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Uncompensated care for children without insurance or from low-income families in a Chinese children's hospital

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Study Design A
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Background: In China, children from low-income families, particularly those of rural to urban migrant families, have become one of the most vulnerable populations in terms of healthcare access. Without support, these families will finally give up treatment for their children. Our hospital has sought several ways to fund the uncompensated care for children without insurance or from low-income families.

Material/Methods: The annual hospital financial report and donated patients' medical records from 2005 to 2011 were reviewed for extracting data, including disease type, and sources and amounts of donations. Files with information on uncompensated care were also reviewed. Uncompensated care was defined as the sum of a hospital's "bad debt" and the charity care it provides.

Results: The total expense of uncompensated care increased from 813 597 RMB in 2005 to 4 415 967 RMB in 2011, with a percentage of total budget ranging from 0.24% to 1.6% from 2005 to 2011. The hospital's bad debt accounts for 17.6% of the uncompensated care charge on average per year. The charity care was from: 1) donations from common warm-hearted persons, companies, and institutions after media reporting; 2) governmental charity organizations; 3) non-governmental charity organizations; and 4) special funding from contributions solicited by hospital, media, and governmental charity organizations' collaboration. Leukemia and congenital heart disease were the 2 leading types of diseases benefitted from the uncompensated care from 2005 to 2011.

Conclusions: Uncompensated care is still an indispensable complementary supporting measure for pediatric care access in China. Children from rural-to-urban migrant families should be considered as a target population for the government to focus on.

MeSH Keywords: **Catastrophic Health Insurances – use Insurance, Major Medical • Uncompensated Care • Charity – use Charities**

Abbreviations: **CHD** – congenital heart disease; **HSR** – health system reform

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Background

Before 2009, there was no government-sponsored health insurance program for children in China. Since 2009, China has implemented a new health care reform plan by including a wide range of basic medical insurance coverages for children and adolescents for the first time. The basic medical insurance system includes new rural cooperative medical schemes (NRCMS) for rural residents and a basic medical insurance system (UBMI) for urban residents [1]. However, some younger children in urban areas, and children from low-income families, particularly those of rural-to-urban migrant families, remained uninsured and became the most vulnerable populations in China in terms of health care access [2,3].

A survey conducted in Shanghai (one of the richest cities in China) showed that 65.6% of temporary migrant children had no health in 2009 [1]. Furthermore, Xiong et al. reported recently that only 62% of 1131 children assessed were insured, and 48.2% of the children in families with at least 1 migrant parent were uninsured [4]. Uninsured children were less likely to receive preventive treatment, and had lower rates of check-ups, vaccination, and follow-up care [4,5]; they were less likely to access health care, received fewer prescribed medications and treatments, and stayed for a shorter time in hospital than insured children [4,6]. Although with insurance, the reimbursement rate had a large disparity in different areas. Low reimbursement rate for in-patient expenses (40% of average in 2009) [3] and much lower reimbursement rate for outpatient expense have prevented many children from low-income households from getting standard treatment. According to the Chinese Ministry of Health, rural infant mortality rates are nearly 5 times higher in the poorest rural counties than in the wealthiest counties – 123 versus 26 per 1000 live births, respectively [7]. There is a 6-fold difference in mortality in children younger than 5 years between the highest-quintile and lowest-quintile population groups based on socioeconomic development of area of residence [7].

In our hospital, a tertiary children's hospital with 860 patient beds, we often treat children from low-income families who cannot afford medication fees. Without support, these families will finally give up seeking treatment for their children. At times, the hospital will reduce or remit the treatment cost for these patients. However, the hospital cannot afford to provide all the uncompensated care these children need. The public hospitals in China are self-financed and function as for-profit organizations even though they are classified as not-for-profit. The government financial support now accounts for less than 10% of the annual budgets for public hospitals. On the other hand, the government has no program to support the uncompensated care of the hospitals. Therefore, we have sought several ways to fund the uncompensated care for patients without insurance or from low-income families in our hospital. This study aimed to provide an overview of uncompensated care provided by the hospital from 2005 to 2011.

Material and Methods

Children's Hospital, Zhejiang University School of Medicine, is a tertiary children's hospital with 1600 medical staffs and 860 patient beds. The hospital has an average of 1 665 000 outpatients and 376 000 hospitalizations per year. The hospital not only serves 7 000 000 children of Zhejiang Province, but also those from neighboring provinces such as Jiangxi, Anhui, and Jiangsu.

