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Access to Covid-19 Vaccines and Concerns of Returnee Migrant Workers in Lao PDR During the Covid-19 Pandemic

**Vanphanom Sychareun, Phonethipsavanh Nouanthong,
Souksamone Thongmyxay, Chandavieng Phimmavong,
Phouthong Phommavongsa, Vathsana Somphet,
Jo Durham and Pauline Oosterhoff**

July 2022

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The University of Health Sciences, Lao was pivotal in the delivery of this project work and the authoring of its outputs.



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Summary

In Lao PDR (Lao People's Democratic Republic), out-migration, often to neighbouring Thailand (ILO News 2021), is an important livelihood pathway for workers. The Covid-19 pandemic, however, had a significant impact on these international migrant workers. As the pandemic evolved, and lockdowns and travel restrictions were implemented, thousands of the estimated 1.3 million Lao nationals living abroad, mostly in Thailand (ILO 2021), found themselves unemployed and started returning to Lao PDR. Many of these returning migrants were infected or had been exposed to the Covid-19 virus, raising concerns of the potential for community transmission, especially with migrants returning to rural areas where health facilities are not always easily accessible and access to vaccines severely constrained. This research examined the access Lao international migrants returning to Lao PDR had to Covid-19 vaccination and the practical and ideological barriers returnee migrants faced in obtaining the vaccination.

This was a cross-sectional, mixed-methods study, based on a stratified sample of returnee migrants and key stakeholders (described in greater detail below). The study had three core components:

1. A literature review of Covid-19-related government policies, plans, and reports;
2. Semi-structured interviews with key informants and returning international migrant. Due to movement restrictions, all interviews were conducted via WhatsApp, Google Meet, or Zoom rather than face-to-face as was originally planned; and

3. A quantitative survey with international migrant workers returning to Lao PDR and key stakeholders, including health policymakers from the health sector and social welfare; health-care providers; and individual experts from the World Health Organization (WHO), United Nations Children's Fund (UNICEF), and International Labour Organization (ILO) at central and provincial levels.

At the beginning of the Covid-19 pandemic, migrants were not prioritised for vaccination or included in the strategy. Once policy changes enabled migrants to be included in the priority groups, they received the Covid-19 vaccination before leaving the quarantine centres. Practical barriers included the well-documented supply-side barriers related to vaccine availability, inadequate staffing, and the storage conditions and short vaccine shelf-life. Another practical barrier was perceived convenience. Geographical accessibility, especially in rural areas, was also a practical barrier for migrant workers in accessing Covid-19 vaccines, especially in receiving the second dose. Ideological barriers, where they existed, commonly related to concerns about side effects, misinformation, and vaccine efficacy.

Most participants felt the arrangements were a fair and inclusive response to Covid-19, which included returnee migrants. The equity principle had been followed as much as was possible, with those most at risk of severe consequences prioritised.

Overall, the study found that once included as a priority group and as vaccine supply increased, returnees had good access to vaccines. Health education on Covid-19 vaccines should be provided to returnee migrants on the efficacy of the currently available Covid-19 vaccines. Pro-vaccine ideologies can be leveraged to convert intent to uptake. Offer vaccination at antenatal clinics and provide health-care providers with the health information to pregnant women. In addition, there is a need to increase the uptake of the Covid-19 vaccine by creating a system to follow up with returnee migrants who did not receive the Covid-19 vaccination or only received one dose after leaving the quarantine centres.

Keywords

Accessibility; Covid-19 pandemic; Covid-19 vaccination; Lao PDR; returnee migrants.

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Executive Summary

International migrant workers have been disproportionately affected by the Covid-19 pandemic. In Lao PDR, out-migration, often to neighbouring Thailand (ILO 2021a), is an important livelihood pathway for workers. Remittances sent by these international migrants provide lifelines for their families and contribute to national poverty alleviation in their countries of origin. The pandemic and lockdowns in Thailand triggered the return of thousands of migrants, many of whom were unvaccinated or had been infected with the Covid-19 virus. These international migrants worked mostly in domestic work, construction, manufacturing, agriculture, seafood processing, and the entertainment sectors and were important contributors to household income in Lao PDR through remittances.¹ While generally young and healthy, they were vulnerable to Covid-19 due to poor living and working conditions and barriers in accessing health services, including Covid-19 testing and vaccination.

As the pandemic evolved, thousands of the estimated 1.3 million Lao nationals living abroad, mostly in Thailand (ILO 2021b), started returning to Lao PDR. This large-scale return was unexpected and not planned for. It increased significantly in 2021 as Covid-19 cases increased in Thailand, leading to lockdowns, loss of employment, and the closing of international borders. An estimated 120,000 international migrant workers returned in March and April 2021, with 140,000 having returned by July 2021 (ILO 2021a; IOM 2021). Many of these returning migrants were infected or had been exposed to the Covid-19 virus, raising concerns of the potential for community transmission, especially with migrants returning to rural areas where health facilities are not always easily accessible. Initially not included in the national vaccine plan or other containment strategies, returning international migrant workers typically returned to their village of origin (MoH and WHO 2021). Subsequently, these returning migrants were identified as a priority population, and quarantine centres were established where Covid-19 vaccination was offered.

This study is part of a larger research programme led by the Institute of Development Studies (IDS), which included eight research projects to expand knowledge on how Covid-19 is playing out in the Indo-Pacific region, as well as emerging responses, lessons, and solutions. This understanding can help address the needs of policy actors and communities in the eight countries. The rationale for this research was to examine Lao international migrants who had returned to Lao PDR and their access to Covid-19 vaccination.

¹ Estimated at US\$285m or 1.6 per cent of national GDP in 2019 according to data from the [World Bank](#).

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Acronyms

| | |
|----------|--|
| COVAX | Covid-19 Vaccines Global Access |
| Covid-19 | Sars-Cov-2 virus |
| GDP | gross domestic product |
| IDS | Institute of Development Studies |
| ILO | International Labour Organization |
| INGO | international non-governmental organisation |
| Lao PDR | Lao People's Democratic Republic |
| MoH | Ministry of Health |
| NGO | non-governmental organisation |
| NITAG | Lao National Immunization Technical Advisory Group |
| UNICEF | United Nations Children's Fund |
| WHO | World Health Organization |

1. Introduction

The Covid-19 (Sars-Cov-2 virus) pandemic has caused major challenges for public health, disruptions in agri-food supply chains and livelihoods. The impacts of Covid-19, however, are not evenly distributed within countries or among regions and populations. International migrant workers – those working in a state where they are not nationals – have been disproportionately affected. In Lao PDR (Lao People's Democratic Republic), many migrants seek work in neighbouring Thailand (ILO News 2021). The pandemic and lockdowns in Thailand triggered the return of thousands of migrants, many of whom were unvaccinated or had been infected with Covid-19. These international migrants worked mostly in domestic work, construction, manufacturing, agriculture, seafood processing, and entertainment sectors, and were important contributors to household income in Lao PDR through remittances.² While generally young and healthy, they were vulnerable to Covid-19 due to poor living and working conditions and barriers in accessing health services, including Covid-19 testing and vaccination.

As the pandemic evolved, thousands of the estimated 1.3 million Lao nationals living abroad, mostly in Thailand (ILO 2021), started returning to Lao PDR. This large-scale return was unexpected and not planned for. It increased significantly in 2021 as Covid-19 cases increased in Thailand, leading to lockdowns, loss of employment, and the closing of international borders. An estimated 120,000 international migrant workers returned in March and April 2021, with 140,000 having returned by July 2021 (IOM 2021; ILO News 2021). Many of these returning migrants were infected or had been exposed to the Covid-19 virus, raising concerns of the potential for community transmission, especially with migrants returning to rural areas where health facilities are not always easily accessible. Initially not included in the national vaccine plan or other containment strategies, returning international migrant workers typically returned to their village of origin (MoH and WHO 2021). Subsequently, these returning migrants were identified as a priority population, and quarantine centres were established which offered the Covid-19 vaccination.

This study is part of a larger research programme convened by the Institute of Development Studies, which included eight research projects to expand knowledge on how Covid-19 is playing out in the Indo-Pacific region, as well as emerging responses, lessons, and solutions. This understanding can help address the needs of policy actors and communities in the eight countries.

² Estimated at US\$285m or 1.6 per cent of national GDP in 2019 according to data from the [World Bank](#).

The rationale for this research was to examine Lao international migrants who had returned to Lao PDR and their access to Covid-19 vaccination.

1.1 Research questions

1. What are the reported practical and ideological barriers among returnee migrants to access Covid-19 vaccination in Khammouane, Savannakhet, and Champasack provinces?
2. What are the returned migrants' perspectives and preferences to increase their Covid-19 vaccination uptake?
3. What could a fair, transparent, and inclusive response to Covid-19, which includes returnee migrants, look like?

1.2 Covid-19 context in Lao PDR

Since the first case of Covid-19 in March 2020, the cumulative total of confirmed cases in Lao PDR by 5 February 2022 was 136,148, with 565 deaths (WHO 2022). A second outbreak was in April 2021 after the New Year celebrations, with clusters identified from karaoke venues, clubs, massage parlours, and private gatherings during the Lao New Year. As a containment measure, the capital, Vientiane, which had the highest number of cases, was placed in lockdown 22 April–5 May 2021, then extended to 15 July 2021 as more cases were detected. The third wave (August–December 2021) saw large-scale community transmission in Vientiane (Stage 3a), with wider spreading of Covid-19 during September and October 2021. The provinces of Luang Prabang, Luang Namtha, Odoumxay, Phongsalay, Vientiane Province, Khammouane, Savannakhet, Champasack, Saravan, and Bokeo also experienced localised community transmission (Stage 2a) in some areas among some populations, but no wider spreading of the Covid-19 outbreak in the community (WHO 2021a). More recently, the National Taskforce for Covid-19 Prevention and Control reported the presence of the Omicron Covid-19 variant from people coming in from overseas (WHO 2022).

From the start of the pandemic, the Lao government implemented standard Covid-19 preventive policies in line with international guidelines (e.g. physical, or social distancing, good hygiene practices, mask wearing, and community awareness). Internationally supported Covid-19 vaccinations first arrived in March 2021. With limited supply, the vaccine distribution strategy initially focused on priority populations, defined as health workers, older adults, individuals with underlying health conditions living in high-risk areas, and essential workers in a range of operations and services essential to critical infrastructure (MoH and WHO 2021). To receive the Covid-19 vaccine in the early stages of the vaccine

rollout, individuals had to register in advance at the vaccination sites or online (MCHC 2021). Concern that the large-scale return of migrant workers from Thailand could accelerate community transmission then led to a revision of the strategy to include essential travellers as a priority population (international migrant workers, international students, businesspeople, diplomats, people from international organisations, and aid workers), with quarantine centres established to facilitate return and vaccination. Initially only available at provincial and district levels, from October 2021, the supply of Covid-19 vaccines and training was extended to health centres at the village level (MoH 2021). Improved supply of vaccines also led to additional groups being sequentially targeted for vaccination based on guidance from the Lao National Immunization Technical Advisory Group (NITAG) (MoH and WHO 2021). As of 5 February 2022, 65.1 per cent of the total population had been vaccinated with at least one dose of Covid-19 vaccine while 56.8 per cent per cent had been fully vaccinated (WHO 2022a).

1.3 Study setting

The study was conducted in Khammouane, Savannakhet, and Champasack provinces. These provinces were selected because each shares borders with neighbouring countries such as Thailand and Vietnam, which are the main countries where Laotian migrant workers are employed (see map in Annexe 1).

Khammouane province is located in the central part of the country with a population of 392,052, of which 22 per cent reside in urban areas, 70 per cent in rural areas with a road, and 8 per cent in rural areas without a road (Lao Statistical Bureau 2018). The province reported 4,646 returnee migrants during May–October 2021 from Thailand; it had a lower number of Covid-19 cases than Champasack and Savannakhet provinces (Khammouane Provincial Department of Labour and Social Welfare 2021). See Table 1.1 for more detail.

Savannakhet province is situated in the south of Lao PDR with a population of 969,697 (the largest population of any province); 22 per cent reside in urban areas, 74 per cent in rural areas with a road, and 4 per cent in rural areas without a road (Lao Statistical Bureau 2018). Savannakhet is also a priority province for reaching returnee migrants to vaccinate against Covid-19 due to the large number ($N = 63,180$) of returnee migrants between May to October 2021 (also detailed in Table 1.1).

