



# Hukou and Health Care: Some Unintended Consequences of Purposive Action

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**Abstract.** In January 2020, a new virus first hit Wuhan city in Central China's Hubei province, and was named COVID-19. It quickly spread to the whole world in the following months and now it has become a global pandemic causing medical and economic challenges on an unprecedented scale. Evidence shows that human migration and large public gatherings can spread the virus and that is why most countries where COVID-19 has broken out are imposing "lockdown" restrictions and advising citizens to maintain "social distance" between themselves and other people. Changes in the Chinese *hukou* system of internal migration, together with reforms to the health care provisions, have had several intended positive results, including easing the strains of rapid urbanization and improving the outcome of sustained economic growth. However, there were also significant unintended consequences from these reforms, for large sections of the population, during the spread of the coronavirus.

**Keywords:** COVID-19; *hukou*; healthcare; purposive action; unintended consequences

## 1 Introduction

Robert K. Merton published his early classic paper on "The unanticipated consequences of purposive social action" <sup>[1]</sup> in the first issue of *The American Sociological Review* in 1936. In this article he explored a range of some of the unintended consequences that can accompany human social activities and a number of basic reasons to explain these outcomes. These consequences may be overlooked if the actor is determined to put certain policies in place. Such unintended outcomes can therefore pose considerable costs that raises the question of whether the policy, even if it achieves its stated goals, is worthwhile. Of course, a policy may also have unintended consequences that are quite beneficial to society when faced with unexpected challenges like a global pandemic.

In January 2020, such a situation occurred when a new virus first hit Wuhan city in Central China's Hubei province, and was named COVID-19. It quickly spread to the whole world in the following months and now it has become a huge pandemic causing medical and economic challenges on an unprecedented scale. In many respects it is the worst such event since the Spanish flu of 1918 or the Great Depression following

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the Wall Street collapse in 1929. It seems that it could result in a combination of both these catastrophes. But Wuhan and China appear to have managed to almost control the spreading of the sickness, which may in part be a result of its internal migration policies. It is known that human migration and large public gatherings can spread the virus and that is why most countries where COVID-19 has broken out are imposing “lockdown” restrictions and telling citizens to maintain “social distance” between themselves and other people. The hukou system, together with reforms to the health care provisions, have resulted in several positive outcomes for China as a whole, not just in the area of easing the strains of rapid urbanization and improving the outcome of sustained economic growth, but in reforming the health care provision for large sections of the population.

The government’s hukou system, now operating for more than half a century, was a hastily implemented attempt to place the extensive migration, anticipated to be an inevitable result of the twin forces of urbanization and industrialization, in a controlled and gradual pattern. It was seen to be a necessary part of promoting the construction of industries in the new China and providing the labour force necessary to benefit from globalization, so that it might be possible to convert the country into the twenty first century’s “workshop of the world”. Yet another goal was to extend primary care to everyone, as part of the plan to increase the migrants’ income and improve the quality of their family life<sup>[2]</sup>. As such, these measures generally succeeded in achieving the goals envisaged for the hukou system, which also included changes to health care provisions.

However, there were significant unintended consequences during the COVID-19 pandemic crisis where the controls established for other reasons proved to be useful measures to react to the situation and obtain a quick response necessary to help minimize damage to the migrants’ lives, as well as to the general population. In this analysis, I will discuss several of these unintended consequences that included: (1) Tracking migrants and finding those who had been infected in the epidemic areas; (2) Determining the budget costs facing different regions and guaranteeing patients suitable treatment in hospital; (3) Classifying the high-risk areas, medium- risk areas and low-risk areas and taking different steps for migrants and locals;(4)Intensifying social bonds in all communities by raising migrants’ social participation in fighting the pandemic and working together to defeat its impact.

This article explores some of the unintended consequences of the hukou system and its impact on the primary health care of migrants and permanent residents in China. Therefore, while material has been derived from the experiences during the COVID- 19 pandemic in Wuhan and the whole country, the analysis opens by exploring the links between hukou and primary health care developments. Secondly, it outlines the aims of the hukou system for migrant groups and health care policy and the nature of the reforms over seven decades between 1950 and 2020. Thirdly, it details the processes through which the four major unintended consequences emerged and the ramifications of these consequences. The concluding sections reflect upon some of the causes of these unintended consequences.

