REVIEW Open Access

"Staying at home" to tackle COVID-19 pandemic: rhetoric or reality? Cross-cutting analysis of nine population groups vulnerable to homelessness in Japan



Masami Fujita¹, Sadatoshi Matsuoka¹, Hiroyuki Kiyohara¹, Yousuke Kumakura², Yuko Takeda³, Norimichi Goishi⁴, Masayoshi Tarui⁵, Masaki Inaba⁶, Mari Nagai¹, Masahiko Hachiya¹ and Noriko Fujita¹

Abstract

Although the "stay-at-home" order is advocated against the coronavirus disease 2019 (COVID-19), the lives of individuals lacking adequate housing are threatened. We developed a framework to assess various populations with unstable housing in terms of socio-economic consequences of COVID-19, risk of COVID-19 infection and progression, existing/urgent measures, and remaining challenges. Within the framework, nine groups vulnerable to homelessness in Japan were classified into (i) "people without accommodation," (ii) "people living in temporary or crisis accommodation," and (iii) populations that include "people living in severely inadequate and insecure accommodation." The assessment revealed that "staying at home" was physically and practically unattainable across groups. The study identified specific institutional, social, and cultural challenges apart from the common economic crisis, whereas the utilization of social welfare was low. Findings suggest that the rapid increase of groups classified as "(i)" and "(ii)" should be addressed by engaging stakeholders to enhance the availability and accessibility of social welfare and rescue measures, and to ensure safe and private accommodations for all groups. It is critical to enhance multi-sectoral collaboration in responding to the common and specific vulnerabilities of these population groups from health, socio-economic, and humanitarian perspectives. Under the pandemic, homelessness should be regarded less as a peculiar problem for specific populations but an extension of daily life. The framework can be a reference when planning the comprehensive yet concise assessment of populations with unstable housing in other countries to inform responses to the pandemic.

Keyword: Homelessness, Vulnerable populations, COVID-19, Staying at home

Introduction

Coronavirus disease 2019 (COVID-19) affected people at the global scale and brought a devastating impact on disadvantaged populations [1]. Assessing members of society likely to be affected by COVID-19 is essential to effectively respond to the pandemic in each country as entities classified under disadvantaged groups can change [2]. Especially, homeless individuals are affected by the COVID-19 pandemic [3].

Homeless people, who are reported to carry five- to tenfold mortality rates compared with other groups, are engaged in situations prone to COVID-19 infection [4, 5]. These individuals are at high risk of progressing to severe conditions due to underlying chronic diseases [6]. However, measures for preventing COVID-19 transmission, such as staying at home, rigorous hygiene, and strict social distancing, are reportedly unrealistic for the homeless [7].

¹Bureau of International Health Cooperation, National Centre for Global Health and Medicine, 1-21-1, Toyama, Shinjuku-ku, Tokyo 162-8655, Japan Full list of author information is available at the end of the article



© The Author(s). 2020 **Open Access** This article is licensed under a Creative Commons Attribution 4.0 International License, which permits use, sharing, adaptation, distribution and reproduction in any medium or format, as long as you give appropriate credit to the original author(s) and the source, provide a link to the Creative Commons licence, and indicate if changes were made. The images or other third party material in this article are included in the article's Creative Commons licence, unless indicated otherwise in a credit line to the material. If material is not included in the article's Creative Commons licence and your intended use is not permitted by statutory regulation or exceeds the permitted use, you will need to obtain permission directly from the copyright holder. To view a copy of this licence, visit http://creativecommons.org/licenses/by/4.0/.

^{*} Correspondence: hikiyohara@hosp.ncgm.go.jp

From the viewpoint of Sustainable Development Goals (SDGs), homelessness is related to several issues, such as poverty, hunger, poor health, lack of access to education, clean water and sanitation, gender, inequalities, and barriers to achieving sustainable and inclusive cities [8]. Addressing homelessness during the pandemic requires a broad understanding of country-specific situations so that effective multi-stakeholder cooperation and solidarity can be explored through the lens of SDGs and their interlinked nature.

The definition of homelessness varies, which tends to be conceptualized not only by accommodation but also by broad perspectives, such as security of tenure, physical environment of dwelling, and social interaction, as proposed by the Institute of Global Homelessness (IGH) [9]. The IGH classified the homeless into "people without accommodation," "people living in temporary or crisis accommodation," and "people living in severely inadequate and/or insecure accommodation." In Japan, the definition of homelessness is relatively narrow [10, 11] and people without accommodation are frequently highlighted. Many people living in temporary, inadequate, or insecure accommodation tend to be invisible to society [12, 13]. Groups with diverse characteristics, such as non-regular employment; lesbian, gay, bisexual, transgender, and queer or questioning (LGBTQ); youth; foreign-origin; and internal displacement, were reported among the latter populations, and COVID-19 may force such groups to face common and specific challenges. However, the condition of these populations remains undocumented or lacks comparative analysis.

Since we could not find any existing tool to conduct such analysis, we drafted a framework that consisted of two dimensions, namely (i) three categories of populations with unstable housing conditions based on the IGH classification, and (ii) COVID-19 related situation and response concerning respective populations, encompassing health, socio-economic, and humanitarian elements. Consideration was given to comprehensiveness and conciseness for developing the framework so that stakeholders of different populations could have a good overview for communication and collaboration across sectors.

Regarding the first dimension, we adjusted the third population of the IGH classification from "people living in severely inadequate and/or insecure accommodation" to populations that include "people living in severely inadequate and/or insecure accommodation." This adjustment was made to include people who do not necessarily reside in "severely inadequate and/or insecure accommodation," but are susceptible to losing accommodation, considering the potential devastating impact of COVID-19 pandemic on housing of a broad range of populations [14].

The second dimension involved characteristics of people including their vulnerabilities, socio-economic consequences of COVID-19, risk of COVID-19 infection and progression, existing and urgent measures taken, and remaining challenges, in line with the COVID-19 operational response strategies for the United Nations (UN) families and partners [15]. These strategies included COVID-19 Strategic Preparedness and Response Plan (SPRP) for the health sector [16], UN Socio-Economic Response Framework [17], and Global Humanitarian Response Plan (GHRP) [18]. Each of these strategies and related documents highlighted the importance of vulnerable populations including homeless people.

We presented the draft framework to experts and practitioners engaged in unstable housing conditions, including those with expertise and experiences in community health, mental health, and social determinants of health, as well as housing support, livelihood support, and social welfare. They provided suggestions and advice to refine categorization of populations and identify nine socially distinguishable groups of individuals, based on their experiences in working with NGOs, public sector, and academia.

We then applied the framework to assess populations facing difficulties in securing accommodation in Japan with a focus on Tokyo, who were reported to have a wide range of background and characteristics [19–21]. These nine groups were classified into the abovementioned three categories:

- "People without accommodation" refers to individuals living on streets or open spaces.
- "People living in temporary or crisis accommodation" comprises three groups, namely (i) free- or low-cost accommodations and public assistance facilities, (ii) self-reliance support centers, and (iii) cyber-homeless.
- Populations that include "people living in severely inadequate and/or insecure accommodation" encompass the remaining five groups, namely (i) non-regular workers and self-employed individuals including female-parent household in industries susceptible to repercussions from the COVID-19 pandemic; (ii) impoverished LGBTQ; (iii) evacuees from Fukushima after the nuclear disaster (internally displaced people in Japan); (iv) migrants—technical interns, foreign students, poverty-stricken long-term residents, and undocumented foreigners; and (v) adolescents and children abused in domestic settings.

For each category, a literature review was conducted in terms of characteristics and vulnerabilities, socio-

economic consequences of COVID-19, risk of COVID-19 infection and progression, existing measures most relevant to the vulnerabilities, and urgent measures to address the socio-economic consequences of COVID-19 and risk of COVID-19 infection and progression. The literature included journal articles, reports, government documents, and news articles as of May 31, 2020 (The first COVID-19 case was reported on 16 January 2020 in Japan. The number of reported cases increased to 16,851 by 31 May 2020. The Japanese Government issued an emergency declaration on 7 April 2020, and it was extended to 25 May 2020). Tables were constructed and contents refined after consultation with experts for comparative analysis. The following sections present an overview of social security schemes in Japan as background information of the review, main findings of the review, and strategic directions to address challenges.

