CUTBACK OF CARE COST BY DECREASING

DEMENTIA PATIENTS

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ABSTRACT

In the future, because of our rapidly aging society, demand for care will increase. Increase in demand for care is estimated to bring about increase in the cost of care insurance. Therefore, we think that we need to try and cut back the cost of care insurance. We found that most people in care are afflicted with dementia. Women are more liable than men to suffer from Alzheimer’s disease. Early detection is most important to stop and slow the progress of dementia. We focused on the early state of dementia called “mild cognitive impairment”. It is difficult for elderly people to realize that they have mild cognitive impairment in their daily life. There is a test called “mild cognitive impairment screening test”. It can be used for the early detection of mild cognitive impairment. We think that early detection and early provision for mild cognitive impairment are possible by giving this test to all women over 60. We think this will result in the cutback of care cost.

Keywords: dementia, care cost, care needs, aging society

1. INTRODUCTION: AGING SOCIETY IN JAPAN

The purpose of this study is to show how we can cutback the cost of care in Japan. In Japan we are faced with the problem of declining birthrate and aging right now. The wave of aging has also reached South Korea, Taiwan and Vietnam in the same way. So we think that there is a need for measures aging the declining birthrate and aging population which can be a model for other countries in Asia. What kind of state dose declining birthrate and aging refer to? Declining birthrate is where the number of those under the age of 18 is less than the number of elderly of 65 years of age or older. Aging is the when elderly of 65 years of age or older are more than 7% of the total population. When the declining birthrate and aging progress at the same time, it is called aging. A society where the elderly population has reached 14% of the total population is referred to as an aging society. When the elderly population reaches 21% of the total population, it is referred to as a super-aging society.

According to Annual Report on the Aging Society of the cabinet office the percentage of elderly in the total population of Japan has reached 24.1%¹ in 2012. From this, we can see that Japan today has become a super-aging society. But the declining birthrate and aging continue to progress in Japan. According to figure 1, the aging rate in Japan is expected to reach 39.9% in 2060. This means that four out of ten people in Japan will be elderly. In addition, among the elderly population growth of there over 76 years of age is also evident. In 2060, the elderly over 75 years of age will account for 26.9% of the population which means a quarter of the population will be people over the age of 75.

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Next, we will mention the following problems and effects that occur with aging society. First of all is the decline of economic growth due to the decrease in the population aged 15 to 64, who are considered the main work force. Then, the rising social security cost, such as medical and nursing care must be paid to the elderly which becomes a burden on the finances of the country. These most affected by this problem are the younger generation like ourselves. Problems caused by the declining birthrate and aging population can be broadly divided into financial burden and national economic decline. In this paper we focused in particular on the care cost, the increase in the financial burden of country. In Japan, long-term care insurance system began in 2000. It was born as a mechanism to solve the problem of care in response to increasing demand for long-term care due to rapid as the circumstances. The problem of care included the nuclear family having to care for the elderly and the elderly caring of another elderly. The idea was to support the care for the elderly as society as aworte². But the total cost of long-term care insurance, which was 3.6 trillion yen initially, increased year by year, and has now reached 8.9 trillion yen. Along with this increase, the national average of long-term care insurance premiums to be paid by people over the age of 40 increased 1.7 times from 2911 yen to 4972 yen. The cause of the increase in the total cost and the public burden is thought to be an increase in the number of those needing care, or the recipients of care costs.

2. LITERATURE REVIEW: ENSEMBLE 2 GENERATIONS

At first, we focused on intergenerational living together practiced by NPO of France. It is called Ensemble 2 Generations³. If we introduce it in Japan, we thought this will result in cutback of care cost. But we realized this posed many risks in Japan. Many aged persons are living alone both in Japan and France. In France, many aged persons are living in cities like Paris and unlike Japan, they have guest rooms. In Japan on the other hand most aged persons don’t have guest rooms and they don’t enjoy living with young people. We realized there are many problems. We focused on curbing

² Ministry of Health, Labor and Welfare (2012)
³ Mitsubishi research institute, Inc. (2012)
the number of those who become housebodies or develop dementia, which was cited as an advantage of intergenerational living together. We studied new measures to prevent dementia from occurring.

3. DATA AND METHODOLOGY: THOSE NEEDING CARE

Before discussing the increase in the number of those needing care, we must look at those needing care and the background of the nursing care insurance system. Those needing care can be divided into *those needing long-term assistance* and *those needing long term care*. Those needing long-term care are people in the state of long-term care, they need care. In contrast those needing long-term assistance are people in the state of long-term assistance. They need preventive long-term care. However, this preventive long-term care is not quite functioning at present, leading to an increase in the number of those needing care.

