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Migrants' access to COVID-19 vaccination in Japan: Progress and challenges

Masami Fujita[a,b], Miwa Kanda[a,b,*], Hiroyuki Kiyohara[a,b], Saki Ikeda[a,b], Azusa Iwamoto[a,b], Kyoko Sudo[a,b], Yuko Teshima[b,c], Midori Nii[d], Yoji Murata[e], Jotaro Kato[f], Aiko Komatsu[b,g], Aya Yumino[b,c], Takashi Sawada[b,h,i], Hiroshi Sato[b,j], Tamotsu Nakasa[b,i]

[a] *Bureau of International Health Cooperation, National Center for Global Health and Medicine (NCGM), Japan*
[b] *Migrants' Neighbor Network & Action (MINNA), Tokyo, Japan*
[c] *University of Tokyo, Japan*
[d] *Citizen's Network for Global Activities (CINGA), Japan*
[e] *Bureau of Citizens and Cultural Affairs, Tokyo Metropolitan Government, Japan*
[f] *Waseda University, Japan*
[g] *Nagasaki University, Japan*
[h] *Minatomachi Medical Center, Japan*
[i] *SHARE, Japan*
[j] *Institute of Developing Economies, Japan*

A R T I C L E I N F O

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Inclusion

A B S T R A C T

Objectives: This study aimed to review the progress and challenges of COVID-19 vaccine roll-out for migrants in Japan and discuss the approaches to address the challenges and better prepare for future waves of COVID-19 and other pandemics.
Methods: We conducted a literature review using an assessment framework which we developed building upon existing frameworks and tools on access to health services and COVID-19 vaccination among migrants.
Results: COVID-19 vaccination coverage among foreigners might be lower than that of nationals although the data on foreigners were not widely available. A gap appeared to exist between the government's efforts to disseminate vaccine-related information through multi-lingual websites and migrant communities as recipients. A series of barriers for migrants were identified at different stages of the vaccination process. While efforts were made by different units of local governments, NGOs, migrant communities, and international exchange associations, linkages across sectors and scaling-up appeared to be an issue. No foreigners were explicitly excluded from the entitlements of COVID-19 vaccination. The national level guidance, however, allowed sub-national levels to make a decision on whether or not undocumented foreigners should be reported to the immigration office or law enforcement when providing the services. In consequence, units in charge of public health and vaccination of some municipalities did not offer vaccination to those in need.
Conclusion: Migrants, especially those unregistered face various barriers in accessing COVID-19 vaccination. It is critical to assess and address challenges concerning channels of information dissemination, pathways to access services, obstacles for vulnerable migrants, and data for evidence-based actions.

1. Introduction

Evidence from Europe shows that some migrant communities may be at high risk of exposure to, and infection of COVID-19, and are disproportionately represented in cases, hospitalizations, and deaths, according to COVID-19 case registries in Denmark, Norway, and Sweden, studies on COVID-19-related hospitalization in Italy and Spain, and mortality analysis in UK, Netherlands, France, and Sweden (European Centre for Disease Prevention and Control 2021). They are likely to live in overcrowded accommodations, work in conditions with inadequate protection, and have suboptimal access to public health information and services. Lower COVID-19 vaccination rates have been reported in some

* Corresponding author.
E-mail address: m-ishioka@it.ncgm.go.jp (M. Kanda).

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migrant populations than in nationals in Italy and Norway (Bentivegna et al., 2020; Kraft et al., 2021).

The World Health Organization (WHO) has issued interim guidance concerning COVID-19 immunization in refugees and migrants (World Health Organization 2021). It highlighted principles such as equity for vaccine distribution, national equity, and equal respect. It also emphasized the importance of community engagement and communication to build trust and counter misinformation, fake news, and misconceptions, as well as the importance of developing innovative approaches for vaccine delivery.

In Japan, the number of registered foreigners increased from 2.08 million in 2011 to 2.89 million in 2020, reaching 2.2% of its total population. During the same period, the number of foreign workers increased from 0.65 million to 1.72 million. This reflected a rapidly growing need of laborers due to decreasing birthrate and aging population. The Japanese government's immigration policy, nevertheless, restricted the entry of low-skilled laborers whereas social integration of migrants was dependent upon local governments without national comprehensive policies (Japan International Cooperation Agency (JICA) 2022). In 2018, the national government for the first time stipulated comprehensive measures for acceptance and coexistence of foreign nationals. Since then, a range of policy measures have been implemented including the establishment of one-stop comprehensive consultation centers for foreigners. According to the Migrant Integration Policy Index (MIPEX) 2020, which assessed the migrant integration policies on labor market mobility, education, permanent residence, anti-discrimination, family reunion, political participation, access to nationality, and health in 56 countries, the status of Japan was categorized as "Immigration without Integration" (Migrant Integration Policy Index 2020: Japan 2019). It was because Japan's policies were deemed to deny basic rights and equal opportunities to migrants concerning education, political participation, and non-discrimination while the establishment of the one-stop comprehensive consultation centers was recognized as progress. The MIPEX 2020 specified that foreign nationals and their children faced major obstacles to education, political participation and non-discrimination, and potential victims of ethnic, racial, religious or nationality discrimination had little chance to access justice. It also specified that foreign residents enjoyed relatively favorable access to family reunification, permanent residence, and the health system.

In this article, "migrant" refers to "international migrant" as defined by the United Nations Department of Economic and Social Affairs "any person who changes his or her country of usual residence" excluding movements that are due to "recreation, holiday, visits to friends and relatives, business, medical treatment or religious pilgrimages" (United Nations Department of Economic and Social Affairs 1998). We have used the term "migrants" in this study except when quoting Japanese government sources which use the term "foreigners". Foreigners are defined as individuals who do not have a Japanese nationality including those born in Japan but whose parents do not have Japanese nationality and excluding those who migrated to Japan but then acquired Japanese nationality.

