

# Study on the Application of Big Data in Social Work for the Elders in China

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**Abstract.** Aging population is one of the biggest problems for China. Till the end of 2018, China has more than 249.49 million people aged over 60, and in 2050, more than 1/3 of the population will over 60. With the development of the new technology, the big data could be uses as a tool to help social workers to target the problem of “five have to” which was guaranteed by law in China.

**Keywords:** Aging population, big data, social work.

## 1. Introduction

China is the most populous nation and also has the most aging population in the world. On 21st January 2019, the China’s National Bureau of Statistic announced that till the end of 2018, China has 249.49 million people aged over 60, it takes 17.9% of the whole population. Especially, the person over 65 were 166.58 million, cover 11.9% of the whole population. [1] This size is much bigger than the whole population of the Brazil, and it’s nearly 4 times of the whole population of the Great Britain, 10 times of the Australia. Chinese Academy of Social Science predicts that till 2050, 1/3 of population will over 60, and it reaches 483 million. To achieve live properly, get healthy care, have something to do, have something to learn and have a happiness life is guaranteed <The law on the protection of the rights of the elderly of PRC>. It is also the objective of the social work for the elders in China.

There have many different definitions on big data. One of the most famous software company Oracle quoted Gartner’s definition, portrait big data as the data that has the character of velocity, volume, variety, value and veracity. It means big data is a data that become more and more big and complex. Especially the size is too huge, so with the traditional method it could be useless. However, these days, it can help us to solve our problem.[2]

In China, Tu Zipei is named as the father of big data and he made the definition of big data from two points. On one hand, big data is the traditional data which added big record. At here, the big record means text, photograph, audio, video and so on; On the other hand, the big data means the big value accompanied by the big record. With the development of the information technology, people can record more and more data, and after processing the data has more and more value.[3] These days people could use modern technology to collect and managing data, like refine the petrol from the crude oil.

## 2. The Current Situation of Social Work for Elders in China and its Problem

The need and development of social work for elders is based on the rapid aging society in China. From the macro level, the rapid aging problem cause big pressure to the country and the society. It gives pressure to pension insurance, medical insurance, and service for aged person etc. Although in China, the aging problem differentiated by the region, the fast urbanization and the highly mobility of the population makes the problem much more complicated. From the micro level, aging population plus lower birth rate cause the change of the family structure. In 4:2:1 family structure, younger generations have to care four elder people and it gives them more pressure. <The law on the protection of the rights of the elderly of PRC> said the country should fulfill the elder people’s need for live properly, get healthy care, have something to do, have something to learn and have a happiness life. To achieve this goal is also the aim of China’s social work for elders. This paper analyzes the current situation and problem of China’s social work for elders from these five points.

## **2.1 Have a Properly Life for the Elders**

With the accelerating of the aging process, make every elder person live properly is the core work for the China's social work for elders. The influence of traditional cultural, Chinese value the form of care elder's in home, but in these days, this form cause difficulty for younger generation. From the 1980's, China implemented strict birth control, as a result of this, the family structure change to 4:2:1. Under this structure, plus with the highly competitive society makes the younger generation hard to care their parents in home. Till 2019, there have 29,272 institutions work for the aged all over the China, and they provide 3,885,462 beds. However, there are rarely institutions that have good facility, well service and lower price. This cause the elders away from those institutions. Besides this, most of the social workers in those institutions have no qualification or received enough training, this cause they hard to provide high quality services to the elders.

## **2.2 Have a Healthy Care for the Elders**

In the year 2018, the life expectancy for Chinese is 77 years old, but the healthy life expectancy is only 68.7 years. There are 75% of elder's in China have the illness on more than one chronic diseases such as hypertension, coronary heart disease, diabetes and other degenerative disease. Till 2020, there are more than 42million disabled elders and more than 29million elder over 80 years old. These facts give huge challenge to government and society to give them healthy care service. Let the elders get good healthy care service is also the target of social workers for elders in China. The most difficult in this is economic problem, at the same time the lack of facility like good hospital and the inconvenience to reach the facility and doctor is also the problem. Through preventing system to reduce the number of getting the chronic disease is much more important and efficient measure for healthy life.

## **2.3 Have Something to do for the Elders**

Active Theory advocates that although people get old, they still can provide their experience, knowledge to help others and it also help for the elders themselves. In China, there are 1/4 of retirees face demission syndrome. With the acceleration of aging population, the social workers not only care the elders' physical health, but also the mental health should be cared. However, in today's China, the employ pressure is very huge. The whole society must provide the job for more than 10 million university graduates every year. In this post-industrial society, technology cycle is shorten, this cause additional difficulties for the elders.