Champasack province is also in the south and has a population of 694,023; 26 per cent reside in urban areas, 64 per cent in rural areas with a road, and 10 per cent in rural areas without a road (Lao Statistical Bureau 2018). The province shares a long border with Thailand and reported 23,304 returnee migrant workers between May and October 2021 (Champasack Provincial Department of Labour and Social Welfare 2021). It is also a priority province

for reaching returnee migrants in Lao PDR, based on national statistics for the number of returnee migrants coming back to Lao PDR (see Table 1.1).

Table 1.1 Number of Covid-19 cases by provinces from beginning of May 2020 to end of October 2021

| Provinces | Number of returnee migrants | Number of returnee migrants tested for Covid-19 | Number of returnee migrants having Covid-19 | Number of Covid-19 fatalities among returnee migrants |
|-------------|-----------------------------|---|---|---|
| Khammouane | 4,646 (176 females) | 4,646 (176 females) | 290 | 1 |
| Savannakhet | 63,180 (30,272 females) | 63,180 (30,272 females) | 7,943 | 5 |
| Champasack | 23,304 (11,073 females) | 23,304 (11,073 females) | 3,852 | 2 |

Sources: Khammouane Provincial Department of Labour and Social Welfare (2021); Savannakhet Provincial Department of Labour and Social Welfare (2021); Champasack Provincial Department of Labour and Social Welfare (2021).

2. Methods

2.1 Study design

This was a cross-sectional, sequential mixed-methods study conducted from June 2021 to March 2022. Data collection was conducted between November 2021 and January 2022. The study consisted of:

1. A literature review of Covid-19-related government policies.
2. A quantitative online survey with returnee migrants.
3. Qualitative interviews.

Policies related to Covid-19 that were reviewed included:

- National Deployment and Vaccination Plan for Covid-19 Vaccines.
- Lao PDR immunisation law.
- Weekly World Health Organization (WHO)/Ministry of Health (MoH) Covid-19 situation reports.
- Case reports.
- Monthly and annual NITAG reports.
- Government reports.

The qualitative component consisted of in-depth interviews with policymakers/stakeholders and returnee migrants. Interviews were conducted after the online survey and respondents were identified from a list of returnee migrants from the quarantine centres in Khammouane, Savannakhet, and Champasack provinces. The purpose of conducting the qualitative phase after the quantitative phase was to enable a more in-depth understanding of vaccination accessibility for returning migrants. This mixed-methods approach enables a richer understanding of the phenomena of interest and enables the triangulation of results, enhancing the validity of inferences (Mertens *et al.* 2016). Due to the evolving nature of the Covid-19 pandemic and changing containment policies and practices, such as restrictions on travel (as explained below), several changes had to be made to the original study design.

2.2 Sample and sampling

Participants were key stakeholders and returnee international migrant workers. Key stakeholders were policymakers from the Ministry of Labour and Social Welfare, Department of Labour, Department of Hygiene and Health Promotion, Maternal and Child Health Centre, MoH, National Centre of Laboratory and Epidemiology, WHO, United Nations Children's Fund (UNICEF), and

International Labour Organization (ILO). For the purpose of this study, a returnee migrant worker was defined as a Lao person returning to the country of citizenship (Lao PDR), after having been an international migrant (whether short- or long-term) in another country and who intended to stay in Lao PDR during the Covid-19 pandemic.

Due to Covid-19 and government restrictions on movement, some key changes were made to our original plans, including the following:

1. Initially planned as face-to-face qualitative semi-structured in-depth interviews with key informants included: health policymakers (N=8); health-care providers, and individual experts from WHO, UNICEF, and ILO from both central and provincial levels (N=13); and returnee migrants (N=40). Due to movement restrictions, all interviews were conducted via WhatsApp, Google Meet, or Zoom.
2. We planned to identify 40 returnee migrant workers, stratified by sex, age, and ethnic background by identifying clusters based on administrative boundaries, combined with social and demographic characteristics, and reported high numbers of international returnee labour migrants. We intended to use social mapping in the identified clusters, with individuals in each cluster identified by line listing (based on the social map) combined with snowball sampling. Due to movement restrictions, however, 40 returnee migrant workers were randomly selected from the list of returnee migrants' telephone numbers provided by the quarantine centres and stratified by province and socio-demographic variables such as age, sex, and ethnicity.
3. For the quantitative component, we planned to conduct an online survey with 410 returnee migrants by getting a list of returnee migrants' telephone numbers through Facebook and other social media. However, due to lock down, the sampling frame was derived from the list of returnee migrants and their telephone numbers provided by the quarantine centres.

Inclusion criteria for returning migrants were:

- Being a returnee international migrant worker.
- Aged 18 years old or older.
- Having a Lao telephone number.
- Having stayed in a quarantine centre.

After applying these criteria, there were 2,456, 488, and 212 migrants from Champasack, Savannakhet, and Khammouane provinces, respectively. The sample size per province for the qualitative component was determined proportional to the number of returnee migrants in each. In total, we identified 27 out of 2,456 returnee migrants in Champasack, eight out of 488 in Savannakhet,

and four out of 212 in Khammouane. In identifying returnee international migrant workers, we tried to include workers of different socioeconomic backgrounds.

For the quantitative component, a list of returnee international migrant workers from each province was obtained. The migrant workers were then categorised into three groups according to the length of time back in Lao PDR: longest, medium, and recently returned. Next, stratified random sampling was performed to identify participants from each province. Based on the calculation of sample size with 95 per cent confidence interval, the total sample size for the survey was 410, with 320, 63, and 27 needed from Champasack, Savannakhet, and Khammouane provinces, respectively.

3. Data collection

3.1 Qualitative

Semi-structured, in-depth interviews were conducted with health policymakers, health-care providers, and experts from WHO, UNICEF, and ILO at both the central (12) and provincial (9) levels. Questions were related to the measures in the quarantine centres, access to Covid-19 vaccines for returnee migrant workers, perceived barriers in access, the extent to which the equity principle of distribution of Covid-19 vaccines was perceived to have been applied, and vaccine uptake. While we used a question guide for the conversation and to stay on topic, all questions were open-ended to allow participants to provide discursive, detailed responses. Interviews with returnee migrants included socio-demographic characteristics, experiences of getting Covid-19 vaccines (knowledge of Covid-19 vaccination, preferences of types of Covid-19 vaccines, accessibility, and barriers related to getting Covid-19 vaccines), and experiences in the Covid-19 treatment facilities (for those who were infected and had recovered).

3.2 Case study

Four cases from the 40 returnees interviewed were selected for a more in-depth exploration of their experiences and access to Covid-19 vaccination (two of whom had had Covid-19 and two who had not). The case studies allowed for a more in-depth analysis of common themes and perspectives. Study team meetings were held to review the data and ensure thematic saturation was reached prior to concluding the in-depth interviews.

All in-depth interviews were conducted via WhatsApp, Google Meet, or Zoom, and were audio recorded. Before starting the interview, participants were informed of the purpose of the research, how data would be used and stored, and issues related to privacy and confidentiality.

3.3 Online survey

The online survey collected information on the socio-demographic characteristics, experiences of receiving Covid-19 vaccination, hesitancy in receiving the Covid-19 vaccination, reasons not to be vaccinated, and vaccine preference. Questions were mostly closed or short-answer questions (see Annexe 1). In using an online survey, we drew on lessons learned from a Vietnamese partner in this same Covid Collective set of projects, which was useful for our learning in an increasingly digital world.

The survey form was developed in English, translated into Lao, and imported to Google Forms. Before conducting the survey, the questionnaire was pre-tested with 41 internal migrants.

Systematic random sampling was used to allocate the telephone number of international migrant workers, with the Google Form sent to potential participants via their telephone number or WhatsApp. A follow-up call was made within two weeks where there was no response to the first request. Participants were provided with a pre-paid telephone payment of US\$1 after completion of the online questionnaire survey.

3.4 Data analysis

All the survey data was downloaded from Google Forms into an MS Office 2019 Excel spreadsheet and imported into the Statistical Package for the Social Sciences (SPSS) version 21 for Windows. Descriptive statistics such as frequency and percentages were calculated for all variables of interest. Qualitative interviews were audio recorded, transcribed, translated, and analysed using an inductive content analysis. Themes and subthemes were identified based on a preliminary codebook made *a priori* based on the interview guidelines. Coding and analysis were iteratively conducted and compared to extracted themes and quotes, such as the change in vaccine availability and uptake, vaccination among returnee migrants, access to Covid-19 vaccines as a push factor in return, practical barriers in access to Covid-19 vaccines, vaccine knowledge, preferences of increase uptake for Covid-19 vaccination among returnee migrants, and equity and transparency in Covid-19 response (Hsieh and Shannon 2005). Two members of the research team (VS and JD) independently performed data coding and entered it into NVivo software. Data was analysed with similar codes grouped into subthemes and larger themes. The final list of subthemes and themes were agreed upon by consensus among authors (VS1, JD PN, ST, MN, PT and VS2). Triangulation was achieved by comparing different data sets (e.g., questionnaire data and qualitative interviews with returning migrants and key informants, and relevant documents included in the literature review).

3.5 Ethical approval

Ethical approval was obtained from the Research Ethics Committee of the University of Health Sciences in Lao PDR (No. 0268/21) dated 20 September 2021. The research objectives, methods, and potential risks were made known to each respondent, and verbal consent was obtained before the interview and online survey. Participants were free to withdraw from the study at any time. Amendments of research procedures due to Covid-19 were submitted and approved by the Research Ethics Committee. The online survey was included in

the initial application and did not require any amendments. To respect the confidentiality of participants, the names of respondents were not included in any results, and the data were securely maintained.

3.6 Limitations

This study has some limitations related to the methods but also the changes made due to Covid-19 travel restrictions. We were unable to recruit participants at the community level. Instead, we contacted potential respondents through their telephone numbers provided by the quarantine centres. Not using face-to-face interviews may have limited the extent to which we were able to develop rapport with participants and led to social desirability bias. The sampling methods are also susceptible to selection bias as we may have missed migrants who were more marginalised or vulnerable to Covid-19 exposure. The survey response rate was 37 per cent, which was low compared to prior face-to-face surveys in Lao PDR. This could be attributed to the online platform used. In this regard, low response rates can be explained by several factors. First, most previous surveys have been on site, and the online survey may have contributed to potential participants declining to complete it. Second, online surveys are relatively new in the Lao context and there is not much evidence on effective ways to recruit and maximise online survey respondents. Third, some migrant returnees were likely to have returned to work overseas once vaccinated. It was also possible that people were concerned about how their data would be used.

It is important to note that this study included participants who identified as returnee migrants from three provinces, and therefore their experiences may not be representative of all Lao returnee migrants. Similarly, migrants who returned through informal border crossings and did not enter the quarantine centres were not represented in this study. In addition, our data is based on self-reporting and subjective experiences. We did not measure or directly observe the condition of respondents at the quarantine centres and their access to vaccines, nor could we verify how many migrants received their full vaccination schedule compared to other priority populations or the general population. However, we employed effective interviewing strategies, such as maintaining regular contact, audio recording interviews, and asking for consent prior to data collection.

4. Findings

4.1 Socio-demographic characteristics of policymakers and key public health experts

Twenty-one key informants were interviewed, most of whom were female (76.2 per cent). Head/Deputy Directors and Heads/Deputies of Division comprised 28.6 per cent in each category. Slightly more than half of the participants (52.4 per cent) had over ten years' work experience (Table 4.1).

