Public Support for Health Coverage for Migrant Populations in The COVID-19 Pandemic: The Roles of Infection Externalities and Impressions of Migrants' Home Place

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Research

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Abstract

Background: International population mobility is a significant challenge for the management of the coronavirus (COVID-19) pandemic. The suspension of flights and other traffic has been adopted to avoid more cases of imported infection by many countries, but these measures mean that most migrant populations, including immigrants, migrant and seasonal workers, international students, and others, have to stay in their host places. Therefore, equitable access to health services in the host places is crucial for them. Immigrant-receiving areas may encounter a dilemma when considering whether to extend health coverage of COVID-19 testing and treatment to immigrants. In this context, it is vital to understand public attitudes towards this issue since they explain and validate the policy responses.

Methods: The data used in this study came from an survey conducted in March 2020. The survey targeted adults aged 18 and older who were local residents of nine cities in Guangdong province, China. The sample size was 1,040, and STATA 15.0 was used in the statistical analysis.

Results: The results show that individuals with higher health security ratings, lower demand for health services, and greater concern about the risk of infectious diseases are more supportive of extending health services to immigrants. In addition, individuals who rate immigrants’ home place as more immigrant-friendly are also more supportive of it.

Conclusions: Public support for health coverage for immigrants in the COVID-19 Pandemic is influenced by infection externalities and impression of immigrants’ home countries. This study attempts to contribute to the body of literature related to welfare attitudes and immigration. It also outlines a series of crucial implications for the global task of managing COVID-19.

1. Background

International population mobility is a significant challenge for the management of the coronavirus (COVID-19) pandemic, an ongoing public health crisis spreading around the world. The suspension of flights and other traffic has been adopted as an important measure to avoid more cases of imported infection by many countries during the pandemic, but these measures mean that most migrant populations, including migrants, migrant and seasonal workers, international students, and others, have to stay in their host nations. Therefore, equitable access to health and social services in their migrant-receiving areas is crucial, and the World Health Organization specifically issued guidance to Member States and partners calling for the inclusion of migrants and the removal of any excessive out-of-pocket payments for COVID-19-related health services. However, host nations may encounter a dilemma when considering their policy responses. On the one hand, these changes would allow migrant populations to benefit from limited and valuable medical resources, even free medical services, designed for local residents. On the other hand, the exclusion of migrant populations from the welfare system and public health services, such as free testing, diagnostics, care, and treatment, would increase the risk of outbreaks in these populations [1] and present an additional threat to local public health due to the
externalities of the pandemic [2–4]. In this context, it is vital to understand public attitudes towards migrant populations’ access to public health services and welfare benefits, as these attitudes explain policy responses [5–8].

The current study was conducted in China, where the COVID-19 pandemic first emerged. To flatten the curve of new cases over time, the Chinese government has taken several decisive actions since the end of January 2020. One of the most effective and dependable actions was the provision of free testing for local residents and the removal of excessive out-of-pocket payments for treatment. Treatment for COVID-19 costs an average of 17,000 yuan ($2,400) per patient, and 65% of the cost is covered by basic medical insurance [9]. In addition, in early February, China announced that the other 35% of COVID-19 patients’ medical costs would be subsidized by local governments. In other words, local residents would be offered “free treatment” for the disease.

One of the most controversial topics in China is whether migrants should be given the same free treatment as local residents. The number of foreign immigrants in China is relatively small due to the country’s strict immigration control policy [10]. Yet, there is a significant number of Hong Kong residents living in Mainland China, especially in Guangdong Province, which borders Hong Kong. Based on the special institutional arrangement of “one country, two systems,” Hong Kong’s financial system and social security system are independent of those in Mainland China. Therefore, Hong Kong residents are usually considered migrant populations when they move to Mainland China. Recently, with the national strategy of the construction of the Guangdong-Hong Kong-Macao Greater Bay Area and a series of favorable policies for cross-border living and working, more and more Hong Kong residents have chosen to reside in Guangdong. Figures from the Hong Kong government show that there were about 542,000 Hong Kong residents in Guangdong in mid-2019, and most of them were older adults and children (see Table 1) [11]. During the current outbreak of COVID-19, some Hong Kong residents were also infected with the virus, and the debate about whether they should get the free treatment has aroused widespread public attention. Given this context, this study will investigate Guangdong residents’ attitudes towards Hong Kong people’ access to local public health services and welfare benefits.
Table 1
Hong Kong residents in the Guangdong Province (2013–2019)

| Reference time point | Age group 0–14 | 15–24 | 25–44 | 45–64 | ≥ 65 | Total |
|----------------------|----------------|-------|-------|-------|------|-------|
| Mid-2013             | 220,100        | 19,600| 71,900| 137,400| 67,600| 516,700|
| Mid-2014             | 218,800        | 21,000| 70,400| 135,700| 70,900| 516,600|
| Mid-2015             | 218,700        | 22,000| 68,300| 134,000| 73,100| 516,000|
| Mid-2016             | 220,500        | 23,000| 68,400| 134,000| 75,200| 521,000|
| Mid-2017             | 223,800        | 24,500| 70,100| 135,200| 77,400| 531,000|
| Mid-2018             | 220,700        | 26,400| 72,600| 137,100| 81,000| 537,700|
| Mid-2019             | 199,000        | 28,700| 76,400| 147,600| 90,200| 541,900|

Source: Commissioner for Census and Statistics, 2020.