It has been reported that certain migrant populations live in crowded accommodations, serve as essential workers, and face barriers in accessing public health and medical services (Fujita et al., 2020). Japan started COVID-19 vaccination in February 2021, followed by the initiation of booster dose in December 2021. COVID-19 vaccination among migrants, however, has not been systematically documented. This study aimed to review the progress and challenges of COVID-19 vaccine roll-out for migrants in Japan and discuss the approaches to address the challenges and better prepare for future waves of COVID-19 and other pandemics.

2. Methods

With a view to developing a comprehensive framework relevant to the study objective, we searched existing frameworks and tools that assess migrants' access to health services and that guide actions for ensuring COVID-19 vaccination among migrants. For the former, we identified i) Migrant Integration Policy Index (MIPEX) Health Strand (IOM Regional Office Brussels, Migration Health Division 2016), and ii) Work Package 7 (Migration and health) of the Joint Action on Health Equity Europe 2018 - 2021 (JAHEE) (Joint Action Health Equity Europe 2021). Identified for the latter are iii) WHO's interim guidance for COVID-19 immunization in refugees and migrants (World Health Organization 2021), and iv) Joint Guidance Note on Equitable Access to COVID-19 Vaccines for All Migrants developed by UN Committee on Migrant Workers (CMW), the UN Special Rapporteur on the human rights of migrants, the Office of the United Nations High Commissioner for Human Rights (OHCHR), and others (UN Committee on Migrant Workers (CMW), the UN Special Rapporteur on the human rights of migrants, the Office of the United Nations High Commissioner for Human Rights (OHCHR) 2021).

i) The MIPEX Health Strand which has been applied in 52 countries is to assess the equitability of migrant health policies across countries employing measurable indicators on entitlements to health services, accessibility of health services, responsiveness of health services, and measures to promote change.
ii) The Work Package 7 of JAHEE is designed to describe and present a detailed, wide-angle view of the migration and health situation in each country including context and process which MIPEX Health Strand fails to capture while its assessment items are based on MIPEX Health Strand.
iii) The WHO's interim guidance stipulates five principles and key considerations for ensuring COVID-19 vaccination in refugees and migrants from health sector perspective.
iv) The Joint Guidance Note on Equitable Access to COVID-19 Vaccines for All Migrants identified six action points for member states to consider from multi-sectoral perspectives including immigration policies and human rights.

The authors then examined common and specific features of the selected four frameworks and tools to come up with the following assessment framework for the present study (Table 1).

3. Overview of the COVID-19 vaccination rollout, including prioritization

Approach of ii) the Work Package 7 of JAHEE was referenced for describing the context and process of COVID-19 vaccination rollout, including governance, service delivery systems, and procedures, which would reinforce understanding of other items of the assessment framework. Vaccine prioritization was adapted from iv) the Joint Guidance Note on Equitable Access.

3.1. Entitlement to COVID-19 vaccination according to the residency status, including the obligation to report undocumented migrants

Entitlement according to the residency status was adapted from the i) MIPEX Health Strand and iii) WHO interim guidance. Items related to obligation to report undocumented migrants is based on the iv) Joint Guidance Note.

3.2. Accessibility to COVID-19 vaccination services: including 3-a) information dissemination and acceptance, and 3-b) cultural mediation and navigation

Information dissemination was taken from the i) MIPEX Health Strand and ii) Joint Guidance Note. Cultural mediation and navigation was adopted from the i) MIPEX Health Strand.

Table 1
Comparative summary of frameworks and tools on access to health services and COVID-19 vaccination among migrants.

i) Migrant Integration Policy Index (MIPEX) 2020: MIPEX Health Strand	ii) Joint Action Health Equity Europe: JOINT ACTION Work Package 7 – Migration and health Milestone 7.4 Lessons learned and final description of the model	iii) UN Committee on Migrant Workers, OHCHR, et al.: Joint Guidance Note on Equitable Access to COVID-19 Vaccines for All Migrants	iv) WHO: COVID-19 immunization in refugees and migrants: principles and key considerations	Assessment framework of the present study
	Designed to help partners to present a detailed, wide-angle view of the situation in each country Governance (strengthening leadership and coordination) Intersectoral action on social determinants of migrants' health	2)Ensure that vaccine prioritization within countries takes into account the vulnerabilities, risks and needs of those migrants who are most exposed and vulnerable to the SARS-COV-2." 6) Develop coordinated strategies and mechanisms of cooperation and assistance to guarantee universal and equitable access to vaccines for COVID-19 globally, and to take into special consideration those countries which due to economic or financial factors are facing obstacles to get vaccines for their populations, including migrants and their families.		**1) Overview of COVID-19 vaccination rollout: including prioritization**
i) Entitlements to health services for legal migrants, asylum-seekers, and undocumented migrants		4)Enact firewalls between immigration enforcement and the provision of COVID-19 vaccination, in order to prevent fear or risk of reporting, detention, deportation and other penalties as result of migration status. Vaccine registration should not be used to collect nor share information about migration status. Communication messages and public information campaigns should make clear that migrants in irregular situations will not be penalized or targeted for immigration enforcement when seeking access to COVID-19 vaccination.	Ensure universal and equal access to the COVID-19 vaccine for refugees and migrants regardless of migration status, with access the same as for nationals	**2) Entitlement to COVID-19 vaccination according to the residency status: including obligation for reporting undocumented migrants**
ii) Accessibility of health services, including information for migrants on entitlements, information for service providers, cultural mediators/navigators, and obligation to report undocumented migrants	Attention for 'vulnerable groups' Access to health services	1)Provide equitable access to COVID-19 vaccination for all migrants and their families on a non-discriminatory basis, regardless of their nationality and migration status. 5) Avoid rhetoric and terminology that stigmatize and reinforce harmful narratives against migrants that may result in the exclusion of migrants and those in irregular situations from the public health response. Ensure public information and rhetoric regarding public health is inclusive of migrants.	Enhancing effective communication to build trust and counter misinformation Promoting vaccine uptake and addressing vaccine hesitancy	**3) Accessibility to COVID-19 vaccination services: including 3-a) information dissemination and acceptance, and 3-b) cultural mediation and navigation**
iii) Responsive health services, including qualified interpretation services, culturally competent services, training of health staff, and diversity in health workforce	Quality (responsiveness) of services	3)Adopt measures to overcome barriers, establish protocols that facilitate equitable access to vaccination for migrants, including those in irregular situations, and provide targeted outreach and provision of information among migrants in a language they understand and in formats they can access.	Addressing barriers that prevent refugees and migrants from accessing COVID19 vaccination services and international travel Develop innovative approaches and vaccination strategies for refugees and migrants living in hard-to-reach areas	**4) Responsiveness of COVID-19 vaccination services: including addressing language and other barriers at each step of vaccination services, and targeted outreach**
iv) Measures to promote change, including involvement of migrants, support for research, whole organization approach, adaptation of clinical procedures, collection of data, health in all policies approach, leadership by government, and involvement in health policy making.	Availability of Data and research (strengthening the evidence base)		Engaging communities in COVID-19 vaccination planning and implementation	**5) Measures to promote changes: including 5-a) inclusion of migrant communities, 5-b) data collection and use**

