vacancy rates in the health care system require specific national policy initiatives,[27] and in response, the national government has been working on structural improvements to the health care system, such as increasing resources for health services provision in both the public and private sectors. Reducing staff shortages (especially increased staffing in rural communities, such as those in the Eastern Cape) will help facilitate the success of alternative working time arrangements, decreasing the disproportionate use of overtime work and the problematic demands for workers to remain on duty for more than 12 consecutive hours. This redefined scenario should encourage both managers and workers to apply the current guidance for better structuring working time arrangements through regulations such as the 1998 *Code of Good Practice on the Arrangement of Working Time*, which provides advice on how to structure working time arrangements to promote workers' well-being and personal life, including their family responsibilities. Further initiatives should also be considered, and the country case study specifically recommends infrastructure changes concerning the public transport system and childcare arrangements for each specific province, taking into consideration the social environments in which working time arrangements are functioning.

Initiatives to promote and facilitate collective bargaining in the health services sector are also being fostered to better define working time arrangements in both Brazil and South Africa. For example, the implementation of the Permanent National Negotiating Table of the Unified Health Service (*Mesa Nacional de Negociação Permantente do SUS*) in Brazil is expanding negotiations between workers' representatives and municipal and state governments in order to reduce working hours. Likewise, in South Africa, the 2012 Public Sector Bargaining Council's (PSBC) resolution on the *Re-arrangement of Working Time* establishes their mission to review working time schemes to provide a better provision of health care. Hence, the PSBC supports to conducting regular reviews of working time arrangements in the public health service, with a view to determining which service delivery areas require different working time arrangements. Both of these examples can be considered as good practices for promoting improvements in working time arrangements in the health services sector.

In addition, various measures need to be taken into consideration across health care facilities from the three countries. Major reported cross-cutting issues concerning patients' and workers' health and safety have to be tackled by improving systematic medical records of accidents, as well as installing upgraded mechanisms to deal with violence at work.

Second, there is a critical need for compliance with existing national working time laws and other legislation concerning certain issues in the health services sector. Clearly, measures to tackle working hours in the excess of the legal limit for weekly hours are needed, particularly in the Republic of Korea. Despite the fact that actual reported weekly working hours in Korea have decreased from an average of 47.4 hours to 44 hours since

[27] Findings from the country case study in South Africa highlight the government initiative to tackle this problem by means of the Human Resource Strategy and Policy Document for the Public Health for the Years 2012-2017.

the introduction of the five-day workweek, excessive working hours are still considered to be one of the main challenges within the health services sector. The permanent long working hours in this sector are closely related to regular staff shortages while implementing the five-day workweek initiative, which has been highlighted by study participants as an important reason for the increase in workload and the deterioration in working conditions (Korean Health and Medical Workers' Union, 2008). Therefore, actions to tackle this issue need to be fostered by the national government. In particular, active enforcement of the existing standards in the *Labour Standards Act* (LSA), especially with reference to working time and the minimum wage, has also been advocated by study participants as essential within the health care system reform. In addition, regardless of the fact that the *1987 Act on Equal Employment and Support for Work-Family Reconciliation* establishes a basic provision for balancing work and family, wider support should be given to extending the regulation of maternity leave to all professional categories, with a primary focus on medical residents.

In Brazil, innovative working time arrangements could benefit health service workers and organizations if limits on weekly working hours are tied to individual workers and not to the specific job performed. Reconsidering the legal treatment of normal weekly working hours per job would decrease the common current practice in the Brazilian health services sector of holding multiple jobs, and thus provide an overall sectoral framework within which improving working time arrangements in a specific health care organization could effectively result in increasing both workers' well-being and individual and organizational performance.

In South Africa, the ambitious initiatives described previously can only succeed in a truly unified scenario—one in which the government, health care institutions, employer and worker representatives, managers and staff work together in order to achieve a common approach on how to restructure the health care system. Special emphasis has to be given to reaching a unified legal interpretation of working hours, in order to guarantee a common framework in the organization of working time—especially with wider cooperation between the public and private sectors. Moreover, the organization of working time for staffing agency and community-care workers has to comply with national labour regulations, especially concerning the adherence to maternity leave rights of female workers, the limits on overtime hours per week, as well as its official payment rates and provision of compensatory time off included in the BCEA. Additionally, further actions aimed towards increasing salaries for lower-paid categories of health care such as community-care workers, and equalizing incomes within professional categories, and among health care facilities and regions, will play an essential role in reducing staff turnover rates. This also entails improving the working conditions and working time arrangements of community-care workers. The country case study specifically suggested the incorporation of these professionals into the public health service as direct employees of Provincial Health Departments, which would help to promote the adherence of their actual working hours with national regulations concerning working time.

