How should the Japanese government push forward the reorganization of its medical system in the future?

Tai Takahashi, MD & Ph. D.
Professor of International University of Health and Welfare,
Graduate course of medical care management

Introduction: The acute medical care is twofold in Japan

The acute medical care in Japan is twofold. The first type is the usual type of acute medical care, which can be called “Cure-oriented type”, and the purpose of this type is a complete recovery.

Cure-oriented type

The second one is “Care-oriented type”, which aims at adjusting the body condition and environment of the aged people to continue living in their hometown, even though the patients are not completely cured. This slide shows how care oriented type medicine is provided. This type of medical service is regarded as a part of nursing care in many developed countries, and nursing homes often take care of this type service in the U.S.

From now on, care-oriented type of acute medical service will be mainly required by a rapidly increasing aged population.
Three problems in the Japanese medical system

The first problem is a discrepancy of the health resource level and the medical demand change, among districts and regions. In this chart, you can see second level of medical region in Japan, and this slide shows the deviation of number of beds per population in different regions of Japan. The dark blue areas have a surplus of beds. The light blue regions are slightly above the mean number of beds per population. The white regions correspond to the expected average of bed supply. Whereas the yellow regions are slightly below the average. And finally, the red refers to regions that are severely depleted of beds per population. The peripheral regions such as the north and the west are well supplied, however the central regions of Kanto, Tokai, Kansai show mild to severe lack of beds.

This slide shows the number of nurses working in hospitals per resident. The distribution of nurses in Japan has the same tendency of the total number of beds.
This slide shows the capacity of nursing facilities for fragile elderlies. The distribution pattern is a little bit different from the two previous ones. Although Aomori prefecture has the biggest capacity among 47 prefectures, other Tohoku prefectures have significantly fewer capacities which are below average. Tokyo, Chubu except Hokuriku, and urban area of Kansai have small capacity.

This slide demonstrates actual or expected peak for medical care demand in Japan. As you can see, the three colors of bottom roughly correspond to the rural areas, whereas top three colors match urban regions. The bottom three have peaked or going to peak very soon. But the urban regions are expected to peak between 2030 and 2040 or later.
The second problem: Low density level of usual acute medical care

Essential part of medical care is cure oriented type, which aims at complete cure. Recently, cure oriented medicine requires more advanced technology and a larger scale team. For providing better cure oriented medicine, more medical staff and more medical equipment are required. High density settings, which means a lot medical staff and plentiful medical equipment per patient, are essential.

The characteristics of the Japanese medical system from an international comparison perspective

Most characteristic point of the Japanese medical system is its huge number of hospitals and beds. The number of hospitals in Japan is approximately 8700, and the one in the U.S. is only 5,400, although the population of the U.S. is almost three times and the area of the U.S. is 25 times larger.
This slide shows International Comparison of Medical Provision system in 2007. The number of床 per 1000 resident in Japan is 13.9, and the one in U.S. is only 3.1. The number of\textbf{physician} per 100 hospital bed in Japan is only 14.9, and the one in U.S. is 77.5. The number of\textbf{Nurse} per 100 hospital bed in Japan is only 66.9, and the one in U.S. is 337.2. The average Length of stay in Acute Hospital becomes longer, 19 days, because of low staff density, comparing with shorter one, 5.5 days, in the U.S.

\textbf{International Comparison of Medical Provision system (2007)}

<table>
<thead>
<tr>
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<th>NO. of beds per 1000 resident</th>
<th>NO. of physicians per 100 hospital bed</th>
<th>NO. of Nurses per 100 hospital bed</th>
<th>Average Length of stay in Acute Hospital</th>
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<tbody>
<tr>
<td>Japan</td>
<td>13.9</td>
<td>14.9</td>
<td>66.9</td>
<td>19.0</td>
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<tr>
<td>USA</td>
<td>3.1</td>
<td>77.5</td>
<td>337.2</td>
<td>5.5</td>
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This slide shows the number of physicians per 1000 residents. The number of physicians per 1000 residents in the U.S. is 2.3, whereas in Japan is 2.0, although the number of beds per resident in Japan is 4 times more.

\textbf{No of Physicians per 1000 residents (2003 OECD data)}

This slide visually shows the International Comparison of Medical Provision system in 2007 again. The number of\textbf{physician} per 100 hospital bed in Japan is only 14.9, and the one in U.S. is 77.5. The number of\textbf{Nurse} per 100 hospital bed in Japan is only 66.9, and the one in U.S. is 337.2. You can surprisingly recognize the big difference between the hospital environment in Japan and the one in the U.S.
This slide shows the difference of staff density level from the view point of patients between a hospital in Japan and an equal one in the U.S. Fewer physicians and nurses may visit patients in Japanese hospital, and it is difficult to treat intensively in Japanese hospital. This low staff density level mainly causes long hospital stays in Japan.

The outcome of treatment of Japanese hospital is surprisingly not worse, comparing with other developed countries’ advanced hospitals. But it will be difficult to remain among the highest outcome within advanced hospitals in other countries, if the low density situation in Japanese acute hospital is not improved.
The third problem: Inappropriate ratio of cure oriented bed and care oriented bed

This slide shows the population change of Japan by dividing 0-64, 65-74, and 75 years above. Although the population above 75 is rapidly increasing until 2025, the population below 64 is decreasing shapely and steadily.

