www.kihasa.re.kr

Research in Brief

KIHASA KOREA INSTITUTE FOR HEALTH AND SOCIAL AFFAIRS

Issue No 2025-01
Publication Date January 07 2025
ISSN 2092-7117

Building D, 370 Sicheong-daero, Sejong City 30147 KOREA Korea Institute for Health & Social Affairs

Limiting Resident Duty Hours: Key Issues and Policy Implications from Selected Countries

Dun-Sol Go
Associate Research Fellow, KIHASA

Limiting duty hours is essential for safeguarding residents' rights, both as workers and trainees, and for ensuring patient safety. In response to medical accidents caused by fatigue among residents and interns, some countries have begun addressing the issue of long duty hours, implementing duty-hour limits earlier than Korea. Although the duty-hour caps for residents and interns in Korea were lowered with the implementation of the Act for the Improvement of Training Conditions and Status of Medical Residents, these limits—set at 80 hours per week, plus an additional 8 hours for education, and 36 consecutive hours with an extra 4 for emergencies—remain higher than those in other countries. The government recently launched a pilot project testing reduced limits of 72 hours per week, plus 8 for education, and 24 consecutive hours, with an additional 4 for emergencies, before implementing them nationwide. In addition to reducing duty hours, it is crucial to ensure sufficient learning opportunities for residents.

Introduction

Medical residency refers to a period of training that newly-licensed doctors undergo to qualify as medical specialists. These doctors in training are today's healthcare providers and tomorrow's medical specialists.

Medical residents are of a dual status: they are both learners in training and employees who get

remunerated for their services at their affiliated hospitals. Positioned at the intersection of work and learning, medical residents face a high risk of excessive workload and often lack guaranteed treatment and working conditions befitting their roles as employees.

Korea's medical residency traces its origins to the medical specialty licensure system implemented in the early 1950s. For a long time thereafter, however, conditions remained such that, owing to the limitations of the apprenticeship model and the constrained managerial capacities of the training hospitals and the Korean Hospital Association, trainee doctors were unable to secure their rights either as workers or as trainees.

With the implementation of the Act for the Improvement of Training Conditions and Status of Medical Residents (Medical Residents Act, for short) in 2015, responsibilities as regards the residency system, previously held exclusively by the training hospitals, were transferred to a considerable extent to the government. The Medical Residents Act was implemented "to protect the rights of medical doctors in training, and to contribute to ensuring the safety of patients and nurturing good medical human resources" (Article 1), with the state providing "administrative and financial assistance necessary for nurturing medical residents and evaluating their training conditions" (Article 3).

The most notable of the changes that came with the Medical Residents Act were the precise work-hour standards as stated in Article 7, prior to which trainee doctors' work-hour rules had been practiced in widely differing ways depending on the situations of the training hospitals. Other regulations newly stipulated in the Act, aimed at safeguarding the rights of medical residents as trainees, include those concerning "Designation of Supervising Medical Specialists" (Article 12), "Assessment of Training Conditions" (Article 14), and "Committee for Assessment of Training Conditions" (Article 15).

Limiting medical resident duty hours is the most fundamental means of safeguarding the rights of residents and interns as both workers and trainees. Preventing trainee doctors from working excessive hours is a necessary measure to ensure they have at least minimum working conditions, improve the quality of their training, and foster an environment of safe healthcare provision.

This study examines Korea's resident duty-hour restrictions and related features, discusses the background and standards against which resident duty hour limits have been introduced in four countries—the US, Canada, the UK, and Japan—and draws policy implications for Korea.

Standards of duty hours for trainee doctors in Korea[1)]

Before the implementation of the Medical Residents Act, work-hour standards were decided upon through agreements between the Korean Medical Resident Intern Association and the Korean Hospital Association. Several sets of regulations were introduced over the years, such as the Work Guidelines for Medical Residents and Interns (2007), Standard Training Guidelines for Medical Residents and Interns

1) This section is based on the "2022 Intern Resident Survey: Findings", Korean Intern Resident Association

(2009), and Standard Regulations on the Training of Medical Residents and Interns (2012). However, as they lacked binding force, these regulations were seldom abided by (Han, Ji-ho).