Overview of social security schemes in Japan

Main social security schemes in Japan include public pension systems, health care systems, public assistance, labor insurance, social welfare for the elderly, family policies, and policies for persons with disabilities [22]. Income security for the elderly, disabled person, and survivors is provided by the public pension systems. Health care systems include public health, health insurance, and maternal and child health services. Public assistance is offered as part of the financial support system for the poor. Employment insurance, work-related accident insurance, and others are provided as part of the worker protection system. Social welfare for the elderly includes long-term care insurance. Family policies involve childcare and financial support such as child allowance and support for single-parent households. Policies for persons with disabilities include care service provision and financial assistance.

People without accommodation and people living in temporary or crisis accommodation (Table 1) Characteristics and vulnerabilities of populations

- i) People without accommodation are defined as those living their daily lives in city parks, riverside, streets, stations, and other facilities according to the Act on Special Measures concerning Assistance in Self-Support of Homeless. They are predominantly male and aged over 60 years [10, 23], with high prevalence of mental illnesses, intellectual disability, and chronic diseases, such as hypertension, diabetes, and alcoholism [19].
- ii) People living in temporary or crisis accommodation include the following groups:

- a) People in free- or low-cost accommodations and public assistance facilities are mostly beneficiaries of the Public Assistance System which aims to guarantee the minimum standard of living [29, 49]. Free- or low-cost accommodations offer accommodation only (with occasional food and consultation services), whereas public assistance facilities provide livelihood assistance and in most cases care for physical or mental disabilities. However, a high prevalence of mental illnesses and intellectual disability was reported among people in free- or low-cost accommodations. Furthermore, economic exploitation by owners of free- or low-cost accommodations and sub-optimal dwelling environment were highlighted [10].
- b) Self-reliance support centers [50] are to provide temporary living assistance as stipulated by the Act on Self-reliance Support for Needy Persons, where people are required to find a job and stay for up to 6 months.
- c) The cyber-homeless stay inside internet or comic book cafés, which are open for business 24 h a day and offer not only internet and/or comic book services, but also food, drink, showers, and private rooms. These facilities are often used as affordable temporary accommodation. According to the surveys conducted by the Tokyo Metropolitan Government in 2016, more than a quarter of overnight users were staying these cafés because they had lost homes. Among them, more than 80% were non-regular workers or self-employed individuals. The majority of users are male and lack employment and health insurance [33]. Some of them also sleep on the streets when needed.

Socio-economic consequences of COVID-19

Loss/reduction of income or difficulty in finding a job due to COVID-19 exerted negative consequences on all groups. People without accommodation gained reduced access to soup and kitchen services offered by NGOs. The suspension of internet cafés resulted in the increase of people without accommodation.

Risk of COVID-19 transmission and progression

All groups classified as people living in temporary or crisis accommodation typically stay in shared spaces. People experiencing loss/reduction of income, particularly those without accommodation and cyber-homeless, are prone to losing health insurance, which increases the difficulty of accessing medical services including COVID-19 testing.

Table 1 People without accommodation and people living in temporary or crisis accommodation

	People without	People living in temporary or crisis accommodation				
	accommodation	Free- or low-cost accommodation and public assistance facilities	Self-reliance support centers	Internet café or comic book café		
Characteristics and vulnerabilities	 A total of 4253 in Japan, and 1037 people in Tokyo alone, the majority of whom are males aged over 60 [10, 23]. Night-time count of homeless people by NGO indicated an actual number that is 2.8 times higher than that produced by a public survey in Tokyo [24]. High prevalence of mental illness, intellectual disability, and chronic diseases, such as hypertension, diabetes, and alcoholism [19, 23, 25]. Threatened by natural disasters, eviction requests, and raids [26, 27]. 	Free- or low-cost accommodations shelter 15,600 people in Japan [28] and 4069 people in Tokyo alone, out of which 3779 are recipients of public assistance [26]. Public assistance facilities accommodate 35,918 people [29]. Congregated dwelling environment [28]. TB infection clusters reported [30].	Utilized by a total of 16,641 people in Japan in 2019 [21]. Capacity for accommodation is 350 people in Tokyo [31]. Tenancy terminates in 6 months [31]. Inmates are required to follow rules, such as alcohol ban and curfews, which drives them to escape [32].	The number of people that utilize such cafes is 5000 for Japan (2007) and 5055 for Tokyo (2016). The majority are males aged between 30 and 59 years [33]. Frequent visitors are mainly non-regular workers without employment or health insurance. Oftentimes, many sleep on the streets [34]. Despite its availability, the existing social welfare is not utilized [34]. TB infection clusters reported [34].		
Socio- economic consequences of COVID-19	 Loss of income [35]. Soup kitchen services are on hold [36]. Increase in number of people on the streets [37]. 	• Those who are not welfare recipients lose job income [38].	Difficulty of finding a job during the 6- month tenancy period [32].	 Loss of income [39]. Suspension of internet cafés, which deprives accommodation [40]. 		
Risks of COVID-19 in- fections and progression	 Aging and chronic diseases [23]. Difficulty performing hand hygiene practices [37]. Delay in access to medical services [23]. 	Sharing a small room with several people [28].	 Sharing a room and amenities, no rooms are individually available, particularly in Tokyo [31]. 	 Sharing a big space and amenities [36]. 61.2% of them are without health insurance [33]. Delay in access to medical services [23]. 		
Existing measures most relevant to vulnerabilities	 Public Assistance System for Guaranteeing Minimum Standard of Living [41]. Self-reliance Support for Needy Persons [42]. 	Public Assistance System for Guaranteeing Minimum Standard of Living [41].	Self-reliance Support for Needy Persons [42].	 Self-reliance Support for Needy Persons [42]. Tokyo Challenge Net [43]. 		
Urgent measures for COVID-19 con- sequences and risks	 MHLW circular on streamlining approval procedures of public assistance [44]. MHLW circular on single rooms for the newly needy [45]. 	• Infection control manuals [46].	• Infection control manuals [47].	 MHLW circular on streamlining approval procedures of public assistance [44]. MHLW circular on single rooms for the newly needy [45]. 		
Remaining challenges for COVID-19 con- sequences and risks	 Low utilization (20%) of the Public Assistance System due to tedious local government procedures and stigma against the system [48]. Implement single room arrangement. Access to medical services. 	Despite infection control practices, multiple inmates continue to share rooms [46].	Despite infection control practices, multiple inmates continue to share rooms [47].	 Low utilization (20%) of the Public Assistance System due to tedious local government procedures and stigma against the system [48]. Implement single room arrangement. Access to medical services. 		

Measures and remaining challenges

Although the Public Assistance System guarantees the minimum standard of living, the take-up rate of Public Assistance reached as low as 20% in Japan [51]. The contributing factors include social stigma against users, limited awareness of the system, cumbersome application procedures, and strict approval criteria [52]. Amid the COVID-19 pandemic, the Ministry of Health, Labour and Welfare (MHLW) issued circulars to local governments to streamline the application and approval

procedures of the Public Assistance System and to arrange single rooms for individuals who recently lost accommodation. In addition, the government initiated Special Cash Payments amounting to JPY100,000 targeting residents under the Basic Resident Registration System.

The remaining challenges for addressing the socioeconomic consequences of COVID-19 and risk of COVID-19 infection and progression include (i) the low utilization of the Public Assistance System and social stigma against users [52]; (ii) effective and efficient implementation of single room arrangements for individuals who lost accommodation; (iii) prevention practices and/or single room arrangements and other measures for people living in self-reliance support centers, free- or low-cost accommodations, and public assistance facilities; and (iv) access to medical services, particularly among people not covered by health insurance.