Given this context, this study will investigate Guangdong residents’ attitudes towards Hong Kong people’s access to local public health services and welfare benefits. This study proposes two key research hypotheses based on a literature review.

2. Research Hypotheses

2.1. COVID-19 infection externalities, health security risk, and attitudes towards migrants’ health coverage

Self-interest hypothesis is one of the mainstreaming theories that explain an individual’s social policy preference [12–14]. According to self-interest hypothesis, local residents who are healthy or at a relatively low risk of communicable disease exposure will be more likely to support health coverage for infectious diseases for migrants, since they will have less need for health care than those who are in poorer health or at a high risk of infectious disease exposure. In addition, the exclusion of migrant populations from public health services, such as free testing, diagnostics, care, and treatment, would increase the risk of outbreaks in these populations [1] and present an additional threat to local public health due to the externalities of the pandemic. The negative externalities of infectious diseases may further prompt healthy local residents to support health coverage for infectious diseases for migrants.

After considering the externalities of COVID-19, we derived the following hypothesis:

Hypothesis I

*Individuals with higher health security ratings, a lower demand for health services, and greater concern about the risk of infectious diseases are more supportive of extending coverage for COVID-19 testing and...*
treatment to migrates.

2.2. Impressions of migrates’ home country or place and attitudes towards extending health services to migrates

The politics of social policy on immigration are also influenced by the reciprocal relationship between home country and host country [15]. The friendliness/inclusiveness of public policy in migrates’ home country or place exerts a feedback effect on the policy preferences of the host country regarding the welfare eligibility of migrates [16, 17]. Thus, the impressions of migrates’ home country or place may influence local residents’ attitudes towards extending health services to migrates.

From this line of reasoning, this study formulated the second hypothesis:

Hypothesis II

*Individuals who rate migrates’ home country or place as more inclusive and friendly are more supportive of extending health coverage of COVID-19 testing and treatment to migrates.*

3. Materials And Methods

3.1. Data collection

The data used in this study came from an online survey conducted in March 2020. The survey targeted adults aged 18 and older who were local residents of nine cities in Guangdong province. These cities included Guangzhou, Shenzhen, Zhuhai, Dongguan, Foshan, Huizhou, Zhongshan, Jiangmen, and Zhaoqing, all of which are part of the Guangdong-Hong Kong-Macao Greater Bay Area. To ensure that the survey sample was a representative sample of the nine cities, we included respondents from all regions and of different demographic characteristics. We also employed weighting to match the characteristics of the survey sample with the characteristics of the general population. Weighting was calculated using data from the Guangdong Statistical Yearbook. The survey was approved by the Sub-Committee on Research Ethics and Safety of the Research Committee of author’s affiliation. The sample size was 1,040, and STATA 15.0 was used in the statistical analysis.

3.2. Dependent variable

The survey included a question on public support for migrant healthcare coverage, which was the dependent variable in this study. The survey asked, “If a resident from Hong Kong is infected with COVID-19 in your city, do you support offering them the same free treatment that locals enjoy?” The options offered were “Yes,” “No,” and “Don’t know.” Responses were collected using a two-point scale where “Yes = 1” and “No or Don’t know = 0,” since this study used logistic regression analysis to test the research hypotheses.

3.3. Explanatory variables

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To test the first research hypothesis, respondents’ subjective health statuses were collected using a five-point Likert-type scale ranging from “1 = very bad” to “5 = very good.” The second explanatory variable was related to respondents’ perceptions of the risk of the local pandemic. The question read, “How do you evaluate the trend of the COVID-19 pandemic in your city?” Responses were collected using an 11-point scale ranging from “0 = very pessimistic” to “10 = very optimistic.”

To test the second research hypothesis, this survey asked respondents to evaluate the performance of the Hong Kong government. The question read, “How do you evaluate the Hong Kong governments’ performance in epidemic prevention and control?” The responses were measured using an 11-point scale ranging from “0 = very bad” to “10 = very good.”

