

Reduced Medical Expenditures with Social Participation of Elders: The Case of Kamikatsu, Tokushima Prefecture

Outline of Kamikatsu

The town of Kamikatsu is located somewhat to the southwest in central Tokushima Prefecture, about 40 km south of Tokushima City (Figure 1). The distance is just under one hour by car from Tokushima City, but when driving along the Katsuura River from the town of Awa Katsuura the mountains rapidly become steep. Further on the scenery is breathtaking, with small villages dotted along both sides of the Katsuura River. Within the town of Kamikatsu itself the elevation differs by more than 700 m. Kamikatsu was formed in 1955 with the merger of the villages of Takahoko and Fukuhara. These two villages were located on the upper Katsuura River (referred to as “Kamikatsu” in Japanese), and the town was given the new name Kamikatsu from the fact that lumber from the area was stamped “Kamikatsu” to be transported and sold on the market.

In the past many people in this area earned their livelihoods from forestry and growing tangerines. However, the town suffered devastating blows in both forestry, with low lumber prices, and tangerine farming with the death of about 80% of the town’s 120 ha of orchards in an unusual cold spell in 1981. The town is formed along the Katsuura River in an area that records the greatest amount of rainfall in the prefecture, and also struggles every year with disasters including heavy flooding and landslides from concentrated downpours. At the time of the merger in 1955 the population was more than 6,000, but by the 1980s it had decreased by half.

Figure 1. Location of the town of Kamikatsu



Leaf business changed the town

In 1986 Tomoji Yokoishi was an agricultural consultant in Kamikatsu during this decline. In those difficult circumstances, and with the cooperation of four farming households, he started the “Irodori” project to ship leaves and sprigs as *tsumamono*

for Japanese food in restaurants. *Tsumamono* are the leaves and other natural things used as adornment in Japanese dishes. To an outsider it may seem that all one would have to do for this business is to pick up fallen leaves and ship them, but it is not that simple.

In this undeveloped *tsumamono* market, it required great effort to gather more than 100 varieties of leaves and flowers in the different seasons—at their most beautiful and of consistent quality—and ship them quickly to meet demand. With the cooperation of farming families, Yokoishi fought an uphill struggle for 10 years to get the Irodori project on track. The business developed to sales of more than 200 million yen per year after 2003. The Irodori Association membership, which started with four people, also grew to reach 195 people in 2009.

Kamikatsu is also famous for town development by the third sector enterprises utilizing town-financed corporations. The Irodori Corporation was established as a third sector enterprise in 1999 for Irodori project planning and sales, with the mayor as president and Yokoishi serving as vice-president. Yokoishi has received a number of awards, including the Special Prize at the Entrepreneur of the Year Japan Competition in 2002 and the Japan Soft Award in 2003, and has attracted attention for success in regional vitalization. A movie about the Irodori project was also made in 2012 under the title *It's a Beautiful Life—Irodori*, starring Kazuko Yoshiyuki, Sumiko Fuji, and Mie Nakao. These successes, however, have not been able to hold back the waves of a shrinking and aging population; according to the Kamikatsu town website the population was 1,869 as of March 1, 2013, while people aged 65 years or older accounted for 49.7% of the population as of March 1, 2011.

Medical expenses below the prefectural average even with such an aging population

Despite the very aged population of Kamikatsu, it is also known for its low per capita medical care expenditures for the elderly in Tokushima Prefecture. As shown in Figure 2, despite the aging of its population, from 1992 to 2007 the per capita level of medical care expenditures for the elderly in Kamikatsu was below the prefectural average in all years except 2002.

Yokoishi, who launched the Irodori project, offers the explanation that the people are healthy because they are employed. He stresses that the low level of per capital medical care expenditures for the elderly in Kamikatsu is because of the high rate of employment in the town's elderly, centered on the Irodori project. This is illustrated in

the following with quotations from Yokoishi’s books.¹⁾²⁾

Among Irodori farm households, continuing the leaf work is a form of mental and physical rehabilitation even among individuals suffering a major disease or facing a great sadness, and it has helped more than a few people regain their vitality.

For one person with a progressive spinal disease, Irodori was a reason to live. Saying “It is good exercise and I want to keep at it as long as I am able,” this person continued to ship dozens of types of *tsumamono*.

