#### EXPERT OPINION

# Five Strategies for Efficient and Effective Training of Japanese Resident Physicians Under the Japanese Work Style Reform

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Abstract: Work-style reform in Japan, implemented in April 2019, aims to improve the well-being of physicians by regulating duty hours (DH). From 2024 to 2035, the DH for general physicians will be limited to 960 hours annually, while postgraduate year (PGY) 1 and 2 resident physicians may work up to 1860 hours to maintain sufficient training opportunities. However, studies indicate that excessive DH is associated with reduced sleep, worsened mental health, and increased risk of medical errors without significant improvement in clinical competence. This article proposes five strategies for balancing effective training and well-being among Japanese PGY1 and 2 residents within the framework of work-style reforms. Five key strategies are followed: 1) Flexible scheduling; 2) Task shifting and paperwork reduction; 3) Access to learning resources; 4) Feedback and mentorship; and 5) Workplace social capital and social support. By implementing these strategies, it is possible to enhance clinical residents' health and educational experience, achieving a balance between work hours and training needs. Keywords: resident training, work-style reform, duty hours, mentorship, task shifting, medical education

In Japan, aspiring medical professionals begin their education with six years of medical school immediately after high school graduation, attending one of the 82 medical schools across the country.<sup>1,2</sup> Upon completing their studies, most graduates enter a two-year postgraduate clinical training program.<sup>1,2</sup> This training, which became mandatory with the system introduced in April 2004, involves a comprehensive 96-week rotation that covers various medical fields. Postgraduate year (PGY) 1 and 2 resident physicians are required to spend at least 24 weeks in internal medicine, 12 weeks in emergency medicine, and a minimum of four weeks in surgery, pediatrics, obstetrics and gynecology, psychiatry, and community medicine. The remainder of the training period can be allocated to elective rotations, enabling residents to gain a diverse array of clinical experiences.<sup>3,4</sup> As of 2023, this postgraduate clinical training is conducted in 1029 hospitals throughout the nation. After completing the two-year program, most PGY 2 residents progress to senior residency training, which operates under Japan's specialist certification system. Depending on their chosen specialty, this senior residency training typically lasts between three to five years, culminating in a board certification examination.<sup>5</sup> Upon successfully passing this examination, PGY 5-8 residents are officially recognized as board-certified physicians in their respective fields.

In April 2019, work-style reform was implemented in Japan. From 2024 to 2035, duty hours (DH) for general doctors will be limited to 960 hours per year but PGY1 and 2 resident physicians will be allowed up to 1860 DH per year to ensure adequate training opportunities. However, a survey of work hours and mental health among PGY1 and 2 residents showed that when DH exceeded 90 hours per week, sleep duration decreased and insomnia worsened, potentially resulting in medical errors.<sup>6</sup> Additionally, previous research evaluating the relationship between DH and clinical competence of PGY1 and 2 residents found working more than 960–1200 hours per year (equivalent to 80–100 hours per month) did not improve test scores.<sup>7</sup> These findings suggest that limiting DH of PGY1 and 2 residents to 960–1200 hours per year might provide an appropriate balance of health and education.

Globally, the challenges faced by resident physicians are not unique to Japan. The COVID-19 pandemic, for instance, exposed the vulnerabilities in residency programs worldwide, with residents experiencing a dramatic surge in workload.<sup>8,9</sup> This led to significant disruptions in standard educational programs and necessitated the remodeling of residency structures.<sup>8,10</sup> These adjustments also prompted the development of novel strategies to improve the quality of training in the face of systemic challenges. For example, the implementation of online education tools and flexible scheduling systems allowed programs to address both the educational and mental health needs of residents during the pandemic.<sup>10</sup> Such international insights emphasize the shared nature of these challenges and the need for globally applicable solutions.

In this context, we discussed the impact of work-style reform on resident training with attending physicians and PGY2 and 3 residents from the Japanese Society of Hospital General Medicine – Junior Doctors Association. Based on these discussions, we propose five specific measures to enable effective training while limiting overtime work (Table 1).