The 2014 amendments to the Regulations on the Training and Recognition of Qualifications of Medical Specialists (Presidential Decree No. 25290) required training hospitals to draft training regulations for their trainee doctors, including rules on the weekly work-hour ceiling and the maximum consecutive duty hours. Enacted in 2015, the Medical Residents Act came into effect two years later, in December 2017, allowing in the meantime training hospitals to adapt over time to the extra burden of filling staffing gaps arising from the capping of trainee doctors' duty hours (Act for the Improvement of Training Conditions and Status of Medical Residents. 2015).

The Medical Residents Act limits trainee doctors' weekly workload to 80 hours, plus a maximum of 8 hours for education. Residents and interns should work no more than 36 consecutive hours, with an additional 4 hours for emergencies. Compliance with these rules is monitored through written documentation and on-site inspections. Instances of non-compliance are subject to fines.

With the amendments made in February 2024 to the Medical Residents Act, the Ministry of Health and Welfare was tasked with introducing, via its decrees, new caps—lower than the existing limits stipulated in the Act—on weekly duty hours and continuous hours in a shift for residents (Act for the Improvement of Training Conditions and Status of Medical Residents, 2024). In addition, the ministry is running a pilot project to trial shorter duty hours, aiming to implement the reduced work-hour limits—72 hours per week (plus 8 for education) and 24 consecutive shift hours (plus 4 for emergencies)—as outlined in its Healthcare Reform Action Plan (Ministry of Health and Welfare. 2024, May 1; Ministry of Health and Welfare. 2024, Aug. 30).

[Table 1] Medical Residents Act: key points regarding duty hours for residents and interns

	Act for the Improvement of Training Conditions and Status of Medical Residents
Maximum duty hours per week	80-hour cap (plus an 8-hour extension for education)[1)]
Maximum consecutive duty hours	36-hour cap (40 hours for emergency cases)[1)]
Duty hours, emergency care	12 hours maximum per shift; more rest hours than work hours
Minimum rest hours between shifts	10 hours
Days on duty	No more than 3 days per week, averaged over 4-week period
Off days	No fewer than one day (24 hours) per week

Note: 1) Limits within maximum duty-hour standards, set by the Decree of the Ministry of Health and Welfare (To be implemented on Feb. 21, 2026)
Source: Act for the Improvement of Training Conditions and Status of Medical Residents (2015, 2024)

Residents' duty hours in Korea

The average number of hours worked per week by medical residents in Korea declined after the implementation of the Medical Residents Act, from 92.0 in 2016 to 79.2 in 2018.

[Table 2] Changes in average resident duty hours per week (in hours)

	2016	2017	2018	2019	2020	2021	2022
Average resident duty hours per week	91.8	88.0	79.0	80.0	77.2	76.7	77.7
Year-on-year change	-	-3.8	-9.0	1.0	-2.8	-0.5	1.0

Source: Changes in the working conditions and learning environment of medical residents after the enactment of the Medical Resident Act in Korea in 2015: a national 4-year longitudinal study.", Sohn et al., 2021, Supplement 3

Although average weekly duty hours have declined, most residents continue to work overtime, especially lower-year residents and those in surgery and allied specialties. In a 2022 survey, 53 percent of residents reported working more than 80 hours per week on average over a 4-week period. Among first-year residents, or interns, 75.4 percent reported working 80 or more hours a week—the highest proportion among all groups. Interns reported a median of 90 hours worked per week. Tasks performed during hours exceeding the 80-hour limit included 'organizing patient information and medical records' (86.4 percent), 'entering routine orders' (68.9 percent), 'obtaining patient consent' (64.6 percent), 'performing procedures on patients' (62.2 percent), and 'conducting ward rounds' (48.1 percent). Moreover, working long shifts remains prevalent, with 84.4 percent of interns and 70.2 percent of second-year residents reporting shifts exceeding 24 consecutive hours at least once in the week prior to the survey.

The number of days off taken by residents has increased after the implementation of the Medical Residents Act, but many of these doctors still do not receive adequate rest. Among the residents surveyed, 33.9 percent reported not receiving the off hours between shifts as required by regulations, and 57.1 percent reported having to forgo recess periods. When asked why they did not take as many days off as they were entitled to, they cited 'didn't want to burden peers' (57.9 percent), 'the atmosphere of the training hospital' (26.9 percent), 'didn't feel the need to do so' (12.7 percent), and 'wanted more training' (0.2 percent).

