

## LETTER TO THE EDITOR

# Impact of incentives for health-care workers wearing personal protective equipment while dealing with coronavirus disease in Japan

Dear Editor,

Coronavirus disease 2019 (COVID-19) has evolved into a global pandemic. Having already experienced the first two waves of infections, in Japan the battle against the disease is expected to last even once the third wave ends. During these waves, many healthcare workers (HCWs), who wore personal protective equipment (PPE), treated COVID-19-infected patients with a sense of responsibility despite the absence of vaccines and established medical treatment protocols. In clinical settings, HCWs wear PPE, such as a mask, particulate respirator, goggles, face shield, gloves, apron, and gown, as a preventive measure against infection when caring for COVID-19 patients, based on the Centers for Disease Control guidelines.<sup>1</sup> HCWs have treated COVID-19 patients in spite of the risk of infecting themselves and their family members and being targeted by harmful rumors associated with treating COVID-19 patients. Under such circumstances, incentives for HCWs involved in the potentially long-term battle against COVID-19 can be a critical factor in their willingness to continue to engage in COVID-19-related work. However, it remains unknown how HCWs evaluate the incentives provided for them. Therefore, we investigated frontline HCW's awareness of these incentives by conducting an anonymous, open web-based, and author-developed survey between 27 August 2020 and 14 September 2020. Members of the Japanese Society of Education for Physicians and Trainees in Intensive Care (JSEPTIC), an organization focused on providing education and research on intensive care medicine, were selected to reflect clinical practice across different HCWs in Japan. The 157 participants included 114 physicians (72.8%), 25 nurses (38.5%), 12 medical engineers (18.5%), four physical therapists (6.2%), and two pharmacists (3.1%). Of the respondents, 77.7% had experienced a dangerous situation, such as getting infected themselves, while treating COVID-19 patients. Our findings showed that a larger number of HCWs (88.5%) considered financial incentives (FIs) as an important

motivation even after the decision of the Government's Supplementary Budget for Healthcare Staff Dealing with COVID-19 in Japan.<sup>2</sup> A number of participants selected "the number of hours wearing PPE" and "procedures with a risk of aerosol generation" as factors for seeking incentives. The salary reports of Japanese HCWs showed that the basic salaries of most HCWs are determined by the seniority system, regardless of the hospital department, specialty, or professional expertise.<sup>3</sup> Therefore, if there were no FIs, such as risk allowances, there would be no difference between the salaries of HCWs working in low-risk environments and the salaries of HCWs working in environments with a high risk of exposure to COVID-19. Compensating HCWs at the level of FIs requested may not be easy; however, maintaining their motivation is as critical as vaccine development and therapeutic agent discovery.

Our results also showed that a majority of frontline HCWs chose "undergoing a regular SARS-CoV-2 PCR test" and "regular mental health counseling" as other necessary incentives. Compared to nonphysicians, physicians are significantly more likely to undergo regular mental health counseling ( $P < .05$ ) (Table 1). Previous studies have demonstrated that frontline HCWs caring for COVID-19 patients are at a higher risk of burnout and psychological symptoms of depression.<sup>4</sup> In addition, a recent study reported that providing adequate PPE was also a critical factor in preventing nurses from experiencing a magnitude of mental health problems.<sup>5</sup> We believe that sustainable, not temporary, incentives, such as FI, regular SARS-CoV-2 PCR testing, and mental health counseling, for frontline HCWs would need to continue for as long as they are engaged in COVID-19-related work.

While there is a possibility of selection bias, the limitations of an anonymous, original author-developed questionnaire, and the small sample size, to our knowledge, this is the first report to explore PPE-wearing frontline HCWs' awareness of incentives put in place for them while they deal patients with COVID-19 in Japan.

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**TABLE 1** Financial and other incentives for healthcare workers

	Total	Physicians	Nonphysicians	P value
N	157 (100%)	114 (72.6%)	43 (27.4%)	
Occupation		Physician	Nurse Medical engineer Physical therapist Pharmacist	NS NS NS NS
I had experienced a dangerous situation.	122 (77.7%)	88 (77.2%)	34 (79.1%)	NS
Financial incentives are important for motivation.	139 (88.5%)	98 (85.9%)	41 (95.3%)	NS
The most important factor to consider when seeking financial incentives				
Number of hours wearing personal protective equipment	67 (42.7%)	50 (43.9%)	17 (39.5%)	NS
Whether the health-care provider performed procedures with a risk of aerosol generation	61 (38.9%)	41 (35.9%)	20 (46.5%)	NS
Deals with newly hospitalized patients	18 (11.5%)	14 (12.3%)	4 (9.3%)	NS
Other	11 (9.0%)	9 (7.9%)	2 (4.7%)	NS
Other incentives that seem to be the most important				
To be tested (PCR tests) on a regular basis	56 (35.7%)	31 (27.2%)	25 (58.1%)	<.01
To be granted priority access to treatment in case of infection	41 (26.1%)	32 (28.1%)	9 (20.9%)	NS
To undergo regular mental health counseling	20 (12.7%)	19 (16.7%)	1 (2.3%)	<.05
Words of appreciation from hospital executives	0 (0%)	0 (0%)	0 (0%)	NS
Expenses related to self-isolation in hotels	0 (0%)	0 (0%)	0 (0%)	NS
Other	40 (25.5%)	32 (28.1%)	8 (18.6%)	NS

Note: A total of 157 healthcare workers (HCWs) participated in the survey. Financial and other incentives for HCWs are expressed here as numbers and percents. P values <.05 were considered to indicate statistical significance (in italics). NS means no significant difference.

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## KEYWORDS

COVID-19, healthcare worker, incentive, medical checkup, personal protective equipment

## DISCLOSURE


*Approval of the research protocol:* The ethics review committee of Tokyo Medical and Dental University (M2020-118) approved this study. *Informed consent:* Participants took the survey after providing informed consent. *Registry and the Registration No. of the study:* N/A. *Animal studies:* N/A.

## CONFLICT OF INTEREST

The authors declare no conflict of interest for this study.

## AUTHOR CONTRIBUTIONS

KM, KT, and MI designed the study as well as analyzed and interpreted the data. KM, KT, MI, and YO drafted the manuscript. All the authors approved the final version of the manuscript.

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