Uncompensated care is an overall measure of hospital care provided for which no payment was received from the patient or insurer. It is the sum of a hospital's "bad debt" and the charity care it provides. The charity care charges were from the following forms of donation: 1) donations from common warm-hearted persons, companies, and public institutions following media reporting; 2) governmental charity organizations; 3) non-governmental charity organizations; 4) special funding from contributions solicited by collaboration among the hospital, media, and governmental charity organizations. A very small portion of charity care charges were excluded from analysis because the donations were given directly to the patients, not to the hospital administrative department.

The annual hospital financial report and donated patients' medical records from 2005 to 2011 were reviewed for extracting data, including disease type, sources of donations, and the sum of donated money. We also reviewed files recording the information on charity care from the hospital's administration department. All the data were freely available. This study was approved by the Ethics Committee of Children's Hospital, Zhejiang University School of Medicine.

Results

Total cost of uncompensated care

From 2005 to 2011, the "bad debt" of the hospital totaled to 4 399 550 RMB (Table 1). The cost of charity care increased from 277 036 RMB in 2005 to 3 879 407 RMB in 2011 (Table 1). The total expense of uncompensated care was 813 597 RMB in 2005, and 4 415 967 RMB in 2011, with a percentage of total budget ranging from 0.24% to 1.6% during 2005–2011 (Table 1).

Charity care charges from 2005–2011

Figure 1 shows the charity care charges from the 4 sources of donation mentioned above from 2005 to 2011. In 2005, the

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Table 1. The cost of uncompensated care provided by the hospital, 2005–2011.

Year	"Bad Debt" (RMB)	Cost of charity care (RMB)	Total costs of uncompensated care (RMB) and % of total budget
2005	¥536,560.63	¥277,036.75	¥813,597.38 (0.24)
2006	¥709,276.95	¥2310788.41	¥3,020,065.36 (0.90)
2007	¥954,626.10	¥5,492,819.84	¥6,447,445.94 (1.6)
2008	¥614,844.68	¥3,975,453.60	¥4,590,298.28 (0.97)
2009	¥1,018,586.39	¥2,832,425.89	¥3,851,012.28 (0.72)
2010	¥565,655.56	¥2,673,697.67	¥3,239,353.23 (0.57)
2011	¥536,560.63	¥3,879,407.25	¥4,415,967.88 (0.64)
Total	**¥4,936,110.94**	**¥21,441,629.41**	**¥26,377,740.35 (0.81)**

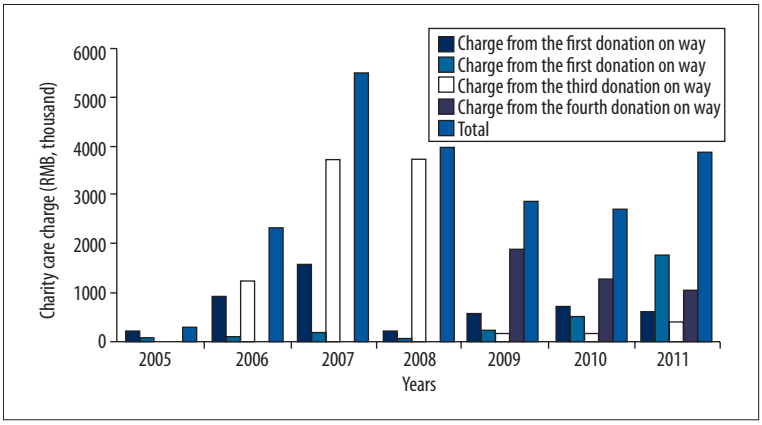

Figure 1. Charity care charge given for children in Children's Hospital, Zhejiang University School of Medicine from 2005 to 2011.

charity care charge came from the first 2 donation sources (donations from common warm-hearted persons, companies and public institutions following media reporting; and governmental charity organizations). The special funding from contributions solicited by hospital, media and governmental charity organization' collaboration began in 2009. The charity care charges from the government charity organizations have increased since 2009. Non-governmental charity organizations varied from 2005 to 2011 (Table 2). Non-governmental charity organizations included *Love Without Borders Organization*, *Dao Yuan Charity, Kansas Children's Home,* and *Starfish Children's Services*, which have provided charity care since 2006. The amount from non-governmental charity organizations decreased since 2009 (Figure 1).

