

Study on Income for the Workforce of Public Health Institutions in Beijing Between 2011 and 2016

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Research

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Abstract

Background: This article analyses the average annual incomes of the workforce of municipal and district level public health institutions in Beijing between 2011 and 2016, and provides a useful reference for strengthening of public health services in China.

Methods: This investigation combined quantitative analysis with qualitative investigation through a questionnaire survey and interviews with key informant.

Results: Remuneration was relatively high for staff of the Municipal Maternal and Child Health Care Hospital and the staff of the Mental Health Institution, who had the highest annual average income among municipal specialized public health institutions between 2011 and 2016. The average annual incomes of the Municipal CDC, HSI, TCI, Municipal Emergency Medical Centre and Red Cross Blood Centre were all lower than the average annual income of the workers in the city's health industry (157,200 yuan). The average annual income of staff in the public health institutions at district level in Beijing is generally lower than that for staff in municipal institutions, especially those with high professional positions.

Conclusions: The average income of public health workers in Beijing is generally lower than that of other health workers in the whole city. The result is a lack of professional attractiveness, which affects the stability and development of Beijing public health personnel.

1 Background

Public health services in Beijing have made an important contribution in safeguarding the health of the population of the capital, maintaining social stability and promoting economic development. The workplace morale and workforce quality of a public health institution is a decisive factor in ensuring the accessibility and quality of public health services and is a decisive factor in the impact of public health services [1, 2]. In turn, the level of income that personnel receive in public health institutions affects the stability of the staff of public health institutions and the sustainable development of public health services to a certain extent [3]. The published "Healthy Beijing 2030" program plan has outlined an urgent need to stabilise and further develop the public health workforce in Beijing, serving the health of the residents of the capital and the public health safety of the city of Beijing. This paper analyses the income of the staff of this public health institutions in Beijing between the years 2011 and 2016, to provide a reference for the reform and improvement of the salary incentive mechanism for public health personnel and the development of the public health workforce in Beijing. The workforce is analysed in terms of institutions at the municipal level (covering the whole metropolitan area of Beijing municipality) and at district level (i.e. at the level of the 16 districts into which Beijing is divided).

2 Methods

This paper adopts a combination of quantitative analysis and qualitative investigation. Quantitative analysis is used for a self-designed questionnaire which collected data on the income of employees of the Beijing municipal and district-level specialized public health institutions and Beijing community-level health service entities. This analysis was carried out in combination with the data in the Concise Statistics of Beijing Health Work for the years 2011–2016[4, 5]. The qualitative investigation was based on key informant interviews. In-depth personal interviews were conducted with heads of institutions and departments directly related to public health work in Beijing to gain an in-depth understanding of the income of all kinds of public health personnel in Beijing[6]. The interviewees comprised 16 directors of departments related to public health work in the Health and Family Planning Commission in Beijing (HFPCB) and the head of the municipality-level specialized public health institutions of Beijing.

3 Results

3.1 Changes in per capita annual income of Beijing municipality-level specialized public health institutions

3.1.1 Comparison of per capita annual income of Beijing municipality-level specialized public health institutions

Comparing the annual income of workers in specialized public health institutions of Beijing municipal level and average wage level of the health industry in Beijing between the years 2011 and 2016. We find that wage levels in the Municipal Health Supervision Institute (HSI) (45,000 ~ 95,000 yuan), and the Municipal Tuberculosis Control Institute (TCI) (80,000 ~ 120,000 yuan) are noticeably lower than the wage level of the overall health industry average (85,000 ~ 160,000 yuan). The gap is especially noticeable for the Municipal HSI. The average per capita income of the Centre for Disease Control and Prevention (CDC) (90,000 ~ 130,000 yuan), the Municipal Emergency Medical Centre(EMC) (90,000 ~ 160,000yuan) and the Red Cross Blood Centre (RCBC) (100,000 ~ 155,000 yuan) was close to the average level of the health industry in Beijing, but the income of the Municipal CDC in 2016 declined markedly. In contrast, the wage levels of the Municipal Maternal and Child Health Care Institution (MCHCI) (135,000 ~ 250,000 yuan) and Municipal Mental Health Institution (MHI) (90,000 ~ 190,000 yuan) were higher than the average level of the health industry in Beijing (Fig. 1).

