Geographic differences in social-welfare oriented institutional care for people with disabilities in Taiwan, 2002–2009

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A B S T R A C T

The present paper aims to provide information of long-term trend of distribution and utilization of institutional care resource for people with disabilities by different geographic areas in Taiwan. Data were analyzed using governmental reported general population by administrative area, population of persons with disabilities, and the profile of disability service institutions in Taiwan-Fuchien Area from 2002 to 2009. Results revealed that there were averagely 956,549 persons with disabilities and 15,172 institutional service beds (15.86 beds per 1000 persons with disabilities; range = 0–33%) and the mean occupancy rate was 79% (area range: 36.26–92.09%), during the past 8 years. Many rural countries and off-shore islands have poorer disability service beds than other urban cities. The results also showed that the disability population (R2 = 0.093, p < 0.001), institutional service beds (R2 = 0.885, p = 0.001) and occupied service beds (R2 = 0.917, p < 0.001) were significantly increased in curve tests during 2002–2009. However, the service beds per 1000 persons with disabilities and occupancy rate were not statistical change during the past 8 years. The study highlights the service authorities should focus on the uneven distribution problem of disability institutional care, particularly in rural countries and off-shore islands in Taiwan.

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1. Introduction

Beadle-Brown, Mansell, and Kozma (2007) reviewed the process of deinstitutionalization for intellectual disability services across the world, they concluded that outcomes are better in the community than in institutional care. However, deinstitutionalization has impacted health professionals (McCausland, 1987) and people living in community settings still experience institutional practices and attitudes and can lead lives that are predominantly devoid of choice, independence and inclusion (Beadle-Brown et al., 2007). Community and leisure use of people with intellectual disabilities was found to be related to the place of residence, adaptive behavior and the robustness of community goals within the service user’s individual plan (Baker, 2007). Ryu et al. (2006) also highlighted that careful planning that minimized social and clinical dislocation may have contributed to the successful transition from mental hospital to community facility assessed for patients with schizophrenia.

Although there has been a decline in the number of people caring in disability institutional care in the western countries (Allen, 1989; Braddock, Hemp, & Rizzolo, 2004; Coucounakis, Lakin, Prouty, & Webster, 2006; Fakhoury & Priebe, 2002;
Lakin, Prouty, & Coucovanis, 2006; Mansell, 2006; Talbott, 2004), however, there still remain a substantial increase number of institutional places for this population in Taiwan and the institutional care provided services for all ages of people with disabilities (Lin & Lin, 2009; Yen, Lin, Wu, & Kang, 2009). Our another previous study in Taiwan described the geographic distribution of institutional disability care, the results found that there was 54.9 institutional residential beds per 100,000 general population, 13.7 beds per 1000 persons with disabilities and the average use rate of the institutional care was 81.3% in the year of 2004 (Lin, Yen, Loh, & Chang, 2005). However, it is lacking the information of long-term change of disability institutional care in Taiwan. Therefore, the present paper aims to describe and test the long-term trend of distribution and utilization of institutional care resource by different geographic areas in people with disabilities in Taiwan.

2. Methods

This study analyses the geographic differences in social-welfare oriented institutional care for people with disabilities based on the data of governmental reported general population by administrative area, population of persons with disabilities, and the profile of disability service institutions in Taiwan-Fuchien Area in 2002–2009 (MOI, 2011a, 2011b, 2011c). The data sources mainly from the public free web-access information which collected by the Department of Statistics and Department of Social Welfare Services, Ministry of the Interiors, Taiwan, Republic of China. The disabled people in Taiwan must be examined and accredited by health and social welfare authorities according to the following 16 classifications: autism, intellectual disability, vision disability, hearing mechanism disability, balancing mechanism disability voice or speech mechanism disability, limb disability, loss of function of primary organs, disfigurement or deformity, chronically unconscious, senile dementia victims, chronic psychosis victims, multi-disabilities, stubborn (difficult-to-cure) epilepsy, caused by infrequent disease and other disabled citizens (The Taiwan Physically and Mentally Disabled Citizens Protection Act, 1997).

We analyzed data includes the resources of institutional care which include residence full day services, day care services and other services, the institutional service capacity (beds) and its occupancy rate. The full-day care in the analysis means the people with disabilities living and caring in the institution for continuing 24 h per day. The day care refers to the settings providing services in day-time or hours per day. The statistical methods in the study included number and percentage to describe the profile of geographic differences in social-welfare oriented institutional care for people with disabilities, and a curve test to examine the overtime change of disability welfare resource from 2002 to 2009 in Taiwan.

3. Results

Table 1 presents the disability welfare service resource among 25 cities and counties in Taiwan, 2002–2009. In average, there were 956,549 persons with disabilities and 15,172 institutional service beds (15.86 beds per 1000 persons with disabilities) during the past 8 years. The institutional residence beds specifically located in most populous cities such as Taipei City (2215 beds), Taipei County (2127 beds), Tainan County (1489 beds) and Taoyuan County (1276 beds). The off-shore island Lienchiang County did not have any institutional disability service there. However, the available institutional service beds per 1000 persons with disabilities, the top 5 areas which owned rich resource were Hsinchu City (33.57%), Tainan County (28.63%), Miaoli County (25.92%), Taichung City (24.78%), and Tainan City (22.92%). Beside to Lienchiang County did not have any institutional disability service, Yunlin County (1.47%) owned the lowest available institutional service beds in Taiwan.

Table 2, Figs. 1 and 2 present data of institutional bed occupancy rate by geographic areas, the results show that the average number of users was 11,987 and the mean of occupancy rate was 79% (area range: 36.26–92.09%) in 2002–2009. There were 7 areas, their disability resource in institutional service beds were less than 11.19%, 8 cities was 11.20–22.38%, and 8 areas were 22.39–33.57%. With regard to service type, 24-h full day service was provided for 67% users (area range: 16–100%), 26% day care service (area range: 0–70%) and 8% (area range: 0–22%) of other service type. The male users (60%) occupied the most of the services.

