Radiotherapy Facilities Market in Japan: Key Research Findings 2016

◆ Research Outline

Yano Research Institute has conducted the domestic radiotherapy facilities market with the following conditions:
1. Research period: August to November, 2016
2. Research targets: Domestic manufacturers of radiotherapy equipment, providers of radiotherapy related services, and those hospitals and clinics conducting radiotherapy treatment
3. Research methodologies: Face-to-face interviews by the specialized researchers, surveys via telephone/email, and literature search.

What is the Research regarding Radiotherapy Facilities?
The survey was conducted to clarify the status of radiotherapy facilities and progress in introducing highly-sophisticated radiotherapy machines in the domestic secondary medical areas (*a medical administrative area under the Medical Care Law by which every prefectural government is expected to provide general medical care supplies such as beds for inpatients.) Also, the questionnaire relating to radiotherapy treatment had been sent by mail to or placed at those hospitals and clinics conducting the treatment, and was responded back by 157 facilities.
*Quoted from the article “Geographic distribution of medical supplies and the numbers of hospital inpatients in the secondary medical areas in Japan” published by Nihon Koshu Eisei Zasshi.

◆ Key Findings

Among Nationwide Secondary Medical Areas, 55 Areas Have No Radiotherapy Facilities
According to the research, 55 secondary medical areas among the entire 344 of such areas do not have any hospitals or clinics available for radiotherapy treatment (as of October 2016.) Ministry of Health, Labour and Welfare has endeavored to eliminate such insufficiently equipped areas by organizing a new structure that enables to provide cancer treatment in a more effective manner. However, such medical areas without any radiotherapy facilities exist not only in the isolated areas or islands, but also in the municipal areas, showing large discrepancies among the regions.

Secondary Medical Areas With Largest Number of Highly Sophisticated Radiotherapy Machines Introduced Is Central Part of Tokyo Metropolitan Area, with 13
When surveyed which of the secondary medical area has the largest number of highly-sophisticated radiotherapy machines available for IMRT (intensity-modulated radiation therapy) and other specific treatment, the central part of Tokyo Metropolitan Area found out to have the largest number, with 13 of such equipment, followed by Osaka City in Osaka Prefecture with 12, Nagoya of Aichi Prefecture with 10, Otokuni Area of Kyoto Prefecture with 9, and Kobe and Hanshin Minami Area both from Hyogo Prefecture together with Kumamoto City in Kumamoto Prefecture have 7, respectively.

66.2% of Radiotherapy Facilities Responded that 300 or Less Patients (Both New and Recurred) Were Irradiated Annually
When asked to the targeted 157 hospitals and clinics conducting radiotherapy treatment in the
questionnaire related with this research about annual number of patients (regardless of whether new or recurrent) irradiated, 44 hospitals and clinics responded that they annually accept “200 patients or less” occupying 28.0%, 30 hospitals and clinics respectively responded as “100 patients or less” and “300 patients or less”, each of which accounted for 19.1%. Therefore, those hospitals and clinics that gave radiotherapy treatment to annually 300 or less patients occupied 66.2%.

For 3-Year Forecast of Annual Number of Irradiated Patients, Largest Number of Responses was “Growth by 10%,” and For 5-Year Forecast, “Growth by 20%”

When asked to the targeted 157 hospitals and clinics conducting radiotherapy treatment in the questionnaire related with this research about the future outlook of annual number of patients (regardless of whether new or recurrent) irradiated, 42 hospitals and clinics responded that “the number of patients are likely to increase by 10% in the next three years” which occupied 26.8%, 24 hospitals and clinics responded as “the patients increase by 20% in the next three years”, occupying 15.3%, whereas 16 hospitals and clinics agreed with “the growth by 10% in the next five years” which accounted for 10.2%, and 30 hospitals and clinics voted for “expansion by 20% in the next five years,” which occupied 19.1%.