Populations that include people living in severely inadequate and insecure accommodation (Table 2) Characteristics and vulnerabilities of populations

- i) Non-regular workers and self-employed individuals including female-parent households include populations with housing instability. The wage for non-regular workers was 65% of that of regular workers in 2018 [101], whereas the relative poverty rate of single-parent families (mostly female-parents) was 50.8%. Furthermore, non-regular workers are susceptible to termination of employment contract during economic recessions [102]. The perils of workers are exacerbated by the nearly halved reduction of income [103] due to the low-level unemployment benefit of employment insurance, particularly for individuals with short work tenure [104].
- ii) The LGBTQ appear to include significant segments of people facing housing instability. A web-based survey that targeted men who have sex with men (MSM) in 2016 revealed that 5.2% out of 6921 respondents had ever lost accommodation, whereas 56.1% experienced worry or stress over income or debt [59]. Moreover, a survey targeting property owners in 2018 indicated that less than 40% welcome same-sex couples as tenants [60].
- iii) Evacuees from Fukushima after the nuclear disaster in 2011 (internally displaced people) experienced job losses in their home town and were forced to find new jobs as non-regular employees [105]. Families are separated physically, which results in increased household expenses [106]. In addition, these workers lost social capital, which is difficult to rebuild in the destination community. Discontinuation of housing assistance as stipulated in the Disaster Relief Act of 2017 affected more than 12,000 households.
- iv) Migrants—technical interns (which are foreign nationals in Japan under the Technical Intern Training Program of the Japanese Government), international students, asylum seekers, povertystricken long-term residents, and undocumented foreigners have various vulnerabilities. Specifically, technical interns face labor, health, and safety

- issues; are forced to stay in sub-optimal housing; and are burdened with huge debts in their home countries [107]. In fact, more than 9000 technical interns have disappeared from designated work places in 2019. International students tend to depend on heavy part-time jobs and have huge debts in their home countries [108]. Long-term residents, especially those of Japanese descent, work in unstable employment conditions [109]. Asylum seekers are banned from working for 6 months, and many are detained in immigration detention centers [110]. Undocumented foreigners, such as ex-technical interns and ex-international students, are excluded from health insurance or social protection schemes [111].
- v) A large number of adolescents and children roam the streets due to physical and/or mental abuse in their domestic settings [112]. A total of 230,000 roaming and 160,000 abuse cases were reported in 2018, which have been rapidly increasing in the past decade [73, 113]. The prevalent type of abuse was psychological, followed by physical, neglect, and sexual abuse. Abused adolescent girls roaming the streets face various challenges, such as sexual exploitation [114].

Socio-economic consequences of COVID-19

Loss/reduction of income exerted negative consequences on non-regular workers, impoverished LGBTQ, internally displaced people from Fukushima, and foreigners, particularly in industries susceptible to repercussions from the pandemic. Furthermore, each population faces additional difficulties. For example, admission to a facility (i.e., free- or low-cost accommodation) where single rooms are unavailable is traumatic for the LGBTQ, and unemployment of foreign workers leads to loss of residence status and access to social and health services. Finally, staying indoors results in increases in adolescent and child abuse cases [115].

Risk of COVID-19 transmission and progression

Despite the stay-at-home policy, people belonging to the five groups are forced to go out for work to earn a living or flee from domestic abuse. People with loss/reduction of income are prone to losing health insurance as they experience difficulties in paying the insurance premium, which may result in delay in accessing medical services including COVID-19 testing. People detained in immigration centers, children and youth in the Child Guidance Center's Temporary Care Home, and a portion of technical interns are staying in congregated settings. The housing conditions of asylum seekers and undocumented foreigners including ex-technical interns and ex-students remain unclear.

Table 2 Populations that include people living in severely inadequate and insecure accommodation

	Non-regular workers and self-employed in- dividuals including single-female-parent household	Impoverished LGBTQ	Internally displaced people (evacuees from Fukushima after nuclear disaster)	Migrants—technical interns, international students, undocumented migrants, long-term foreign residents, and undocumented foreigners	Adolescents and children abused in domestic settings
Characteristics and vulnerabilities	 2.6 million out of 21 million non-regular workers reluctantly took non-regular jobs due to lack of regular employment opportunities [53]. Non-regular workers' wage is 65% of regular workers' wage [54]. In 1.2 million single-female-parent household, 47% are non-regular workers or self-employed [55]. The relative poverty rate of single-parent families is 50.8% [56]. Income of single-female-parent household is 38% of that of household with children [57]. 	LGBTQ accounts for 10% of the population aged between 20 and 60 years [58]. A total of 5.2% of MSM web-survey respondents ever lost accommodation, 22.7% sold sex, and 56.1% worried or stressed about income or debt [59]. Less than 40% of property owners welcome same-sex couples as tenants [60]. Sexual minorities may face discrimination in terms of access to housing [61].	 30,000 people are not allowed to live in their home town in Fukushima if the area is classified as a mandatory evacuate zone as of April 2020 [62]. A sizeable number of people voluntarily evacuated from their residential areas [63]. This number was estimated at 31,000 as of 2015 [64]. After evacuation, nonregular workers among Fukushima evacuees increased [64], income decreased, and expenditure increased [64]. Housing support based on the Disaster Relief Act ended in 2017, which affected more than 12,000 households [65]. Blending into destination communities is difficult partly due to stigma and discrimination against Fukushima evacuees [66]. 	 A total of 410,972 technical interns were noted as of 2019, out of which 2.1% (9,052 people) are reported to have disappeared and may be labeled as undocumented foreigners [67]. 83,811 foreign students are studying at language schools [68], many of whom are considered cheap labor [69]. Out of 10,000 asylum seekers per year in Japan, only 40 are accepted [70]. Immigration detention centers reported 1253 detainees as of June 2019 [71]. 2,829,416 long-term residents, including Japanese descents [72]. Undocumented foreigners are excluded from social protection schemes. 	 230,000 adolescents and children roam the streets at night [73]. Physical and/or mental abuse in a domestic environment drive them away from home and out on the streets [74]. In 2018, 160,000 adolescent and child abuse cases (up to 18 years old) were reported [75]. The most prevalent type of abuse was psychological abuse, followed by physical abuse, neglect, and sexual abuse [75, 76]. Sexual exploitation of adolescent girls who roam the streets [77].
Socio- economic consequences of COVID-19	 Loss of income [78]. Increased food expenses due to school closure [79]. 	Threatened by enforcement of revealing sexual orientation in the case of contracting the novel coronavirus [80].	 Loss of income [78]. Suspension of regular exchange events by evacuees [81]. 	 Loss of income [82]. Loss of resident status (Visa expiration) [83]. 	 Worsened cases of child/adolescent abuse [84]. Less opportunities for recognizing child/ adolescent abuse due to school closure [85].
Risk of COVID- 19 infections and progression	 Only 17.0% of non-regular workers are working from home compared with 27.9% of regular workers [86]. Delay in access to medical services due to lack of health insurance [87]. 	 Inevitability of going out for work. Delay in access to medical services due to lack of health insurance [87]. 	 Inevitability of going out for work. Delay in access to medical services due to lack of health insurance [87]. 	 Inevitability of going out for work. Delay in access to medical services due to lack of health insurance [87]. Sharing a room [88]. 	 Driven to flee from child/adolescent abuse and gather in closed spaces [89]. Sharing a room and amenities at a temporary custody facility [90].
Existing measures most relevant to vulnerabilities	 Unemployment benefit of employment insurance [91]. Job applicant benefits for daily workers [92]. 	 Unemployment benefit of employment insurance [91]. Job applicant benefits for daily workers [92]. 	 Unemployment benefit of employment insurance [91]. Job applicant benefits for daily workers [92]. 	 Unemployment benefit of employment insurance [91]. Job applicant benefits for daily workers [92]. 	• Act on the Partial Amendment to the Child Welfare Act and other legal measures to enhance the efforts for preventing child abuse [93].
Urgent measures for	 Employment adjustment subsidy 	• Employment adjustment subsidy	 Employment adjustment subsidy 	• Employment adjustment subsidy	Action plan to strengthen child

Table 2 Populations that include people living in severely inadequate and insecure accommodation (Continued)