## 2 The migration data and the COVID-19 outbreak in China

The biggest challenge in China's all-out efforts to fight the novel coronavirus that emerged in Wuhan, capital of Hubei province, was how to effectively stop the virus from spreading across the country, given that the epidemic broke out at a time when millions of people were leaving their hometowns for Spring Festival family reunions. Mass migrations on a massive scale were taking place across the country. During the earlier days, since there were not yet vaccines or targeted medications for the novel coronavirus, the lockdown of a region was considered to be the most efficient way to prevent the virus from spreading<sup>[3]</sup>.

Wuhan, which has a population of 11 million, began its lockdown at midnight on the 23rd January 2020. However, there were still some 5 million people moving in and out of Wuhan between the 20th and 24th of January. Where was this huge migration going to and what was its probable effect on the spreading of the virus to other parts of China? How could this be tracked in order to keep the infected in quarantine and service the sick in hospital? According to the data from the migration Map of Baidu, there is a strong connection between these two factors. For the leaving migrants, 69.4% moved to their homes inside Hubei province, the remaining 30.6% left to locations outside the province throughout the country. As there are both similarities and differences between Hubei province and the other provinces it is important to note them. These can thus be classified into two groups.

### 2.1 Migration and the influence on COVID-19 spreading and control in and outside of Hubei Province

The majority of migrants remain inside their home province because of the same local policies (like health care, hukou, security and education) and find it easy to move back and forth. There are 12 cities and 1 autonomous region in the province. In the case of these 3.47 million (69.4% of the 5 million) migrants living inside the province, we can plot the migrants' movements. And according to the national health data on 14th February, that means one month later, out of Wuhan city, the total positive rate is linked to the number of migrants.<sup>[4]</sup>

That is, in the days following the first outbreak, those who were found to be positive for the virus were closely linked to these migration flows. The more migrants, the more positive cases. Compared with the migrants' scattergram and the positive numbers, we can come to the following conclusions. First, the number of confirmed positive cases matches the number of migrants, the more migrants, the more confirmed cases; second, in some cities, where the cases are greater than the number of migrants means that in these situations the coronavirus is strongly spreading; third, in the cities which reported lower cases but nevertheless had high levels of migrants, we can predict either that the numbers will increase in the following days or, perhaps, that these locations had a good tracking system and could keep the infected in quarantine, so explaining their better outcomes.

Migrants who move from Wuhan to other provinces, mainly Henan, Anhui, Jiangxi, Guangdong, and Zhejiang, also show a similar pattern of confirmed cases too. We

can reach the conclusion that, firstly, the number of confirmed positive cases generally match the migrant inflow patterns; and, secondly, these provinces had good controls over movement and medical facilities for these migrants. For the migrants who returned to their hometowns, the hukou and health care systems working together managed to provide hospital facilities during the primary pandemic, when there was not a coordinated policy for the whole country lead by the central government.

### **3 Strong links between migration and virus spreading.**

Looking at the data on migration and the pattern of virus spreading during the primary stage of the pandemic, suggests a very important conclusion: there is a close link between the migrant flows and the expansion of the virus. There are three circles around Wuhan as far as migration is concerned.

The first circle is Hubei province with the exception of Wuhan itself. The Hubei cases make up more than 80% of the total among the whole of China. Hubei is the key place: saving Hubei means saving China itself. The second circle includes the places adjoining Hubei province including Henan, Hunan, Anhui, Jiangxi and Chongqing. This is because the migrants found jobs in these nearby settings. Wuhan is the center and prosperous transportation and trade hub in this part of China, but many other cities are linked to it.

The third circle comprises the coastal cities located in Zhejiang, Guangdong, Shandong, and Shanghai. The developing commerce, trade and ports which are near the ocean attract a lot of labour as well. The other 20 provinces between the middle of the second and the third chains have less migrants and the spread of the virus was kept under control.