3.3. Responsiveness of COVID-19 vaccination services: including addressing language and other barriers at each step of the vaccination process, and targeted outreach

Addressing language and other barriers was based on all of the four frameworks and tools. Targeted outreach was adopted from the ii) Joint Guidance Note, and the iii) WHO interim guidance.

3.4. Measures to promote changes: including 5-a) inclusion of migrant communities, and 5-b) data collection and use

Inclusion of migrants is based on the i) MIPEX Health Strand and iii) WHO interim guidance. Data collection and use was adapted from the i) MIPEX Health Strand, and the ii) Work Package 7 of JAHEE.

Applying this framework, a literature review was conducted to identify the progress and challenges of COVID-19 vaccination rollout. The literature collection was conducted from December 2021 through January 2022. With regard to items 1) and 2) of the developed framework, we gathered and analyzed relevant government documents which were publicly available, including guidelines and announcements. Concerning items 3), 4) and 5), the authors conducted a literature review, using PubMed, ICHUSHI Web, CiNii Articles, ELNET, Kikuzo 2 visual for peer-reviewed journal articles and gray literatures published or posted in English and Japanese. We did not intend to systematically review the body of evidence, as vaccine rollout was an ongoing issue and much of related information sources would be considered gray literature available in Japanese only.

4. Results

4.1. Overview of COVID-19 vaccination roll-out

Vaccination services in Japan were administered according to the Preventative Vaccination Law (Ministry of Health, Labour, and Welfare of Japan 2021). Guidance on COVID-19 vaccination was provided by the Ministry of Health, Welfare and Labour (MHLW). The minister in charge of vaccines was appointed in January 2021 (Mori and Naito, 2021). Vaccination services were offered to those recorded in the Basic Resident Register on the day of vaccination. Those who were ineligible were identified according to the minister's instruction notice. In addition, those who were not recorded in the Basic Resident Register were eligible if the mayor of the municipality or special ward recognized their unavoidable circumstances. The Basic Resident Register is a database maintained by each municipality office, which contains resident record and serves as a basis for providing various administrative services including COVID-19 vaccination to residents.

The Preventative Vaccination Law stipulated that people eligible for a vaccination against certain diseases must endeavor to undergo the vaccination although it is not mandatory. COVID-19 vaccination was duty to endeavor for those aged 12 years and older as of February 2022. The vaccination service was free of charge. Authorized vaccines in Japan were those by Pfizer, Moderna (Takeda Pharmaceutical Company Limited / Moderrna Inc.) and AstraZeneca PLC as of January 2022.

Municipality offices nationwide organized services including contracting with medical facilities, issuing vaccination vouchers, running reservation systems, and setting-up vaccination venues. In addition, vaccination venues were set-up by the national government, prefectures, large companies, universities, and so forth. As of January 2022, there were 1718 municipalities and 47 prefectures nationwide.

The MHLW has a multi-lingual website (Japanese, plain Japanese, English, and Chinese) named "COVID-19 Vaccine Navi" to facilitate access to reservation sites nationwide. Both vaccination vouchers and identity verification documents are required at the reception of the vaccination venue. Additionally, individuals are required to fill out a pre-vaccination screening questionnaire form in Japanese, which is reviewed on-site by a doctor prior to actual vaccination. Although copies of the pre-vaccination screening questionnaire translated into multiple languages were available on the MHLW website, only the Japanese version was accepted at vaccination venues.

For the vaccination rollout, the order of priority was set as follows: i) health care workers at medical facilities including ambulance crews, ii) people aged 65 years and older, iii) people with underlying diseases, and iv) workers of facilities for the elderly. Vaccination bean for health care workers of health in February 2021, followed by people aged 65 years and older in April 2021, and all aged 18 years or older in June 2021. Workplace vaccination started in May 2021.