	Non-regular workers and self-employed in- dividuals including single-female-parent household	Impoverished LGBTQ	Internally displaced people (evacuees from Fukushima after nuclear disaster)	Migrants—technical interns, international students, undocumented migrants, long-term foreign residents, and undocumented foreigners	Adolescents and children abused in domestic settings
COVID-19 con- sequences and risk	[94]. • Subsidy Program for Sustaining Businesses Starts [95].	[94]. • Subsidy Program for Sustaining Businesses Starts [95].	[94]. • Subsidy Program for Sustaining Businesses Starts [95].	[94]. • Flexibility in changing Visa status [96].	abuse monitoring [97].
Remaining challenges to address COVID-19 con- sequences and risks	Supporting individuals not covered by any measures [98]. Reducing barriers to the application of existing and urgent measures [99]. Preventing transmission during work [100].	 Supporting individuals not covered by any measures [98]. Reducing barriers to the application of existing and urgent measures [99]. Preventing transmission during work [100]. 	Supporting individuals not covered by any measures [98]. Reducing barriers to the application of existing and urgent measures [99]. Preventing transmission during work [100]. Mitigating the isolation of evacuees, particularly the elderly [81].	Supporting individuals not covered by any measures [98]. Reducing barriers to the application of existing and urgent measures [99]. Preventing transmission during work [100]. Understanding the situation and responding to the needs of undocumented foreigners	Enhancing cooperation among schools, local governments, and child guidance centers during school closure [85]. Developing alternative approaches to activities of existing public institutions to meet the needs of children and adolescents [77].

Measures and remaining challenges

The eligibility criteria for the unemployment benefits of employment insurance have been expanded over time [73]. However, people who lost jobs, particularly non-regular workers ineligible for unemployment benefits, are prone to losing health insurance. At least 180,000 households are required to pay the full amount of medical cost when using medical services due to delinquency in payment [116].

As part of urgent measures to respond to the pandemic, the government established the Employment Adjustment Subsidy for employers and the Subsidy Program for Sustaining Businesses for self-employed and freelance workers [94, 117]. The former is "provided for an employer, who has been forced to reduce business activities due to the effects of COVID-19 and temporarily suspended work, or who has trained or dispatched employees in order to maintain their employment, for some of the leave allowance paid to employees," and the latter "targets companies facing severe conditions in particular and provides them with subsidies for a wide variety of purposes that in general are considered effective in supporting them in sustaining or reviving their businesses." Furthermore, the government initiated Special Cash Payments amounting to JPY100,000 targeting the country's population registered under the Basic Resident Registration System as eligible recipients.

The remaining challenges common to all groups except for people in abusive domestic settings include providing support for individuals not covered by existing and urgent measures and reducing barriers to such measures. Particularly, assessing the situation of undocumented foreigners is imperative to the development of adequate responses [111].

For adolescents and children abused in domestic settings, enhancing cooperation among schools, local governments, and child guidance centers during school closure due to COVID-19 is crucial [118]. To meet the diverse needs of adolescents, such as protection from sexual exploitation and isolation, alternative approaches to existing public institutions should be developed and expanded, which include outreach programs, peer support, and adolescent-sensitive services [114].

Strategic directions to address challenges

The framework used for the assessment integrated the IGH definition of homelessness and the health, socio-economic, and humanitarian perspectives in line with the COVID-19 operational response strategies for the United Nations (UN) families and partners. While the scope of the assessment could be deemed ambitious, this assessment illustrated a comprehensive yet concise picture of nine groups of populations with unstable housing conditions with diverse backgrounds in Japan.

These populations share a common problem. "Staying at home" is unrealistic because they lack adequate homes as a fundamental human right or are compelled to venture outside to earn a living. Furthermore, the assessment identified a range of major challenges as indicated in Tables 1 and 2, to wit: increasing utilization of

the Public Assistance System, effective and efficient implementation of urgent measures, prevention practices in congregated settings, preventing transmission during work outside home, ensuring timely access to medical services (particularly among individuals not covered by health insurance or other schemes), understanding and addressing the situation of undocumented foreigners, and protecting children and adolescents abused in domestic settings.

To address these challenges, which is a huge task for society, the findings suggest and inspire the following strategies:

- Economic damages caused by the pandemic force a large number of populations indicated in Table 2 to confront existing problems faced by the populations summarized in Table 1. The existing problems include low utilization of the Public Assistance System, and sub-optimal conditions of many selfreliance support centers and free- or low-cost accommodations. With a view to converting crisis into opportunity, it is crucial to highlight and address the existing problems from the viewpoint of people with diverse backgrounds in need of the system and centers due to COVID-19. Specifically, efforts are necessary to engage stakeholders to enhance the implementation and utilization of the Public Assistance System and advocate a safe and private accommodation for all groups.
- All groups were deemed to feature vulnerabilities that require vigilant consideration in designing assistance schemes and operationalizing procedures. These vulnerabilities surfaced by the COVID-19 pandemic include traumatic life experiences, mental illnesses, intellectual disability, substance use, gender-related issues, lack of social capital, unstable employment, financial debt, migration, language barriers, and domestic violence.
 - Each group is not mutually exclusive and may overlap one another. Thus, efforts to address vulnerabilities should be maximized across initiatives that support different groups. For instance, a consortium of NGOs was established in 2019 to gather and pool funding for emergency support for individuals who lack accommodation [12]. The consortium consisted of NGOs working on various population groups, such as people on streets and in temporary accommodations, adolescent girls in abusive domestic environments, women with pregnancy-related issues, asylum seekers and refugees, poor children and parents, youth in poverty, internally displaced people, and victims of human trafficking, as well as housing support, research and advocacy, and labor issues.

• It is also critical to enhance multi-sectoral collaboration in responding to the vulnerabilities of respective groups from health, socio-economic, and humanitarian perspectives [14]. In particular, the health sector is expected to play an active role to foster such collaboration in addressing the needs of these groups through working with social welfare, labor, industry, education, and other sectors. Initiatives targeting these groups should be advocated and mainstreamed, building on existing initiatives such as Inclusion Health, which is a service, research, and policy agenda that aims to prevent and redress health and social inequities among the most vulnerable and excluded populations such as homeless, prisoners, and drug users [119, 120].

Conclusion

Viewing the spectrum of population groups with unstable housing conditions using the proposed framework that encompasses health, socio-economic, and humanitarian perspectives, the COVID-19 pandemic seemingly teaches a lesson, that is, homelessness is not a problem for a specific population but an extension of daily life that many citizens can face with a subtle trigger. A variety of issues that emerged regarding homelessness provided opportunities to recognize and address old and new social determinants of health and to move toward a sustainable symbiotic society in synergy with initiatives for tackling other social issues toward SDGs.

It should be noted that the framework was developed and applied to a wide range of population groups in Japan through consultation with experts and practitioners engaged in unstable housing conditions. However, given that the possibility of overlooking other elusive populations cannot be ruled out, further studies are needed to refine this framework. Considering elusiveness and changeability of vulnerable populations, we hope that this framework can be a reference when planning the comprehensive yet concise assessment of populations with unstable housing in other countries [2]. The authors wish to share their insights so that partnership and solidarity could be forged across countries [121].

Limitations

Instead of a systematic manner, data collection was performed according to the framework developed. Thus, its validity and generalizability should be further examined. Although not discussed, other populations exist in Japan, i.e., individuals who are not homeless but significantly susceptible to COVID-19. Such persons include those with disabilities in facilities, the elderly in nursing homes, children in orphanages, prisoners, and psychiatric patients with prolonged hospital stay.

Abbreviations

COVID-19: Coronavirus disease 2019; GHRP: Global Humanitarian Response Plan; IGH: The Institute of Global Homelessness; LGBTQ: Lesbian, gay, bisexual, transgender, and queer or questioning; MHLW: Ministry of Health, Labour and Welfare; MSM: Men who have sex with men; SDGs: Sustainable Development Goals; SPRP: Strategic Preparedness and Response Plan; UN: United Nations

Acknowledgements

The authors acknowledge the contribution of the following individuals who provided critical comments to an earlier version of this manuscript: Akiko Takeishi, Kenji Kubota, Kenji Seino, Tsuyoshi Inaba, Takashi Sawada, Hiroki Mochizuki, Tsutomu Yamanaka, Yuko Yoneda, Hiroshi Miyake, Mayumi Ohnishi, Minju Yoshimoto, Shinsuke Miyano, Miwa Kanda, Hidechika Akashi, Chiaki Miyoshi, Azusa Iwamoto, Shinichiro Noda, Tomoyo Miyake, Khuat Thi Hai Oanh, and Saul Helfenbein.