Specially, the online education stops the virus spreading. “During the pandemic, educators had invested their online teaching technologies and strengthened their knowledge in teaching online.”<sup>[5]</sup> One conclusion, is that if we keep people staying at home and have trajectory tracking and provide health care immediately, we can deal with the virus in a rather controlled manner. This is the reason why now so many countries have adopted policies and actions to keep social distance and staying at home, and to close borders. In China, the hukou system based on one’s place of origin, made people report and register this information in order to get their basic social welfare. The system was later improved to track people’s health care and education experience.

### **4 The intended consequences of the reform and development of *hukou* and health care for migrants**

The *hukou* system has changed in a number of ways since it was first set up in 1950. During the past 70 years, the system has been improved and reformed many times. Generally, there are five stages in the process. There were a series of changes:

The *hukou* system made citizens undergo registration to gather the information in order to support and construct the cities and modern industry in China. The system was concerned with the free migration from rural areas to the urban centers. It was linked to housing registration and social welfare entitlements that differ from province to province. For migrant workers - who have moved to cities to work - living without a residency permit can make it next to impossible to apply for licenses and to submit basic government documents.

The *hukou* system was closely linked to the provision of health care. The new rural cooperative medical insurance was designed for migrants in local regions as a system to coordinate with the rural *hukou* system. The central government implemented the New Rural Cooperative Medical Insurance (NRCMI) in 2003. It started with a small number of counties and fully covered the whole rural area by 2010.

In 2016, the government planned to annually help over 13 million migrants seek urban *hukou* that would qualify them for social benefits such as health care, over the next five years. The plans are part of an attempt to lift the percentage of people living in cities and having the relevant *hukou* to 45 percent by 2020, according to a statement released by the State Council. The percentage of people living in cities and having the local *hukou*, stood at 40 per cent at the end of 2015. The percentage of the entire population living in cities was 56 percent, as many migrants live in cities without the relevant local *hukou*.

In April 2020, local governments promoted basic public services, such as health care, education and housing, for migrants already living in cities without an urban *hukou* and their family members. There is no doubt that mass migrations with different regional health care in China during the Spring Festival holiday have added to the difficulty of combating the epidemic and could trigger more outbreaks after the holiday. That is why the government planned to remove all barriers for migrants to apply for urban household registration status after the peak of COVID-19 ends.

In conclusion, a key government aim of the *hukou* and health care reforms was to support industrial and urban development, and this has led to a complex network of policies, arrangements and new solutions to migration management. The issues may be resolved over time, even though in the sudden pandemic situation, the partial effectiveness of the system was not ideal but worked quite well and resulted in some positive consequences.

## **5 The Unintended Consequences of *Hukou* and health care under COVID-19**

During the COVID-19 period, there was further discussions about changes in social policy linked to *hukou* and the health care system because of the unanticipated consequences of these policies when the virus hit. It was a time to reflect on the huge pressure such mass migrations put on the efforts to fight the epidemic.

### **5.1 Contact tracing every migrant, by using hukou registration, to determine quarantine needs.**

In the hukou migration registration system, each migrant once moving to another place for settlement or just a short-time job will apply to the police station of their original location. And then they bring the documents to the local police station of destination to make a record and keep on file<sup>[6]</sup>. So, it is easy to track where people are from and when they return. Coordinating with *hukou*, the health care can also be linked to the location.

Using this method, it was relatively easy to track people whether they were moving by bus, train, or plane, from their original location to their subsequent residence through the registration information on the tickets. The reforms made tracking easier and helped authorities to find the contact persons quickly and provide quarantine. This was critical in avoiding the spread of the virus. When it comes to some special tasks, such as tracking down and quarantining people who have come from Wuhan, the epicenter of the pandemic, the shortage of manpower and the urgency of the mission, as well as the pressure from central authorities, can lead to a lack of due procedural justice.