Table 4.1 Socio-demographic characteristics of policymakers and key public health experts

| No. | Variables | Number (N=21) | Percentage |
|-----|---------------------------------------|---------------|------------|
| 1 | Age | | |
| | 1. <= 45 yrs | 3 | 14.3 |
| | 2. > 45 yrs | 15 | 71.4 |
| | Missing | 3 | 14.3 |
| | Mean (SD) | 51.5 (6.8) | |
| | Min: Max | 40: 60 | |
| 2 | Sex | | |
| | 1. Male | 5 | 23.8 |
| | 2. Female | 16 | 76.2 |
| 3 | Education | | |
| | 1. Postgraduate diploma/Bachelor | 5 | 23.8 |
| | 2. Masters | 14 | 66.7 |
| | 3. PhD/post-PhD | 2 | 9.5 |
| 4 | Position | | |
| | 1. Head/Deputy of Division | 6 | 28.6 |
| | 2. Head/Deputy Director | 6 | 28.6 |
| | 3. Head/Vice Rector | 3 | 14.3 |
| | 4. WHO/UNICEF/ILO/NGO | 6 | 28.6 |
| 5 | Duration working in this field | | |
| | 1. <= 10 years | 10 | 47.6 |
| | 2. >10 years | 11 | 52.4 |
| | Median | 10.5 | |
| | Min: Max | 1: 40 | |

4.2 Socio-demographic characteristics of returnee migrant interviewees

There was an almost even number of male and female participants (55 per cent female). Most were aged 18–30 (70 per cent) and 55 per cent were single. Regarding education, 55 per cent had finished primary school, followed by upper secondary school (23 per cent). In total, 35 per cent worked in the service sectors in Thailand, followed by factory workers (30 per cent). Most were unemployed at the time of the interview (40 per cent), 25 per cent were working in rice fields, and 20 per cent were labourers. The length of time of living in Thailand ranged from eight months to 28 years (mean five years five months), with 57.5 per cent staying in Thailand equal to or more than 37 months. Slightly over half (57.5 per cent) returned to Lao PDR with their families. One third (32.5 per cent) had had Covid-19, and 5 per cent were pregnant (Table 4.2).

Table 4.2 Socio-demographic characteristics of returnee migrants (N=40)

| No. | Variables | Number (N=40) | Percentage |
|-----|-----------------------|---------------|------------|
| 1 | Age | | |
| | 1. 18–30 years | 28 | 70.0 |
| | 2. 31–40 years | 11 | 27.5 |
| | 3. 41–53 years | 1 | 2.5 |
| | Mean (SD) | 26.9 (6.8) | |
| | Min: Max | 19: 44 | |
| 2 | Sex | | |
| | Male | 18 | 45.0 |
| | Female | 22 | 55.0 |
| 3 | Marital status | | |
| | 1. Single | 22 | 55.0 |
| | 2. Married | 14 | 35.0 |
| | 3. Separated | 4 | 10.0 |
| 4 | Ethnicity | | |
| | 1. Lao-Tai | 36 | 90.0 |
| | 2. Mon-Khmer | 4 | 10.0 |
| 5 | Education | | |
| | 1. Illiterate | 3 | 7.5 |
| | 2. Primary | 22 | 55.0 |
| | 3. Lower Secondary | 6 | 15.0 |
| | 4. Upper Secondary | 9 | 22.5 |

| No. | Variables | Number (N=40) | Percentage |
|-----|---|---------------|------------|
| 6 | Occupation in Thailand | | |
| | 1. Commerce | 6 | 15.0 |
| | 2. Services | 14 | 35.0 |
| | 3. Farmer | 6 | 15.0 |
| | 4. Worker | 12 | 30.0 |
| | 5. Prisoner | 1 | 2.5 |
| | 6. Technical | 1 | 2.5 |
| 7 | Occupation in Lao PDR | | |
| | 1. Commerce/sales | 3 | 7.5 |
| | 2. Farmer | 10 | 25.0 |
| | 3. Unemployed | 16 | 40.0 |
| | 4. Worker | 8 | 20.0 |
| | 5. Housewife | 2 | 5.0 |
| | 6. Technical | 1 | 2.5 |
| 8 | No of months staying in Thailand | | |
| | 1. <= 12 months | 6 | 15.0 |
| | 2. 13–24 months | 5 | 12.5 |
| | 3. 25–36 months | 5 | 12.5 |
| | 4. >= 37 months | 23 | 57.5 |
| | Mean (SD) | 64.6 (66.8) | |
| | Min: Max | 8: 336 | |
| 9 | Coming with family/friends | | |
| | 1. Family | 23 | 57.5 |
| | 2. Single | 15 | 37.5 |
| | 3. Friends | 2 | 5.0 |
| 10 | Health status | | |
| | 1. Good | 38 | 95.0 |
| | 2. With some chronic diseases | 2 | 5.0 |
| 11 | Covid-19 status | | |
| | 1. Yes | 13 | 32.5 |
| | 2. No | 27 | 67.5 |
| 12 | Pregnancy status | | |
| | 1. Yes | 38 | 95.0 |
| | 2. No | 2 | 5.0 |

Source: Results from the online survey.

4.3 Socio-demographic characteristics of surveyed returnee migrants

A total of 1,099 returnee migrants were contacted to complete the online questionnaire survey with a response rate of 37.3 per cent (N=410). Most participants were aged 18–30 years (67.9 per cent), with a maximum age of 53 years old. Slightly over half (55.7 per cent) were male and 71.3 per cent were married. Most (54.5 per cent) were from Champasack, followed by Salavanne (18.7 per cent), and Savannakhet (17.8 per cent). Most (80.9 per cent) entered through Champasack point of entry. Nearly all (96.8 per cent) were Lao-Tai ethnicity (see Table 4.3).

Table 2.3 Socio-demographic characteristics of online survey respondents (N=410)

| No. | Variables | Number (N=410) | Percentage |
|-----|-------------------------------|----------------|------------|
| 1 | Age | | |
| | 1. 18–30 years | 279 | 67.9 |
| | 2. 31–40 years | 107 | 26.0 |
| | 3. 41–53 years | 25 | 6.1 |
| | Mean (SD) | 28.0 | 7.1 |
| | Min: Max | 18 | 53.0 |
| 2 | Sex | | |
| | 1. Male | 229 | 55.7 |
| | 2. Female | 182 | 44.3 |
| 3 | Marital status | | |
| | 1. Single | 105 | 25.6 |
| | 2. Married | 293 | 71.3 |
| | 3. Separated | 2 | 0.5 |
| | 4. Divorced | 10 | 2.4 |
| | 5. Widow | 1 | 0.2 |
| | 6. Others: specify | 0 | 0 |
| 4 | Living place, province | | |
| | 1. Vientiane capital | 3 | 0.7 |
| | 2. Xayabury | 1 | 0.2 |
| | 3. Borikhamxay | 2 | 0.5 |
| | 4. Khammouane | 27 | 6.6 |
| | 5. Savannakhet | 73 | 17.8 |
| | 6. Salavane | 77 | 18.7 |
| | 7. Sekong | 1 | 0.2 |
| | 8. Champasack | 224 | 54.5 |
| | 9. Attapeu | 2 | 0.5 |
| | 10. Xaysomboun | 1 | 0.2 |

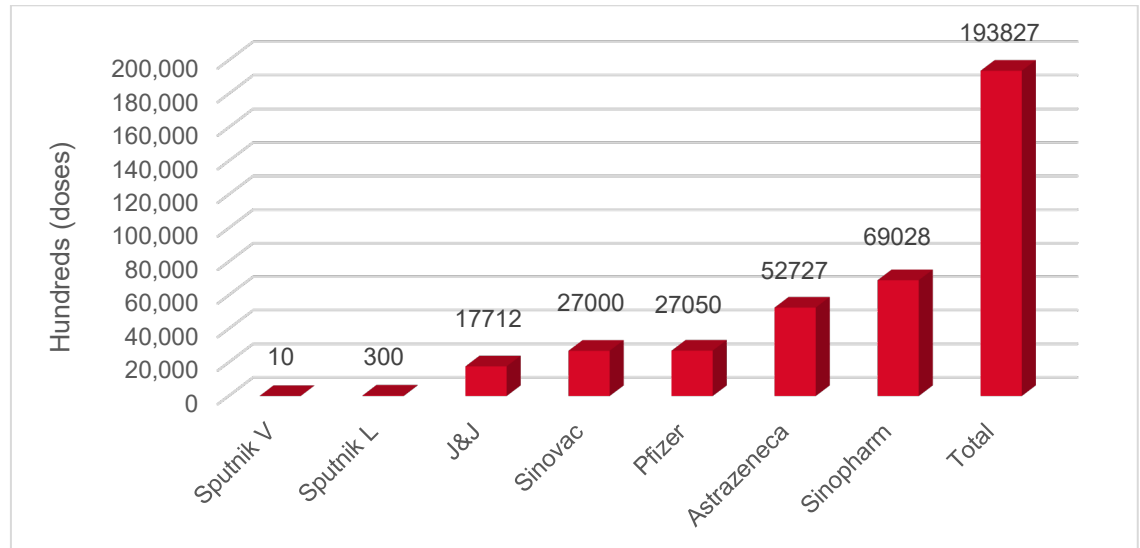
| No. | Variables | Number (N=410) | Percentage |
|-----|------------------|----------------|------------|
| 5 | Province | | |
| | 1. Khammuan | 26 | 7.6 |
| | 2. Savannakhet | 39 | 11.4 |
| | 3. Champasack | 276 | 80.9 |
| 6 | Ethnicity | | |
| | 1. Lao-Tai | 398 | 96.8 |
| | 2. Mon-Khmer | 12 | 2.9 |
| | 3. Hmong-Lu Mien | 1 | 0.2 |
| | 4. Chine-Tibetan | 0 | 0 |

Source: Results from the online survey.

4.4 Changes in vaccine availability and uptake

Key public health experts and policymakers explained that the number of available Covid-19 vaccines was reliant on donor support through the COVAX (Covid-19 Vaccines Global Access) facility. From the review of policy documents and bi-weekly Covid-19 situational reports, at the beginning of January 2021 there were 1,000 doses of Sputnik V, and 300,000 doses of Sinopharm by February (WHO 2021a). There were 480,000 doses of AstraZeneca and 800,000 doses of Senopharm available in March 2021 (WHO 2021b); enough to vaccinate approximately 18 per cent of the population. In June 2021, a shipment of 100,620 doses of the Pfizer BioNTech vaccine through the COVAX facility arrived in Lao (WHO 2021c). By September 2021, approximately 5,567,490 doses of Covid-19 vaccines were available (enough to vaccinate around 45 per cent of the population) and prioritised for populations identified as high risk, including returnee migrants (WHO 2021d). Further shipments continued, and as of 1 March 2022, 19.3 million doses of Covid-19 vaccines had been received, sufficient to fully vaccinate the entire population, including children aged 6–12 years old and booster doses for 37.7 per cent (WHO 2022b) – see Figure 4.1.

Figure 4.1 Number of Covid-19 vaccines supplied to Lao PDR up to March 2022



Source: Authors' own, based on data from NITAG (2022).

4.5 Vaccination among returnee migrants

Table 4.4 displays the number of returnee migrants who reported being vaccinated in the Google Form survey. Around three quarters (77.1 per cent) had received the Covid-19 vaccine, and among those who received vaccines (N=317), 27.7 per cent having had the first dose, 56.1 per cent two complete doses, 14.2 per cent the single Johnson & Johnson dose, and 2 per cent having received the first dose with the second dose scheduled. Among those who were unvaccinated, reported reasons for being so included having been infected with Covid-19 within the last six months (24.5 per cent), being pregnant (19.1 per cent), and health concerns due to an underlying medical condition or conditions (15.9 per cent). Other reasons were related to health system constraints such as a lack of vaccine availability or information on where to get vaccinated (Table 4.4). For those who returned before quarantine centres and vaccination rollout were established, vaccines were accessed at their nearest health facility.

Among the 40 returnee migrants who participated in the qualitative interviews, 20 had received two doses, four had received one dose (not Johnson & Johnson) and two had received three doses. Among those unvaccinated (14 out of 40 persons), reasons were the same as those listed in the survey, that is: having had Covid-19 in the last six months 19 (N=9), being pregnant (N=3), and having limited information or limited time to get vaccinated. According to interviewees, to get vaccinated, they were asked to show their ID cards or household registration booklets. However, if they were not able to provide these documents, they were not excluded from obtaining the vaccine.