#### **Flexible Scheduling**

Resident physicians must balance the need for hands-on training with their well-being. In the international context, reducing or eliminating resident work shifts exceeding 16 hours improved resident well-being and enhanced patient safety without adversely affecting educational outcomes.<sup>11</sup> On the other hand, increased shift work due to work-style reform has reduced internal medicine residents' autonomy in treatment decisions and lowered the quality of care.<sup>12</sup> Providing patient care with a sense of responsibility is an important goal for resident physicians. Resident physicians performing extended operations beyond daytime work hours or responding to emergencies among their patients at night should adjust their schedules to allow compensatory rest on other days. Japanese residency programs should introduce flexible shift structures, such as night float systems, to meet these demands while adhering to the legal limits of working hours.<sup>13</sup>

#### **Task Shifting and Reducing Paperwork**

Internationally, many residents spend excessive time completing paperwork, which reduces their availability for direct patient care.<sup>14</sup> The previous study among Japanese PGY1 and 2 residents indicated excessive paperwork was associated with burnout.<sup>15</sup> To address this, administrative and non-clinical tasks should be shifted to support staff, allowing residents to focus on clinical education and direct patient care. Initiatives such as hiring administrative assistants or delegating non-medical tasks to other healthcare professionals will not only alleviate residents' workload but also enhance their clinical training.

Strategy	Description
I. Flexible scheduling	Adjust work schedules to allow compensatory rest for clinical residents involved in long surgeries or night shifts.
2. Task Shifting and Reducing Paperwork	Delegate non-clinical tasks to other healthcare staff to reduce the time spent by clinical residents on non-clinical tasks
3. Access to learning resources	Ensure access to educational resources through electronic health records and facilitate online research during clinical hours.
4. Feedback and Mentorship	Provide regular evaluations, feedback sessions, and mentorship to guide career development.
5. Workplace Social Capital and Social Support	Foster a supportive workplace environment for residents to help, rest, and refresh, supporting their physical and mental health.

Table I Five Strategies for Enhancing Training of Clinical Residents Under Work-Style Reforms

#### Access to Learning Resources

Providing residents with immediate access to educational resources during work hours is critical to the training environment and increases residents' clinical knowledge. Japanese teaching hospitals with greater access to webbased clinical knowledge support systems increased the implementation of evidence-based medicine, leading to high educational outcomes.<sup>16</sup> In addition, appropriate workload levels and electronic educational resources were associated with more excellent clinical knowledge among Japanese resident physicians.<sup>17</sup> The availability of evidencebased electronic resources can provide busy medical residents with real-time support, potentially improving the quality of patient care.

#### Feedback and Mentorship

Regular evaluation and feedback sessions helps resident physicians plan their training effectively, and mentorship programs guide career development. Effective feedback is a critical component of adequate clinical supervision, facilitating learning and enhancing clinical performance.<sup>18</sup> Mentorship programs guide personal and professional spheres, reducing stress and promoting career satisfaction.<sup>19</sup> Mentorship programs positively affected the mental health of Japanese PGY1 and 2 residents, particularly in reducing the risk of depression.<sup>20</sup> Moreover, mentorship programs tailored to individual learning needs may allow personalized feedback, further enhancing the residents' ability to meet specific career goals.

## Workplace Social Capital and Social Support

Lastly, fostering a supportive workplace environment is essential to mitigating the risk of burnout. Workplace social capital and social support are crucial, as previous studies have shown an association between these factors and burnout among medical professionals.<sup>21,22</sup> The previous study among Japanese medical residents showed that a lack of individuals who provided support was associated with burnout.<sup>15</sup> Furthermore, creating designated times and spaces within the hospital for resident physicians to rest and refresh would provide a supportive environment, promoting their overall health and mental well-being while maintaining their productivity.

The essence of Japan's workstyle reform is to safeguard the quality of life for physicians by regulating their working hours, but it is crucial to balance this with the educational needs of residents. The proposed limit of 960–1200 working hours per year is a quantitative benchmark, yet it does not account for the qualitative impact on education. The five strategies proposed in this paper offer a comprehensive approach to achieving this balance. These strategies will help optimize trainees' well-being and patient safety, ensuring that future resident physicians receive high-quality training while maintaining their physical and mental health. The importance of implementation and continuous evaluation cannot be overstated. By adhering to these recommendations and incorporating the iterative PDSA (Plan-Do-Study-Act) cycle, along with a thoughtful assessment of outcomes, a well-calibrated equilibrium between training quality and quantity can be achieved.

## Conclusion

From 2024, resident physicians in Japan were allowed to work up to 1860 DH per year. However, limiting DH to 960–1200 hours per year would provide a better balance between mental health and education, and these findings might serve as a specific reference for adjusting DH in the future. Implementing five strategies would enable clinical residents to maintain their health while achieving their learning objectives.

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article, and they gave their final approval of the version submitted for publication. All the authors have agreed on the journal for submission and agree to be accountable for all aspects of the work.

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