During the time of the pandemic, the government could use the data from the past registration to help to track and control all the spreading. The travel rush for Spring Festival posed a serious threat to the efforts to control the spread of the virus. It was vital to strictly screen people traveling from Wuhan city to the rest of the country and elsewhere. Compulsory quarantine measures had to be adopted to ensure that those who have had close contact with those infected in the city and elsewhere spread the virus to as few people as possible. But when travel involves air tickets or train tickets, everyone's ID information was partially printed on the tickets. So it was easy to find the migrants. That is why governments and departments at all levels were able to take this step quickly even though hundreds of millions of people were on the move. Such measures proved to be effective during the fight against the transmission of the coronavirus responsible for the outbreak of severe acute respiratory syndrome in the 2003 SARS epidemic.

### **5.2 Determining regional budget requirements by matching *hukou* locations with health care needs.**

Unlike other areas of the country, which have witnessed far fewer COVID-19 cases, the city's healthcare system faced an excessive burden during the initial period of the outbreak. China has institutional and organizational advantages that can help it mobilize resources to fight the epidemic within the shortest possible time, but such advantages come at enormous economic and social costs<sup>[7]</sup>. It is nearly impossible to accurately compute the economic losses China will incur because of the novel coronavirus.

There are four principles underlying the payment system for the virus treatment costs. Firstly, for those migrants confirmed to have the disease the government provided the cost of basic medical insurance, serious disease insurance and other neces-

sary medical assistance. The basic medical insurance system now covers all the population in general, and the per capita government subsidy for rural and urban residents covered by this system was increased. Basic old-age insurance schemes cover more than 800 million people. And then, the remaining costs are divided between the central government at 60% and the local provinces at 40%. All patients confirmed to have the disease receive free medical treatment. As a result of the hukou registration system everyone can be tracked and which province is responsible for the hospital budget can be determine. A patient's health care is easily matched with the province in which his or her hukou is located, and this also reduces disputes over responsibilities.

Secondly, for patients suspected of being infected, the government also provided the cost of basic medical insurance, the serious disease insurance and medical assistance at first. And then, the remaining cost will depend on the financial support provided by the local provinces, which usually covers around 80%, and patients also receive free testing. Thirdly, all the costs before diagnosis including the expenses of outpatient services and emergency service will be paid by the central government and the local government in which their hukou with health care insurance was registered. Fourthly, during the COVID-19 spreading period, the migrants who were confirmed to be positive can receive free treatment at another place outside their *hukou*, and without complex application procedures. After their recovery, a national co-ordination system covers all costs, although there are different levels of reimbursement in different locations based on the *hukou* system and linked to individual health care accounts.

### 5.3 Collecting big data for fast and accurate analysis.

The country faced a critical challenge to effectively bring the spread of the new virus under control. It was therefore vital that the National Health Commission and its local counterparts spared no efforts in mobilizing as many resources as possible to contain the spread of the virus<sup>[8]</sup>. The people have carried out self-quarantine, cut non-essential travel and stayed at home as much as possible to prevent cross-infection. Close contacts of confirmed cases were made to observe strict centralized quarantine or home quarantine for at least 14 days to see if there is any infection.

Given that testing for the virus is sporadic at best, the numbers of cases of infection are often very uncertain, and the real danger of the virus remains uncertain. A decisive contribution to support epidemiological experts could come from data analysis techniques. During the emergency epidemic disease control, it was important to identify, report, isolate, and treat individuals at the early stages of infection. Data analysis played a fundamental role, allowing society to have an in-depth understanding of the real-time epidemic map, resource allocation, community-based services and timely access to public opinion. The primary importance is identifying people who have traveled to areas where the disease has spread or tracing and isolating the contacts of infected people in the fight against the COVID-19 pandemic.

The data collection for prediction and surveillance provides crucial information and makes for better health care decisions.

In past years, the organizations at each level have collected data on the migrant flows which provided the basic database. Then, with the development of improved technology, it has been possible to gradually integrate the data thresholds from “central-province-city-county” and break the isolated islands of information. In some respects, “The Chinese central government mobilized healthcare resources including healthcare personnel, medical materials and other needed resource to Wuhan in a highly effective way.”<sup>[9]</sup> The big data like the EMR (electronic medical record system), LIS (laboratory information management system), PACS (medical image archiving and communication systems) and HIS (hospital information system) originated from the household registration system in local provinces.