Another explanatory variable was related to participants’ overall impressions of Hong Kong. The survey invited respondents to indicate to what extent they agreed with the following statements: “Hong Kong is an inclusive city,” “Hong Kong is an open city,” and “Hong Kong is a friendly city.” Responses were collected using a five-point Likert-type scale ranging from “1 = strongly disagree” to “5 = strongly agree.”

3.4. Control variable

The survey also collected respondents’ individual-level characteristics as control variables in the logistic regression analysis. The characteristics were as follows: age group (18–29 = 1; 30–39 = 2; 40–49 = 3; 50–59 = 4; 60+ = 5), gender (male = 1; female = 0), occupation (farmer; individual business; employees of enterprises and government-sponsored institutions; private entrepreneurs; national civil servants; students; other), and educational attainment (middle school or below = 1; high school = 2; college (diploma) = 3; bachelor = 4; master or above = 5).

4. Results

4.1. Descriptive statistics

The results demonstrated that 63.48% of respondents supported the provision of free treatment to Hong Kong people infected with COVID-19. Approximately half of respondents thought their health statuses were “very good” (10.38%) or “good” (44.13%). The survey revealed that most respondents were optimistic about the trend of the local pandemic, creating a curve that was skewed right of the distribution of their responses (mean = 9.508, SD = 1.428). As mentioned above, this survey also asked participants to evaluate their overall impressions of Hong Kong. Only 16.16%, 29.81%, and 30.96% of the participants agreed (or strongly agreed) that “Hong Kong is an inclusive city,” “Hong Kong is an open city,” and “Hong Kong is a friendly city,” respectively.

The descriptive statistics for the key variables used in this study are outlined in Table 2.
Table 2
Descriptive statistics for the variables used in this study

| Variable                                           | Mean (SD)  |
|----------------------------------------------------|------------|
| **Dependent variables**                            |            |
| Support for migrant health coverage                | .635(.482) |
| **Health security risk variables**                 |            |
| Subjective health status                           | 3.505(.879)|
| Perceptions of the risk of the local pandemic      | 9.508(1.428)|
| **Impressions of immigrants’ home countries**      |            |
| Evaluation of the Hong Kong government’s performance| 7.386(2.105)|
| Inclusive                                          | 2.898(1.048)|
| Open                                               | 3.767(.93) |
| Friendly                                            | 3.011(1.01) |
| **Demographic variables**                          |            |
| Age (five groups: 1–5)                             | 2.414(.641)|
| Gender                                             | .507(.5)   |
| Educational attainment (five groups: 1–5)          | 3.599(.757)|

4.2. Multiple and logistic regression analyses

To test hypothesis I, the set of health security risk variables was added to Model 1, controlling for age, gender, educational attainment, and occupation. The dependent variable specified in the third section was regressed, and the results of this logistic regression analysis are presented in Table 3. The findings demonstrated that subjective health status was positively associated with support for migrant health coverage. Specifically, individuals who perceived themselves to be in good health tended to support the provision of free COVID-19 treatment to Hong Kong people, while those who perceived themselves to be in bad health tended to oppose it. In addition, Model 1 also revealed that the degree of optimism about the local pandemic was positively associated with support for migrant healthcare coverage. It implies that individuals who were optimistic about the local pandemic tended to support sharing medical resources with migrants. Therefore, Model 1 supports hypothesis I.

To test research hypothesis II, the set variables about impressions of migrants’ home country were added to Model 2. Similarly, Model 2 controlled for age, gender, educational attainment, and occupation. As seen in Table 3, respondents’ evaluations of the Hong Kong government’s performance were positively associated with support for the provision of free COVID-19 treatment to Hong Kong people. Individuals’ overall impressions of Hong Kong also influenced their attitudes towards this issue. Individuals who
considered Hong Kong to be an inclusive or friendly city tended to support the sharing of medical resources with Hong Kong people in their cities. Thus, Model 2 supports hypothesis II.

The dependent variable was regressed on two sets of explanatory variables together in Model 3 (see Table 3). It turned out to be interesting: On the one hand, the effect of health security risk variables on the support for extending health services to Hong Kong people is no longer significant, under control over individual impressions of Hong Kong; On the other hand, however, the positive correlation between the support for health coverage for Hong Kong people and individual impressions of Hong Kong is still significant, when controlling for health security risk variables. Research hypothesis II received stronger empirical confirmation in this study, with better impressions of a place leading to more supportive of extending health coverage for the migrant populations from that place.
Table 3
Multiple and logistic models explaining the support for migrant healthcare coverage