3.1.2 Annual income change for middle and upper professional of specialized public health institutions at Beijing municipal level

In the municipal MHI the annual income of staff holding professional position was at a high level among Beijing municipal-level specialized public health institutions between 2011 and 2016. The average annual income of senior professional positions is 50,000 ~ 80,000 yuan. In second place are the Municipal Emergency Medical Centre and Red Cross Blood Centre. In 2016, the annual income of staff above middle and upper professional was more than 200,000 yuan. The Municipal HSI, Municipal CDC, and Municipal

TCl still give low salaries, and the senior professional positions have no significant wage difference compared with the average annual income (Fig. 2) of the overall workforce.

3.2 Changes of per capita annual income of specialized public health institutions at district level in Beijing

3.2.1 Comparison of per capita annual income in specialized public health institutions and in the overall health industry at district level in Beijing

Looking at the annual income of Beijing's district specialized public health institutions (Fig. 3), we see that the income of staff in various institutions has improved in recent years. The average annual growth rate is 8%~16%, and the income level of all district level agencies is roughly similar. In 2016, the per capita annual income of the health sector at district level in Beijing was about 120,000 yuan. Comparing the annual income of district level public health institutions to the average wage level in the municipal health sector between the year of 2011 and 2016, we found that were all lower than the average wage level of the city's health sector (85,000 ~ 160,000 yuan). The income of the district level CDC (70,000 ~ 120,000), the district HSI (75,000 ~ 130,000), the district MCHCI (75,000 ~ 135,000 yuan), the district MHI (55,000 ~ 115,000 yuan), the district TCl (60,000 ~ 105,000 yuan), and the Blood Collecting and Supplying Agencies (BCSA) (75,000 ~ 120,000 yuan). The gaps are obvious.

3.2.2 Annual income change for middle and upper professional of specialized public health institutions at district level in Beijing

In the average annual income of staffs above the middle and upper professional level in specialized public health institutions at district level in Beijing, the income levels in the Blood Collecting and Supplying Agencies (BCSA) and Mental Health Institutions (MHI) are somewhat higher. The income levels of Health Supervision Institutes, CDC and Tuberculosis Control Institutes are roughly similar to each other, but are somewhat lower than the former (Fig. 4).

3.3 The trend of average annual income change of community health service staff in different functional areas of Beijing

The annual per capita income of staff in the Beijing Community Health Service Institutions (including community health service centres and community health service stations) increased gradually between

2011 and 2016. In 2011, the annual per capita income was 52,800 yuan, which increased to 88,900 yuan in 2016. The average annual growth rate was 10.98%.

There are four functional areas including the capital core function areas, the city new function expansion area, the urban development new area and the ecological conservation area in Beijing[7]. As far as different functional areas are concerned, the annual income of personnel in various district community health service institutions also showed an incremental trend. Among them, the average annual income of staff in the capital core function areas was somewhat higher, and the growth rate was somewhat greater. The average annual growth rate was 14.43%, hence the annual income of the personnel in 2016 reached 107,100 yuan. In the city new function expansion area, the average annual income of staff increased from 52,300 yuan in 2011 up to 90,300 yuan in 2016 with an average annual growth rate of 11.55%. Furthermore, the average annual income of staff of the ecological conservation area increased from 55,200 yuan in 2011 to 89,600 yuan in 2016, with an average annual growth rate of 10.16%. The average annual income of staff of the urban development new area was the lowest at only 84,000 yuan in 2016, and the growth rate is slower with an annual average increase of 9.92% (Fig. 5).

4 Conclusions And Discussion

In the specialized public health institutions at municipal level in Beijing between 2011 and 2016, the reason why the annual average income of staff in Antenatal Outpatient Department for Mother and Babies (public health personnel) of the Municipal Maternity and New-born Hospital was relatively high and increased year by year, with an average annual growth rate of 12.85% is that the government had relatively limited financial support for public health functions, while maternity hospitals received additional maternity and early childhood health care subsidy funding every year. Thus, the average annual income of staff of these specialised hospitals was the same or higher than the average for maternity hospitals. The municipal mental health institution is affiliated to Beijing Anding Hospital. That hospital also received a supplementary government subsidy for mental health care every year. Therefore, the average annual income of personnel (including the administrative departments allocated by the hospital) was somewhat higher (188,900 yuan in 2016) than in hospitals without the supplementary government subsidy, with an average annual growth rate of 14.91%. The average annual income of personnel of the Municipal HSI and the Municipal TCI was the lowest. From 2011, there had only been one increase –in 2016. However, the average annual income of staff in the Municipal HSI was still below 100,000 yuan. The average income of staff in the CDC had been increasing slowly, but it was still lower than others. In 2015, the municipal CDC received an increase in its budgetary allocation, because of the heightened activities due to the outbreak of a major public health emergency. This resulted in the actual growth of central personnel expenditure. Thus, the income level of CDC staff improved noticeably in that particular year. In 2016, the vaccination policy changed, and “class II” vaccination were abolished, the remuneration of the CDC personnel dropped as a result. The average annual income of the Emergency Medical Centre and the Blood Collecting and Supply Agency in the city is in the middle position among all public health institutions, showing a steady growth trend.

