Differentiation in integrated health care policy approach ——an empirical analysis based on regional health life expectancy in China

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## **Background**

- Unbalanced development among regions is an acute problem in China.
- Few studies have focused on the regional disparity in Health life expectancy(HLE) in China.
- Most of the provinces in China have not yet establish the public Long term care policy.



**Chinese administrative** 

(Thousand) Population by povince in mainland China.



West of the line: 57% area, 6% population (2015) East of the line: 43% area, 94% population (2015)

Millions of people<sup>6</sup> 100 +

70-100

45-70

30-45

15-30 10-15

0-10

## **Background:**

Provincial heterogeneity

### **GDP per captia**

 $C.V = (SD \div MN) \times 100\%$ 

The *coefficient of variation* (CV) is defined as the ratio of the standard deviation to the mean : It shows the extent of variability in relation to the mean of the data.

C.V(Coefficient of Variance)

China 31 provinces:0.496USA 50 states:0.197



### **Background:**

### **Provincial heterogeneity**

### Life Expectancy at birth in 2010

Provincial LE and GDP per capita



C.V(Coefficient of Variance) of Life Expectancy :

China 31 provinces:0.04USA 50 states:0.021

# <u>Motivation</u>

• HLE by province is a good index to measure for the health differentiation.

 Research in this area is needed to inform policy makers, health care providers and insurance companies to identify the differences in the demand.

## Data & Method

- HLE is typically computed using the Sullivan method, which requires information on age specific prevalence rates of morbidity and mortality rates (Jagger, 1999).
- In the Sixth National Census in 2010, Chinese government firstly introduced the disability questions in the questionnaires (only for the age 60 and above), which contained 4 choices:
  - A: healthy

    B: basically healthy

    C: unhealthy but capable to self-care

    D: unhealthy and unable to self-care.

    Severelly disabled (S-DLE)

Based on this question, the age-specific disability rates could be obtained.

Recently we acquired these data by provincial level (all in 2010 and several in 2015), which have never been used in other researches or papers.

## **Disability rate by province**



Partial & Severe Disability Rate for 65+ in 2010

The national average is : 4% 2010:

2015: The national average is : 3.6% The national average is : 21.8%

The national average is : 23.2%

## **Urban and Rural**

#### Severe disability





#### Partial & Severe disability:







### Trend of the disability rate from 2010 to 2015



Is the gap widening between rich area and poor area?

## Health Life Expectancy:

#### 31 provinces HLE and DLE sort by GDP per capita



The S-LE in the most developed area were the highest.

## **Classification by HLE and DLE**



Partial & Totally Disabled LE

- ④: Need better health care to improve the LE and HLE
- ②: More LTC burden

## Health Ageing Index (HAI)

$$\mathsf{HAI} = \left[ \left( \frac{regional \, LE}{China \, LE} - 1 \right) \times 0.5 + \left( 1 - \frac{regional \, DLE}{China \, LE} \right) \times 0.5 \right]$$



# **Conclusion**

- Health inequalities for the elderly across Chinese provinces are still large, mainly in the rural area.
- Disability prevalence in rural area is more worse than urban.
- The most developed area have the highest S-DLE.
- This severe disability rate showed a decreasing trend at provincial level from 2010 to 2015.

# **Policy Implication**

The development levels are significantly different in 31 provinces. For some lagging regions , the priority is to improve health care policy to increase the LE. But for some other good developed areas, should focus on Long term care services to compress the DLE

### An urgent need to improve

Health care

Tibet, Gansu, Qinghai, Inner Mongolia, Ningxia, Hunan, Anhui, Hubei & almost all rural areas

• Long-term care especially high care

Beijing, Tianjin, Shanghai



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