Authors' contributions

MF conceived and designed the study. SM and HK carried out the literature search and initial analysis. MF, SM, and HK interpreted the data and wrote the first draft of the paper. YK, YT, NG, MT, MI, MN, MH, and NF provided advice on the first draft and revised the paper critically for important intellectual content. All authors reviewed and had final approval of the submitted and versions.

Funding

This paper is supported by Special Fund for Addressing the Novel Coronavirus Disease of National Center for Global Health and Medicine (NCGM).

Availability of data and materials

Not applicable, because this article reviews existing literature.

Ethics approval and consent to participate

Not applicable, because this article does not involve any use of animal or human data or tissue.

Consent for publication

Not applicable, because this article does not contain any individual person's data in any form.

Competing interests

The authors declare that they have no competing interests.

Author details

¹Bureau of International Health Cooperation, National Centre for Global Health and Medicine, 1-21-1, Toyama, Shinjuku-ku, Tokyo 162-8655, Japan. ²Department of Mental Health, The University of Tokyo, 7-3-1, Hongo, Bunkyo-ku, Tokyo 113-0033, Japan. ³Department of Medical Education, Juntendo University, 101 Amano Building, 2-8-3 Hongo, Bunkyo-ku, Tokyo 113-0033, Japan. ⁴Graduate School of Urban Management, Osaka City University, 3-3-138 Sugimoto, Sumiyoshi-ku, Osaka-shi, Osaka, Japan. ⁵Faculty of Letters, Keio University, 2-15-45 Mita, Minato-ku, Tokyo 108-8345, Japan. ⁶Japan Civil Society Network on SDGs, 604 Sankyo Building Honkan, 1-7-10, lidabashi, Chiyoda-ku, Tokyo 102-0072, Japan.

Received: 1 September 2020 Accepted: 29 October 2020 Published online: 23 November 2020

References

- Ahmed F, Ahmed N, Pissarides C, Stiglitz J. Why inequality could spread COVID-19. Lancet Public Health. 2020;5(5):e240.
- The Lancet. Redefining vulnerability in the era of COVID-19. The Lancet; 2020: 395(10230):1089.
- United Nations Regional Information Center for Western Europe. COVID-19: How do you self-isolate if you have nowhere to live? https://unric.org/en/refugees-and-homeless-covid-19-how-do-you-self-isolate/. Published 2020. Accessed 16 Oct 2020.
- Mosites E, Parker E, Clarke K, Gaeta J, Baggett T, Imbert E, et al. Assessment of SARS-CoV-2 infection prevalence in homeless shelters - four U.S. cities, march 27–April 15, 2020. Morb Mortal Wkly Rep. 2020;69(17):521–2.

- Tsai J, Wilson M. COVID-19: a potential public health problem for homeless populations. In., vol. 5: The Lancet Public Health. 2020;5(4):e186-87.
- Aldridge R, Story A, Hwang S, Nordentof M, Luchensk S, Hartwell G, et al. Morbidity and mortality in homeless individuals, prisoners, sex workers, and individuals with substance use disorders in high-income countries: a systematic review and meta-analysis. Lancet. 2017;391(10117):241–50.
- FEANTSA. COVID-19: "staying home" not an option for people experiencing homelessness. https://www.feantsa.org/en/news/2020/03/18/covid19staying-home-not-an-option-for-people-experiencing-homelessness. Published 2020. Accessed 16 Oct 2020.
- United Nations Human Settlements Programme. Homelessness & the SDGs. https://www.un.org/development/desa/dspd/wp-content/uploads/sites/22/2 019/07/SALCEDO_Jesus_Presentation_2-1.pdf. Published 2019. Accessed 16 Oct 2020
- Busch-Geertsema V, Culhane D, Fitzpatrick S. Developing a global framework for conceptualising and measuring homelessness. Habitat International. 2016;55:124–32.
- Ministry of Health, Labour and Welfare. National survey on the actual conditions of the homeless (Headcount Survey), 2019. (in Japanese) https:// www.mhlw.go.jp/content/12003000/000505478.pdf. Published 2019. Accessed 16 Oct 2020.
- Ohtsu T, Toda R, Shiraishi T, Toyoda H, Toyozawa H, Kamioka Y, et al. Living conditions, ability to seek medical treatment, and awareness of health conditions and healthcare options among homeless persons in Tokyo, Japan. Acta Med Okayama. 2011;65(6):387–93.
- 12. Inaba T. Open the closed door, social action against exclusion and poverty (in Japanese). Asahi Shimbun Publications Inc. Published 2020.
- Akazawa S. Net Cafe Refugees The coronavirus pandemic and Japan's homeless population. https://metropolisjapan.com/net-cafe-refugees/. Published 2020. Accessed 16 Oct 2020.
- United Nations. Shared responsibility, global solidarity: responding to the socio-economic impacts of COVID-19. https://unsdg.un.org/sites/default/ files/2020-03/SG-Report-Socio-Economic-Impact-of-Covid19.pdf. Published 2020. Accessed 16 Oct 2020.
- United Nations. United Nations comprehensive response to COVID-19: saving lives, protecting societies, recovering better. https://unsdg.un.org/ sites/default/files/2020-06/UN-Response-to-COVID-19.pdf. Published 2020. Accessed 16 Oct 2020.
- World Health Organization. 2019 novel coronavirus (2019-nCoV): strategic preparedness and response plan. https://www.who.int/docs/default-source/ coronaviruse/srp-04022020.pdf. Published 2020. Accessed 16 Oct 2020.
- United Nations. An UN framework for the immediate socio-economic response to COVID-19. https://unsdg.un.org/sites/default/files/2020-04/UNframework-for-the-immediate-socio-economic-response-to-COVID-19.pdf. Published 2020. Accessed 16 Oct 2020.
- UN Office for the Coordination of Humanitarian Affairs. Global Humanitarian Response Plan: COVID-19 (April – December 2020) GHRP July Update. https://reliefweb.int/sites/reliefweb.int/files/resources/GHRP-COVID19_July_update_0.pdf. Published 2020. Accessed 16 Oct 2020.
- Nishio A, Yamamoto M, Ueki H, Watanabe T, Matsuura K, Tamura O, et al. Prevalence of mental illness, intellectual disability, and developmental disability among homeless people in Nagoya, Japan: a case series study. Psychiatry Clin Neurosci. 2014;69(9):534–42.
- Bureau of Social Welfare and Public Health, Tokyo Metropolitan Government. Report on actual conditions of people with precarious work and housing. (in Japanese) https://www.metro.tokyo.lg.jp/tosei/ hodohappyo/press/2018/01/26/documents/14_02.pdf. Published 2018. Accessed 16 Oct 2020.
- Ministry of Health, Labour and Welfare. Survey on the conditions of Selfreliance Support for Needy Persons, 2018. (in Japanese) https://www.mhlw. go.jp/content/000542747.pdf. Published 2018. Accessed 16 Oct 2020.
- National Institute of Population and Social Security Research. Population and Social Security in Japan. http://www.ipss.go.jp/s-info/e/pssj/pssj2019. pdf. Published 2019. Accessed 16 Oct 2020.
- 23. Ministry of Health, Labour and Welfare. National survey on the actual conditions of the homeless, 2016. (in Japanese) https://www.mhlw.go.jp/file/04-Houdouhappyou-12003000-Shakaiengokyoku-Shakai-Chiikifukushika/02_homeless28_kekkasyousai.pdf. Published 2017. Accessed 16 Oct 2020.
- Advocacy and Research Centre for Homelessness. 2019 Summer Tokyo Street Count. https://www.archomelessness.org/. Updated 2020. Accessed 16 Oct 2020.