Table 4.4 Number of returnee migrants vaccinated

| No. | Variables | n (%) |
|-----|--|------------|
| 1 | Have you received the Covid-19 vaccine? (N=317) | |
| | 1. Yes | 317 (77.1) |
| | 2. No | 93 (22.9) |
| 2 | If yes, how many shots have you had? (N=317) | |
| | 1. First shot. | 88 (27.7) |
| | 2. Completed Johnson & Johnson (one shot). | 45 (14.2) |
| | 3. Completed 2 shots. | 178 (56.1) |
| | 4. Time to receive second shot following scheduled, but not received yet. | 6 (2.0) |
| 3 | If you are not vaccinated, why? (Multiple choices) | |
| | 1. Pregnancy | 18 (19.1) |
| | 2. Breastfeeding | 4 (4.3) |
| | 3. Afraid of negative consequences or side effects of vaccine. | 8 (8.5) |
| | 4. Health concerns (underlying medical condition). | 15 (15.9) |
| | 5. Infected with Covid-19 and must wait for six months to get vaccinated. | 23 (24.5) |
| | 6. Still in quarantine or just released from quarantine. | 10 (10.6) |
| | 7. Waiting for the community outreach Covid-19 vaccination team to come to my village. | 9 (9.6) |
| | 8. Do not know where to get the Covid-19 vaccine, or the village authorities have not informed me where or when to get vaccinated. | 9 (9.6) |
| | 9. The supply of vaccines at the quarantine centre is exhausted. | 1 (1.1) |

Source: Results from the online survey.

A few returning migrants had been vaccinated in Thailand, as one factory worker explained:

I have had two doses of Sinovac in July 2020 in Thailand. The interval between the first and second dose was three weeks. After receiving the second dose, I was infected with Covid-19. At the time [of] being vaccinated the factory was not closed yet, [and so] the owner of the factory insisted we get vaccinated. If not, we were not allowed to work in the factory, so I registered for the vaccination and waited about a week. In December, I had a third dose of AstraZeneca at Songkhone Hospital near my village. The health staff told me that as I had had Sinovac, the third dose was AstraZeneca.

For me, I could get any type of vaccine.

(Male migrant, 32 years old)

4.6 Access to Covid-19 vaccines a push factor in return

At the beginning of the Covid-19 epidemic, most of the returnee migrants reported that they were not able to get vaccinated in Thailand. As a 33-year-old male migrant explained: 'The Covid-19 outbreak in Thailand was so severe that there were no hospital beds for Covid-19 patients. I returned to Lao to be vaccinated because there were no Covid-19 vaccines in Thailand at that time.'

While lack of access to health care, including testing, vaccination, and treatment, and loss of employment were push factors for return, the process of returning also exposed unvaccinated returning migrants to Covid-19. Most reported facing difficulties while travelling back to Lao PDR as they had to hire cars, often sharing the transportation fee with other returning migrants. Other costs incurred included paying for visa overstay fees, accommodation, and other living costs at the Thai–Lao border, where migrants sometimes spent several days before being processed, especially if they were irregular migrants without documents.

Key informants and health experts affirmed that a few returning migrants had been vaccinated in Thailand, although in such cases the cost was deducted from their wages by their Thai employers. According to key informants, there is, at the time of writing, no official data on the number of returning migrants who have been vaccinated, as this is not recorded in the District Health Information System2 (DHIS2) system.

A few participants recommended the collection of data on unvaccinated people and to reach them at the village level. As a 26-year-old female migrant suggested, 'Collect the number of people who have not been vaccinated yet in the village. Then, the vaccination team could provide community outreach at the village level, which I think will increase vaccination rates to 100 per cent.'

Most participants stated that nearly all the migrant workers who wanted to be vaccinated could be, with everyone encouraged to get vaccinated to achieve the government's vaccination target. There was agreement that most migrant workers wanted to be vaccinated as they wanted to return to work, often in Thailand, which necessitated being vaccinated. A push factor in getting vaccinated in Lao PDR was that there was no charge. One 33-year-old female migrant, explained: 'I think migrant workers in Champasack province have access to the Covid-19 vaccine and want to get vaccinated before leaving the quarantine centre.'

Informal or irregular migrants did not usually return through the formal border crossings and as a result, did not go into the quarantine centres. But they were able to get vaccinated through the normal health-care service at the provincial, district, or village level.

For those who returned back to the country, all who stayed at the quarantine centres received the vaccine, but there's a few people who may have illegally returned not through the international checkpoint or staying in the quarantine centre, so they are like ordinary people who have returned back to their village, and will be able to receive Covid-19 vaccine at the district hospital or provincial hospital or health centre.

(Policymaker, 53 years old)

4.7 Practical barriers in accessing Covid-19 vaccines

Aside from pregnancy, being infected with Covid-19 or having underlying health conditions were stated reasons for not getting vaccinated. Participants' responses in the qualitative interviews mirrored those from the survey. As some pregnant women (N=3) reported being told by a health-care worker that they could not have the vaccine while being pregnant, there appears to be some misunderstanding among health staff; scientific evidence indicates the Covid-19 vaccines are safe at any time during pregnancy (Magnus *et al.* 2021; Shanes *et al.* 2021). One expert noted that at least one pregnant woman who was unvaccinated died from Covid-19 while giving birth and, consistent with the quantitative data, many migrants who were pregnant were concerned about getting the vaccine. As one stated: 'We know that evidence around safety, and the delivery of vaccines to pregnant women is good but at beginning the safety information was not presented' (employee of an international non-governmental organisation (INGO), 55 years old).

Some participants were also concerned about the side effects of the vaccine where they already had underlying diseases. As one participant explained:

Most people are afraid of the side effects of the vaccine because they think they are old or have a chronic disease such as diabetes, high blood pressure, heart disease, kidney failure and general poor health.

(Male migrant, 22 years old)

Returning migrants who were infected with Covid-19 could not get vaccinated. As reported by a 32-year-old male migrant, they were advised: 'It is recommended that anyone who has been infected should get vaccinated after

six months. It will create double immunity, both natural and vaccine-induced immunity.'

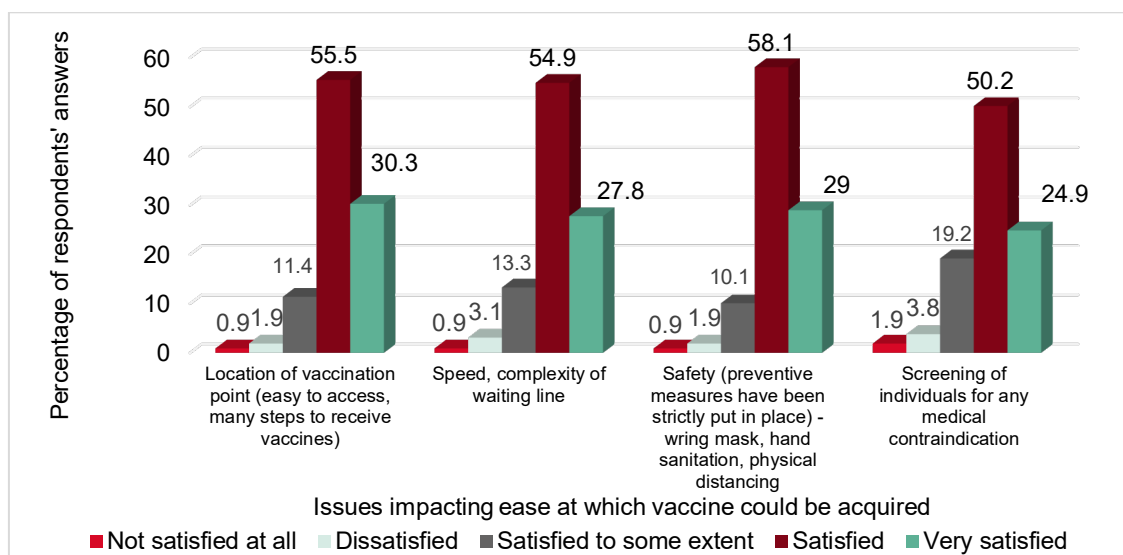
From the in-depth interviews with key informants and the literature review, practical issues in accessing vaccines included inadequate human resources, vaccine storage conditions, and short vaccine shelf life. Key informants also noted an inadequate training of staff at national, provincial, district, and health centre levels – including local authorities, community, and private sectors – which affected vaccination rollout (MoH 2021). Another practical barrier was convenience to access – a well-documented barrier to accessing health care. One person noted that even if it was a relatively easy process to get vaccinated at a health-care facility, physical access still made it difficult.

Qualitative interviews with the returnee international migrants highlighted a preference for reduced waiting time (there were long queues at health-care facilities) and vaccination centres being more physically accessible. A few participants were concerned about the availability of vaccines, and some thought it would be better if vaccines were available at the local level. Some health providers agreed that there were often long waits for vaccination; not everyone could wait and sometimes there were insufficient supplies to meet demand. A 24-year-old female migrant commented that 'The Lao government makes it easy for everyone to get vaccinated, but it is difficult to drive a car to get a vaccine at a health centre or districts, as some villages are located far from [a] health centre.'

The interviews highlight how community outreach and better access to the vaccine at health centre level could increase vaccine uptake and make vaccines available to everyone. In online survey, for example, 59 (62 per cent) out of 94 unvaccinated participants said that the preferred place to receive the vaccine was the local health centre.

Despite concerns about convenience and travel, as seen in Figure 4.2, about 55 per cent of participants were satisfied with the location of the vaccination point (easy to access; the steps to receive vaccines – such as form filling) and 33.3 per cent were very satisfied. In terms of speed/waiting time, 27.8 per cent were very satisfied, followed by 54.9 per cent who were satisfied. This may, however, be due to participants having mostly received their vaccines at the quarantine centres.

Figure 4.2 Attitudes towards accessing Covid-19 vaccination



Source: Compiled based on answers to the online survey.

4.8 Ideological barriers

Ideological barriers were obstacles related to concerns about side effects, misinformation, and efficacy. Of the responses to the online survey, 77 (82 per cent) out of 94 unvaccinated participants wanted to know more about vaccine safety and efficacy and 58 (62 per cent) wanted to know about the benefits. In qualitative interviews, side effect concerns included paralysis, stroke, death, and the longer-term consequences of the vaccine. Those with the most concerns were pregnant women and mothers. A female migrant, 20, explained:

The only thing that stops me right now is the fear of side effects. I do not know if the vaccine is really safe. Some people mention fever, tremble and cold, and are afraid this could result in them or their child [having] a disability.

(Female migrant, 20 years old)

Others were concerned about the efficacy of the vaccines:

Some people do not want to be vaccinated; people in the Oudomsook village do not want to be vaccinated. They are afraid of the side effects. We visited that village and asked them if this village had been vaccinated. They said that no one had been. They said they were scared to death, concerned about the efficacy of the vaccines.

(Female migrant, 22 years old)

Despite these barriers, as seen in Table 4.5, only a few participants who responded to the online survey did not intend to get vaccinated (7.4 per cent). The main reasons for not wanting to get vaccinated were health concerns, including chronic or underlying diseases (57 per cent), side effects (29 per cent), and being pregnant (29 per cent). Participants were aware that without being vaccinated they could get Covid-19 and spread it to family members and others (62 per cent) and might be unable to do routine outdoor activities (59 per cent).

Table 4.5 Hesitancy towards Covid-19 vaccines among unvaccinated migrants

| No. | Variables | N | Percentage |
|-----|--|----|------------|
| 1 | Do you intend to get the Covid-19 vaccination when it is made available? | | |
| | 1. Yes | 87 | 92.6 |
| | 2. No | 7 | 7.4 |
| 2 | If no, why? (Multiple choices) | | |
| | 1. Age (I am old). | 0 | 0 |
| | 2. Pregnancy | 2 | 28.6 |
| | 3. Breastfeeding | 0 | 0 |
| | 4. Religious or cultural reasons. | 0 | 0 |
| | 5. Afraid of the negative consequences or side effects of vaccine. | 2 | 28.6 |
| | 6. Health concerns (health underlying medical condition). | 4 | 57.2 |
| 3 | What happens if you decide not to get a Covid-19 vaccine? (Multiple choices) | | |
| | 1. I may not be able to do common outdoor activities (work, visits, play etc.). | 55 | 58.5 |
| | 2. I have to continue strictly practising prevention measures (face mask, social distancing, washing hands). | 26 | 27.7 |
| | 3. I might get Covid-19 and spread it to family members and others. | 58 | 61.7 |
| | 4. Others, please specify. | 1 | 1.1 |
| 4 | If you saw in the news that people may still get infected after getting vaccinated or even die, would you get the Covid-19 vaccination? | | |
| | 1. Yes | 83 | 88.3 |
| | 2. No | 11 | 11.7 |

Source: Results from the online survey.