Report Format

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Figure 1: Introduction Status of Highly Sophisticated Radiotherapy Equipment in Secondary Medical Areas

Table 1: Number of Highly Sophisticated Radiotherapy Equipment Introduced among Secondary Medical Areas

<table>
<thead>
<tr>
<th>Prefecture Name</th>
<th>Name of Secondary Medical Areas</th>
<th>Number Introduced</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tokyo Metropolitan</td>
<td>Wards in Center</td>
<td>13</td>
</tr>
<tr>
<td>Osaka</td>
<td>Osaka City</td>
<td>12</td>
</tr>
<tr>
<td>Aichi</td>
<td>Nagooya</td>
<td>10</td>
</tr>
<tr>
<td>Kyoto</td>
<td>Kyoto Otokuni</td>
<td>9</td>
</tr>
<tr>
<td>Hyogo</td>
<td>Kobe</td>
<td>7</td>
</tr>
<tr>
<td>Hyogo</td>
<td>Hanshin Minami</td>
<td>7</td>
</tr>
<tr>
<td>Kumamoto</td>
<td>Kumamoto</td>
<td>7</td>
</tr>
<tr>
<td>Ishikawa</td>
<td>Ishikawa Central</td>
<td>6</td>
</tr>
<tr>
<td>Fukuoka</td>
<td>Fukuoka Itoshima</td>
<td>6</td>
</tr>
<tr>
<td>Miyagi</td>
<td>Sendai</td>
<td>6</td>
</tr>
<tr>
<td>Tokyo Metropolitan</td>
<td>Wards in NorthWest</td>
<td>6</td>
</tr>
</tbody>
</table>

Notes:
1. Both Figure 1 and Table 1 were created by Yano Research Institute based on “Declaration of Facility Standard” by MHLW
2. Table 1 lists the top 11 out of total 344 secondary medical areas nationwide in the order of largest number of highly-sophisticated radiotherapy equipment introduced (as of October, 2016).
Figure 2: Annual Number of Patients Irradiated (Regardless of New or Recurrent)

Note:
3. Research Period: October, 2016, Target of Research: 157 hospitals and clinics conducting radiotherapy treatment, Research method: Questionnaire sent by mail to or placed at those hospitals and clinics, Single response only.
4. Because the numerical values were rounded, the percentages in the figure 2 may be partly inconsistent.

Figure 3: Forecast of Annual Number of Patients Irradiated (Regardless of New or Recurrent) in Three Years from Now

Note:
5. Research Period: October, 2016, Target of Research: 157 hospitals and clinics conducting radiotherapy treatment, Research method: Questionnaire sent by mail to or placed at those hospitals and clinics, Single response only.

Figure 4: Forecast of Annual Number of Patients Irradiated (Regardless of New or Recurrent) in Five Years from Now

Note:
6. Research Period: October, 2016, Target of Research: 157 hospitals and clinics conducting radiotherapy treatment, Research method: Questionnaire sent by mail to or placed at those hospitals and clinics, Single response only.
Figure 5: Challenges to Increase Number of Patients to Be Given Radiotherapy Treatment

- To increase number of radiotherapists: 44.6%
- To increase number of professional engineers for radiotherapy: 42.0%
- To increase number of certified nurses for radiotherapy: 34.4%
- Updating of radiotherapy equipment: 33.1%
- To improve proficiency level of specialized staff: 31.2%
- To increase number of treatment per day (to improve time efficiency): 29.9%
- To increase affiliated hospitals: 26.8%
- To expand irradiation cases within facilities: 23.6%
- To introduce new radiotherapy treatments: 19.1%
- To inform radiotherapy treatment for affiliated hospitals: 19.1%
- To renovate hospitals and clinics: 15.9%
- Declaration in the seminars, etc.: 15.9%
- To equip with more radiotherapy machines: 14.6%
- Improvement in balance of revenue and expenditure: 13.4%
- Others: 5.1%
- Unknown: 21.0%

Research by Yano Research Institute

Note:
7. Research Period: October, 2016, Target of Research: 157 hospitals and clinics conducting radiotherapy treatment, Research method: Questionnaire sent by mail to or placed at those hospitals and clinics, Single response only.