Leukemia and congenital heart disease were the 2 leading types of diseases requiring charity care (Figure 2). Accidental scald was the third type of disease requiring charity care, and all these children with accidental scald were from the rural-to-urban migrant families. Without uncompensated care, these patients' conditions may exacerbate due to the parents' refusing treatment. The other types of diseases included injuries, transplantation, renal failure, Crohn's disease, and solid tumors. Figure 2 shows that the charity care for congenital heart disease has decreased since 2009, but the charity care charge for leukemia has been maintained at a high level since 2007. A total of 815 children hospitalized in this hospital have benefited from the uncompensated care from 2005 to 2011. Among them, 813 children were from rural-to-urban migrant families or low-income rural areas and 2 children were from low-income urban families.

Discussion

Under the health insurance system before 2009, health care access was quite different between children in big cities and rural areas in China and only those children with parents working in provincial or municipal institutions had health insurance.

When children from low-income families have critical diseases with high medical costs, parents may refuse or abandon treatment for them. Wang et al. reported that 173 children (173/323, 53.6%) refused therapy and 35 (35/323, 10.8%) abandoned treatment among 323 children who were diagnosed with acute

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Table 2. Charity care charges from non-governmental charity orgnizations donations.

Year	Orgnizations names	Sum of money donated (RMB)
2005	None	None
2006	Love Without Borders Organization	1,249,609.87
2007	Love Without Borders Organization Dao Yuan Charity	2,338,841.00 1,370,000.00
2008	Love Without Borders Organization Dao Yuan Charity Kansas Children's Home	2,089,547.65 1,482,483.25 3,975,453.60
2009	Love Without Borders Organization Dao Yuan Charity	69,569.28 90,000.00
2010	Love Without Borders Organization Starfish Childen's Services	46,755.58 147,000.00
2011	Love Without Borders Organization Starfish Childen's Services	46,755.58 147,000.00

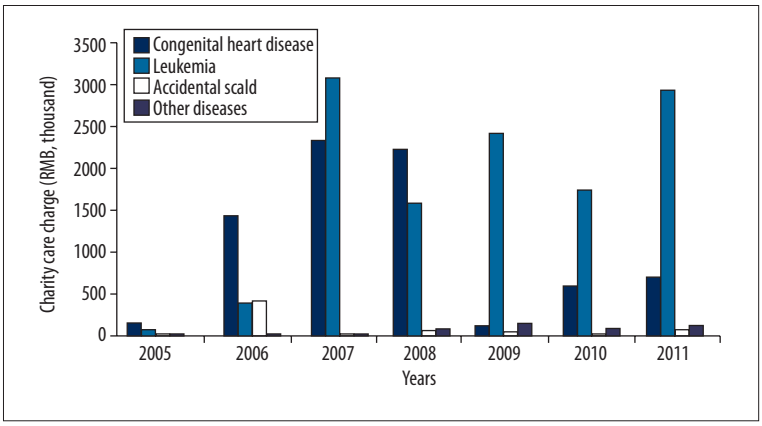

Figure 2. Charity care charge for children with various diseases from 2005 to 2011.

lymphoblastic leukemia in a single hospital [8]. It has also been reported that the high treatment costs and the great disparities in access to health care have prevented approximately 70% of children with critical diseases from getting treatment [9]. In Guangdong province, a region with a high economic level in South China, half of the children with congenital heart diseases (CHD) cannot obtain standard treatment [10]. In our hospital, nearly 20% of parents refused treatment for their children with CHD that existed before hospital admission [11].

For patients admitted in our hospital, treatment refusal or discontinuing due to family economic problems often occurred. Uncompensated care becomes the only way to treat and save these children. During the past decade, we have sought several funding sources for supporting uncompensated care in our hospital. Firstly, bad debt accounts for 17.6% of the uncompensated care charge at the hospital in an average year. Secondly, the charity care funded by donation is a major part of uncompensated care in our hospital. Charity care funded by governmental charity organizations only accounted for 11% of the total uncompensated care. Media reporting for soliciting contributions and non-governmental charity organizations were the predominating funding sources for charity care.