Since these units are fully government supported service units, the average income level of the workforce in public health institutions in Beijing is generally low. The average annual income of staff in the whole set of organizations is lower than the average salary level for the whole health industry in Beijing, and the career attractiveness is not high. A comparative analysis of the average income of all workers employed in Beijing city and health care institutions in 2016 revealed that the average annual income of staff in the Beijing Municipal Health And Family Planning supervised institute (a publicly funded health service) and in the Municipal TCI did not reach the average salary level of the staff in the all workers employed in Beijing city (122,700 yuan). The average annual income of staff in the city CDC, the municipal Health Supervision Institute, Municipal Tuberculosis Control Institute, the Municipal Emergency Medical Centre and the Red Cross Blood Centre was lower than the average salary of the workers in the health industry as a whole (157,200 yuan). The income of public health workers is generally low and to a certain extent, this affects the stability and professional development of Beijing public health personnel. At present, the total number of positions on performance-based pay in Beijing's public health sector is low, and the incentives are not effective.

The income of staff in district-level public health institutions in Beijing is generally lower than that of municipal-level institutions, especially for upper management professional positions. With the increased workload of public health workers in recent years, the phenomenon of labour value mismatch is becoming more and more prominent, which further leads to the frequent inability to recruit and retain professionals in public health institutions. In recent years, the number of health personnel and the number of health technicians in the district professional public health institutions in Beijing both decreased, due to unsatisfactory professional career prospects. The staff shortage is an alarming crisis. An increase in income is the most pre-emptive career path influencer from the point of view of front-line workers and public health professionals point of view [8]. The income of staff in primary health care institutions in Beijing is still low. Policy makers need to improve the salaries of public health workers in order to attract and retain public health personnel and stabilize the workforce. The relevant departments need to continue to pay attention to and improve remuneration, which fully reflects the labour value of public health workers at the grass-roots level.

Abbreviations

BCSA: Blood Collecting and Supplying Agencies

CDC: Centre for Disease Control and Prevention

EMC: Municipal Emergency Medical Centre

HIS: Health Supervision Institute

MCHCI: Maternal and Child Health Care Institution

MHI: Mental Health Institution

RCBC: Red Cross Blood Centre

TCI: Tuberculosis Control Institute

Declarations

Ethics approval and consent to participate

This research design, the research methods, the interviews and questionnaire guidelines were approved by the Human Research Ethics Committee of Institute of Medical Information, Chinese Academy of Medical Sciences (HREC) (Protocol Number IMICAMS/06/19/HREC). Interviews among participants were performed only when informed consent was obtained from the respondents. Participation was entirely voluntary, and the anonymity of responses was guaranteed.

Consent for publication

All authors have approved this manuscript for submission and assert that none of the material in the paper has been published or is under consideration for publication elsewhere.

Availability of data and materials

The datasets generated and/or analysed in this study are available from the first author or corresponding author on reasonable request.

Competing interests

The author(s) declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

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Authors' contributions

Wuqi Qiu: Study design, Data collection, Data analysis, Writing.

Yujie Yang: Study design, Data analysis.

Yueli Meng: Data collection, Writing.

Ayan Mao: Study design, Data analysis, Writing.