Resident duty hours in selected countries

US

In the US, the Accreditation Council for Graduate Medical Education (ACGME)[2] requires hospitals to apply limits on resident duty hours as a necessary condition for accreditation of their residency training programs. The need to guarantee break periods during resident duty hours has received growing attention in the US since the early 1980s. The death of Libby Zion in a New York City hospital emergency room in 1984, ruled as caused in part by resident fatigue and inadequate supervision, served as an impetus for the US to consider in earnest the conditions under which residents work and how these conditions affect patient safety. Subsequently, the state of New York, following recommendations from a grand jury, formed the "Bell Commission" to put together new regulations to address the issue of overwork among residents. New York State adopted these regulations—limiting duty hours and enhancing educational opportunities for residents—through legislative procedures.

In July 2003, the ACGME mandated that all residency programs limit duty hours to 80 hours per week on average over 4 weeks[3], capping consecutive hours at 24 plus 6 additional hours for education for handover (Institute of Medicine. 2009. p. 51; Philibert et al., 2009). Duty hours here are defined as time spent doing all clinical and academic activities relative to the residency program, including patient care (both inpatient and outpatient) and related administrative duties, handover-related work, in-house on-call duties, and scheduled participation in education and conferences (Institute of Medicine. 2009. p. 54).

In 2008, after reviewing the ACGME work-hour standards and their effects, the Institute of Medicine (IOM) proposed recommendations aimed at improving the work conditions for residents, including guaranteeing a 5-hour protected sleep period for residents after any shift beyond 16 hours and eliminating the practice of averaging days off (Institute of Medicine. 2009. p. 245). The ACGME established a task force to review the IOM recommendations and relevant information and developed new standards in 2011 (ACGME. 2011).

The features that most markedly distinguish the new standards from their 2003 precursors are the limitation on first-year residents to working no more than 16 consecutive hours and the requirement of a "strategic napping" period after a shift of 16 hours for even higher-year residents. Also, the maximum number of additional hours allowed for education or handover was reduced from 6 to 4.

2) The ACGME is an independent, non-profit organization that establishes, accredits, and oversees the essential requirements for graduate medical education programs in the United States, including residency and fellowship programs. In the 2023-2024 period, it accredited and managed a total of 13,393 programs (across 905 institutions) in 146 specialties.

3) According to the IOM report, the "80-hour workweek" stipulated by New York state law and ACGME standards is based on the Bell Committee's regulation, which states that residents work 50 hours per week (10 hours a day for 5 days) and take on-call duty every four days, resulting in approximately 30 hours of additional work {(168-50)/4 ≈ 30 hours}. The total of 50 hours and 30 hours adds up to 80 hours. The report mentions that this number is "almost scientifically unsubstantiated, but generally accepted to some extent" (IOM, 2009, p. 51).

[Table 3] Key resident duty-hour features in the US

	ACGME 2003	ACGME 2011	IOM 2009 권고사항
Maximum weekly duty hours	80 hours per week, averaged over 4 weeks[1]	80 hours per week, averaged over 4 weeks[1]	80 hours per week, averaged over 4 weeks[1]
Maximum consecutive duty hours	24 hours (can be extended by 6 hours for educational or handover purposes, total 30 hours)	• 1st year: 16 hours • 2nd year onward: 24 hours (4-hour extension for education or handover, total 28 hours) (Strategic rest period recommended after 16 duty hours)	16 hours (5 hours of protected sleep after 16 duty hours, 9 hours of extension allowed, total 30 hours)
Minimum rest between shifts	10 hours	• 1st year: 10 hours recommended (minimum 8 hours • Mid-years: 10 hours recommended (minimum 8 hours, at least 14 hours after extended work) • Upper years: 8 hours recommended	• 10 hours after daytime work • 12 hours after nighttime work • 14 hours after extended work
On-call days (In-house on call)[2]	One day every three days, averaged over 4 weeks	One day every three days, averaged over 4 weeks	One day every three days (excluded from averaging)
Night float[3]	-	Maximum 6 consecutive days	• Maximum 4 consecutive days • 48-hour rest after 3 or 4 days
Off days	1 day per week, averaged over 4-week period	1 day per week, averaged over 4-week period	One day per week (excluded from averaging)

Note: 1. If prior approval is obtained from the ACGME, exceptions are allowed within a maximum of 10% (8 hours).
2. On-call duties are divided into "in-house on-call," where the resident stays at the hospital, and "at-home call," where the resident is not at the hospital but responds to calls or must go to the hospital if needed. In the U.S., "at-home call" for residents is not subject to the on-call day limits, but it must be assigned according to the holiday provision standards, and the hours spent on "at-home call" are also included in the training hours.
3. Night float refers to a shift system where a resident is assigned to work consecutive night shifts for a certain period to share the responsibility of night shifts.