The non-governmental organizations mainly included Love Without Borders Organization, Starfish Children's Services, and Dao Yuan Charity. The first 2 organizations only funded children with CHD. Dao Yuan Charity funded patients with leukemia. This funding was established by a warm-hearted person, De-Dao Qiu, who donated a total of 2 942 483 RMB for children with leukemia in our hospital from 2007 to 2009. He also donated to patients with leukemia in other hospitals. The funding was discontinued after Mr. Qiu died.

Media reporting for soliciting contributions was carried out in the following way. For children who face treatment refusal, hospital staff will contact local media representatives, including newspapers or TV stations, to report the children and their family's conditions. Warm-hearted common persons, institutions, and companies will donate after reading the newspaper

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or watching TV reports. A total of 21 441 629.41 RMB was donated for charity care during 2005–2011, which accounts for 0.81% of the total budget. Furthermore, a special foundation for children with leukemia was founded this way in 2009 – a collaboration of the hospital, 2 newspapers (*Qianjiang Evening News* and *City Express*), and local governmental charity organizations (Charity Organization of Zhejiang Province and Hangzhou Charity Organization). This foundation was established thanks to a letter to the media by hospital staff.

In February, 2009, a nurse in our hospital wrote a letter to the local newspaper, hoping that they could help a father of a patient with leukemia to sell oranges to raise money for the medication fee. The father originally wanted to discontinue treatment for his child because he could not afford the heavy cost of chemotherapy. The public began to focus on children with leukemia after reading the reports. This foundation for leukemia was established, and it is now still working well and plays an imperative role in helping children with leukemia – the foundation collected 1 752 000 RMB in 2009, 1 276 635 RMB in 2010, and 943 558 RMB in 2011.

April 2012 marked the end of the 3-year goal China set for implementation of the first phase of its health system reform (HSR) [11]. The first phase of HSR has achieved great progress, and the rate of insurance coverage increased remarkably. Nearly 90% of the children in Zhejiang Province were covered by health insurance by the end of 2012. However, government health spending in rural areas is primarily from county-level government [3]; therefore, the reimbursement rate varies from 20% to 70% in different regions, depending on the level of local government financial support (unpublished data).

All the medication fees for children out of the provincial capital of Zhejiang Province have to be paid by parents in advance. With non-portable schemes and benefits, which can be a barrier to access for the children; the expenses are huge in critical diseases (e.g., leukemia, CHD, and tumors), and the low-income families cannot pay the medication fee at the low reimbursement rate in their residential counties. After 2009, uncompensated care is still indispensable in our hospital. From 2009 to 2011, the uncompensated care was 11 506 333 RMB, accounting for 1.08% of the total budget. Leukemia and CHD were still the 2 major diseases requiring uncompensated care. It is a great help that the government of Zhejiang province began reimbursing 90% of the medical expenses for children with leukemia and CHD since 2012.

All the children with accidental scalds who received uncompensated cared in this hospital were from migrant families; these migrant children are a target population of accidents because the parents may neglect the children due to the busy working schedules, low-income living conditions, or poor commonsense health education. Our study reveals that children from rural-to-urban migrant families and children from low-income rural areas often have no insurance or have insurance with low reimbursement; they are a vulnerable population due to lack of pediatric care access.

There are still many limitations in the uncompensated care provided in our hospital. First, we do not provide uncompensated care to the outpatients. Unfortunately, the insurance reimbursement for out-patient service is minimal under the current health insurance system. Poor children with diseases who need long-term follow-up outpatient visits, such as those with rare diseases, may refuse treatment or reduce the number of visits. Second, due to limited funding, charity from the foundations cannot meet all needs. The special funding for leukemia only targets the children from low-income rural areas of Zhejiang province or those migrant families living in Zhejiang Province more than 3 years. Today, some children are still refused treatment before admission and parents discontinue treatment after admission. A limitation of this study is that we could not calculate the small portion of the fee donated directly to the parents, thus the actual uncompensated care may be higher than the results indicate.

Conclusions

Many children without insurance or from low-income families have benefited from the uncompensated care provided at our hospital. We try to establish a long-term relationship with media and solicit contributions for low-income families. However, the situation is still far from perfect. We are still calling for the Chinese government to increase the national health allocation and increase the reimbursement rate in poor, rural counties. Children from rural-to-urban migrant families should be considered as a key population for government to focus on.

Competing interests

The authors declare that they have no competing interests.

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