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Figures

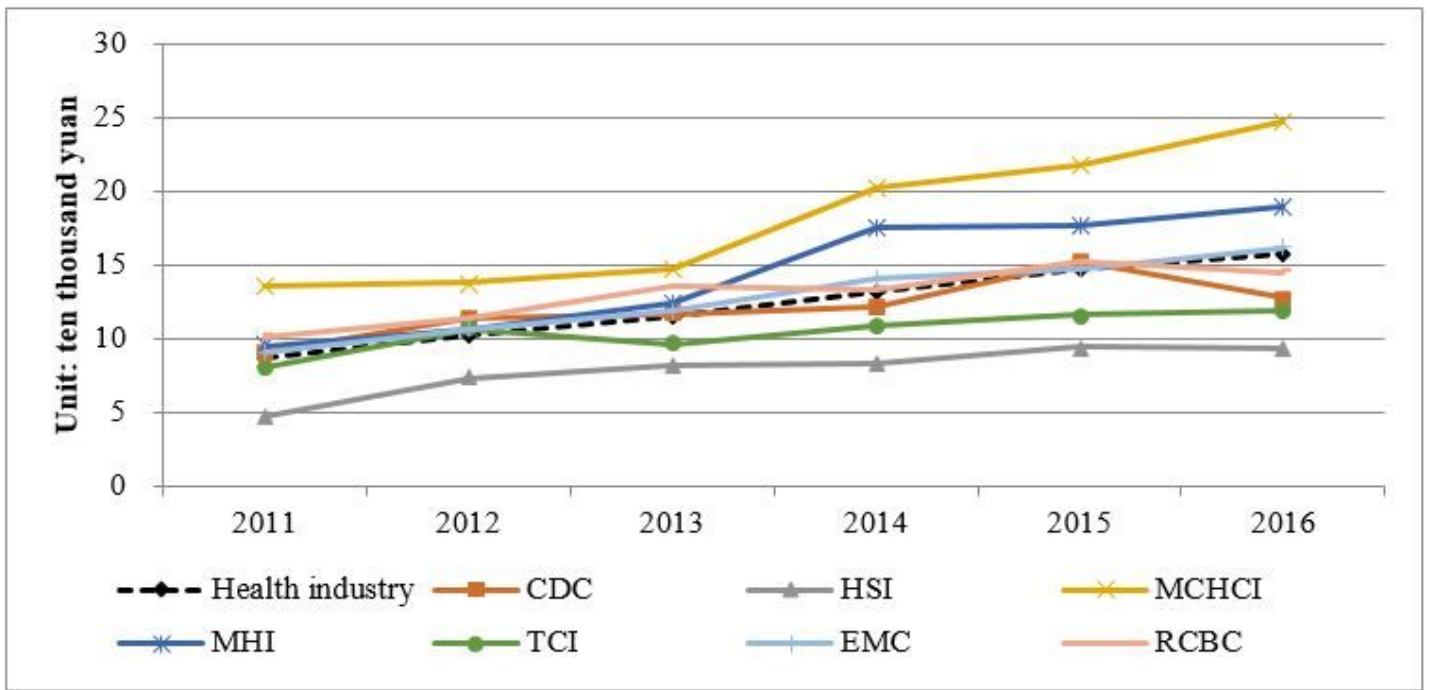


Figure 1

Changes in per capita annual income of municipal specialized public health institutions in Beijing 2011-2016. *The income data of Municipal Maternal and Child Health Care Institution in the Fig. means average annual income of Health department (Public Health) staff