Source: "Resident duty hours: enhancing sleep, supervision, and safety.", IOM, 2009, p.245. Table 7-1; "The ACGME 2011 Duty Hour Standards: Enhancing Quality of Care, Supervision, and Resident Professional Development.", ACGME, 2011, p.109 Appendix E.

◆ *Canada*

Along with wage and work conditions, resident duty hours are regulated through state-level collective agreements, in which the Provincial House Staff Organizations (PHOs) negotiate with the government or hospitals. The need for limiting resident duty hours was first raised in the province of Quebec, when in 2009 residents from McGill University claimed that working more than 24 hours on end put at risk both their health and patient safety. In 2011, the province ruled a 16-hour limit on consecutive work for residents (Pattani et al. 2014). Quebec's initiative led to the Canadian government's formation of the National Steering Committee on Resident Duty Hours in June 2013, tasked with developing national guidelines and recommendations (National Steering Committee on Resident Duty Hours. 2013).

In its report, the Committee, in addition to stating that residents in principle should work no more than 24 consecutive hours at a time, save for exceptional cases, recommended incorporating fatigue control plans into resident training programs (Pattani et al., 2014). The report also noted that while the initial agreements reached in the early 1980s included no regulations limiting resident duty hours, by

2013 regulations had been put in place limiting the number of consecutive duty hours to 24, with an additional maximum of two hours for handover. The weekly maximum number of hours worked varied widely across provinces at between 60 and 90. Resident duty hours in Canada encompass all scheduled clinical and academic activities, inclusive of both inpatient and outpatient care, administrative tasks pertaining to patient care, pre-treatment procedures, in-house on-call duties, and participation in scheduled educational activities. The Professional Association of Residents of Ontario (PARO) publishes details of resident labor contracts on its website.

[Table 4] Key resident duty-hour features in Canada

	National Steering Committee on Resident Duty Hours 2013	Professional Association of Residents of Ontario
Weekly maximum hours worked	60 ~ 90 hours (various across provinces)	-
Maximum consecutive hours	24 ~ 26 hours (16 hours for Quebec	24 hours (plus one handover hour for obstetric anesthetists; 90 minutes for handover to intensive care) plus two hours for handover
Minimum rest hours between shifts	Presented by three among the 8 PHOs	12 hours
On-call duty	• (In-house on-call) Once every 4 days, averaged over 4-week period • (At-home call) Once every 3 days, averaged over 4-week period	• (In-house on-call) Maximum 7 times over 28 days, maximum two times per 8 weekend days • (At-home call) Once every 3 days, averaged over 4 weeks; maximum 10 times per 30 days

Source: "Fatigue, Risk and Excellence: Towards a Pan-Canadian Consensus on Resident Duty Hours", RDH, 2013; "YOUR CONTRACT". PARO, n.d.

◆ *UK*

In the UK, the National Health Service (NHS) and the British Medical Association agreed in 1991 on what became known as the New Deal for Doctors, with a view to improving residents' working conditions in areas such as duty hours and pay (Fitzgerald & Caesar, 2012). However, the duty-hour caps introduced by the agreement—a weekly maximum of 56 hours and a limit of 16 consecutive hours—were not fully implemented as intended (Brown, 2001).

In 1993, the European Union instituted the European Working Time Directive (EWTD) and urged all member countries to adopt it (Council Directive 93/104/EC, 1993). The Directive included working time caps—no more than 48 hours per week, averaged over 26 weeks[4], and a maximum of 13 consecutive hours—and mandatory rest periods. When the regulations were first implemented in 1998, they applied only to certain industries, excluding the health care sector. Following amendments in 1998, the scope of the EWTD was extended to the health care sector, including medical residents. The weekly duty-hour limit was gradually lowered in phases, to 58 hours in 2004, 56 hours in 2007, and finally 48 hours in 2009

4) The 26-week (6-month) average is thought to have been adopted to keep the limits flexible and applicable, while also ensuring the health and safety of workers, in situations where work hours may increase in the short term.