|                                |   (1) |   (2) |   (3) |
|--------------------------------|-------|-------|-------|
| **Health security risk variables** |       |       |       |
| Subjective health status       | 0.126* | 0.0743 |       |
|                                | (1.72) | (0.93) |       |
| Perceptions of the risk of the local pandemic | 0.0812* | 0.0155 |       |
|                                | (1.78) | (0.32) |       |
| **Impressions of immigrants' home countries** |       |       |       |
| Evaluation of the Hong Kong government's performance | 0.0860** | 0.0812** |       |
|                                | (2.35) | (2.12) |       |
| Inclusive                      | 0.266*** | 0.266*** |       |
|                                | (2.97) | (2.97) |       |
| Open                           | 0.121 | 0.119 |       |
|                                | (1.37) | (1.35) |       |
| Friendly                       | 0.381*** | 0.379*** |       |
|                                | (4.42) | (4.39) |       |
| **Control variables**          |       |       |       |
| Age                            | -0.197* | -0.245** | -0.243** |
|                                | (-1.83) | (-2.03) | (-2.02) |
| Male, gender                   | 0.479*** | 0.404*** | 0.400*** |
|                                | (3.65) | (2.91) | (2.88) |
| Individual business, occupation | -0.878 | -0.965 | -0.965 |
|                                | (-1.09) | (-1.09) | (-1.09) |
| Employees of enterprises and government-sponsored institutions, occupation | -1.171 | -1.196 | -1.210 |
|                                | (-1.54) | (-1.41) | (-1.43) |
| Private entrepreneurs, occupation | -1.073 | -1.013 | -1.038 |
|                                | (-1.30) | (-1.11) | (-1.14) |
### 5. Discussion

The paper is one of the first attempts to quantify the drivers of public support for health coverage for migrants in less developed countries during the COVID-19 pandemic. To address the challenge of the pandemic, many countries provide free diagnostic and treatment services to their citizens. However, migrant populations, including migrants, migrant and seasonal workers, international students, and others, are usually excluded from this policy arrangement due to lack of citizenship or coverage by social health insurance in the host nations. If migrant populations are not adequately protected against the financial consequences of COVID-19-related health expenses, the risk of outbreaks in immigrant populations can increase and present an additional threat to local public health. Given these considerations, the world health organization called on Member States and partners to integrate migrant populations into their health structures and avoid excessive out-of-pocket payments for COVID-19-related health services [1].

The self-interest hypothesis argues that local residents would consider their needs prior to the wellbeing of migrant populations; therefore, the public may not support the extension of welfare services to migrate at a time of crisis when public service and welfare resources are scarce [18]. In fact, a large number of existing literature material have shown that, the public health crisis and the resulting economic crisis would generally undermined public support for international assistance [19–21]. However, the attitudes of local residents may be affected by the externalities of the pandemic, which complicates local residents’
attitudes towards migrant populations’ access to free health service under the public health crisis. Our empirical study finds that due to the negative externalities of infectious diseases, individuals with higher health security ratings, lower demand for health services, and greater concern about the risk of infectious diseases are more supportive of extending health services to migrant populations. In addition, impressions of migrants’ home country or place may also alter this prediction created by the self-interest hypothesis. This study finds that the impressions of migrants’ home country or place will exert a feedback effect on the welfare attitudes of citizens in the host country. Individuals who rate migrants' home country or place as inclusive and friendly are more supportive of extending health services to migrants.

According to Johns Hopkins Coronavirus Resource Center, the COVID-19 pandemic has spread to 188 countries or regions around the world, while the overall number of infections has surpassing 64 million by 3 Dec 2020 [22]. According to the COVID-19 pandemic prediction model created by the Center for Infectious Disease Research and Policy at the University of Minnesota, the epidemic is likely to last until 2022 if there is no cure for the COVID-19 and the vaccine [23].

6. Conclusion

Public support for health coverage for migrants in the COVID-19 Pandemic is influenced by infection externalities and impressions of migrants’ home country or place. This study provides preliminary findings about the characteristics and causes of public support for health coverage for migrants during the pandemic. It also outlines a series of crucial implications for the global management of COVID-19.

Abbreviations

COVID-19: Coronavirus disease 2019; CSD: Census and Statistics Department, Government of the Hong Kong Special Administrative Region; WHO: World Health Organization.

Declarations

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Authors' contributions

Genghua Huang was responsible for data collection and interpretation. Zhaiwen Peng was responsible for designing the study. Genghua Huang and Zhaiwen Peng were both responsible for drafting the article. The authors read and approved the submitted version.

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Availability of data and materials

The dataset used and analyzed during the current study is available from the corresponding author on reasonable request.

Ethical Approval and Consent to participate

The survey in this study was approved by the Sub-Committee on Research Ethics and Safety of the Research Committee of Lingnan University with no personal identifiers, and the reference number is EC077/1920. Informed consent was obtained from individual participants.

Consent for publication

Not applicable. No individual person's data in any form were presented in this publication.

Competing interests

The authors declare no competing interests.

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