The national coverage of the second dose reached 60% by the end of September 2021. The coverage of migrants, however, was reported to be lower than the overall coverage. Since data on vaccination uptake among different nationalities were not available at national level, but in certain prefectures and municipalities only, a broadcasting company conducted interviews with all municipalities in Tochigi Prefecture where the data were available. In three municipalities with the largest numbers of foreign residents in the prefecture, the second dose coverage among foreigners on the Basic Resident Register versus that of all eligible citizens was 23.5% vs. 42.4%, 14.7% vs. 40.1%, and 11.4% vs. 44.4%, respectively, as of mid to late September 2021 (NHK 2021). According to a survey conducted in October and November 2021 targeting 100 municipalities where the numbers of registered foreigners were the highest, only 26 municipalities made the coverage among registered foreigners public. In these municipalities, the coverage among registered foreigners was 62% whereas that of all citizens was 74% (The Nikkei Shimbun 2021).

4.2. Entitlement to COVID-19 vaccination according to the residency status: including obligation to report undocumented migrants

Foreigners listed on the Basic Resident Register were entitled to receive COVID-19 vouchers by post from the municipalities. They included foreigners with a residency status longer than six months, such as mid-to-long-term residents, special permanent residents, and those unable to return to their home country due to COVID-19 (designated activities for six months).

The MHLW issued a range of announcements for different types of foreigners who were not on the Basic Resident Register. These announcements specified procedures to issue COVID-19 vaccination vouchers for diplomats and officials, those with residency status of three months or less, and those under provisional release from immigration detention centers. For those without residency status, the MHLW issued an announcement that allowed municipalities to not report "overstay" to immigration office or law enforcement (Immunization Office, Health Service Division, Health Service Bureau, Ministry of Health, Labour, and Welfare, Japan 2021; Immunization Office, Health Service Division, Health Service Bureau, Ministry of Health, Labour, and Welfare 2021; Immunization Office, Health Service Division, Health Service Bureau, Ministry of Health, Labour, and Welfare, Japan 2021; Immunization Office, Health Service Division, Health Service Bureau, Ministry of Health, Labour, and Welfare, Japan 2021). The MHLW also issued an announcement regarding identity documents and residence-confirmation documents. Foreigners who resided in Japan but were not registered on the Basic Resident Register were required to consult with the municipality office and present an identity verification document such as a passport and a residence confirmation document such as a utility invoice (Immigration Services Agency, Ministry of Justice, Japan 2021). Different categories of residency status and relevant government announcements of COVID-19 vaccination are summarized in Table 2.

4.3. Accessibility to COVID-19 vaccination services

4.3.1. Information dissemination and acceptance

Government and public entities disseminated information regarding

Table 2
Residency status and government announcements on COVID-19 vaccination.

Residency status	Number of foreigners	Government announcement
Listed on the Basic Resident Register		
1) Mid-to-long term resident, Special permanent resident 2) Those unable to return to home country due to COVID-19 (Designated activities for 6 months) 3) Others including Asylum seekers	1) 2823,565 (June 2021)	1),2) Ministry of Health, Labour and Welfare of Japan, Guidebook on implementation of vaccination for COVID-19
Not listed on the Basic Resident Register		
1) Official, Diplomat	1)14,060	1) Announcement: COVID-19 Vaccination of persons with "diplomatic" and "official" status of residence such as diplomats (Immunization Office, Health Service Division, Health Service Bureau, Ministry of Health, Labour, and Welfare, Japan 2021)
2) 3 months or less including Asylum seekers	2)22,364 (June 2021)	2) Announcement: COVID-19 vaccine for foreigners permitted to stay in Japan under the Immigration Control Act with status such as "Temporary Visitor" status (Immunization Office, Health Service Division, Health Service Bureau, Ministry of Health, Labour, and Welfare, Japan 2021)
3) Overstay including Asylum seekers and provisional release	3) 73,327	3) Announcement: COVID-19 vaccination for foreigners who are not permitted to stay in Japan under the Immigration Control Act (Immunization Office, Health Service Division, Health Service Bureau, Ministry of Health, Labour, and Welfare 2021) Announcement: Handling of reporting obligations based on Article 62, Paragraph 2 of the Immigration Control and Refugee Recognition Act in implementing countermeasures against COVID-19 (Immunization Office, Health Service Division, Health Service Bureau, Ministry of Health, Labour, and Welfare, Japan 2021)

COVID-19 vaccination through different channels. The MHLW launched an English website that included general information on COVID-19 vaccines and how to obtain them (https://www.mhlw.go.jp/stf/covid-19/vaccine.html). The MLHW also offered toll-free call centers for non-Japanese-speaking populations, such as Chinese, Korean, Vietnamese, Spanish, Portuguese and so on (https://www.mhlw.go.jp/stf/covid-19/hotline.html). Parallel to the MLHW, the Cabinet also established its own COVID-19 vaccines English website (https://japan.kantei.go.jp/ongoingtopics/vaccine.html).

Prefectures and municipalities also provided the multi-lingual information on COVID-19 vaccination along with the central government as well as locally tailored information through their websites, brochures, and other means (Tao et al., 2021). According to a survey on the practices of major municipalities (20 ordinance-designated cities in different parts of the country and 23 special wards in Tokyo) conducted between May and June 2021, however, only 67.4% (29/43) of the municipalities provided COVID-19 vaccine information in multiple languages (Suzuki, 2022).

A prefecture office was expected to support and facilitate municipal offices in its area in effective dissemination of multi-lingual information. In each prefecture or municipality, a department in charge of international affairs played a complementary role to the health department to better serve migrants. In the Tokyo Metropolitan Government, for example, the Bureau of Social Welfare and Public Health launched a website on the COVID-19 vaccine (The Bureau of Social welfare and Public Health 2022), which provided machine-translated information in 14 languages, while the Bureau of Citizens and Cultural Affairs performed a range of complementary activities considering the needs of migrants. These included: i) development and dissemination of COVID-19 vaccine leaflets in 16 languages including plain Japanese in collaboration with associations of international exchange, NGOs supporting migrants, embassies, Japanese language classes, and so on, ii) integration of COVID-19 vaccine related information on the website where a variety of information for migrants was available, including information on resident registration, daily living, labor, tax, education, disaster preparedness and response, welfare, and health, as well as consultation services, call centers and NGOs, and iii) sharing of information relevant to migrants across municipalities so that migrants could access necessary information irrespective of residential area (The Bureau of Citizens and Cultural Affairs 2021).