- 25. Morikawa S, Uehara R, Okuda K, Shimizu H, Nakamura Y. Prevalence of psychiatric disorders among homeless people in one area of Tokyo (in Japanese). Jap J Public Health. 2011;58(5):331–9.
- Siripala T. Tokyo's homeless pressured to disappear ahead of olympics. https://thediplomat.com/2020/02/tokyos-homeless-pressured-to-disappear-ahead-of-olympics/. Updated 2020. Accessed 16 Oct 2020.
- Shirakawa M. Homeless denied shelter during Typhoon Hagibis https:// www3.nhkor.jp/nhkworld/en/news/backstories/731/. Updated 2019. Accessed 16 Oct 2020.
- Ministry of Health, Labour and Welfare. Survey on facilities that offer free or low-cost accommodations. (in Japanese) https://www.mhlw.go.jp/file/04-Houdouhappyou-12002000-Shakaiengokyoku-Shakai-Hogoka/0000134574. pdf. Published 2015. Accessed 16 Oct 2020.
- Ministry of Health, Labour and Welfare. Shelters based on Public Assistance Act. (in Japanese) https://www.mhlw.go.jp/shingi/2002/05/s0510-2e.html. Published 2002. Accessed 16 Oct 2020.
- Endo M, Ota M, Kayebeta A, Takahashi I, Nagata Y. A tuberculosis outbreak at an insecure, temporary housing facility, manga café, Tokyo, Japan, 2016– 2017. Epidemiol Infect. 2019;144(e222):1-6. doi: https://doi.org/https://doi. org/10.1017/S0950268819001092.
- 23 Special Wards of Tokyo. Support measures for rough sleepers. (in Japanese) http://www.tokyo23city.or.jp/ki/kyodo/ki3-9.html. Accessed 16 Oct 2020.
- IROIRO. A list of self-reliance support centers in Tokyo 2017-2019. (in Japanese) https://iroiro.co/article/justice/society/homeless-center/. Updated 2018. Accessed 16 Oct 2020.
- Bureau of Social Welfare and Public Health, Tokyo Metropolitan Government. Report on actual conditions of people with precarious work and housing. (in Japanese) https://www.metro.tokyo.lg.jp/tosei/ hodohappyo/press/2018/01/26/documents/14_02.pdf. Publisehd 2018. Accessed 16 Oct 2020.
- Kizuki M, Takano T, Nakamura K, Fukuda Y, Watanabe M, Inose T, et al. Social course patterns of urban dwellers with tuberculosis under fragile living conditions in Tokyo, Japan. J Epidemiol. 2006;16(4):167–75.
- SankeiBiz. Big issue, supporting homeless people, faced by a shrink in sales amid the novel coronavirus pandemic. Secretariat considering remedy measures. (in Japanese) https://www.sankeibiz.jp/business/news/200504/ bsm2005040655001-n1.htm. Updated 2020. Accessed 16 Oct 2020.
- Takikawa D. Tokyo's homeless hit hard as support groups stop giving out food, masks over virus fears. The Mainichi. https://mainichi.jp/english/ articles/20200403/p2a/00 m/0na/027000c. Updated 2020. Accessed 16 Oct 2020.
- David HS, Ikebe S. Social distancing from the problem of Japanese homelessness under covid-19. Asia-Pacific J. 2020;18(18):4.
- The Mainichi. Prompt support' needed as the agony spreading from day laborers: asking Ren Onishi, NPO MOYAI, about the current situations of the poor. (in Japanese) https://mainichi.jp/articles/20200411/k00/00 m/040/ 027000c. Updated 2020. Accessed 16 Oct 2020.
- Saito B. For Tokyo poor living in net cafes, virus state of emergency could mean homelessness. The Mainichi. https://mainichi.jp/english/articles/202 00409/p2a/00 m/0na/037000c. Updated 2020. Accessed 16 Oct 2020.
- Chandran R. Tokyo faces pressure to house internet cafe homeless. JAPANTODAY. https://japantoday.com/category/national/Tokyo-faces-pressure-to-house-internet-cafe-homeless. Updated 2020. Accessed 16 Oct 2020.
- Ministry of Health, Labour and Welfare. Public Assistance System. https:// www.mhlw.go.jp/english/topics/social_welfare/dl/outline_of_the_public_ assistance_system_20101004.pdf. Published 2010. Accessed 16 Oct 2020.
- Ministry of Health, Labour and Welfare. About Self-reliance Support System for Needy Persons. (in Japanese) https://www.mhlw.go.jp/stf/seisakunitsuite/ bunya/0000073432.html. Updated 2020. Accessed 16 Oct 2020.
- Tokyo Metropolitan Government. Tokyo Challenge Net. (in Japanese) https://www.tokyo-challenge.net/. Updated 2020. Accessed 16 Oct 2020.
- Ministry of Health, Labour and Welfare. Correspondence to provision of public assistance services, for the prevention of spreading the novel coronavirus. (in Japanese) https://www.mhlw.go.jp/content/000619973.pdf.
 Published 2020. Accessed 18 Oct 2020.
- Ministry of Health, Labour and Welfare. Correspondence to the declaration
 of the state of emergency regarding the novel coronavius pandemic. (in
 Japanese) https://www.mhlw.go.jp/content/000622762.pdf. Published 2020.
 Accessed 18 Oct 2020.

- Ministry of Health, Labour and Welfare. Correspondence to the infection control practices of the novel coronavirus at free or low-cost accommodation. (in Japanese) https://www.mhlw.go.jp/content/000621768. pdf. Published 2020. Accessed 18 Oct 2020.
- Ministry of Health, Labour and Welfare. The utilization of temporary housing support services under the self-reliance support law for the needy persons. (in Japanese) https://www.mhlw.go.jp/content/000621870.pdf. Published 2020. Accessed 18 Oct 2020.
- 48. Japan Federation of Bar Associations. Public Assistance System, Q&A brochure. (in Japanese) https://www.nichibenren.or.jp/library/ja/publication/booklet/data/seikatuhogo_qa.pdf. Accessed 18 Oct 2020.
- Tsujii M. Research survey on support needs assessment of the users who require daily living suports at free- or low-cost accommodations. (in Japanese) Ministry of Health, Labour and Welfare. https://www.mhlw.go.jp/ content/12200000/000525955.pdf. Published 2018. Accessed 16 Oct 2020.
- Ministry of Health, Labour and Welfare. Partial Revision of the Act on Selfreliance Support for Needy Persons to Promote Independence of Needy Persons. https://www.mhlw.go.jp/english/policy/care-welfare/social-welfare/ dl/201904shakai.pdf. Published 2019. Accessed 16 Oct 2020.
- Sai E. Problems and future perspectives of the public assistance system. (in Japanese) The Journal of Economic Policy Studies, Kagawa University; 2015; 11:159-78. https://www.ec.kagawa-u.ac.jp/~tetsuta/jeps/no11/sai.pdf. Accessed 16 Oct 2020.
- Hara S. Poverty and Public Assistance System (49) Low take-up rate as a serious problem of public assistance system. (in Japanese) https://yomidr.yomiuri.co.jp/ article/20170630-OYTET50005/. Published 2017. Accessed 16 Oct 2020.
- Ministry of Health, Labour and Welfare. Transition of rate/number of nonregular workers who reluctantly took non-regular jobs. (in Japanese) https:// www.mhlw.go.jp/wp/hakusyo/roudou/18/backdata/1-2-16.html. Updated 2018. Accessed 18 Oct 2020.
- Ministry of Health, Labour and Welfare. Basic Survey on Wage Structure, 2018. (in Japanese) https://www.mhlw.go.jp/toukei/itiran/roudou/chingin/kouzou/z2018/index.html. Updated 2018. Accessed 18 Oct 2020.
- Ministry of Health, Labour and Welfare. Report on Single Parent Family, 2016. (in Japanese) https://www.mhlw.go.jp/stf/seisakunitsuite/bunya/00001 88147.html. Updated 2016. Accessed 18 Oct 2020.
- Ministry of Health, Labour and Welfare. Support for single parent family. (in Japanese) https://www.mhlw.go.jp/bunya/kodomo/pdf/shien_01.pdf.
 Published 2014. Accessed 18 Oct 2020.
- Ministry of Health, Labour and Welfare. Graphical review of Japanese household: from comprehensive survey of living conditions. (in Japanese) https://www.mhlw.go.jp/toukei/list/dl/20-21-h28.pdf. Published 2016.
 Accessed 18 Oct 2020.
- Japan LGBT Research Institute Inc. Report of perception and behavior of LGTB. (in Japanese) https://www.daiko.co.jp/dwp/wp-content/uploads/201 9/11/191126_Release.pdf. Published 2019. Accessed 18 Oct 2020.
- LASH. LASH report 2017. (in Japanese) https://lash.online/wp/wp-content/ uploads/2018/02/LASH.pdf. Published 2018. Accessed 16 Oct 2020.
- Recruit Sumai Company. Survey on residential life and housing of LGBT. (in Japanese) https://www.recruit-sumai.co.jp/data/upload/SUUMO_LGBT_ cyosa_20181004.pdf. Published 2018. Accessed 16 Oct 2020.
- Amnesty International. Human rights law and discrimination against LGBT people in Japan. https://www.amnesty.org/download/Documents/ASA225 9552017ENGLISH.PDF. Published 2017. Accessed 18 Oct 2020.
- Fukushima Prefectural Government, Japan. Situation of evacuation from Fukushima prefecture to other prefectures. (in Japanese) https://www.pref. fukushima.lg.jp/site/portal/ps-kengai-hinansyasu.html. Updated 2020. Accessed 19 Oct 2020.
- 63. Fukushima on the Globe. Situation of the Evacuees. http://fukushimaontheglobe.com/the-earthquake-and-the-nuclear-accident/situation-of-the-evacuees. Updated 2020. Accessed 19 Oct 2020.
- Niigata Prefectural Government, Japan. Comprehensive research report on life of evacuees affected by the accident of Fukushima No.1 Nuclear Power Plant. (in Japanese) https://www.pref.niigata.lg.jp/uploaded/attachment/93 775.pdf. Published 2018. Accessed 19 Oct 2020/.
- 65. Yabuki R, Kawasaki K. The actual state and wishes of voluntary evacuees after the end of provision of the temporary housing - a study of voluntary evacuees from Fukushima Prefecture affected by the Fukushima nuclear accident - (in Japanese) Reports of the City Planning Institute of Japan. 2018;17. https://www.cpij.or.jp/com/ac/reports/17_1.pdf. Accessed 19 Oct 2020