Next, we will explain how the amount of money received by those needing care, the recipient is decided. First there is a scale called stages of long-term care need. This is based on the research of different levels of physical and mental handicaps. It divided into 8 levels, from not available (NA) to long-term assistance needed 1 and 2, long-term care needed 1, 2, 3, 4 and 5. Those needing care can receive benefits and use facilities according to their level. Stage of care needs and benefits by levels are shown in Figure 2.

![Figure 2: Different stages of those needing long-term care](image)

<table>
<thead>
<tr>
<th>level</th>
<th>Base time (minute)</th>
<th>Amount limit (month)</th>
</tr>
</thead>
<tbody>
<tr>
<td>NP</td>
<td>under 25</td>
<td>none</td>
</tr>
<tr>
<td>long-term assistance needed</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>25 to 35</td>
<td>49700 yen</td>
</tr>
<tr>
<td>2</td>
<td>35 to 50</td>
<td>104000 yen</td>
</tr>
<tr>
<td>long-term care needed</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>50 to 70</td>
<td>165800 yen</td>
</tr>
<tr>
<td>2</td>
<td>70 to 90</td>
<td>194800 yen</td>
</tr>
<tr>
<td>3</td>
<td>90 to 110</td>
<td>267500 yen</td>
</tr>
<tr>
<td>4</td>
<td>over 110</td>
<td>306000 yen</td>
</tr>
<tr>
<td>5</td>
<td></td>
<td>358300 yen</td>
</tr>
</tbody>
</table>

Source: Ministry of Health, Labor and Welfare, 2012

50% of the care costs is financed by the government. And the remaining 50% is collected from over 65 and from those aged 40 to 64. In system, even of people need care and receive benefits, there is a benefit limit according to the level long-term care needed and provision that 10% of the care cost is to be paid by the recipient. For example, when those needing level 5long-term care receive the maximum 358,300 yen, they need to pay 10%, or 30,000 yen, themselves. Unlike the pension system, not everyone who paid premiums will receive benefits in this system. This is insurance which offers no refund payment. This system has many problems, including is one.
3.1 Increase in those needing care

As explained in Chapter 1, we think that the cause for the increase in care cost is the increase in the number of those needing care. One reason for the increase is awareness of the nursing care insurance system, but the biggest reason is aging. Increase in the number of the aged and longevity are creating an increase in the number of those needing care. In addition, the rate those needing care is so much hire in those over 75 compared to those 65 to 74. Figure 4 shows that 30% of those over 75 are certified as needing long-term care. By contrast, only 5% of those aged 65 to 74 are certified as needing long-term care. From this we can say that aging increase the risk of care.

<table>
<thead>
<tr>
<th>Age of those</th>
<th>Number of those</th>
<th>Ratio of those</th>
</tr>
</thead>
<tbody>
<tr>
<td>65 to 74</td>
<td>long-term care needed</td>
<td>452,000</td>
</tr>
<tr>
<td></td>
<td>long-term assistance needed</td>
<td>189,000</td>
</tr>
<tr>
<td>over 75</td>
<td>long-term care needed</td>
<td>3,156,000</td>
</tr>
<tr>
<td></td>
<td>long-term assistance needed</td>
<td>1,110,000</td>
</tr>
</tbody>
</table>

Source: Ministry of Health, Labor and Welfare, 2012

3.2 Male-female ratio of those needing care

Next, we will look at the male-female ratio of those needing care. Table 5 shows that 70% of those needing care and receiving care service are women. The total number of women needing care is 3.2 million. This is caused by the difference in life expectancy. Men’s life expectancy is 80 while women’s life expectancy is 86 gender-based difference in longevity is 6 years. At the same time, long life expectancy means when relatively young aged people start needing care, they will need care for a long time. We think that the most effective way to cutback on care cost is by decreasing the number of women needing care.
### Figure 5: Male and female recipients

<table>
<thead>
<tr>
<th>Recipients (over 65)</th>
<th>Number of recipients</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Male</strong></td>
<td>1,279,000 [28.7%]</td>
</tr>
<tr>
<td><strong>Female</strong></td>
<td>3,182,600 [71.3%]</td>
</tr>
</tbody>
</table>

Source: Ministry of Health, Labor and Welfare, 2012

#### 3.3 Cause for became women needing care

We need to know what caused them to the certified as needing long-term care in order to think of measures to decrease the number of women needing care. The most common cause of people needing care is cerebrovascular disease, but in the case of women the most common cause is dementia. Dementia accounts for 17.5% of women needing care. Most cerebrovascular diseases are long time daily habits. Once a person falls ill, the disease progresses very fast. By contrast, many cases of dementia progress slowly and over a long time. We think that early detection could have stopped on slowed its progress.