(Directive 2003/88/EC, 2003). However, the application of the EWTD as a directive varies across Europe, as it remains at the discretion of each member state (Roditis, 2022). In response, the European Junior Doctor (EJD) has called on all member states to comply with the EWTD and implement measures to prevent non-compliance.

Although the UK initially shunned adopting the EWTD for fear that reduced resident duty hours would render the NHS less capable of meeting patient demands, it later limited, in compliance with the Directive's 2009 revision, residents' weekly working hours to 48 (British Medical Association, 2024). The British application of the EWTD includes an "opt-out" clause whereby residents can individually choose to work beyond the limits in exchange for additional compensation (Fitzgerald & Caesar, 2012).

[Table 5] Key resident duty-hour features in the UK

	UK New Deal (1991)	European Union EWTX (2009)
Target group	Junior Doctors	All workers (including medical residents from 2009)
Maximum weekly duty hours	No more than 56 hours	No more than 48 hours (average over 26 weeks)
Maximum consecutive duty hours	16 hours per 24-hour period	13 hours per 24-hour period
Minimum rest hours between shifts	8 hours between shifts (30-minite break after every 4-hour work period)	11 hours every 24 hours (20-minute break after every 6-hour work period)
Off days	At least 24 hours every 7 days; at least 48 hours every 14 days	Same; 4 weeks per year

Source: "The European Working Time Directive: a practical review for surgical trainees", Fitzgerald & Caesar, 2012, Table 3.

◆ *Japan*

The Workstyle Reform Bill, enacted in 2018 and implemented in April 2019 as a means for addressing workforce issues in an aging Japan, stipulates under the Labor Standards Act a statutory 40-hour workweek or an 8-hour workday, and a maximum of 45 hours of overtime per month or 360 hours per year (Tsutsumi, 2020). Doctors, including residents, were exempt from the overtime caps for five years (until March 2024), on account of the unique demands of their work and the longstanding practice of working extended hours. Beginning April 2024, doctors' work hours have become subject to regulation under the Workstyle Reform for Doctors, announced by the Japanese Ministry of Health, Labor and Welfare (MHLW), which sets overtime limits and holiday work caps for doctors in five different categories (Ministry of Health, Labour and Welfare, 2023).

No doctor may work more than 100 hours per month or 960 hours per year overtime. Employers may require doctors to work beyond these statutory limits only if they apply for an "Article 36" Agreement at the local prefecture office and enter into it with the relevant parties (Ministry of Health, Labour and Welfare, Dec. 2020). Residents have a maximum overtime limit of 100 hours per month and 1860 hours per year. Medical facilities having approved in-house health measures in place for doctors may be

exempt from the 100-hour monthly limit and instead adhere to the annual cap of 1860 hours[5] (Ministry of Health, Labour and Welfare, Jan. 2020).

[Table 6] Overtime caps for doctors in Japan

Target	Maximum overtime hours per month	Maximum overtime hours per year	Maximum consecutive duty hours
All workers	45 hours	360 hours	-
All doctors	100 hours2)	960 hours	28 hours
Doctors assigned for regional healthcare		1,860 hours (scheduled to end by 2035)	
Doctors working in emergency medical services, etc.			
Clinical interns and residents1)		1,860 hours	
Advanced specialty trainees			

Note: 1) Clinical interns are those undergoing mandatory training to acquire clinical doctor qualifications after graduating from medical school and obtaining a medical license; residents are those in training to acquire specialist qualifications in specific specialties.
2) Exceptions may be made if certain health measures are implemented.

Source: "Ministry of Health, Labour and Welfare. (2020, December 10). Addressing Workstyle Reform for Doctors in Clinical Training Hospitals. Retrieved from https://www.mhlw.go.jp/content/10803000/000703926.pdf. [Japanese]

[Table 7] Resident duty hours in Japan

	Workstyle Reform for Doctors
Weekly maximum duty hours	80 hours (Statutory 40 hours plus 35.8 hours overtime)
Overtime duty hours	1,860 hours maximum per year No more than 100 hours per month (exceptions can be approved if supported by in-house health measures)
Maximum consecutive duty hours	28 hours
Rest hours	9 continuous hours per 24-hour period 24 continuous hours per 48-hour period

Source: "Ministry of Health, Labour and Welfare. (2020, December 10). Addressing Workstyle Reform for Doctors in Clinical Training Hospitals. Retrieved from https://www.mhlw.go.jp/content/10803000/000703926.pdf. [Japanese]; Nagasaki, K., & Kobayashi, H. (2023). The effects of resident duty hours on well - being, performance, and education: A review from a Japanese perspective.