4.9 Vaccine knowledge

Based on the survey findings, participants were aware of Sinopharm (57 per cent), Johnson & Johnson (34 per cent), and AstraZeneca (33 per cent) vaccines (Table A1 in Annexe 2). Consistent with the online survey data, most returning migrants were aware of the availability of Covid-19 vaccines and that while the vaccines do not provide complete protection, they can lessen the severity of symptoms. The quote below optimises common responses:

Like other vaccines, we can acquire infection after getting vaccinated, but the infection will be mild and will not affect the lungs. If I do not get vaccinated and do not protect myself from Covid-19, I will have a higher risk of acquiring Covid-19 infection.

(Female migrant, 34 years old)

Participants were not aware, however, if there were any differences in efficacy between the different vaccines. This response from a female migrant, 22, was typical: 'Regarding the Covid-19 vaccine, we know that there are many types of vaccines available in our country such as Sinopharm, Senovac, Johnson & Johnson, and Pfizer. I do not know which vaccine is better.'

Most returning migrants were able to explain preventative strategies, symptoms, and transmission routes. Interviews with returning migrants demonstrated that they had adequate knowledge about less common symptoms such as a cough, sputum production, headaches, fevers, body or muscle pain, and a loss of smell and taste. As one 40-year-old female migrant said: 'Covid-19 is a respiratory disease, transmitted by contact with an infected person. I have heard if one is affected by Covid-19, they have a fever, cold, cough, body pain; sometimes, they lose their sense of smell or taste.' Migrants also knew that Covid-19 was potentially severe and could be fatal. A few were aware that infected persons could be asymptomatic. Reasons contributing to this knowledge may be that all migrants interviewed had been working in Thailand, where they had good access to information. As most of the migrants interviewed also spent time in the quarantine centre, they may also have received information there.

Not surprisingly, given the access to internet and television in Thailand where the migrants had been working, many of the returning migrants interviewed said social media was the most important source of information for Covid-19. Other information sources were village leaders, staff at the quarantine centres, and treatment centres. As one female migrant, 20, explained:

We know about the Covid-19 vaccination, the number of Covid-19 cases that the village chief announces every day, how to protect ourselves from the Covid-19 virus from the village chief

announcements; we know [about Covid-19] from Facebook, and from the radio in the village.

Most returnee migrants felt information needed to be provided using multiple media, about each type of vaccine, benefits, and side effects, and where vaccines were available.

In my opinion, in order for returning migrants to have access to the Covid-19 vaccine, it is important that there is constant publicity about where the vaccine can be received through village speakers and TV and explaining the benefit or advantages of vaccination and the side effects so people could understand.

(Female migrant, 25 years old)

Findings suggest that the most effective ways to reach returning international migrants was through multiple channels and ensuring that village leaders and staff at the quarantine and treatment centres had accurate information while discussing with migrants about the potential side effects of vaccines, required number of doses, and so forth. They also indicate that social media can be a source of misinformation. Understanding the social media platforms used by migrants, the threats posed by anti-vaccination efforts, and how to counteract social media messages is critically important, especially as 77 (82 per cent) of 94 unvaccinated participants wanted to know more about safety and efficacy and 58 (62 per cent) about benefits (Table 4.6). As one person explained:

I think what they did in the quarantine centres is good as everyone came to the quarantine centre and they provided [the] Covid-19 vaccine to everyone before leaving, but I think that the quarantine centre should also provide health education on different types of Covid-19 vaccines and the side effects of each type of vaccine that migrants could have access to Covid-19 vaccines; they have to be interested in getting information, so we can ask the doctor or learn from the internet.

(Female migrant, 23 years old)

Table 4.6 Covid-19 vaccine information needs for the unvaccinated participants

| No. | Variables | n | Percentage |
|-----|---|----|------------|
| 1 | What is the most important information/messages related to the Covid-19 vaccine that you need to know before getting vaccinated? (Multiple choices) (N=94) | | |
| | 1. Safety/efficacy | 77 | 81.9 |
| | 2. Benefits | 58 | 61.7 |
| | 3. Public confidence | 4 | 4.3 |
| | 4. Convenience of receiving vaccines | 8 | 8.5 |
| | 5. Criteria for getting vaccine (age, pregnant, can vaccinate or not?) | 2 | 2.1 |
| 2 | Where would you prefer to get a Covid-19 vaccine when it is available? (Single choice) | | |
| | 1. Health centre | 59 | 62.0 |
| | 2. District hospital | 20 | 21.3 |
| | 3. Provincial hospital | 3 | 3.2 |
| | 4. Vaccination point at quarantine centres | 10 | 10.6 |
| | 5. Vaccination point in my own village (mobile session) | 2 | 2.1 |

Source: Results from the online survey.

According to key informants and returnee migrants, the type of vaccine they received depended largely on availability and MoH guidelines, not individual preferences. This real or perceived lack of choice was also supported by responses in the online survey, where 93 per cent said they were not able to choose the type of vaccine they received.

In the quantitative survey, participants stated their preferred vaccines as follows: Sinopharm (58 per cent), Johnson & Johnson (323 per cent), Pfizer (19 per cent), and AstraZeneca (16 per cent). Preferences were based on perceived side effects (42 per cent), whether vaccines could be used for those with chronic diseases (39 per cent), and perceived effectiveness (32 per cent) – see Table A2 in Annexe 2.

Responses to vaccine preference in the qualitative interviews were also based on subjective understandings of side effects, efficacy and whether they could be given to people with chronic diseases. For example, one interviewee explained that she preferred AstraZeneca as she thought it was more effective:

The health staff gave it to us, whatever it is. But if we can really choose the type of vaccines, we would like to be vaccinated with AstraZeneca because we think it provides better protection than others. We did not have any concerns about the type of vaccines, as any vaccines could protect us, which is better than no vaccine at all.
(Female migrant, 20 years old)

Generally, experts and those working in the quarantine centres felt that for returning migrants particularly, the single dose Johnson & Johnson was preferred for greater convenience, rather than two vaccination doses. As one person explained, a single dose, especially when given in the quarantine centre, meant there was no need for follow up or any chance of the second dose being missed:

So, if the Johnson & Johnson vaccine is given to people on arrival, then you know they are protected, and you don't have the headache of second dose which should be given at the district or provincial health facilities. So that would be my main recommendation, reserve the Johnson & Johnson vaccines for the returnees for practical reasons.

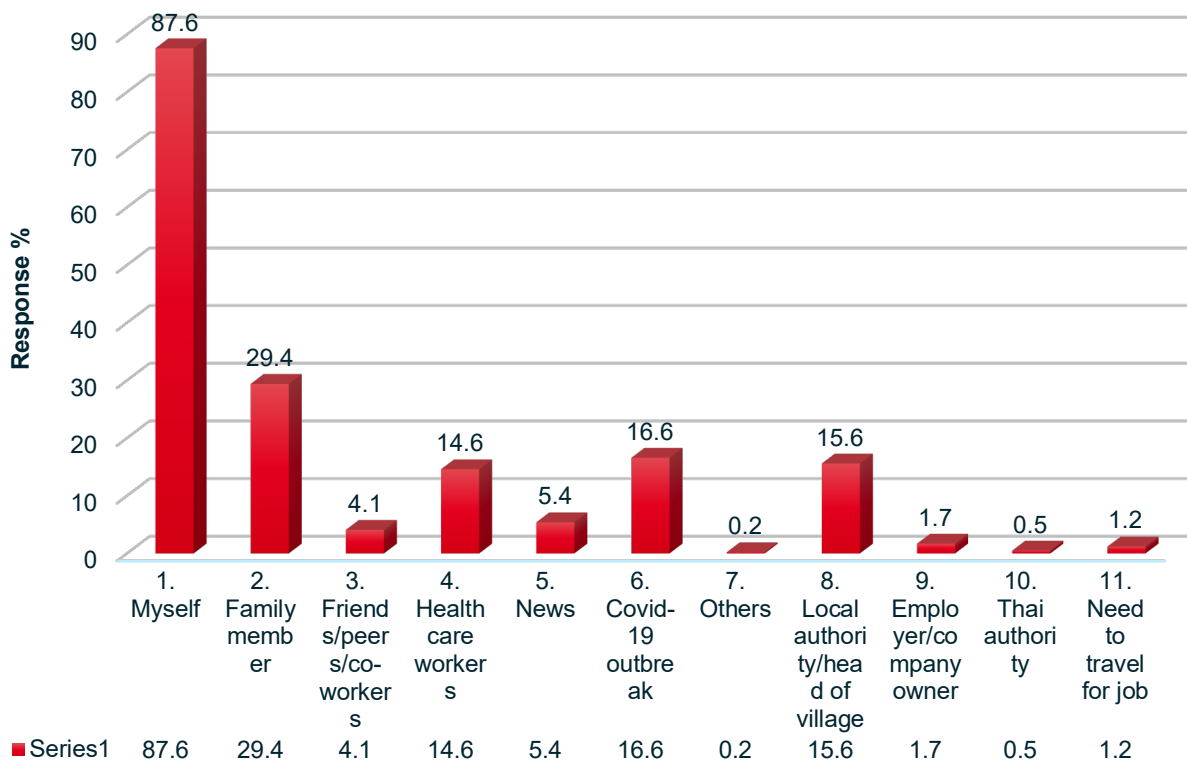
(Key informant at an INGO, 45 years)

Most participants (88 per cent) said the decision to get vaccinated was their own, while others were influenced by family members (29 per cent) or the Covid-19 situation (17 per cent) – see Figure 4.3.

4.10 Priority groups for Covid-19 vaccination

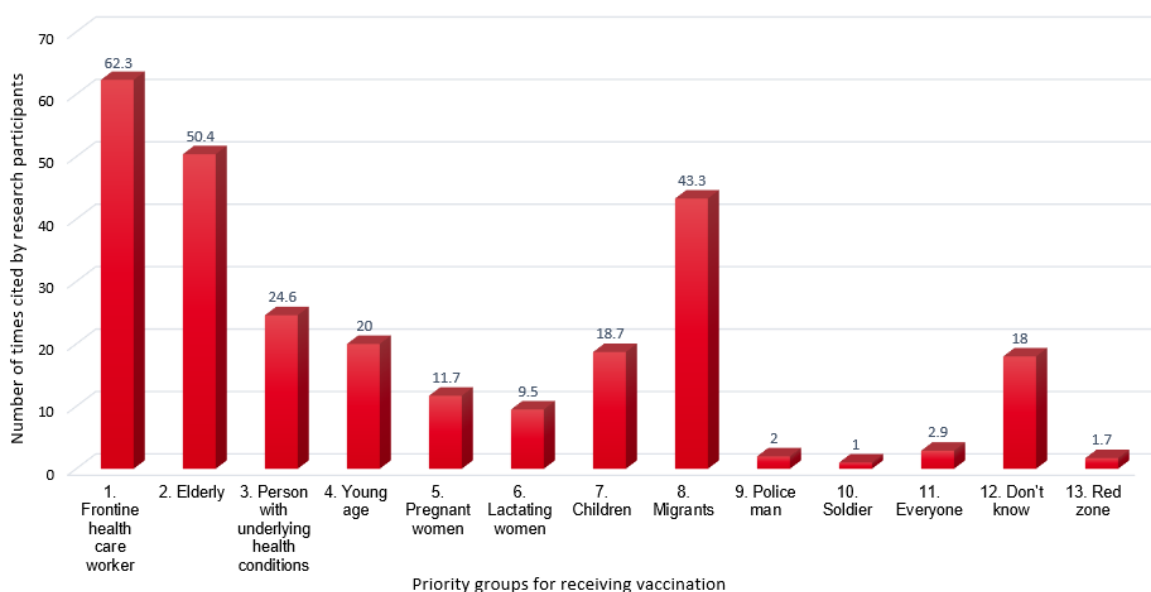
Participants cited the top three priority groups for Covid-19 vaccination as frontline health-care workers (62 per cent), the elderly (50 per cent), and people with underlying health conditions (25 per cent) (see Figure 4.4).