Third, the country case studies also provide compelling new evidence regarding particularly vulnerable groups of health service workers who need special consideration and protection regarding their working time. These vulnerable groups include young professionals, such as medical residents, medical interns and young nurses, and also temporary/agency staff.

The improvement of working conditions and the reduction of total working hours for medical residents and interns is an urgent issue across countries and should be addressed in each of the three countries included in this study. Findings from the three country case studies have illustrated the generally low salaries and poor working conditions compelling medical residents to perform very excessive working hours (up to 100 hours

per week or even more in some cases), including extended on-call periods and overtime. These very excessive working hours have been shown to be a key factor in the deterioration of these workers' well-being and performance levels (see Chapter 7).

For example, medical residents in Brazil have manifested an urgency to improve the national legislation concerning the medical residency period in a formal public statement (Massuda, et al., 2007). Likewise, medical residents' representatives from South Africa advocate the re-arrangement of working time and a payment for interns' overtime hours in excess of the agreed 80 hours per month; they also favour the complete prohibition of overtime work in situations in which the health care system cannot respect this new legal limit. Closely connected, further initiatives are required to prevent medical residents from performing extended shifts after completing more than 24 consecutive hours on duty, as evidenced in the South African scenario. Moreover, according to this medical residents' association, the maximum consecutive working hours for an intern should be set at 16 hours per day. Initiatives from Korea in this area remain focused on actions taken by the Korean Intern Resident Association (KIRA) through its "*Residents Training Standard Guideline*" and endorsed by the Korea Hospital Association (KHA), which recommends institutionalizing a weekly working limit of 80 hours for this professional category.

In addition, special protection needs to be provided to workers from temporary staffing agencies in the three countries, whose inferior working conditions and excessive working hours make them particularly vulnerable. An example of this situation is the poor working conditions of care aides in Korea—many of whom work for 24 consecutive hours—who should be protected by the *Labour Standards Act* and the *Occupational Safety and Health Act*, even though they are working as independent contractors. The protection of the *LSA* and the *Occupational Safety and Health Act* (OSH Act) should be extended to care aides and long-term care workers, especially regarding the legal recognition of daily and weekly rest periods, rest breaks during shifts, and paid holidays. Of relevance here are the initiatives proposed by the new draft *Law on Employment Agencies* of the South African Department of Labour, as well as the amendments to the *Labour Relations Act* and the *Basic Conditions of Employment Act* to cover agency workers—a large segment of the health care labour force—while strengthening both workers' rights and their leverage to resist abuses of working time.[28] Nonetheless, these measures can only be effective in a scenario of reduced vacancy rates.

Finally, management capacity building is required for better and more participatory working time management at both the unit and organizational levels, as voiced by many study participants, and new mechanisms for measuring and rewarding performance also need to be considered. Bonuses for qualifications, attendance, seniority and percentages of payments that depend on the work performed pressure employees to work with more intensity and for a longer duration (e.g., productivity indexes, the gravity of patients' conditions, or the type of procedure performed). Such practices reduce individual performance and have been voiced by study participants as a risk to both workers' and patients' safety. In addition, in the Korean case, there needs to be an acknowledgement of workers' democratic organization in trade unions or unit-level committees within the Korean health care system (as currently exists in Brazil and South Africa), in order to promote workers' active participation in the design of working time arrangements.

[28] These statutes have been passed by the South African Parliament, but not yet put into force.

9.3. Further research to address knowledge gaps

Knowledge gaps regarding working time practices were also identified by the three country case studies. With reference to Brazil, precise information concerning total hours worked per employee is required in a context of widespread multiple job holding, which could involve counting the hours of both paid and unpaid work. Additional evidence regarding the attribution of work-related effects on workers' leaves and absenteeism is necessary to better understand the explanation of these problems in the Brazilian context.

In South Africa, field research needs to be conducted to determine how to better address operational requirements capable of improving working time arrangements in the light of budgetary constraints, high health care demands and poor working environments. Further in-depth research is required regarding the provision of safe transportation for health care workers, including soliciting inputs from all professional categories as well as political institutions, such as Provincial Health Departments.

Finally, the need for further research on working time arrangements in the Korean health care system was highlighted by the country study as required in order to improve working time arrangements. More specifically, studies concerning the overall situation regarding the existing working time arrangements in the health services sector—with a particular focus on effects of extended shifts, night work, quick returns, and holiday duties—need to be launched. The conclusions from these studies should address potential alternatives to lessen the negative repercussions of these working time practices.

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