The blue line of next slide shows the regression curve of medical demands of aged people above 75. The red one demonstrate the medical demand of patients below 74. We have to pay attention that the medical need for aged people above 75 will expand very rapidly, although the demand for those below 74 is shrinking severely.
On considering the inappropriate distribution of Japanese hospital beds and the rapid change of age structure of the Japanese society, the surplus of cure oriented beds and lack of care oriented beds should be reconsidered immediately.

The conversion from cure oriented beds to care oriented beds is critical and indispensable.

The four measures to solve these problems

The following measures are thought about to solve these problems.
Measure (1)-1: Japanese government should set the division of hospital beds and present the standard capacity to each district

At first the Japanese government should set the division of hospital beds, which is recognizable according to a third party clearly whether it is a ward providing “Cure-oriented” medical care, or it is a ward providing the “Care-oriented” medical care. Currently, acute care beds in Japanese hospital is not differentiated, and this non-differentiation inhibits efficient correlation among hospitals. The Japanese government plans to set the division of hospital beds, and this slide shows the latest government plan of hospital beds division.

Although the fee for Care oriented acute bed is differentiated in the fee-for-service table decided by the Japanese government, Cure oriented and Care oriented beds are not differentiated in this plan. As shown in this slide, both cure oriented acute beds and Care oriented bed are included in the Acute bed category.

If Cure oriented beds and Care oriented beds are included into the same category, the indispensable conversion from Cure to Care will not proceed.
Japanese government should set the appropriate division, in which Cure oriented beds and Care oriented beds should be divided, such as the slide shows.

**Measure (1)**

- **2:** to present the standard capacity to each district

Next, the roll of the national government is to demonstrate the common datasets and the standard capacity of cure and care of each district, which has been decided by a nation-wide average. By showing the standard capacity of beds at each district, prefectural government officers themselves must initially recognize whether the number of beds of each district is insufficient or excessive in accordance with the standards.

**Measure (2)** The prefectural government set an original aim of the
bed capacity

The prefectural government set an original aim of the bed capacity for “Cure-oriented type” and “Care-oriented type”, while considering the local present conditions with reference to the standard bed capacity. Some prohibitions bans against newly founding hospital-beds of excess category are essential.

As shown in the slide below, the beds for cure-oriented should be decreased and the beds for care oriented should be increased nationwide. The requirements for the increase and decrease of beds differs regionally. For example, the Gunma prefecture is required to decrease cure oriented beds and to increase care oriented beds. However, the Kochi prefecture has to decrease both cure and care oriented beds. Thirdly, the Saitama prefecture ought to increase both cure and care oriented beds.

The aim of the bed capacity is basically expected to set at the level close to the national standard. If the actual number of beds is significantly higher than the national standard, an optimal capacity figure should be set halfway.

The difference of aim for medical provision reform among districts

The prefectural governments should set the possible aim of bed capacity for each districts

Next, prefectural governments ought to create regional medical visions and plans to
achieve the cancellation of the estrangement with the optimal bed capacity and actual number of beds.

**Measure (3) Restructure of the medical provision system**

To solve the three problems of Japanese medical provision system mentioned before, two kinds of measures exist. The first one is the restructure of the medical provision system based on the regional medical vision and plan. The second one is the introduction of hospitals and cliques through the revision of fee for service table.

Three basic principles for accomplishing the restructure of the medical provision system based on the regional medical vision and plan are shown below.

#1 Allocating subsidy for a plan of action in order to correct the present conditions and the estrangement of "the regional medical vision and plan".
#2 Decreasing the capacity for beds in highly advanced medical care hospitals to match optimal density level
#3 Correcting the misdistribution of medical doctors and nurses among districts
Solution(3)-#1 Allocating subsidy for a plan of action in order to correct the estrangement of the present conditions

To achieve the regional medical vision and plan, the national government ought to give the prefectural governments the authority by allocating subsidy for a plan of action in order to correct the estrangement of the present conditions. Firstly, the consolidation of smaller independent hospitals into a larger high advanced general hospital is needed. In other cases, the conversion of beds from cure oriented to care oriented is accordingly required. In other cases, the downsizing of the surplus beds is necessary.

The slide shown below is a typical example, which is now proceeding in Uonuma district in Niigata prefecture in Japan. In the southern part of this district, five hospitals are unified, and one advanced hospital is now under construction, and five hospitals will become satellite medical centers. At the same time, two hospitals in northern part of Uonuma are also unified. This kind of restructure of the regional medical provision system should be activated with using the subsidy.

In homecare settings, the grouping of plural medical institutions and nursing facilities ought to be supported by subsidy.
Solution(3)-#2: **The aim capacity for beds in highly advanced medical care hospitals should decrease to match optimal density level**

The aim capacity for highly advanced medical care bed should be decided at prefectural level according to the national standard. The conditions for accrediting highly advanced medical centers should

1. provide higher advanced medical service,
2. increase the density of medical staff by reducing the number of beds,
3. shorten the length of stay

Solution(3)-#3: **Correcting the misdistribution of medical doctors and nurses among districts**

To correct the misdistribution of medical doctors and nurses, the capacity of the local medical department should be reduced, where a doctor surplus is predicted in the future. On the contrary, the new establishment of the medical or nurse department should be founded at the severely depleted areas.

Solution (4) Reform of the fee for service table

Ideally, the vision should have become the background for the nationwide reform. After letting the policy to show a route of medical provision system reform ahead, the introduction of medical provision system by using the revision of fee for service table should have been done as the strong measure for achieving the medical reform.