5) A total of 1,860 hours per year amounts to 35.8 hours per week. When added to the standard 40-hour workweek, this brings the total to 75.8 hours, which is approximately 80 hours (Nagasaki & Kobayashi, 2023).

Policy implications for Korea

Discussions on the need for limiting resident work hours, which surfaced in the early 1990s in the US and Europe, eventually led to the establishment of international standards that were later incorporated into national regulations limiting resident duty hours. While the specific motivations that spurred the limiting of resident duty hours may vary across countries, the common thread was the recognized need to reduce the risks that overwork could pose to patient safety and public health and to safeguard the rights of doctors as workers.

The ways in which various countries regulate resident duty hours differ depending on their residency and health care systems. In the US, resident duty-hour limits are regulated as part of the accreditation process. Hospitals that fail to comply could lose accreditation for their residency programs. In Canada, duty-hour limits are determined by provincial-level collective agreements. For the UK and Japan, duty-hour limits are set by their standard labor acts, which apply to workers in general, with doctors and residents in certain specialties subject to separate sets of duty-hour restrictions. Resident duty hours in Korea are capped by the Medical Residents Act. Failure to comply with these regulations entails withdrawal of accreditation and imposition of fines.

Resident duty-hour standards impose limits on total and consecutive duty hours. Most countries with these standards limit the total duty hours per week to around 80 hours per week. The maximum consecutive duty time is usually capped in the range of 24 to 28 hours, plus a possible 2 to 4 hours for education or handover. In Korea, the maximum weekly duty-hour limit is set at 88 hours, including 8 hours for education or handover, which is higher than the limits in most other countries. Korea's consecutive duty limit, set at 36 hours (extendable to 40 in emergencies), is significantly higher compared to the 28-hour limit—even with the hours for education or handover included—common in other countries.

[Table 8] Comparison of resident duty hours in selected countries: maximum hours per week and maximum consecutive hours

	Korea	US	Canada	UK	Japan
Time of implementation	December 2017	2003	2010	2009	2024
Foundation	National law (Medical Residents Act)	ACGME	Collective agreements at the province level	EWTD	National law (Labor Standards Act and special case provisions)
Maximum hours per week	80(+8[1)])	80[2)]	60-90	48	80
Maximum consecutive hours	36 (40 for emergencies)	24(+4[3)]) (16 for first year)	24(+2[3)]) (16 for some provinces)	13	28

Note: 1) Hours extended for education
2) Extendable by up to 10 percent if approved
3) Extendable for education and handover

Concluding remarks

With the latest amendments to the Medical Residents Act and the announcement of the Healthcare Reform Action Plan, the government has embarked upon steps toward instituting reduced resident duty hours. Continuous efforts are needed to evaluate the outcomes of the ongoing pilot project and decide the extent to which current limits should be adjusted. However, as duty hours in this case encompass hours residents spend working as hospital employees and time they spend learning as trainees, any reduction in limits must ensure it does not hinder their educational opportunities. Resident duty hours in countries with related regulations are defined as encompassing all clinical and academic activities pertaining to residency training, including, in addition to patient care, related administrative tasks, handover procedures, in-house on-call duties, and educational activities. In this regard, the US IOM has concluded that adhering to resident duty-hour regulations alone does not constitute a sufficient condition to foster enhanced safety for both residents and patients, emphasizing the need to take multiple parallel measures for, among other things, increasing direct supervision, adjusting residents' workload, providing residents sufficient time to revisit their clinical experiences, and improving patient transfers (IOM, 2009).