- 66. NHK. The accident of Fukushima No.1 Nuclear Power Plant; What is happening to mental health of evacuees?- Results of a large-scale survey in 9 years time. (in Japanese) https://www.nhk.or.jp/gendai/articles/4396/index. html. Updated 2020. Accessed 19 Oct 2020.
- Ministry of Justice. Regarding the issues of absconding during technical intern training. (in Japanese) http://www.moj.go.jp/content/001311268.pdf. Published 2019. Accessed 19 Oct 2020.
- Japan Association for Refugees. Lacking 'housing' safety net. (in Japanese) https://www.refugee.or.jp/jar/report/2017/03/17-0000.shtml. Updated 2017. Accessed 19 Oct 2020.
- Yang L. Labor segmentation and the outmigration intention of highly skilled foreign workers: evidence from Asian-born foreign workers in Japan. The Research Institute of Economy, Trade and Industry. RIETI Discussion Paper Series 18-E-028. https://www.rieti.go.jp/jp/publications/dp/18e028.pdf. Published 2019. Accessed 19 Oct 2020.
- Ministry of Justice. Handling of applications for the status of residence of technical interns who have been affected by the novel coronavirus pandemic. (in Japanese) http://www.moj.go.jp/nyuukokukanri/kouhou/ nyuukokukanri07_00026.html. Updated 2020. Accessed 19 Oct 2020.
- Kashida H. Don't foreigners without resident status have human rights? (in Japanese) https://imidas.jp/jijikaitai/c-40-132-19-09-g725. Updated 2019. Accessed 19 Oct 2020.
- Ministry of Justice. Transition of the number of foreign residents by resident status. (in Japanese) http://www.moj.go.jp/content/001308162.pdf. Published 2019. Accessed 19 Oct 2020.
- National Police Agency. Protection and guidance of the youth in 2019. (in Japanese) https://www.npa.go.jp/safetylife/syonen/hodouhogo_gaikyou/ R01.pdf. Published 2019. Accessed 16 Oct 2020.
- Think Kids. The impact of child abuse on children and the need for healing their emotional scar. (in Japanese) [http://www.thinkkids.jp/genjou/reason]. Updated 2020. Accessed 19 Oct 2020.
- Ministry of Health, Labour and Welfare. The number of counseling on and response to child abuse at child guidance centers in 2018. (in Japanese) https://www.mhlw.go.jp/content/11901000/000533886.pdf. Published 2018. Accessed 19 Oct 2020.
- Tsuboi S, Yoshida H, Ae R, Kojo T, Nakamura Y, Kitamura K. Prevalence and demographic distribution of adult survivors of child abuse in Japan. Asia Pac J Public Health. 2013;27(2):NP2578–86.
- Nito Y. Girls' sexual exploitation, poverty, and isolation in Japan: raising our voice with junior and senior high school girls. (in Japanese). J Poverty. 2018;21.
- Osumi M. For Japan's nonregular workers, a weaker safety net as COVID-19 spreads. The Japan Times. https://www.japantimes.co.jp/news/2020/03/31/ national/nonregular-workers-japan-coronavirus/#.Xr0LIWj7SUk. Updated 2020. Accessed 19 Oct 2020.
- SankeiBiz. Single parent-continuouse school closure and tenuous day-to-day life. (in Japanese) https://www.sankeibiz.jp/econome/news/200313/ecb2 003132110007-n1.htm. Updated 2020. Accessed 19 Oct 2020.
- The Japan Times. LGBT people in Japan worry getting coronavirus may result in outing. https://www.japantimes.co.jp/news/2020/04/21/national/ social-issues/lgbt-coronavirus/. Updated 2020. Accessed 19 Oct 2020.
- 81. Concerns on further isolation of victims of the earthquake disaster and nuclear accident- suspension of regular exchange events to avoid the "3 Cs" [https://www.kahoku.co.jp/tohokunews/202004/20200419_73012.html (in Japanese)].
- Slater DH. Vulnerable populations under COVID-19 in Japan: a lull in the storm? Asia-Pacific Journal. 2020;18(18):2.
- 83. Tran BQ. Vietnamese technical trainees in Japan voice concerns admidst COVID-19. Asia-Pacific Journal. 2020;18(18):11.
- Nikkei. 10 20 percent extra child abuse, covid-19 impact study by Ministry of Health, Labour and Welfare. (in Japanese) https://www.nikkei. com/article/DGXMZO58982720S0A510C2000000/. Updated 2020. Accessed 19 Oct 2020.
- The Mainichi. Editorial: Efforts needed to detect violence at home as Japan asks people to stay indoors. https://mainichi.jp/english/articles/20200422/p2 a/00 m/0na/014000c. Updated 2020. Accessed 19 Oct 2020.
- PERSOL. Urgent research on the impact of COVID-19 response on telework. (in Japanese) https://rc.persol-group.co.jp/research/activity/data/telework. html. Updated 2020. Accessed 19 Oct 2020.