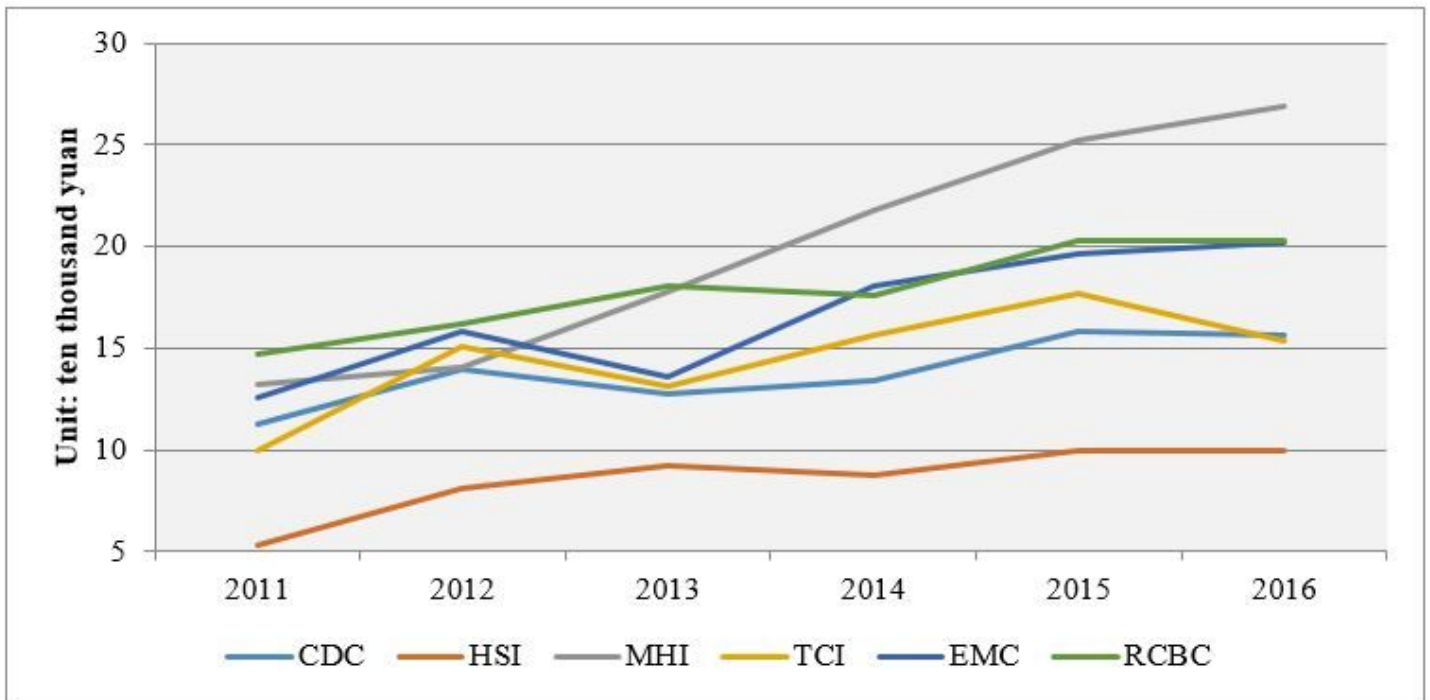


Figure 2

Annual change of per capita income of above middle and upper professional of specialized public health institutions of Beijing municipal level between the year of 2011 and 2016