It is the case in those countries with lowered duty-hour limits that changes have been made to training methods and personnel management to ensure sufficient educational opportunities for residents under the reduced duty-hour schemes. Improvements made to residency curriculums consisted in refining training programs, defining precisely the skills and competency that these programs are intended to deliver, and expanding the responsibilities of the supervising specialist so that the resident can focus on training and learning. The US, for example, requires hospitals to provide their residents with 'protected time' to participate in 'core didactic activities' (ACGME, 2022). In addition, efforts have been ongoing to fill

the gaps that reduced resident duty hours may occasion in the delivery of healthcare services. A case in point is Japan, where limits on overtime hours are implemented together with work-style reforms, which promote the shifting and sharing of tasks between physicians and non-physician health care workers (Ministry of Health, Labour and Welfare, 2019). The US presents an example where the implementation of reduced resident duty hours was accompanied by the redefining of resident responsibilities and the recruiting of additional workers—physicians' assistants, nurse practitioners, and surgical assistants—and the expanding of the team-based health care approach, where physicians and non-physician health care professionals in hospital settings collaborate in tasks in managing patients (Wilson, 2003)

Recent amendments made to the Medical Residents Act in Korea represent a shift of emphasis toward residents' status as trainees. Subsequently, policies have been adopted in view of enhancing working conditions for residents. The 1st Healthcare Reform Action Plan recommends training hospitals to allocate part of duty hours to protected 'core training hours' that residents can spend not doing in-house tasks, but participating in activities designed to build up their competence (Ministry of Health and Welfare, Aug. 2024). Efforts have also centered on expanding the roles of supervising specialists of different types, with significantly increased budget allocations, in order to enhance the quality of residency training.

To ensure quality residency training and uninterrupted healthcare services, duty-hour limits should be implemented along with other measures, such as regulating the maximum number of patients each resident can see each duty day. Also, filling the gaps that arise from reduced duty hours would require reorganizing hospital staff and their designated responsibilities. Incorporating into residency training such measures as team-based healthcare, flextime, and other novel approaches may help, provided they are supported adequately.

References

Accreditation Council for Graduate Medical Education. (n.d.). About the ACGME. https://www.acgme.org/about/overview/

Accreditation Council for Graduate Medical Education. (2011). The ACGME 2011 Duty Hour Standards: Enhancing Quality of Care, Supervision, and Resident Professional Development. https://www.acgme.org/globalassets/pdfs/jgmemonograph1.pdf

Accreditation Council for Graduate Medical Education. (2022). ACGME Common Program Requirements (Residency). https://www.acgme.org/globalassets/pfassets/programrequirements/cprresidency_2023.pdf

Act for the Improvement of Training Conditions and Status of Medical Residents (2015). [Korean]

Act for the Improvement of Training Conditions and Status of Medical Residents (2024). [Korean]

British Medical Association. (2024, September 24). Doctors and the European Working Time Directive. https://www.bma.org.uk/pay-and-contracts/working-hours/european-working-time-directive-ewtd/doctors-and-theeuropean-working-time-directive

Brown, S. (2001, February 1). Q & A: Junior doctors' pay deal explained. The Guardian. https://www.theguardian.com/society/2001/feb/01/health.nhsfinance1

Council Directive 93/104/EC of 23 November 1993 concerning certain aspects of the organization of working time (1993), OJ L 307, 13.12.1993, pp. 18–24.

Directive 2003/88/EC of the European Parliament and of the Council of 4 November 2003 concerning certain aspects of the organisation of working time (2003), OJ L 299, 18.11.2003, pp. 9–19.

Fitzgerald, J. E. F., & Caesar, B. C. (2012). The European Working Time Directive: a practical review for surgical trainees. International journal of surgery, 10 (8), 399–403. https://doi.org/10.1016/j.ijsu.2012.08.007

Han, Ji-ho. (2019, Sept. 27). "Resident working hours reduced, but overwork persists." *Pharmaceutical News*. https://www.newsmp.com/news/articleView.html?idxno=195685. [Korean]

Imrie, K. R., Frank, J. R., & Parshuram, C. S. (2014). Resident duty hours: past, present, and future. BMC medical education, 14 (Suppl 1), S1. https://doi.org/10.1186/1472-6920-14-S1-S1

Institute of Medicine. (2009). Resident Duty Hours: Enhancing Sleep, Supervision, and Safety. The National Academies Press. https://doi.org/10.17226/12508

Ko, Jeong-min. (2022, Jan. 14). "Residents earned 3.82 million won per month and worked 77 hours per week." *Young Doctors*. https://www.docdocdoc.co.kr/news/articleView.html?idxno=2018793 [Korean]