- MIN-IREN. Study report on fetal accident due to fainancial chillenges in 2018.
 (in Japanese) https://www.min-iren.gr.jp/wp-content/uploads/2018/06/1903
 06 04.pdf. Published 2018. Accessed 19 Oct 2020.
- South China Morning Post. Chinese intern found dead in company dormitory in Japan and police suspect his co-worker killed him. https:// www.scmp.com/news/asia/east-asia/article/2185267/chinese-intern-founddead-company-dormitory-japan-and-police. Updated 2020. Accessed 19 Oct 2020
- Nikkei. Voluntary ban on leaving home and concerns on DV and abuse a wave of counselings, need an urgent response. (in Japanese) https://www. nikkei.com/article/DGXMZO57949360Q0A410C2CC1000/. Updated 2020.
 Accessed 19 Oct 2020.
- Matsuyama S. "It was ike a prison" A story of a woman previousely taken into temporary custody facility. (in Japanese) The Asahi Shimbun. https:// www.asahi.com/articles/ASM4Z3CSWM4ZUDCB001.html. Updated 2020. Accessed 19 Oct 2020.
- Ministry of Health, Labour and Welfare. Employment insurance system. (in Japanese) https://www.mhlw.go.jp/stf/seisakunitsuite/bunya/koyou_roudou/ koyou/koyouhoken/index_00003.html. Updated 2020. Accessed 19 Oct 2020
- Ministry of Health, Labour and Welfare. Employment insurance is available for daily workers. (in Japanese) https://www.mhlw.go.jp/bunya/koyou/ koyouhoken07/hoken.html. Updated 2020. Accessed 19 Oct 2020.
- Ministry of Health, Labour and Welfare. Outline of the Act on the Partial Amendment to the Child Welfare, etc. to step up efforts to prevent child abuse (Act No. 46 of 2019) https://www.mhlw.go.jp/english/policy/children/ children-childrearing/dl/20191122e.pdf. Published 2019. Accessed 19 Oct 2020.
- Ministry of Health, Labour and Welfare. Employment adjustment subsidy. (in Japanese) https://www.mhlw.go.jp/stf/seisakunitsuite/bunya/koyou_roudou/ koyou/kyufukin/pageL07.html. Published 2020. Accessed 16 Oct 2020.
- Ministry of Economy, Trade and Industry. Subsidy Program for Sustaining Businesses Starts. (in Japanese) https://www.meti.go.jp/covid-19/jizokukakyufukin.html. Updated 2020. Accessed 19 Oct 2020.
- Ministry of Justice. Regarding response to residence application in the context of the spread of CIVID-19 infection. (in Japanese) http://www.moj. go.jp/nyuukokukanri/kouhou/nyuukokukanri07_00026.html. Updated 2020. Accessed 19 Oct 2020.
- Ministry of Health, Labour and Welfare. Regarding the implementation of the "Action plan for strengthening monitoring of children". (in Japanese) https://www.mhlw.go.jp/content/000625822.pdf. Published 2020. Accessed 19 Oct 2020.
- Kambayashi T. Japanese angered by PM's stay-at-home video featuring dog and song. Hdhod. https://en.hdhod.com/Japanese-angered-by-PM-s-stay-athome-video-featuring-dog-and-song_a20665.html. Updated 2020. Accessed 19 Oct 2020.
- DeWit A, Shaw R, Djalante R. An integrated approach to sustainable development, National Resilience, and COVID-19 responses: the case of Japan. Int J Disaster Risk Reduct. 2020;51:101018.
- Larochelle MR. "Is it safe for me to go to work?" Risk stratification for workers during the covid-19 pandemic. New Engl J Med. 2020;383(5): e28(21-23).
- Ministry of Health, Labour and Welfare. Overview of the basic survey on wage structure, 2018. (in Japanese) https://www.mhlw.go.jp/toukei/itiran/ roudou/chingin/kouzou/z2018/index.html. Published 2018. Accessed 16 Oct 2020.
- Naito H. Massive lay-off of contractual workers (May Crisis ahead) with Government not understanding the real situation. (in Japanese) https://www.asahi.com/articles/ASN5K65ZVN5KULFA00M.html. Published 2020. Accessed 16 Oct 2020.
- 103. Ministry of Health, Labour and Welfare. For those who receive basic benefit (unemployment benefit) of employment insurance. (in Japanese) https:// www.mhlw.go.jp/content/000489683.pdf. Published 2020. Accessed 16 Oct 2020.
- 104. Tachibanaki T. A beginner's book on social security (in Japanese). Minerva Shobo. Published 2019.
- Niigata Prefectural Government. Comprehensive research report on life of evacuees affected by the accident No.1 Nuclear Power Plant. (in Japanese) https://www.pref.niigata.lg.jp/uploaded/attachment/93775.pdf. Published 2018. Accessed 16 Oct 2020.

- 106. Yabuki R, Kawasaki K. The actual state and wishes of voluntary evacuees after the end of provision of the temporary housing - a study of voluntary evacuees from Fukushima Prefecture affected by the Fukushima nuclear accident-. (in Japanese) Reports of the City Planning Institute of Japan. 2018;17:1-7. https://www.cpij.or.jp/com/ac/reports/17_11.pdf. Accessed 16 October.
- Ministry of Justice. Regarding the issues of absconding during technical intern training. (in Japanese) http://www.moj.go.jp/content/001311268.pdf. Published 2019. Accessed 16 Oct 2020.
- Idei Y. Money dreams: foreign students to Japan face growing risks. https:// www.nippon.com/en/currents/d00340/. Published 2017. Accessed 16 Oct 2020.
- 109. Higuchi N. The mass employment of Brazilians in Japan under the economic crisis. (in Japanese) journal of Ohara institute for. Soc Res. 2010; 622:50–66
- 110. Human Rights Now. Statement calling for the prohibition of arbitrary detention in immigration facilities and the improvement of legal measures. http://hrn.or.jp/eng/news/2019/10/31/immigration_reform_statement/. Published 2019. Accessed 16 Oct 2020.
- 111. Parikh NS. Migrant health in Japan: safety-net policies and advocates' policy solutions. Asia-Pac J. 2010;8(12):3.
- Think Kids. The impact of child abuse on children and the need for healing their emotiona scar. (in Japanese) http://www.thinkkids.jp/genjou/reason. Updated 2020. Accessed 16 Oct 2020.
- 113. Ministry of Health, Labour and Welfare. The number of counseling on and response to child abuse at child guidance centers in 2018. (in Japanese) https://www.mhlw.go.jp/content/11901000/000533886.pdf. Published 2018. Accessed 16 Oct 2020.
- Nito Y. Girls' sexual exploitation, poverty, and isolation in Japan: raising our voice with junior and senior high school girls. (in Japanese) J Poverty 2018; (21):92-104.
- Ministry of Health, Labour and Welfare. The number of calls of Child Abuse Hotline (189) by Child Guidance Center. (in Japanese) https://www.mhlw.go. jp/content/000628644.pdf. Published 2020. Accessed 16 Oct 2020.
- 116. Ministry of Health, Labour and Welfare. Financial balance of National Health Insurance (municipalities) in 2018. (in Japanese) https://www.mhlw.go.jp/ file/04-Houdouhappyou-12401000-Hokenkyoku-Soumuka/0000153105_1.pdf. Published 2018. Accessed 16 Oct 2020.
- 117. Ministry of Economy, Trade and Industry. METI's support measures for companies concerning the impacts of the novel coronavirus disease. https://www.meti.go.jp/english/covid-19/index.html#10. Updated 2020. Accessed 16 Oct 2020.
- Ministry of Health, Labour and Welfare. Action plan for strengthening of watching over children. (in Japanese) https://www.mhlw.go.jp/content/ 000625488.pdf. Published 2020. Accessed 16 Oct 2020.
- Edge C, Story A, Hayward A. Inclusion health and COVID-19. https://blogs. ucl.ac.uk/iehc/2020/05/13/inclusion-health-and-covid-19/. Updated 2020. Accessed 16 Oct 2020.
- 120. Marmot M. Inclusion health: addressing the causes of the causes. Lancet. 2018;391(10117):186–8.
- 121. Nagai M, Oikawa M, Tamura T, Egami Y, Fujita N. Can we apply lessons learned from Ebola experience in West Africa for COVID-19 in lower income countries? Global Health Med. 2020;2(2):140–1.

Publisher's Note

Springer Nature remains neutral with regard to jurisdictional claims in published maps and institutional affiliations.

Ready to submit your research? Choose BMC and benefit from:

- fast, convenient online submission
- thorough peer review by experienced researchers in your field
- rapid publication on acceptance
- support for research data, including large and complex data types
- gold Open Access which fosters wider collaboration and increased citations
- maximum visibility for your research: over 100M website views per year

At BMC, research is always in progress.

Learn more biomedcentral.com/submissions