Table 3 describes and examines the trend change of disability institutional beds and occupancy rate by year from 2002 to 2009 in Taiwan. We found that the disability population (p < 0.001), institutional service beds (p = 0.001) and occupied service beds (p < 0.001) were significantly increased in the study. However, the service beds per 1000 persons with disabilities (p = 0.923) and occupancy rate (p = 0.121) were not statistical change during the past 8 years.

4. Discussion

People with disabilities consume a disproportionately high quantity of US Medicaid services, and their annual costs are increasing at the highest rate of all beneficiary groups (Palsbo & Mastal, 2006). The institutional care is costly and the process of de-institutionalization is still under way in most developed countries. However, Beadle-Brown et al. (2007) highlighted just moving people out of institutions into community settings does not bring about automatic improvement in quality of life in terms of choice and inclusion as well as self-identity and access to effective healthcare and treatment. The effects of deinstitutionalization may depend on national traditions and socio-cultural context, the availability of resources and financial incentives as well as specific features of the given social welfare and health care systems (Fakhoury & Priebe, 2002).
Our aims of the present paper were to examine the long-term change of distribution and utilization of institutional care resource by different geographic areas in people with disabilities in Taiwan. Results revealed that the disability population, institutional service beds and occupied service beds were significantly increased in the study. However, the institutional beds per 1000 disabled population and occupancy rate were not statistical difference in the past years. The geographic
Fig. 1. Disability institutional beds in 23 geographic areas (beds per 1000 people).

Fig. 2. Disability institutional occupancy rate in 23 geographic areas.

Table 3
Trend tests of disability institutional beds and occupancy rate by year.

<table>
<thead>
<tr>
<th>Variable</th>
<th>Year 2002</th>
<th>Year 2003</th>
<th>Year 2004</th>
<th>Year 2005</th>
<th>Year 2006</th>
<th>Year 2007</th>
<th>Year 2008</th>
<th>Year 2009</th>
<th>R²</th>
<th>p-Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Disability number</td>
<td>831,266</td>
<td>861,030</td>
<td>908,719</td>
<td>937,944</td>
<td>981,015</td>
<td>1,020,760</td>
<td>1,040,585</td>
<td>1,071,073</td>
<td>0.993</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>Institutional beds</td>
<td>16,664</td>
<td>18,981</td>
<td>20,036</td>
<td>20,095</td>
<td>20,080</td>
<td>20,705</td>
<td>21,958</td>
<td>22,990</td>
<td>0.885</td>
<td>=0.001</td>
</tr>
<tr>
<td>Institutional beds per 1000 disabled</td>
<td>20.05</td>
<td>22.04</td>
<td>22.05</td>
<td>21.42</td>
<td>20.47</td>
<td>20.28</td>
<td>21.1</td>
<td>21.46</td>
<td>0.002</td>
<td>=0.923</td>
</tr>
<tr>
<td>Occupied beds</td>
<td>12,611</td>
<td>14,540</td>
<td>15,582</td>
<td>15,905</td>
<td>16,370</td>
<td>17,002</td>
<td>17,457</td>
<td>17,918</td>
<td>0.917</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>Occupancy rate</td>
<td>75.68</td>
<td>76.6</td>
<td>77.77</td>
<td>79.15</td>
<td>81.52</td>
<td>82.12</td>
<td>79.5</td>
<td>77.94</td>
<td>0.352</td>
<td>=0.121</td>
</tr>
</tbody>
</table>
distribution of disability welfare resources were still uneven, the disparity of available institutional beds per 1000 disability population were more than 30 folds of highest and lowest rate areas. Many areas such as Pingtung County, Taitung County, Kaohsiung County, Chiayi County and Yunlin County were less than 10 institutional service beds per 1000 disability population. The remote islands, Kinmen County and Pingtung County were also poor in disability service beds in society, however, their occupancy rates were not quite different. Another island – Lienchiang County do not have disability institution there, the disabled people are always residing in Taiwan main island.

The institutional care still plays a vital role in disability services in Taiwan. Many studies have indicated that the disabled people who living in institutions or communities are more inclined to take unhealthy risks (Lin, Lin, Lin, Chang, et al., 2010; Yen & Lin, 2010), poorer health status (Hsu et al., 2009; Lin, Lin, Chen, et al., 2010; Lin, Lin, Chang, et al., 2010; Lin, Lin, Hsu, et al., 2010; Yen, Lin, Loh, Shi, & Shu, 2009), met more healthcare barriers (Lin, Lin, Hsu, et al., 2011; Lin, Lin, Yen, Loh, & Chwo, 2009; Lin, Loh, Choi, et al., 2007; Lin, Loh, Yen, et al., 2007; Lin, Wu, & Lee, 2004) and consumed more medical cost (Hung, Lin, Wu, & Lin, 2011; Lai, Hung, Lin, Chien, & Lin, 2011; Lin, Lee, Lin, et al., 2011; Lin, Hung, Lin, & Lai, 2011) than the general population. In order to protect and maintain quality of care in disability institutions, beyond health care, the social inclusion of these people requires labor, home, leisure, and reconstruction of the social network (Guljor et al., 2007). Furthermore, we suggest the disability institutions can adopt the concept developed by Palsbo, Mastal, and O’Donnell (2006) suggested to focus on following activities: comprehensive assessment; self-directed, person-centered planning; health visit support; centralized medical–social record; community resource engagement; and constant communication, to improve health and function in people with disabilities.

References