### Figure 6: Reasons for need for care

<table>
<thead>
<tr>
<th></th>
<th>Total</th>
<th>0%</th>
<th>10%</th>
<th>20%</th>
<th>30%</th>
<th>40%</th>
<th>50%</th>
<th>60%</th>
<th>70%</th>
<th>80%</th>
<th>90%</th>
<th>100%</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>21.5</td>
<td>3.9</td>
<td>10.9</td>
<td>15.3</td>
<td>10.2</td>
<td>13.7</td>
<td>24.5</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Male</strong></td>
<td></td>
<td>32.9</td>
<td></td>
<td>4.5</td>
<td>4.3</td>
<td>10.9</td>
<td>7</td>
<td>10.5</td>
<td>29.9</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Female</strong></td>
<td></td>
<td>15.9</td>
<td>3.7</td>
<td>14.1</td>
<td>17.5</td>
<td>11.7</td>
<td>15.3</td>
<td>21.8</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Source: Ministry of Health, Labor and Welfare, 2012

#### 3.4 Dementia

In our aging society, the number of the aged with dementia is increasing. In 2012, there were about 4.62 million people with dementia. Let we look at dementia in more detail. Medically, dementia
is a condition where a person’s mental capacity lowers for some reason and it become difficult to lead a normal daily life. Generally, the diagnosis is made when symptoms continue for more than 6 months. The human brain given orders to the body for all behaviors. When there is same trouble in the brain, mental and physical activities cannot function smoothly. When there’s physical capacity lowers aged people have less relations with the outside world, and they are vulnerable to developing dementia. Dementia can be divided into Alzheimer’s dementia accounting for more than half of dementia, cerebrovascular dementia and levy body dementia. These are caked the three major types of dementia. Symptoms of dementia vary from mild to severe, including forgetfulness, delusion and dissolution of personality. As a person ages, the incidence of dementia increases. The most common type of dementia is Alzheimer’s dementia, caused by Alzheimer’s disease.

**Figure 7: Ratio of dementia patients**

![Pie chart showing dementia patients ratio](image)

Source: Ministry of Health, Labor and Welfare, 2012

### 3.5 AD (Alzheimer’s dementia)

AD is a disease which affects memory and thinking, eventually posing a problem for daily life. In most cases, people develop AD when they are over 60. More and more symptoms appear as they become older. AD some causes but we do not get know the clear cause of AD. Recent research shows that AD develops in the brain over a long time. AD is caused by a combination of factors such as heredity, life style and daily habit. Two prominent symptoms AD are core symptoms and peripheral symptoms. One of the care symptoms is to forget memory. Many AD patients notice that they forget things. But that isn’t accurate. They do not forget things but they have difficulty remembering new things. In the advantage stage of AS, they even forget past memories. Peripheral symptoms refer to symptoms which happen in the patients’ relationship with other people. For example, people with AD sometimes hallucinate have fantasies and behave violently. How also AD progress? In the early stages AD starts from mild forget fullness. AD advance in 2 to 3 years. In the early stages, patients have difficulty remembering new things. They cannot even go shopping by themselves. In the intermediate stage AD patients cannot grasp the concept of space accurately. They can’t live daily life alone. The
advanced stage, their personality changes and they can’t even walk by themselves.

3.6 Male-female ratio of AD

Compared with men, twice as many women develop Alzheimer’s. One of the factors is said to be related to female hormones, but the details are not yet known. Men have male hormones and women have female hormones. One is called estrogen. Male hormone decreases slowly as men grow old. By contrast, female hormone decreases rapidly when women reach menopause. The hormone imbalance damages the brain and may body cause Alzheimer’s. Another reason there are more women with Alzheimer’s is that live longer than men.

3.7 MCI (mild cognitive impairment)

Dementia progresses with time. The earliest stage of decline in cognitive function called MCI. MCI has been the center of attention recently. MCI refers to one of cognition functions (memory, decision making and execution) having a problem. One characteristic of MCI is that the person can lead a normal daily life at the moment. They may forget things but everyday conversation is no problem. It is difficult to differentiate forgetfulness due to MCI from forgetfulness due to aging. As a result it is often overlooked. A person diagnosed as having MCI person does not necessarily develop dementia. It is said that five out of ten won’t develop dementia even if they don’t get any treatment. However, you could also say that five out of ten have possibilities of developing dementia. That is why early detection for MCI is important.

3.8 Drugs for AD

Cause of AD is still unspecified. Recently some drugs for AD have appeared. They are not ultimate cures but they can slow the progress of the disease. There are four effective drugs for AD. For those with mild to AD, Rivastig mine and Galantha mine are prescribed. For those with moderate to advanced AD, Donepezil and Memantine are prescribed. These drugs are effective for some people but not so effective for others. In some cases, they work for a limited time only. To make the most use of these early detection is necessary. That is where early detection of MCI comes in.