Figure 4.3 Factors influencing migrants' decision to get the Covid-19 vaccination



Source: Results of the online survey.

Figure 1.4 Priority groups for Covid-19 vaccination



Source: Results of the online survey.

4.11 Preferences of returnee migrants for increasing vaccination uptake

4.11.1 Expansion of vaccination sites

Most participants felt that the quarantine centres were the best places to deliver the vaccines. Other suggestions to increase the uptake of Covid-19 vaccines among returnee migrant workers were making vaccines accessible at all levels of the health-care system, from provincial and district health centres to mobile outreach in villages, especially in remote areas, and having vaccination sites at the international checkpoints. As one woman suggested:

We should have several vaccination points. First, set up a vaccination site at the checkpoint. Anyone who does not get an injection can travel through the checkpoint. In the village, they should mobilise the elders and mothers to get vaccinations, so that the doctors can provide them the vaccination at the village level.

(Female migrant, 44 years old)

4.12 Equity and transparency

Most key stakeholders felt that equity principles were followed and articulated in policy documents, with those most at risk of severe consequences prioritised. Consistent with the general lack of planning for returning migrants, at the beginning of the pandemic, migrants were not prioritised for vaccination or included in the strategy. This meant that some migrants who returned before the establishment of the quarantine centres and went back to their community, were unvaccinated. This was partially related to supply issues. Nevertheless, as one key expert noted, vaccine rollout was not necessarily based on equity in the traditional sense but more dependent on risk assessment, degrees of risk of exposure to acquiring Covid-19, severity of consequences, and likelihood of increasing transmission. For example, many returning migrants were young and healthy but with large numbers returning to Lao PDR from Thailand (and many potentially infected), without quarantine measures, the risk of community transmission was high.

Initially, the lack of planning for returnee migrant workers also meant provinces did not have sufficient vaccines, as one person explained:

For migrant workers, we did not anticipate the large number of migrants returning to Lao PDR and we did not really know the number of migrants working in neighbouring countries. We estimated the number of vaccines needed to account for 50 per cent coverage of Covid-19 vaccination of the provincial population. We did not calculate the required number of Covid-19 vaccines for the returnee

migrant workers, however, [subsequently] we did calculate the number of workers entering the quarantine centre, and based on that number, how many vaccines that were needed for the migrant workers at the quarantine centre.

(Health-care provider, Department of Savannakhet Provincial Health)

Since July–August 2021, migrant workers have been included as a priority, as one health provider explained:

At the beginning of the outbreak... of course we had to ensure that we had vaccine availability. We started to vaccinate the priority populations with the highest risks, the elderly, people with medical conditions, health workers, and essential people who have to travel or some priority group like that in early April. So, I know that after a while, when additional vaccines were available, I think that was in July this year, 2021, returnee migrant workers in quarantine centres were vaccinated and there was an effective policy on vaccination for returnee migrants, and this should be continued.

(INGO, 55 years old)

Regarding transparency, health professionals and experts said that in the early stages, due to limited vaccines, priority groups were vaccinated first. Now, with better access to vaccines, vaccine distribution is based on population size and areas most affected by Covid-19:

I think there is equity in access to vaccines as everyone can access vaccines and there are enough vaccines in Lao for everyone to be vaccinated, whether they are labourers or non-labourers. The government announced that everyone aged 18 years old and older can get vaccinated. For migrants, they can get vaccinated before leaving the quarantine centre; some people might not have been vaccinated yet as they have Covid-19, so the health staff told [them] to come to get vaccinated after six months.

(Female migrant, 32 years old)

There was a general feeling that there was transparency in the vaccine rollout process, as one key informant observed:

The government is also working to ensure transparency in the distribution of vaccines, not just for migrant workers. Transparency requires good measurement methods, and all methods used by the government are in line with World Health Organization guidelines.

(Employee at an NGO, 51 years old)

However, the data does not necessarily disaggregate by status (e.g. international migrant worker).

5. Discussion

5.1 Vaccination coverage

The international migrant workers in this study reported vaccination coverage of 42 per cent for one dose of Sinopharm and 71 per cent for all recommended doses: of the latter, 56 per cent had received two doses, while 14 per cent had received the single Johnson & Johnson dose (data collected in December 2021). This is higher than the general population rate (as of 21 December, 61 per cent were vaccinated with at least one dose of Covid-19 vaccine while only 46 per cent received all recommended doses) (WHO 2021e). This was unexpected and could suggest that migrants had better access to Covid-19 vaccines than the general population. During the survey, most returnees had the Johnson & Johnson vaccine, which required only one dose for completion; providing vaccines in the quarantine centres was convenient and accessible for returnee migrants.

Migrant populations were not included in the top three priority groups in the Lao PDR's national vaccination deployment plan at the beginning of the pandemic (MoH and WHO 2021). At the same time, in Thailand, they faced restrictions in accessing local health-care services, including Covid-19 vaccination and treatment. While travelling back to Lao PDR, returnees had limited information about immigration and cross-border and quarantine regulations, and experienced financial stress due to loss of employment and a long waiting time at the Thai border. Some had limited money on arrival in the quarantine centres. Some returning migrants were also infected with Covid-19 and are thought to have contributed to increased transmission and number of cases in Lao PDR (WHO 2021a). As well as health system impacts, the return of these migrant workers also had negative impacts on their families in Lao PDR, who relied on remittances sent home by migrants to help smooth household income (World Bank 2020). To address the high influx of returnee migrants, the national and provincial governments established 122 quarantine centres and provided vaccinations.

5.2 Motivation for vaccination

While early on there were individual concerns about side effects, most of the returnee migrants were aware of the potential severity of Covid-19 and were keen to be vaccinated. Other facilitators for returnees to be vaccinated were vaccine availability in the quarantine centres, especially where the single dose Johnson & Johnson was provided, and vaccination being a requirement for migrants to seek or return to employment. In addition, being given reliable

vaccine-related information, social networks, and seeing people like themselves receive the vaccination were reported as facilitatory.

5.3 Barriers to vaccination

The study revealed several practical and ideological barriers faced by returnee migrants in taking up the Covid-19 vaccination in Khammouane, Savannakhet, and Champasack provinces. Practical barriers are related mostly to those who did not enter a quarantine centre on return to Lao PDR or had to get their second dose in their local health-care facility. Other barriers found in our study are like those previously documented regarding access to health-care services more generally, such as geographical access, transport, inconvenience, and long waiting times at clinics (Levesque *et al.* 2013).

The main ideological barriers were pregnancy as a cause of vaccine hesitancy (due to the assumption that the vaccine was not safe for pregnant women) or having an underlying health condition. This is likely to relate to a natural reluctance of pregnant women to take anything new during pregnancy for fear of harming the baby. It may also be due to a lack of evidence on the safety of the vaccine during pregnancy in the early stages of vaccines becoming available (Kiefer *et al.* 2022, Lacobucci 2021). Vaccine hesitancy due to pregnancy is a concern since unvaccinated pregnant women have a substantially higher risk of requiring hospital treatment due to Covid-19 than vaccinated women (Vousden *et al.* 2021). Research also indicates pregnant women who contract Covid-19 may be more likely to have pre-eclampsia or need an emergency caesarean (Gurol-Urganci *et al.* 2021) and may be twice as likely to have a stillbirth (DeSisto *et al.* 2021). Some returnee migrants with underlying health conditions also expressed some hesitancy about being vaccinated. However, prior studies showed that a more common cause of vaccine hesitancy was concern about adverse side effects (Boekel *et al.* 2021; Detoc *et al.* 2020; SteelFisher *et al.* 2021).

5.4 Types of vaccines

Participants did not have strong preferences for any particular type of vaccine. In terms of the organisation of inoculations, the provision of vaccines in the quarantine centres worked well. Key informants and returning migrants who had received the single dose Johnson & Johnson felt that the single dose was more convenient. Especially in cases where the second dose was not administered in the quarantine centres, the single-dose vaccine helped overcome other barriers to vaccination, such as transportation and cost factors (Thomas 2021). Further, the single dose Johnson & Johnson vaccine did not require such stringent storage conditions as the initially available mRNA (messenger ribonucleic acid) vaccines (Thomas 2021). The type of vaccine people received, however, mainly

depended on what was available. Given the inequities in global vaccine distribution, the notion of choice remains a luxury afforded by high-income countries but remains relevant to future scenarios when vaccine supply is sufficient and multiple vaccine options become available to all.

5.5 Priority and equity

Almost all participants were aware of the government priorities for vaccination. Most participants thought current arrangements were fair and inclusive but did not elaborate in what ways they felt it was inclusive other than that the arrangements were in line with government policy. A few made suggestions on how the policy could be fairer or more inclusive, which often focused on increasing the levels of community outreach. Given the limited supply of vaccines, the vaccine policy was based on available knowledge at the time and focused on those likely to have the highest risk of exposure or more severe consequences (e.g. essential workers, the elderly). While not initially prioritised, returning international migrants were subsequently identified as a priority group for vaccination based on the concern that they could contribute to community transmission and that there might be settings where physical distancing was difficult to exercise.

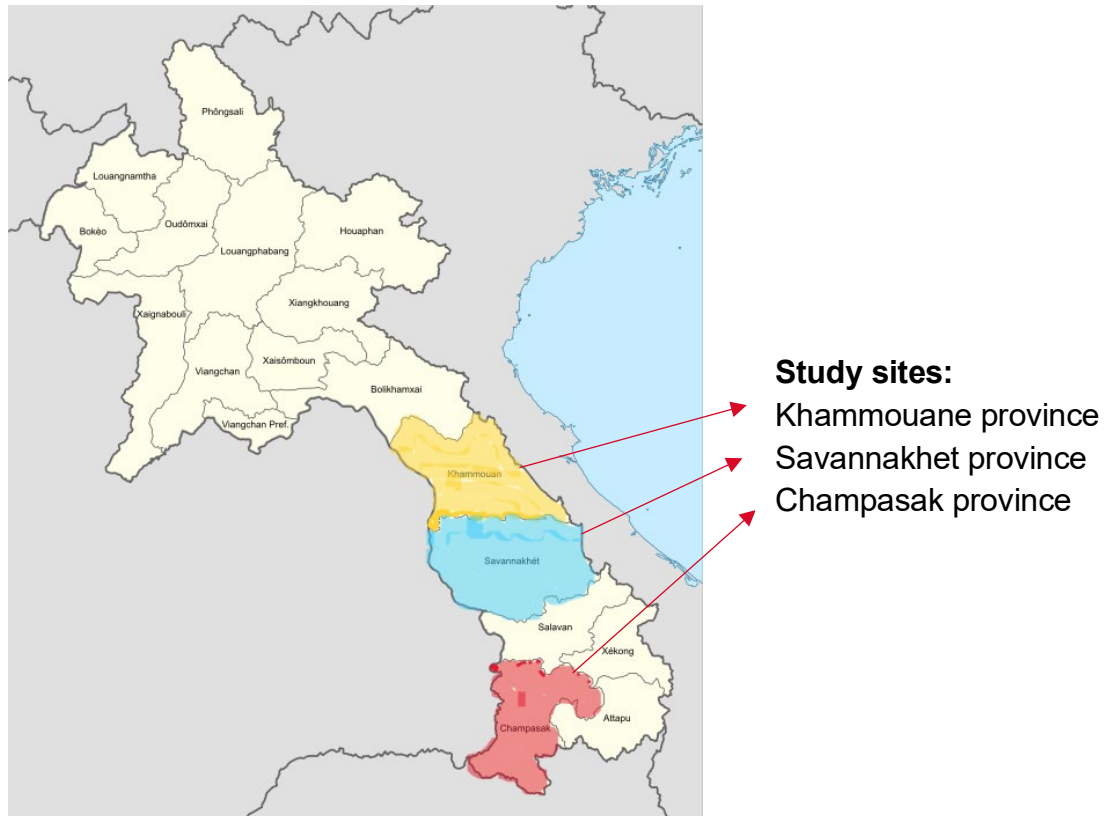
Studies on Covid-19 vaccine prioritisation and equity are sparse compared to studies on other aspects of the pandemic. Optimal strategies to minimise deaths could either prioritise high-risk populations or target groups with high rates of infection. The strategy used by the Lao government was a mix of these two strategies, with the intent of reducing transmission, severe cases, and Covid-19 fatalities. In terms of equity, it is possible that returning migrants crossing through informal cross-border channels had less access to Covid-19 vaccines as they did not go to quarantine centres. Further, while not mentioned by participants, it is possible that quarantine procedures for returning international migrants provided reassurance to their neighbours and local community, while those who did not go through the quarantine facilities may have been discriminated against as possible sources of infection. This indicates the importance of planning for returning migrants in a pandemic or other crisis and strengthening the universal public health system to increase its capacity to scale up vaccination regimes when required. In addition, planning and response plans should proactively plan for ways to promote equity (Kapiriri *et al.* 2021, Ndumbe-Eyoh *et al.* 2021).