#### **5.4 Intensifying social bonds by raising migrants’ social participation in fighting the pandemic.**

Large numbers of migrants became new members in the urban community. But they did not experience good integration with urban residents after migration and getting employed in cities.

They have not completely assimilated in terms of urban living and lifestyle, do not come to identify with urban society, and rarely achieve a sense of urban belonging. Sometimes, there are many conflicts between the new arrivals and the local population. But during the epidemic this year, they joined together and helped each other to fight against the virus which unexpectedly brought some harmony to community life at last.

Because communities are on the front lines in the prevention and control of the epidemic, empowering communities to implement prevention and control measures is a key to victory over COVID-19. Local communities have been given management tasks. Community workers have to take the temperature of everyone entering a residential area and obtain the health details of those living in an area who arrive from elsewhere.

By March 27<sup>th</sup>, about 72,000 metric tons of daily supplies, such as vegetables, fruit and instant food, had been sent to the province to meet demand. Official data show that about 4 million employees are working in some 650,000 communities nationwide. On average, six staff members serve one community, with one worker for about 350 people. It is a hard task without the full participation of residents and the migrant workers who maintain daily services.

This was especially true in the case of the young migrants, with health care insurance following the *hukou* system reform, who played an important role during the lockdown. Their contribution was not in the hospitals but served a pivotal function that we can call “supportive treatment”. They buy food and drugs for residents in quarantined households, to help ensure that life continues as normally as possible. In Beijing 92% of deliveries are made by drivers who are migrants from rural areas<sup>[10]</sup>. The country's robust service sector, after supporting the health care needs, has also made home isolation bearable for the public, blocking the frequent need for contact,



thereby cutting off the virus spread and promoting community integration in an unintended manner.

## 6 Conclusion: Merton Re-visited

In his classic paper, Merton stressed that "unforeseen consequences should not be identified with consequences that are necessarily undesirable" (Merton, 1936: 895). While listing the sources of such outcomes -- ignorance, error, interests, values, and self-defeating predictions -- none of these quite capture the factors relevant in the current pandemic. My case study is more a result of chance: policies and arrangements designed to deal with one set of problems, turn out, because of a totally unexpected series of events, to be valuable in responding to very different challenges.

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## References

1. Robert K. Merton, "The Unanticipated Consequences of Purposive Action" *American Sociological Review* (1936) Vo.1, No.6: 894.
2. Wang, Fei-Ling, "Organizing through Division and Exclusion: China's Hukou System" Stanford, Calif.: Stanford University Press. 2005. p150.
3. [ ] Ruiyun Li, Jeffrey Shaman, et al. "Substantial undocumented infection facilitates the rapid dissemination of novel coronavirus (SARS-CoV-2)" *Science* (May 2020) Vol.368 : 489.
4. <http://qianxi.baidu.com/>, Hubei, 2020-2-14
5. NT Kit, "Online aviation learning experience during the COVID-19 pandemic in Hong Kong and Mainland China" *British Journal of Educational Technology*, 2022, vol. 53 n. 2, p. 462.
6. Jiang Meihua, Tong Ying, "Impact of medical insurance system on the settlement intention of the floating population", *Chinese Journal of Medical Management Sciences* (Mar 2020) Vol.11 Issue 2:72.
7. The State Council Information Office of the People's Republic of China, "Fighting Covid-19 China in Action", *People's Daily*, 9. September. 2020.
8. [ ] the National Health Commission, "China to increase public health emergency supplies", [www.Xinhuanet.com](http://www.Xinhuanet.com). 17 June, 2020.
9. Wei wei-Xu, Jing Wu, Lidan Cao, "COVID-19 pandemic in China: Context, experience and lessons", *Health Policy and Technology*, Vol 9, Issue 4, December 2020, p. 647.
10. Lian, Si, "Report of the Delivery Servants Group in Urban China" *Guangming Daily*, 1 March, 2020.

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