## **2.4 Have Something to Learn for Elders**

According to the China senior association, till the end of 2018, there have more than 70,000 universities or schools for elders and more than 8million students study in there. This is 3% of the whole population of elderly people. In the next 5 years, Chinese government plan to raise the portion to 20%, if then, at least 50million elderly people will study in the universities for elders or such educational institution. In the same time, the education resource for elders is not equal in China. Some big cities have more resource and those people in the cities are more eager to participate the learning. As social worker for elders, help those elder people have the chance to learn new things to embrace their retiree life is very important.

## **2.5 Have a Happiness Life for Elders**

To have a happiness life, the elders not only need both physical health and mental health. The mental health is the common problem for the elders in China and it impede the fulfillment of happiness life for elders. When people retire from his work, it usually accompanied the change of interpersonal relationship, and it makes the person feel lonely and lost dignity. At that time if one's partner or children did not stay next him or her, he or she will feel even lonelier. In this case, the social work for elders can organize diversified and rich contents activities to let the elders acquire more happiness in their life.[4]

To sum up, the Chinese governments value the elders from the central government level, but the social work for elders in China has much more to improve. With the help of big data, and smart facilities, the social workers may satisfy the goal of “five have to”.

### **3. The Application of Big Data in Social Work for Elders**

Big data provide abundant, accurate, synchronized information to help us understand the phenomenon more comprehensive, more elaborate, and more extensive. Big data could also help us to solve the problem in social work for elders like it used in other area.

#### **3.1 Big Data Used in “Have a Proper Life” for Elders**

Under the influence of traditional culture, the aged in China usually prefer to live their home. A research found out that the living structure for aged in Fujian province consist of 90% cared in home, 7% cared by community, and only 3% cared by nursing institution. Under this reality the government also encourage the system of cared in home plus community care service.[5] In this system, elders’ basic information, pension information, healthy information will collected, and plus with the community service system, hospital service system, government service system to output integrative data. When those data was refined, it will help each person, each family, each community and each institution optimize the resource, provide emergency help. Like this, in the caring area, if the big data used appropriate, it will improve the service quality of social work for elders and let the elders have life properly.

#### **3.2 Big Data Used in “Have a Health Care” for Elders**

Big data could reduce subjectivity, so it could expose the physical health and mental health more efficiently. Form 1993, every 5 years China implemented health service investigation nationwide. Now it collects the abundant of data, in this chronological investigation, the data of more than 200 items were collected from more than 200,000 families. Through integrating those data appropriate, disease prevention system could be build.[6] Furthermore, the big data will find and select the high risk person to provide them the health care service beforehand. Also, the health cloud could collect the healthy data from social media such as wechat, microblog, and the elders or the community doctor could receive the analyzed data timely. In doing so, the social workers can perceive the change of the health of elders quickly, help in timely to prevent the disease or prevent it get worse.

#### **3.3 Big Data Uese in “Have Something to do” for Elders**

Like other invention, technology also brought two effects to elders. For example, the smart phone made some elders fall behind and cause inconvenience to their life, but the other side it gives them some new chances. A research found that the most wildly used means for communication in China is wechat in nowadays.[7] From the provider’s side, if the government or the society could collect those data of elders, they could make more targeted policy to elders. With these data, the government or society could make a platform which are much fit for those elder users. In this platform the elders could also provide an activity that interest or fit to him or her, like organize a travel.

#### **3.4 Big Data Used in “Have Something to Learn” for Elders**

A recent investigation said that from 2013 to 2017, the netizen population of elders change from 1,172,000 to 4,014,000. As mentioned before, the education resource for the elders in China is unevenly distributed. In 2019, the government made a plan to develop “internet+education” model to achieve good resource sharing. For internet contents, 76.5% and 72% of the elders watch chicken soup or humorous subject, followed by the news and the health care contents.[8] Because Most of the elders in China are not familiar with the information technology, they could not get the useful information as they want. The big data could find and analyze the need of those people and fittable

resource to elders. Then with those data, the social workers will offer much better service to the elders.

### **3.5 Big Data Used in “Have Happiness Life” for Elders**

The elders that could use the smart phone, not only use it as the communication tool, but also as the platform to express and keep in touch with others. They use the smart phone to watch the video, read the contents, change the photo and information. The big data could position every person's need accurately, so it will help the contents provider produce more professional service to elders. In the platform, the elders not just as the service receiver, but as the contents contributor, upload the useful and interesting information to the platform.

## **4. Conclusion**

Use the big data in the field of social work for elders could bring a lot of benefits. However, at the same time, three things need to be noticed. First, the privacy safety should be noticed. In the process of collecting data, personal information will be formed and it may violate privacy for those elders. Second, the balance between data and the reality should be noticed. In reality, a lot of elders did not access to the internet, so, how to make up the gap is very challengeable. Third, the lack of knowledge about the big data to the social workers should be improved. As the service provider, the social workers are not familiar with how to manage big data and the technician are not familiar with social work, this is the hard point that the big data applied in social work for elders in China.

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