Despite the availability of such multi-language information, migrants were reported to face obstacles in accessing COVID-19 vaccine-related information. An interview survey of migrants from Vietnam, Myanmar and Nepal revealed that they rarely accessed multi-lingual websites and Facebook acted as an almost exclusive source of information. These individuals obtained COVID-19 information by browsing posts and comments on Facebook groups and pages (Matsuoka, 2021). A study on the online multilingual health information environment in Japan conducted during the COVID-19 pandemic identified several challenges for migrants, such as difficulty in searching for information, lack of non-English multilingual information, reliance on machine translation, and infrequent. updates (Miller et al., 2021). According to a web-based survey targeting Vietnamese people residing in Japan, more than 90 percent of those surveyed wished to receive COVID-19 vaccination, but about 60 percent did not even know the vaccinations were free of charge (Quy et al., 2021).

Conveying accurate information serves as a foundation for promoting the acceptance of COVID-19 vaccination and preventing the emergence of vaccine hesitancy which is recognized as a public health concern. Okubo reported that the vaccine hesitancy rate among the Japanese population was 11.3% in February 2021, which was before the nationwide rollout program began (Okubo et al., 2021). Quy conducted an online survey on Facebook intended for Vietnamese people living in Japan and found 93.5% of the respondents showed their willingness to receive a vaccine, while 5.6% answered negatively (Miller et al., 2021). Except for this report, no other studies were found to investigate the vaccine hesitancy rate among the migrant populations in Japan.

4.3.2. Cultural mediation and navigation

Different types of multi-lingual call centers and consultation counters for COVID-19 vaccination were established by different organizations. According to the MHLW, centers, and counters of municipalities provided information on vaccination venues and reservations while those at the prefecture level addressed queries requiring specific medical and other advice (Ministry of Health 2022). The call center of the MHLW provided information on national guidance and measures related to COVID-19 vaccination. To some extent, these call centers and consultation counters played a navigator role.

A survey conducted in May-June 2021 on the practices of major municipalities (20 ordinance-designated cities and 23 special wards in Tokyo) indicated that multi-lingual call centers on COVID-19 vaccination were established in 86% (37/43) of the municipalities (Bentivegna et al., 2020).

Foreigner consultations run by international exchange associations and NGOs also launched call centers that addressed queries on COVID-19 vaccination as part of comprehensive consultation services (Kato, 2021). They served as the primary contact for a wide range of issues faced by foreigners including residency status, labor, education, stigma and discrimination, and health. These services, therefore, could be

deemed cultural mediators and navigators when assisting clients in accessing the COVID-19 vaccination. In 2022, there were 143 municipalities that ran “One-stop consultation centers” for foreigners funded by the Immigration services agency of Japan (ISA) (ISA 2020).

One NGO set-up a foreigner consultation center mainly for those who had difficulties in obtaining the COVID-19 vaccination voucher (Sawada and Fujita, 2022). This center, named the Vaccination Information Center for International Citizen (COVIC), not only assessed client needs, provided information, and referred clients to a specific service, but also served as a case worker by contacting relevant authorities such as a municipality call center or an office to find a solution, together with or on behalf of the client. A group of Vietnamese individuals was mobilized to communicate with and follow-up with Vietnamese clients. COVIC was established in September 2021 in response to failure of many municipalities to issue vaccination vouchers for foreigners not listed on the Basic Resident Register. A survey on the practices of major cities (20 ordinance-designated cities and 23 special wards in Tokyo) conducted in May-June 2021 revealed 81.4% (35/43) of the municipalities provided vaccine for foreigners on the Basic Residence Register only (Immigration Services Agency, Ministry of Justice, Japan 2021).

Major findings through the operations of the COVIC are as follows (Network and (MINNA)., 2022).

i) During the initial four months, COVIC supported 355 people from 27 countries living in 19 prefectures.
ii) Those with residency status three months or less and those under provisional release were not initially able to obtain vaccination vouchers mainly because of municipalities’ insufficient understanding of MHLW’s announcements. Almost all finally received vouchers after COVIC intervened. It was difficult, however, to determine whether these municipalities would have issued vouchers without COVIC’s interventions.
iii) Different municipalities responded differently to foreigners without residency status. Many municipalities initially refused to issue vouchers or stated that the cases would be reported to the immigration authorities. Some decided to issue vouchers without reporting to immigration authorities following communication with COVIC, while others did not change their positions. Concerning identity documents, many municipalities flexibly accepted alternatives, such as passports including expired ones, information from family members living in Japan, and information from NGOs that support homeless people. With regard to residence confirmation documents, many municipalities accepted utility bills and postal items while some also accepted notifications from family members and NGOs.

4.4. Responsiveness of COVID-19 vaccination services: including addressing language and other barriers at each step of the vaccination process, and targeted outreach

A series of barriers, mostly language related, were identified at different stages of the vaccination process, as summarized in Table 3 (Suzuki, 2022; Kotani et al., 2022; Shirakawa, 2021; Yamawaki, 2021). To address these barriers, the following efforts were made by different stakeholders. To help foreigners recognize the envelope enclosing vaccination documents, some municipal offices put multi-lingual instruction at the envelope’s back, and an international exchange association at the prefecture level propagated images of the envelopes developed by all municipalities in the area (Sawada and Fujita, 2022).