6. Conclusions and recommendations

This study revealed the practical and ideological barriers to accessing Covid-19 vaccines among returnee migrants in Lao PDR. Overall, the study found that once included as a priority group and as vaccine supply increased, returnees had good access to vaccines. The current arrangement of the Covid-19 vaccines was considered by participants to be fair and inclusive. Based on the study findings, we offer several recommendations:

1. Health education on Covid-19 vaccines should be provided to returnee migrants. Public health messaging should focus on the efficacy of the currently available Covid-19 vaccines in reducing or eliminating disease, hospitalisations, and death. Referencing clinical data that address people's concerns about potential side effects – for example, the very low rate of reported side effects from currently available vaccines – should be prioritised and could help dispel fake news about vaccines. Messaging should also emphasise the direct personal protection benefits of the vaccine.
2. Pro-vaccine ideologies can be leveraged to convert intent to uptake. High acceptance of vaccines and significant trust in friends or family as information sources and seeing others like them to get the vaccine can encourage people to get vaccinated. Positive social signalling about Covid-19 vaccines in communities could help individuals follow through with taking their vaccine doses.
3. Offer vaccination at antenatal clinics and supply health-care providers with the information they need to explain to pregnant women the advantages of being vaccinated while pregnant compared to the potential risks. Health-care providers and awareness campaigns should address the concerns of pregnant women about the effectiveness and possible adverse effects of the vaccine in pregnancy.
4. Increase the uptake of the Covid-19 vaccine by creating a system to follow up with returnee migrants who are unvaccinated or only received one dose after leaving the quarantine centre, and ensure they are fully vaccinated before returning to work in neighbouring countries. For those migrants who came through informal channels or border crossings, there is a need to follow up with them to provide Covid-19 vaccination.

Annexe 1: Map of study sites, Lao PDR



Source: Map data © 2022 Google. Please see [here](#) for terms of reuse.

Annexe 2: Knowledge of the availability of Covid-19 vaccines and vaccine type preferences

Table A1 Knowledge of the availability of Covid-19 vaccines

| No. | Variables | n | Percentage |
|-----|--|-----|------------|
| 1 | What types of Covid-19 vaccines are available in your locality are you aware of? (Multiple choice), (N=411) | | |
| | 1. Sinopharm | 235 | 57.2 |
| | 2. AstraZeneca | 137 | 33.3 |
| | 3. Pfizer | 15 | 3.7 |
| | 4. Sinovax | 61 | 14.8 |
| | 5. Sputnik/Sputnik Light | 1 | 0.2 |
| | 6. Johnson & Johnson | 139 | 33.8 |
| | 7. Do not know/do not remember | 55 | 13.3 |

Source: Authors' own.

Table A2 Preferences for type of Covid-19 vaccine

| No. | Variables | n | Percentage |
|-----|---|-----|------------|
| 1 | There is more than one type of Covid-19 vaccine available. Can you choose which vaccine you prefer to receive? (N=411) | | |
| | 1. Yes | 31 | 7.5 |
| | 2. No | 380 | 92.4 |
| 2 | Which vaccine do you prefer to receive? (Multiple choice) (N=31) | | |
| | 1. Sinopharm | 18 | 58.1 |
| | 2. AstraZeneca | 5 | 16.1 |
| | 3. Pfizer | 6 | 19.4 |
| | 4. Sinovax | 0 | 0 |
| | 5. Sputnik/Sputnik Light | 0 | 0 |
| | 6. Johnson & Johnson | 10 | 32.3 |
| | 7. Any vaccines | 2 | 6.5 |
| | 8. Other | 0 | 0 |

| No. | Variables | n | Percentage |
|-----|---|----|------------|
| 3 | Please give the reasons (Multiple choices) (N=31) | | |
| | 1. Could be used for those people with chronic infections | 12 | 38.7 |
| | 2. Could be used for elderly people age 60+ | 8 | 25.8 |
| | 3. Fewer consequences or side effects comparing to other vaccines | 13 | 41.9 |
| | 4. More effective at preventing hospitalisation and death | 10 | 32.3 |
| | 5. Those fully vaccinated with breakthrough infections appear to be infectious for a shorter period | 1 | 3.2 |
| | 6. Others – please specify | 1 | 3.2 |
| | 7. It's only one dose | 4 | 12.9 |

Source: Authors' own.

Annexe 3: Research tools

Interview guide for health policymakers/health experts

Hello, I/we am/are _____, from _____ (UHS). I/we would like to learn more about **access to Covid-19 vaccines of returnee migrant workers in Lao PDR** during the Covid-19 pandemic.

I/we hope you will help us by completing these interviews, as your answers will be very valuable in informing the policymakers and practitioners implementing vaccination policies to develop the solutions to improve access to available Covid-19 vaccination among returnee migrant workers. All the information you give me/us will be put together in one report and it will not be possible to identify the individual people. If you decide not to participate or complete the interview, you may leave any time you want. However, I/we really need your honest response to better understand access to Covid-19 vaccines of returnee migrant workers in Lao PDR during the Covid-19 pandemic. There are no right or wrong answers.

If you all agree, I/we would like to record the interview so it can be transcribed after the in-depth interview is held and help me/us remember exactly what you said. Only the researchers will have access to the data collected. The interview will take about 45–60 minutes. As I/we will be talking about personal opinions and practices, to make sure the information we collect remains confidential it is important not to discuss what individual people said outside of this meeting.

I/we thank you in advance for taking your time to respond to our questions!

Would you be willing to participate in the study? Agree

Disagree

Interview guide for health policymaker and key expert (NITAG, Mother and Child Health Centre (MCHC), WHO, UNICEF)

Date: _____ Location: _____

Interviewer name: _____ Duration of interview: From _____ to _____

Part 1. Social Demographic

| Questions | Answer |
|--|--------|
| Name | |
| Phone number | |
| Age | |
| Gender | |
| Educational (major, highest level) | |
| Position | |
| Responsible duty (descriptive) | |
| How long have you been working at this department/ office? | |

Part 2. Opinion related to access to Covid-19 vaccines of returnee migrant workers

How do return migrants' access Covid-19 vaccines? Probing for awareness of severity of Covid-19, availability of Covid-19 vaccination, types of vaccines, place, mechanism to access to Covid-19, sources of Covid-19 information? How many of returnee's migrants received Covid-19 vaccination (Probe: estimated number or percentage? What is the evidence?)

Do you know about the policies for Covid-19 vaccination? What are they? Were returnee migrants included as the priority target group in the national development and vaccination plan for Covid-19? If yes, how was it done (Probe: ranking of priority target group, mechanism/process of services delivery, monitoring and evaluation)? If not, why?

What do you think about the preferences of types of Covid-19 vaccines among returnee migrants? What are their preferences of types of Covid-19 vaccines? Why?

What happened if the vaccines were not used because people did not show up? Did the person have the choice to refer that vaccination dose to any family member? Who made the decision about who could use the leftover vaccines?

What are the barriers among returnee migrants to access Covid-19 vaccination in and around the province? (Probe: for knowledge of vaccines and side effects, awareness of the availability of vaccines, place of receiving, accessibility...)

What could be a fair, transparent, and inclusive response to Covid-19, which includes returnee migrants, look like? How could we deal with the equitable principle of distribution of Covid-19 vaccines? Probe for following up with the guideline of WHO or CDC?

Are there any complaints about receiving Covid-19 vaccination? What are there? How does the MoH deal with the complaints?

How could we increase the uptake of vaccination of Covid-19 for returnee migrants?

Interview guide for migrant workers

Hello, I/we am/are _____, from _____ (UHS). I/we would like to learn more about your experiences regarding the impact of Covid-1 pandemic and your access to Covid-19 vaccines.

I/we hope you will help us by completing these interviews, as your answers will be very valuable in informing the policymakers and practitioners implementing vaccination policies to develop the solutions to improve access to available Covid-19 vaccination among returnee migrant workers. All the information you give me/us will be put together in one report and it will not be possible to identify the individual people. If you decide not to participate or complete the interview, you may leave any time you want. However, I/we really need your honest response to better understand access to Covid-19 vaccines of returnee migrant workers in Lao PDR during the Covid-19 pandemic. There are no right or wrong answers.

If you all agree, I/we would like to record the interview so it can be transcribed after the in-depth interview is held and help me/us remember exactly what you said. Only the researchers will have access to the data collected. The interview will take about 45–60 minutes. As I/wwe will be talking about personal opinions and practices, to make sure the information we collect remains confidential it is important not to discuss what individual people said outside of this meeting.

I/we thank you in advance for taking your time to respond to our questions!

Would you be willing to participate in the study? Agree

Disagree

Interview guide for returnee migrant workers**General information**

Date: _____ Province: _____ District _____
Village _____

Interviewer name: _____ Duration of interview: From _____ to

1. Socio-demographic characteristics

| Questions | Category answers |
|--|------------------|
| Gender | |
| Age | -----Years |
| Ethnicity | |
| Education (highest level, major) | |
| Marital status | |
| What did you do there?/Occupation | |
| Employment status | |
| What country did you immigrate from? | |
| Did you emigrate there alone or with your family? | |
| How long did you live there? | |
| Do you migrate back alone or with your family? | |
| Do you have any health condition or physical problems or disability? | |

2. Experiences of getting Covid-19 vaccines

1. What do you know about Covid-19? What are the symptoms? How do you prevent it?
2. What do you know about the Covid-19 vaccination? Sources of information...? Types of vaccines? Where? Side effects? Protecting you and your family from Covid-19?
3. Have you been vaccinated with the Covid-19 vaccine? If not, why not? If vaccinated, did you need to get vaccination by yourself or did someone recommend it? Who recommended you to get the Covid-19 vaccination?
4. What do you think about the preferences of types of Covid-19 vaccines?

What type of Covid-19 vaccines? Why? Could you choose the type of Covid-19 vaccines? Why?

5. Do you have any complaints about receiving Covid-19 vaccination? What are they? How did you deal with it?
6. How easily do you think migrant workers in Champasack can access the Covid-19 vaccine? Do you think you and other migrants are seen as a priority group to access the Covid-19 vaccine? Why?
7. What are the main barriers for you and for others to get the Covid-19 vaccination? (Probe for knowledge of vaccines and side effects, awareness of the availability of vaccines, place of receiving, accessibility...)
8. What are your ideas for how to give returnee migrants access to Covid-19 vaccination, and how to organise to increase Covid-19 vaccination uptake? (Probe: improve awareness, social media, community participation...)

3. Experiences in Covid-19 treatment facilities (those who contracted Covid-19 and have recovered)

1. Can you tell us about your experience with Covid-19? When did you know that you had got the Sars-Cov-2 virus infection? Before, during or after arrival, or leaving quarantine centre.
2. How did you get Covid-19? What is your timeline?
3. How many days after arrival did you have a sample collected for Covid-19 testing, or after you had symptoms? How many days did it take to get the positive results after testing (1st? 2nd time?) How many times did the health care-provider (HCP) collect your swab samples and how many days was it after you arrived?
4. What is the treatment process (Probe: treatment, isolation, re-examination)?
5. Did you have any concerns or worries during treatment? Do you have any concerns after recovering? (Probe: stigmatisation, physical and mental health well-being...)?
6. Did you receive any recommendation to get a Covid-19 vaccination six months after recovery? If yes, what was the recommendation of where to get vaccines, and did you follow the recommendation?