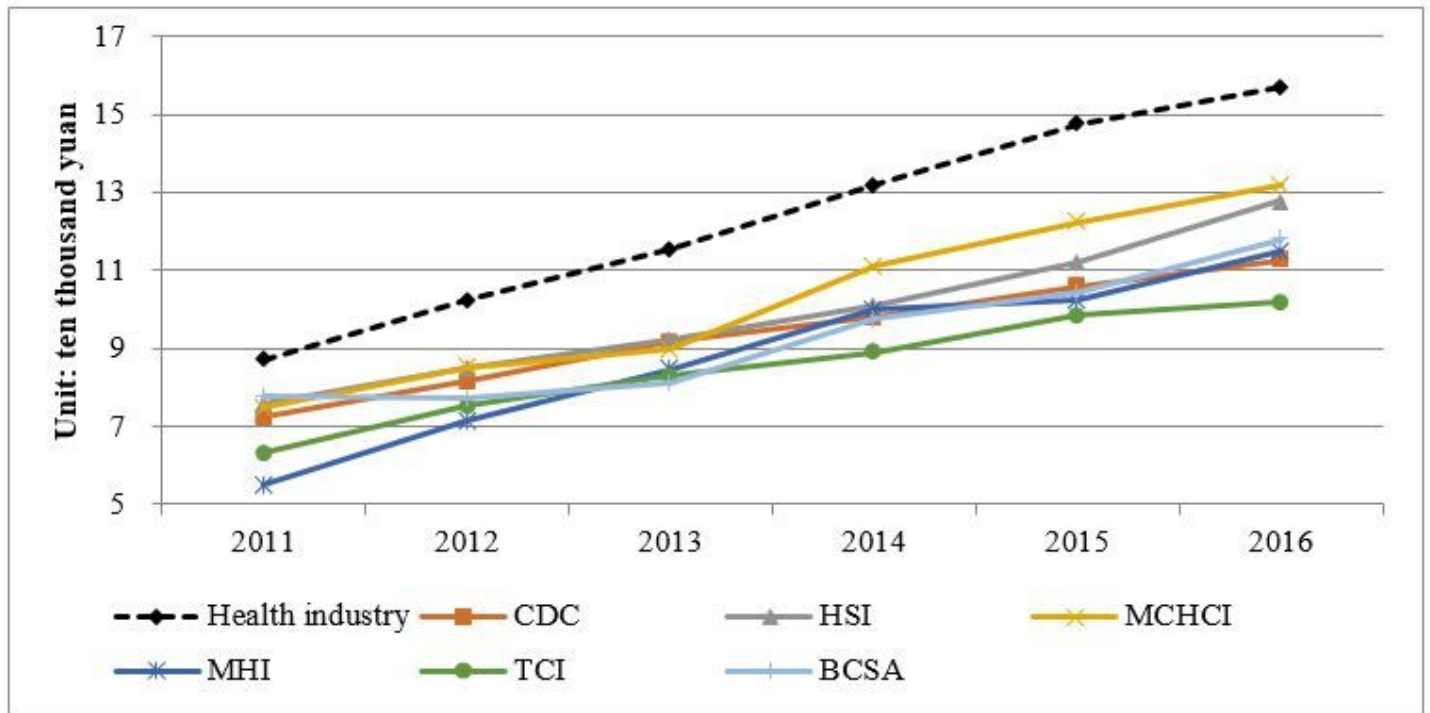


Figure 3

Comparison of changes in annual income per capita for the overall health industry in Beijing and the district professional public health institutions in Beijing * Income data of district level Maternal and Child Health Care institutions in the figure refers to the average annual income of the health sector (Public Health) personnel.