To facilitate reservation, the ISA launched multilingual support for consultation and reservation vaccination appointment in the Tokyo, Nagoya, and Osaka areas. This service targeted those who had received a vaccination voucher, including mid- to long-term residents, temporary visitors who had been living in Japan for more than three months and were unable to return home, and those undergoing deportation procedures and currently under investigation or provisional release (The Japan times 2021). Some municipal offices also established multilingual reservation sites and multilingual telephone consultation counters (MIYANICHI Shimbun, 2021; Obu city web site 2021; Kobe Shimbun, 2021). A private company developed an electronic tool to automatically produce the Japanese version of the completed pre-vaccination screening questionnaire, following data entry into a multi-lingual form in 17 languages (PR TIMES 2021).

Table 3
Barriers at different stages of the vaccination process.

Voucher	Reservation	Pre-vaccination screening questionnaire	Vaccination venue
Envelope containing voucher not opened or discarded as printed in Japanese only Voucher not recognized as printed in Japanese only	Reservation via phone can be done in Japanese only Website reservation form requires filling name and address in Japanese character and birth year in Japanese calendar	Different municipalities use slightly different forms which are all in Japanese Multi-lingual forms exist but need to be transcribed into Japanese form	Examples of valid identification documents listed on public websites do not include residency status card or passport Only Japanese is spoken or indicated at every step of vaccination procedures Vaccination procedures are not sensitive to diverse culture Mass vaccination venues which are friendly for foreigners may be closed when the number of people to be vaccinated declines

For the vaccination venues, a variety of aid materials were developed, including videos in plain Japanese and multiple languages and point-and-phrase sheets that included local dialect (Chunichi Shimbun, 2021; Tochigi International Association 2021; Yasashii-nihongo (Plain Japanese) Study Group 2021). Remote interpretation services via tablet devices were made available at vaccination venues in many municipalities in different parts of the country (PR TIMES 2021). In the Tokyo Metropolitan Government, the Bureau of Citizens and Cultural Affairs took the initiative to sustain the mass vaccination venues that did not require a reservation so that migrants who tended to be neglected could continue to access vaccination services (Suzuki, 2022). The bureau also organized conferences to share good practices among municipalities so that migrants could receive quality services regardless of the municipality they resided. Outreach COVID-19 vaccination services were organized at a mosque and a church to address language and cultural barriers (Kato, 2021; Gifu Shimbun, 2021; Gifu Shimbun, 2021). Details are described in the measures to promote changes section.

Interviews with 68 “One-stop consultation centers” that included all centers at the prefecture level and ordinance-designated cities revealed the following.

i) More than 70% of the centers provided information and consultation services for COVID-19 vaccination and offered interpretation support for reservations.
ii) Only 10% of the centers provided interpretation and translation support at vaccination venues, and less than 5% of the centers conducted COVID-19 vaccination-related outreach activities at Japanese language schools and companies employing migrants (Quy et al., 2021).

4.5. Measures to promote change

4.5.1. Inclusion of migrant communities

Several initiatives which aimed to increase the uptake of COVID-19 vaccination among migrants had considerable features of involving and engaging migrant communities in their planning and implementation. A COVID-19 vaccination venue was established at a mosque through a partnership between the municipal office and the migrant

community in the area. The venue offered not only multi-lingual support, but also culture- and gender-sensitive services. For example, the vaccination space for women was separated from that for men, and female foreigners were vaccinated by female nurses. A Muslim man from Sri Lanka served as coordinator, facilitating reservation and managing the venue together with municipality officials (Kato, 2021; Chunichi Shimbun, 2021). A municipality conducted mobile vaccination activities in collaboration with a hospital and a church where a Brazilian individual served as pastor and many foreign residents gathered (Tochigi International Association 2021). A mosque served as a site for providing COVID-19 related information and consultation to migrants in a Rohingya community. A representative of the community played a major role of coordinating with municipality officials, resulting in nearly 100% coverage among the community people in the area (NTV News24 2021).

In addition to the contribution to outreach activities, a migrant took the initiative in creating an open-source database of clinics throughout the country, which had COVID-19 vaccines in stock and provided migrant-friendly services. Migrants who had been able to receive COVID-19 vaccines thanks to this online database shared their experiences through social media, which made the database popular among migrant communities. The database creator received 6000 enquiries and 70,000 people visited the site in the first 20 months. More than 40 migrant and Japanese volunteers contributed to the translation and programming of the site (The Japan times 2021).

Concerning the involvement of migrant communities in national-level consultations on COVID-19 vaccination rollout, migrants did not appear to serve as formal members of the government's council or other mechanisms on COVID-19 vaccination (Ministry of Health, Labour and Welfare of Japan 2022). An NGO which advocates for the rights and dignity of migrants and people with multi-cultural backgrounds living in Japan had consultation meetings with MHLW on COVID-19 vaccination among other subjects.

4.5.2. Data collection and use

The government developed a system for recording, reporting, and monitoring COVID-19 vaccination roll-out data called Vaccination Record System (Ministry of Internal Affairs and Communications 2021). This system enabled recording of each vaccination dose of an individual and the data could be accessed from the terminal of any vaccination venue. However, certain data variables such as nationality were not entered until the end of September 2021. Information on vaccination among foreigners, therefore, was not available for more than six months and became available only in a limited number of municipalities after nearly one year of the vaccination roll-out (Yasashii-nihongo (Plain Japanese) Study Group 2021).

5. Discussion

Based on the findings in the result section and considering the existing knowledge on the information dissemination and the pathway to access services for migrants not directly related to COVID-19 vaccination, this section discusses issues and approaches for improving vaccine uptake among migrants to ensure no one is left behind, and to better prepare for similar health emergencies in the future. Our review suggests that COVID-19 vaccination among migrants might be lower than that of nationals, and some groups of migrants were unable to access COVID-19 vaccination. We discuss possible approaches for addressing the challenges from the viewpoints of channels of information dissemination, pathways to access services, obstacles for those left behind, and data for evidence-based actions.