Korean Association of Resident Doctors. (2022). "Results of the 2022 Resident Survey." https://youngmd.org/2022 [Korean]

Lee, Moo-sang. (2013). "A Historical Review of Medical Education Systems After Graduation." *Medical Education Review*, 15(2), 61–68. [Korean]

Ministry of Health and Welfare. (2024, May 1). "From May, a pilot project to reduce consecutive working hours for residents will be implemented. Consecutive working hours will be reduced from 36 hours to 24–30 hours." Press Release. https://www.mohw.go.kr/board.es?mid=a10503010100&bid=0027&act=view&list_no=1481272&tag=&nPage=1 [Korean]

Ministry of Health and Welfare. (2024, Aug. 30). "First Implementation Plan for Medical Reform to Save Lives and Regions Announced." Press Release. https://www.mohw.go.kr/board.es?mid=a10503010100&bid=0027&act=view&list_no=1482955&tag=&nPage=1 [Korean]

Ministry of Health, Labour and Welfare. (n.d.). *Reforming Workstyles for Doctors.* Retrieved from https://www.mhlw.go.jp/content/10800000/001129457.pdf. [Japanese]

Ministry of Health, Labour and Welfare. (2019, October 23). *Task Shifting/Sharing to Promote Workstyle Reform for Doctors*. Retrieved from https://www.mhlw.go.jp/content/10800000/000558384.pdf. [Japanese]

Ministry of Health, Labour and Welfare. (2020, January 31). *Addressing Workstyle Reform for Doctors in Clinical Training Systems*. Retrieved from https://www.mhlw.go.jp/content/10803000/000590866.pdf. [Japanese]

Ministry of Health, Labour and Welfare. (2020, December 10). *Addressing Workstyle Reform for Doctors in Clinical Training Hospitals*. Retrieved from https://www.mhlw.go.jp/content/10803000/000703926.pdf. [Japanese]

Ministry of Health, Labour and Welfare. (2023, April). *Guide to Procedures for Workstyle Reform for Doctors by April 2024*. Retrieved from https://www.mhlw.go.jp/content/10800000/001128589.pdf. [Japanese]

Nagasaki, K., & Kobayashi, H. (2023). The effects of resident work hours on well-being, performance, and education: A review from a Japanese perspective. Journal of General and Family Medicine, 24 (6), 323–331. https://doi.org/10.1002/jgf2.649

National Steering Committee on Resident Duty Hours. (2013). Fatigue, Risk and Excellence: Towards a Pan-Canadian Consensus on Resident Duty Hours. Royal College of Physicians and Surgeons of Canada. https://residentdoctors.ca/wpcontent/uploads/2017/08/fatigue_risk_and_excellence.pdf

Pattani, R., Wu, P. E., & Dhalla, I. A. (2014). Resident duty hours in Canada: past, present and future. CMAJ: Canadian Medical Association journal = journal de l'Association medicale canadienne, 186(10), 761–765. https://doi.org/10.1503/cmaj.131053

Philibert, I., Chang, B., Flynn, T., Friedmann, P., Minter, R., Scher, E., & Williams, W. T. (2009). The 2003 common duty hour limits: process, outcome, and lessons learned. Journal of graduate medical education, 1(2), 334–337. https://doi.org/10.4300/JGME-D-09-00076.1

Professional Association of Residents of Ontario. (n.d.) YOUR CONTRACT. https://myparo.ca/your-contract/

Roditis, K. (2022, November 29). EJD Policy on the European Working Time Directive (EWTD). European Junior Doctor. https://www.juniordoctors.eu/blog/ejd-policy-european-working-time-directive-ewtd

Sohn, S., Seo, Y., Jeong, Y., Lee, S., Lee, J., & Lee, K. J. (2021). Changes in the working conditions and learning environment of medical residents after the enactment of the Medical Resident Act in Korea in 2015: a national 4-year longitudinal study. Journal of educational evaluation for health professions, 18, 7. https://doi.org/10.3352/jeehp.2021.18.7

Tsutsumi, A. (2020). Workstyle reform for Japanese doctors. Environmental and Occupational Health Practice, 2(1). https://doi.org/10.1539/eohp.2020-0008-OP

Wilson, M. R. (2003). The New ACGME Resident Duty Hours: Big Changes, Bigger Challenges. The Ochsner journal, 5(2), 3-5.