ONLINE QUESTIONNAIRE FOR RETURNEE MIGRANTS

I. Practice on Covid-19 vaccination

| | |
|--|---|
| P1. Have you received the Covid-19 vaccine? | Yes (<i>Go to P2</i>) No (<i>Go to P4</i>) |
| P2. If yes, how many shots have you received? | 1 st shot. Completed Johnson & Johnson. Completed 2 shots. Due for the second shot but no appointment yet for the 2 nd dose. |
| P3. Please tell us about your experience with your Covid-19 vaccine. | |

| | Not satisfied at all | Dissatisfied | Satisfied to some extent | Satisfied | Very satisfied |
|--|-----------------------------|---------------------|---------------------------------|------------------|-----------------------|
| Location of vaccination point (easy to access, many steps to receive vaccines) | | | | | |
| The way you received the vaccine (process) – speed, complexity of waiting line | | | | | |
| Safety (preventive measures that were strictly put in place) – wearing mask, hand sanitising, physical distancing | | | | | |

| | | | | | |
|--|--|--|--|--|--|
| Screening of individuals for any medical contraindication | | | | | |
|--|--|--|--|--|--|

(Go to P5)

P4. If not, why not? Multiple choices

- Age (I am old).
- Pregnancy
- Breastfeeding
- Religious or cultural reasons.
- Afraid of negative consequences or side effects of vaccine.
- Health concerns (underlying medical condition).
- Other reason. Please specify:

II. Hesitancy Towards Covid-19 Vaccines

H1. Do you intend to get the Covid-19 vaccine when it is made available?

- Yes (Go to H3)
- No (Go to H2)

H2. If not, why not? Multiple choices

- Age (I am old).
- Pregnancy
- Breastfeeding
- Religious or cultural reasons.
- Afraid of negative consequences or side effects of vaccine.
- Health concerns (underlying medical condition).
- Other reason. Please specify:

H3. What happens if you decide not to get a Covid-19 vaccine? Multiple choices

- I may not be able to do outdoor activities as normal (work, visits, play etc.).
- I have to continue strictly practising prevention measures (face mask, social distancing, washing hands).
- I might get the Covid-19 disease and spread it to family members and others.
- Other reason. Please specify:

| | |
|---|--|
| H4. If you saw in the news that people may still get infected after getting vaccinated or even die, would you get the Covid-19 vaccination? | Yes No |
| H5. Where would you prefer to get a Covid-19 vaccine when is available? <i>Single choice</i> | Health Centre. District hospital. Provincial hospital. Vaccination point held at Quarantine Centre. Vaccination point held at my own village (mobile session). Other reason. Please specify: _____ |
| H6. What is/are the most important information/messages related to the Covid-19 vaccine that you need to know before getting vaccinated? <i>Multiple choices</i> | Safety/efficacy. Benefits Public confidence. Convenience of receiving vaccines. Other reason. Please specify: _____ |
| Answer for both who get or not get Covid-19 vaccination | |
| P5. What types of Covid-19 vaccines are available in your locality that you are aware of? <i>Multiple choices</i> | Sinopharm AstraZeneca Pfizer Sinovax Sputnik/Sputnik Light Johnson & Johnson Others. Please specify: _____ |
| P6. Where there is more than one type of Covid-19 vaccine available; can you choose which vaccine you prefer to receive? | Yes, please go to Q P5 No, please go to QP6 |
| P7. Do you have a preference of vaccines? | Any vaccines Sinopharm AstraZeneca |

| | |
|--|---|
| Multiple choices | Pfizer Sinovax Sputnik Johnson & Johnson Other. Please specify: |
| P8. Please give the reasons for this preference. Multiple choices | Could be used for those people with chronic infections. Fewer consequences or side effects comparing to other vaccines. More effective at preventing hospitalisation and death. Those fully vaccinated with breakthrough infections appear to be infectious for a shorter period Other. Please specify: |
| P9. Who are the top 3 priority groups for Covid-19 vaccination? Multiple choices | Frontline healthcare worker Elderly Person with underlying health conditions Young age Pregnant women Lactating women Children Migrants Other. Please specify: |
| P10. Who influenced you to get the Covid-19 vaccination? Multiple choices | Myself Family member Friends, peer, co-workers Healthcare workers News Covid-19 outbreak situation Someone/something else. Please specify: |

I. Socio-demographic characteristics

| | Questions | Category answers |
|----|---|---|
| S1 | Age | (Year) |
| S2 | Sex | Male Female |
| S3 | Marital status | Single Married Separated Divorced Widow Others, specify: _____ |
| S4 | Living place, province | Province..... |
| S5 | Living place, district | District..... |
| S6 | Contact number (mobile number, WhatsApp or Facebook account) | |

End of online survey

 Submit

References

- Boekel, L. *et al.* (2021) '**Perspective of Patients with Autoimmune Diseases on COVID-19 Vaccination**', *The Lancet Rheumatology* 3.4: e241–e243, DOI: 10.1016/S2665-9913(21)00037-0 (accessed 3 May 2022)
- Champasack Provincial Department of Labour and Social Welfare (2021) 'Statistical Number of Returnee Migrants and Covid-19 Status among Returnee Migrants in 2021', unpublished report
- DeSisto, C.L. *et al.* (2021) '**Risk for Stillbirth among Women With and Without Covid-19 at Delivery Hospitalisation — United States, March 2020–September 2021**', *Morbidity and Mortality Weekly Report* 70.47: 1640–45 (accessed 3 May 2022)
- Detoc, M. *et al.* (2020) '**Intention to Participate in a Covid-19 Vaccine Clinical Trial and to get Vaccinated Against Covid-19 in France During the Pandemic**', *Vaccine* 38.45: 7002–06, DOI: 10.1016/j.vaccine.2020.09.041 (accessed 3 May 2022)
- GuroI-Urganci, I. *et al.* (2021) '**Maternal and Perinatal Outcomes of Pregnant Women with SARS-CoV-2 Infection at the Time of Birth in England: National Cohort Study**', *American Journal of Obstetrics and Gynecology* 225.5: 522, DOI: 10.1016/j.ajog.2021.05.016 (accessed 3 May 2022)
- Hsieh, H.F. and Shannon, S.E. (2005) '**Three Approaches to Qualitative Content Analysis**', *Qualitative Health Research* 15.9: 1277–88, DOI: 10.1177/1049732305276687 (accessed 5 May 2022)
- ILO (2021) '**Covid-19: Impact on Migrant Workers and Country Response in Thailand**', Geneva: International Labour Organization (accessed 3 May 2022)
- ILO News (2021) '**Relief Provided to 4,500 Return Migrant Workers in Lao People's Democratic Republic**', 7 September (accessed 3 May 2022)
- IOM (2021) '**An Analysis of Migration Trends of Lao Migrants for Lao People's Democratic Republic in Two Selected Provinces: Savannakhet and Xayaboury**', Vientiane: International Organization for Migration (accessed 3 May 2022)
- Kapiriri, L. *et al.* (2021) '**Priority Setting and Equity in Covid-19 Pandemic Plans: A Comparative Analysis of 18 African Countries**', *Health Policy and Planning* 13.3: 297–309, DOI: 10.1093/heapol/czab113 (accessed 3 May 2022)
- Khammouane Provincial Department of Labour and Social Welfare (2021) 'Statistical Number of Returnee Migrants and Covid-19 Status among Returnee Migrants in 2021', unpublished report
- Kiefer, M.K. *et al.* (2022) '**Characteristics and Perceptions Associated with Covid-19 Vaccination Hesitancy among Pregnant and Postpartum Individuals: A Cross-Sectional Study**', *International Journal of Obstetrics and Gynaecology* 129.8: 1342–51, DOI: 10.1111/1471-0528.17110 (accessed 3 May 2022)
- Iacobucci, G. (2021) '**Covid-19 and Pregnancy: Vaccine Hesitancy and how to Overcome it**', *BMJ* 375: n2862, DOI: 10.1136/bmj.n2862 (accessed 5 May 2022)
- Lao Statistics Bureau (2018) '**Lao Social Indicator Survey II 2017, Survey Findings Report**', Vientiane: Lao Statistics Bureau and United Nations Children's Fund (accessed 5 May 2022)
- Levesque, J-F. *et al.* (2013) '**Patient-Centred Access to Health Care: Conceptualising Access at the Interface of Health Systems and Populations**', *International Journal for Equity in Health* 12.1: 12–18, DOI: 10.1186/1475-9276-12-18 (accessed 5 May 2022)
- Magnus, M.C. *et al.* (2021) '**Covid-19 Vaccination During Pregnancy and First-Trimester Miscarriage**', *New England Journal of Medicine* 385: 2008–10, DOI: 10.1056/NEJMc2114466 (accessed 13 May 2022)
- MCHC (2021) 'Guideline for Registration of Covid-19 Vaccination', unpublished report, Mother and Child Health Center
- Mertens, D.M. *et al.* (2016) '**The Future of Mixed Methods: A Five-Year Projection to 2020**', Mixed Methods International Research Association (accessed 5 May 2022)
- MoH (2021) '**Instruction Providing Covid-19 Vaccination at the Health Centres and Village Levels**
- MoH and WHO (2021) '**National Deployment and Vaccination Plan for Covid-19 Vaccines**, Version 4.1, 4 March 2021, Lao PDR

Access to Covid-19 Vaccines and Concerns of Returnee Migrant Workers in Lao PDR During the Covid-19 Pandemic

Ndumbe-Eyoh, S. *et al.* (2021) ‘**“Back to Better”**: Amplifying Health Equity, and Determinants of Health Perspectives During the Covid-19 Pandemic’, *Global Health Promotion* 28.2: 7–16, DOI: 10.1177/17579759211000975 (accessed 5 May 2022)

NITAG (2022) *Mid-Term Review of NITAG*, Vientiane: National Immunization Program, Mother and Child Health, Lao National Immunization Technical Advisory Group

Savannakhet Provincial Department of Labour and Social Welfare (2021) ‘Statistical Number of Returnee Migrants and Covid-19 Status among Returnee Migrants in 2021’, unpublished report

Shanes, E.D. *et al.* (2021) ‘**Severe Acute Respiratory Syndrome Coronavirus 2 (SARS-CoV-2) Vaccination in Pregnancy: Measures of Immunity and Placental Histopathology**’, *Obstetric Gynaecology* 138.2: 281–83, DOI: 10.1097/AOG.0000000000004457 (accessed 13 May 2022)

SteelFisher, G.K.; Blendon, R.J. and Caporello, H. (2021) ‘**An Uncertain Public — Encouraging Acceptance of Covid-19 Vaccines**’, *New England Journal of Medicine* 384: 1483–87, DOI: 10.1056/NEJMp2100351 (accessed 5 May 2022)

Thomas, C.M. *et al.* (2021) ‘**Ensuring Covid-19 Vaccines for Migrant and Immigrant Farmworkers**’, *American Journal of Tropical Medicine and Hygiene* 104.6: 1963–65, DOI: 10.4269/ajtmh.21-0199 (accessed 5 May 2022)

Vousden, N. *et al.* (2021) ‘**Impact of SARS-CoV-2 Variant on the Severity of Maternal Infection and Perinatal Outcomes: Data from the UK Obstetric Surveillance System National Cohort**’, *MedRxiv* preprint, posted 25 July (accessed 5 May 2022)

WHO (2022a) **Covid-19 Situation Report for Lao PDR #54: 12 April 2022**, Vientiane: World Health Organization (accessed 13 May 2022)

WHO (2022b) **Covid-19 Situation Report for Lao PDR #49: 19 January–1 February 2022**, Vientiane: World Health Organization (accessed 5 March 2022)

WHO (2021a) **Covid-19 Situation Report for Lao PDR #44: 8–23 November 2021**, Vientiane: World Health Organization (accessed 5 March 2022)

WHO (2021b) **Covid-19 Situation Report for Lao PDR #28: 17–30 March 2021**, Vientiane: World Health Organization (accessed 5 March 2022)

WHO (2021c) **Covid-19 Situation Report for Lao PDR #32: 8 June 2021**, Vientiane: World Health Organization (accessed 5 March 2022)

WHO (2021d) **Covid-19 Situation Report for Lao PDR #39: 14 September 2021**, Vientiane: World Health Organization (accessed 5 March 2022)

WHO (2021e) **Covid-19 Situation Report for Lao PDR #46: 21 December 2021**, Vientiane: World Health Organization (accessed 5 March 2022)

World Bank (2022) **World Bank Open Data**, data portal (accessed 5 May 2022)



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