5.1. Diversifying channels of disseminating information

A range of gaps appear to exist between the government's efforts to disseminate vaccine-related information through multi-lingual websites and migrant communities as recipients. Government and public entities make efforts to disseminate COVID-19 related information through multi-lingual websites, whereas many migrants do not access multi-lingual websites, but rely on social media such as Facebook. Other obstacles for migrants include difficulty in searching information, limited multi-lingual information, reliance on machine translation, and infrequent updates.

A web-based survey of migrants from Vietnam revealed that the top reason why those with COVID-19 suspected symptoms had not accessed COVID-19 testing were lack of knowledge about local testing sites (Migrants Network, and Action: MINNA 2022). This survey indicated around half of the respondents had no one to consult with when they felt sick.

These findings suggest the way of disseminating information to migrants should be reviewed and adjusted. Possible measures to consider include utilization of social media, frequent update of multi-lingual information, making local information accessible for migrants, mobilization of people surrounding migrants such as employers and colleagues at workplace. A report on disseminating COVID-19 information to migrant populations through a trial-and-error approach indicated that information dissemination was not a linear process, such as simply building a multilingual website, asking stakeholders to disseminate information, or posting on Facebook. It highlighted the importance of building partnerships with migrant communities and their supporters (Kiyohara et al., 2022).

Vaccine roll-out cannot be carried out without consideration of vaccine hesitancy. Routine vaccination rates in infancy have been high in Japan, but vaccine hesitancy, or the failure of public awareness campaigns to raise vaccination rates, tends to prevent vaccination rates from rising as much as expected, especially among adolescents and elderly people (Japan Health Policy Now 2021). For example, vaccination rates are lower than many other countries concerning the human papillomavirus (HPV) vaccine among young women, and the influenza and pneumococcal vaccines in the elderly. When it comes to COVID-19, a systematic review of barriers and facilitators for migrants to access COVID-19 vaccines indicated 5 out of the 6 studies selected reported vaccine acceptance among migrants in different countries showed that they were largely willing to accept COVID-19 vaccines (Abba-Aji et al., 2022). The authors of the systematic review stated it was disappointing to find only a few studies reported on migrants' access to and acceptance of COVID-19 vaccine and there was the need for more studies on this issue. Our review was hardly able to identify data that could help sufficiently understand the situation of COVID-19 vaccine hesitancy among nationals and migrants in Japan, Further studies would need to be conducted.

5.2. Paving pathways to access services

Migrants faced a range of barriers in accessing COVID-19 vaccines, such as issuance of vaccination vouchers by municipality offices, recognition of vaccination vouchers received, reservation, pre-vaccination screening questionnaire filling, and vaccination venues where all procedures were communicated in Japanese. Units in charge of public health and vaccination at municipality offices, however, were only able to introduce machine-based translation or interpretation for migrants at best as these units had limited experiences in addressing the need of migrants and were overwhelmed by huge workload to take care of nationals. NGOs supporting migrants, migrant community networks, international exchange associations, and units in charge of international affairs of prefecture and municipality offices, therefore, were expected to play a significant role in filling the gap, especially for migrants who were not on the Basic Residence Registers.

A report of COVIC suggested that it would not be easy for many migrants who were not on the Basic Residence Registers to receive vaccination vouchers from municipalities without intervention from specialized migrant consultation services, such as COVIC (Ministry of

Health 2022). Several international exchange associations, NGOs supporting migrants, and migrant community networks responded elaborately and creatively to barriers at each step of the vaccination process (Quy et al., 2021; Kato, 2021; Chunichi Shimbun, 2021). These initiatives, however, could be deemed exceptional. Many international exchange associations were not mandated to specifically perform these tasks (Sato, 2022). International exchange associations are organizations affiliated with local governments at prefectural and municipality levels, which are expected to serve as intermediary body between local governments and NGOs in promoting international exchange and cooperation, including creating supportive environment for migrants to access health and welfare services (Council of Local Authorities for International Relations of Japan 2022). Nonetheless, there exist significant variations among these associations concerning their capacity, particularly financial and human resources. Some associations employ many staff including migrants who can serve as cultural mediator and actively promote engagement of migrant communities in many activities while others hire a limited number of Japanese staff only. Presence and capacity of NGOs supporting migrants and migrant community networks are also varied considerably across different geographical areas.

In prefectural and municipal offices, units in charge of international affairs could play a significant role in addressing the needs of migrants, complementing the units in charge of public health. For example, the Bureau of Citizens and Cultural Affairs of the Tokyo Metropolitan Government conducted a survey to gather information on the situation of migrants affected by COVID-19 soon after the declaration of the pandemic, building on existing communications and network with NGOs and community organizations supporting migrant communities (CINGA 2021). The survey results led to the establishment of the Tokyo Coronavirus Support Center for Foreign Residents (TOCOS) in April 2020, which served as a primary contact for migrants who faced various difficulties due to the pandemic and facilitated access to COVID-19 testing and health services. Based on the collaboration between these sectors and stakeholders, it was possible to jointly explore migrant-friendly COVID-19 vaccination services. This kind of collaboration, however, is not necessarily the norm.

In order to expand the above-mentioned practices nationwide, it is critical to enhance commitment, capacity, and network among units in charge of international affairs of local governments, international exchange associations, NGOs supporting migrants, and migrant community networks in each locality for improving migrants' access to COVID-19 vaccination and other health services. This would require sharing and promotion of the above-mentioned practices, increasing financial and human resources of international exchange associations including employment of migrants as cultural mediator, strengthening of linkages between stakeholders engaged in migrant-related matters and those in health sector, and advocacy to local governments among others. It would also be meaningful to involve and engage migrant communities and NGOs supporting migrants in national level planning and monitoring of COVID-19 vaccination rollout.