4. RESULT AND DISCUSSION: CUTBACK OF CARE COST

In Chapter 1, we explained aging society and in Chapter 3, we discussed the increase in the number of people needing care. We propose cutback of care cost by decreasing dementia. Among the countries of Asia, Japan is the first to encounter the of the aging society. Increase in care cost is pushing pressure on the nation’s pocketbooks. Nation’s finances are supposed to be used for the education of children. Therefore the cutback of care cost is an urgent problem. The wave of aging is sweeping not just Japan
but across Asia recently. We think that Japan should become a model case for other Asian countries.

4.1 Early detection of MCI in women

So, in order to cutback care cost, what measures must be taken? We think that it is effective to decrease the number of women needing care as women account for 70% all needing care. As most women needing care have dementia. We think the early detection of dementia is most important. As stated earlier over half of those with dementia have AD. It is more prevalent in women. Recently, with the appearance of some drugs it has become passible to the progress of symptoms of dementia is detected early. MCI is used for early detection of dementia. So we suggest finding out of women are developing dementia at the point when they have MCI. However, there is one problem. In the past, early detection of MCI was considered difficult. But a method for the early detection of MCI has been developed.

4.2 MCIS (mild cognitive impairment screening test)

This method is called MCIS\(^4\). This test was created for the early detection of MCI. This test be done by telephone, to asking questions about 10 minutes. It can distinguish age-related forgetfulness and MCI from dementia with an accuracy. The advantage of MCIS is that the test is easy to take, low cost 3500 yen takes only a short time and available to everyone, the old test of MCI weed be high cost taking a long time and needed diagnostic imaging by a specialist. The second meant is this test is reliable. It was researched and developed by the Medical Care Corporation of US. It is based on MCI screen scale, an early detection scale for MCI which can be carried out by nonprofessionals. MCIS was weed by 2500 doctors in the USA with over 500,000 test results. Linguists participated in the development of the Japanese version of MCIS to ensure that the test did not change balance of the change in language. Then Dr, Yamada’s group from Fukuoka University tested MCIS and it established an accuracy of 96%, comparable to 97.3%, achieved with the English version in the US\(^5\). Therefore it has reliability become the literature has been published both in the US and Japan. For those two reasons, we think that MCIS is effective for our proposal.

4.3 Free test of MCIS for women over 60

We propose using MCIS to test women for MCI. We think that women is dementia must be detected early, at the stage of MCI in order to cutback care cost. We propose giving MCIS to all women over 60 for free. We suggest 60 as the state is aged because by the time, they are 65 dementia has already progressed. The reason for making MCIS free is that this early-stage investment will help

\(^4\) T-pec Corporation. (2013)
\(^5\) Millennia-Corporation. (2012)
to keep care cost down in the future. We will explain the details of our proposal. All women their reaching 60th birthday will receive a notice for free MCIS from the local government. They will take a test for early detection of MCI. If they are diagnosed as MCI, they can start medication at an early stage to delay the progress of dementia. By string medication early we can shorten the period of serious dementia. For those who are not diagnosed as MCI, their information will be sent to the local government. So they will receive a notice for free MCIS every years. The government can recoup the cost of MCIS from the cutback in care costs. We think this will result in cutback of care cost. We think this will make possible early detection for dementia and early medication.

5. CONCLUSION AND IMPLICATIONS

Let me summarize our stance. Japan is plunging into a super-aging society now. Aging society is expecting to continue in the future. Aging society will become social issues in many Asian counties besides Japan. Japan became an aging society comparatively then other counties in Asia. We think that Japan can become a model case for other Asian counties. One of the problems is that the increase in social-security cost such as medical care and care cost becomes a financial burden on the nation. We focused on care cost. Care cost was born only recently about 10 years ago, but this cost has already reached 8.9 trillion yen. We think that the cause is the increase in the number of those needing care. Most of those needing care are women, accounting for more than 70%. The reason most women needing care was dementia. We think that dementia prevention for women would result in decrease in the number of those needing care and care cost. Another reason is that women are more likely to get Alzheimer’s than men. Recently, some drugs for Alzheimer’s have appeared. These drugs can slow the progress of the disease. However the problem is these drugs are not effective unless they are administered early. So we need to test fir MCI (mild cognitive impairment) in the early stage of dementia. Early detection of MCI used to be very difficult because a complete examination costs a lot. But a new examination called MCIS, mild cognitive impairment screening test, can be easy, low cost and high precision. We propose giving this test to all women over 60 for free. We think this will make early detection of dementia and early measures possible. This will result in cutback of care cost.
REFERENCE LIST