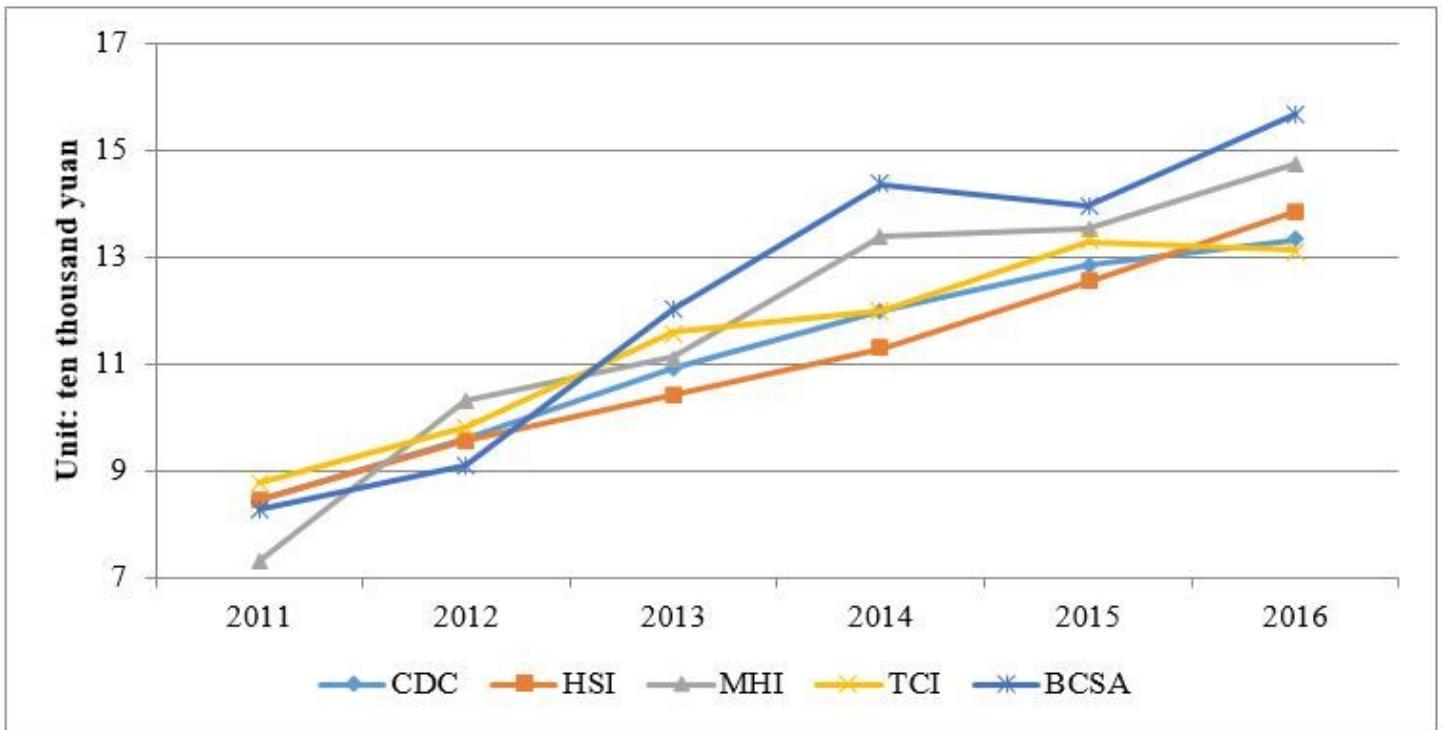


Figure 4

Change of annual income of staff above the middle and upper professional in specialized public health institutions at district level in Beijing in 2011 - 2016

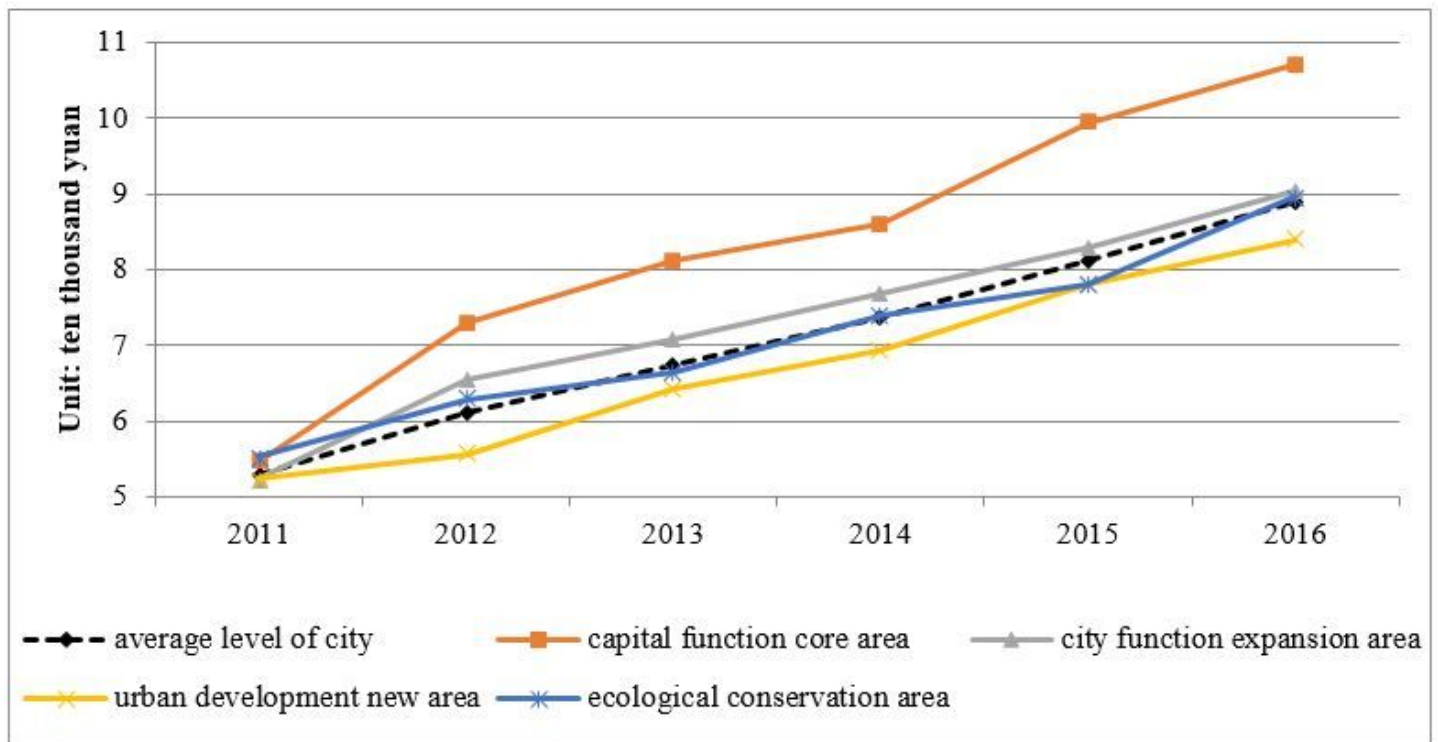


Figure 5

Trend of annual average income change of community health service staff in different functional areas in Beijing