5.3. Overcoming obstacles for those left behind

WHO's guidance note on COVID-19 immunization for refugees and migrants states that it is critical for policy-makers and partners involved in the national deployment vaccination plan (NDVP) development to review the national and local capacity required for implementation, readiness, legal frameworks, and regulatory requirements for vaccinating all refugees and migrants regardless of status including proof of identity requirements (World Health Organization 2021).

A survey on policies related to vaccinating undocumented migrants in 18 European countries indicated that three countries explicitly excluded undocumented migrants from the national rollout plan while several countries provided clear guidance to support the vaccination for undocumented migrants (Lighthouse Reports 2021). For example, according to the national vaccination rollout documents and public statements, undocumented migrants were included in the national vaccination rollout in seven countries, and undocumented migrants were able to get vaccinated without any official identification in four countries. National vaccination rollout document(s)/public statement provided assurances that data collected during vaccination would not be shared outside of health authorities in six countries.

This study revealed that no foreigners were explicitly excluded from the entitlements of COVID-19 vaccination in Japan according to the announcements of the MHLW. The national level guidance, however, allowed sub-national levels to make a decision on whether or not undocumented foreigners should be reported to the immigration office or law enforcement. In consequence, some municipalities did not offer vaccination to these people without reporting to the immigration office or law enforcement while others did offer it to maximize public health and individual benefits.

Among those not listed on the Basic Resident Register, announcements specified procedures for issuing vouchers for diplomats, officials, those with residency status of three months or less, and those under provisional release from immigration detention centers. No such announcement, however, has been issued specifically for those that had "overstayed". The MHLW instead issued an announcement that allowed each municipality not to report the "overstay" to the immigration office or law enforcement.

At the sub-national level, many municipalities were unaware of the MHLW announcements about foreigners with residency status of three months or less and people under provisional release from the detention centers. These foreigners would not have accessed vaccinations without the support of the NGOs which provided navigation services with a good understanding of their situation. Regarding "overstay", different municipalities took different positions concerning their vaccination and reporting them to immigration or law enforcement. This led to the systematic neglect of certain groups of foreigners in some municipalities during the vaccination roll-out, particularly those that had "overstayed".

As background of the above-mentioned situation concerning the COVID-19 vaccination, similar challenges have existed for COVID-19 testing and other health services for many years. In other words, sub-optimal health system and social environment for foreigners who are not on the Basic Resident Register including the undocumented became distinct during the COVID-19 vaccination rollout.

For those infected with COVID-19, administrative testing and medical expenses after being diagnosed as positive are paid by public expenses (Ministry of Health, Labour, and Welfare of Japan 2021). Examinations at medical institutions and the cost of testing until a positive diagnosis, however, are covered by health insurance or self-pay. Since those not on the Basic Resident Register are not entitled to get health insurance, people on short-term stay, provisional releases, and "overstays" face constraints in accessing COVID-19 testing as well as general medical services.

All foreigners, including those not on the Basic Resident Register, are entitled to certain health services according to the announcement of the Ministry of Internal Affairs and Communication (Solidarity Network with Migrants Japan 2019). These services included issuance of a mother and child handbook, financial assistance to cover delivery cost for the needy, free immunization services, medical cost for premature baby, and medical cost for children suffering from tuberculosis. A significant number of municipalities, however, do not offer these services for those not on the Basic Resident Register (Immigration Services Agency, Ministry of Justice, Japan 2021). Although a free and low-cost medical care scheme exists for migrants without health insurance, limited information is available on how well the scheme can respond to their needs (Fujita, 2021).

5.4. Preparing data for evidence-based actions

Although our review was not exhaustive, the availability of data appeared to be limited for improving vaccine uptake among migrants,

leaving no migrants behind, and better preparing for future waves of COVID-19 and other pandemics. The areas for strengthening data collection and research would include: i) COVID-19 vaccine uptake, COVID-19 infections, hospitalization, and death among migrants, ii) channels of information dissemination for different migrant communities, iii) pathways to access to services for migrants, and iv) obstacles for neglected migrants including those on unstable residency status and those without health insurance.

5.5. Utility of the assessment framework

Our study framework adopted the structure of the MIPEX Health Strand which has been applied to assess the policies on migrant health in many countries, and to make international comparisons possible. Other frameworks and tools were also considered so that our study framework could be instrumental in assessing practices on the ground and incorporating COVID-19 vaccination-specific elements. We chose this approach because we intended not only to assess the progress and challenges of the COVID-19 vaccination rollout, but also to explore approaches for improving access to health services among migrants, which should contribute to the preparation for similar events in the future.

5.6. Limitations

Instead of a systematically review the body of evidence, data collection was performed exploring a variety of information sources according to the framework developed. As the COVID-19 vaccine rollout was an ongoing issue within a relatively short time frame, much of the information sources were considered gray literature available in Japanese. Its validity and generalizability, therefore, should be further examined.

6. Conclusions

Our review suggests that migrants, especially those who are not on the Basic Resident Register face various barriers in accessing COVID-19 vaccination. Different units of local governments, NGOs, migrant community networks, and international exchange associations and health services make efforts to overcome the barriers, whereas linkages across sectors and scaling-up appeared to be an issue. It is critical to identify and address challenges concerning channels of information dissemination, pathways to access services, obstacles for vulnerable migrants, and data for evidence-based decision making. Regarding the obstacles for vulnerable migrants, many municipalities took the position of not issuing vaccination vouchers for undocumented migrants without reporting them to the immigration office or law enforcement while similar barriers for their access to other health services have existed for many years. Specific attentions need to be paid on this problem, not only for increasing vaccine uptake, but also to prepare for future public health emergencies.

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The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

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