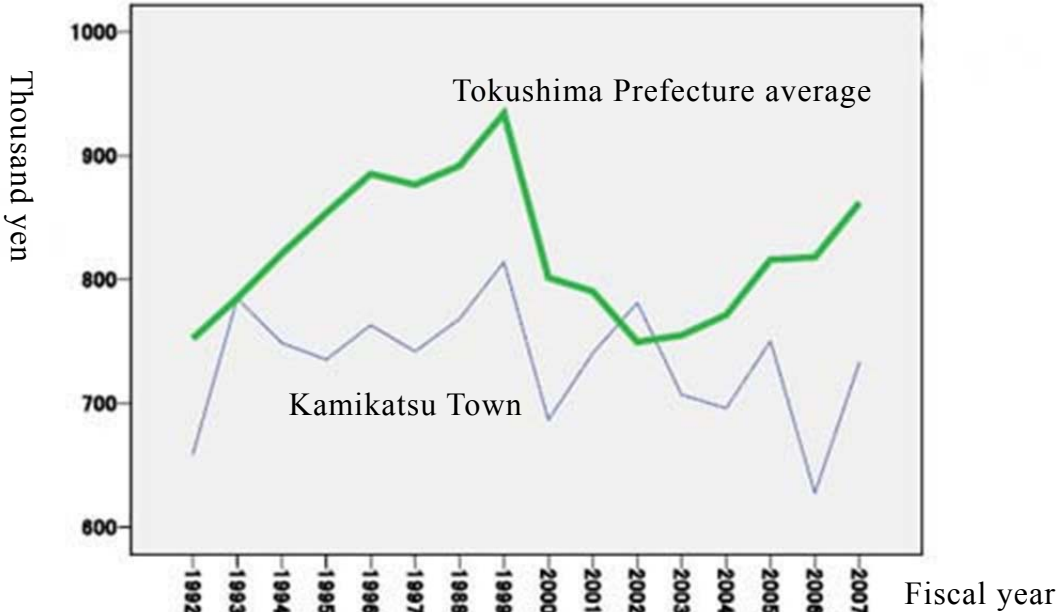
Another person, who had collapsed with a stroke and still had slight paralysis in one leg, still made the effort to plant new seedlings as she did every year. “I’m so glad that the leaves are light. I like this work of making beautiful things. It makes me feel good,” she said.

A person with a bad pelvis, who could no longer lift heavy things, concentrated her efforts on pulling weeds and caring for the leaves, saying “This feels better than going to the hospital for rehabilitation.”

(Omission)

Another person had lost a child to sudden illness, and spent her days closed in the house, crying. Her neighbors worried about her and encouraged her to participate in the Irodori

Figure 2. Trends in per capita medical care expenses for people aged 65 years and older (Tokushima Prefecture average and Kamikatsu)



Prepared based on Tokushima Prefectural data

project even if it was only a little, thinking it would take her mind off her loss. They said she was gradually able to recover her spirits while doing the leaf work (*That's It! We'll Sell Leaves,*²⁾ p. 204).

Giving an older people an opportunity and keeping them mentally energetic is not the only good thing about “work wellbeing.”

In “Irodori” work, for example, older women carefully separate the leaves gathered from the mountains by quality and size, counting them during packing. This work using the fingers activates the brain and helps to prevent dementia.

Going to the fields and walking up and down mountain slopes strengthens the lower body, helping to maintain health and prevent individuals from becoming bedridden.

(Omission)

This means that these elder women do not use much money for medical care, since they are healthy from working, earning money, and staying busy (*How to Build a Society of Lifelong Gainful Activity,*²⁾ p. 32-33).

Having a job and working gives elderly people a reason for living, and actively using the body contributes to disease prevention. One could say that the result is manifested in reduced medical care expenditures (*ibid.*, p. 44).

Survey on social capital and life satisfaction

Interested in the claims of Yokoishi, the author gained the approval of the Kamikatsu town office in 2009 and conducted a questionnaire survey in collaboration with the town’s medical clinic. Figure 3 shows a comparison with the results of a national survey conducted by the author in 2010. As seen in the figure, “Trust in neighbors” is much higher in Kamikatsu than in the nation as a whole. Trust in relatives and trust in workplace colleagues is also higher in Kamikatsu than in the national survey. Frequency of socializing with neighbors, and the number of people who do so, is again much higher in Kamikatsu than in the nation as a whole. These trends are similar to what is seen with participation in community-based activities and participation in volunteer work, NPOs, and civic activities.

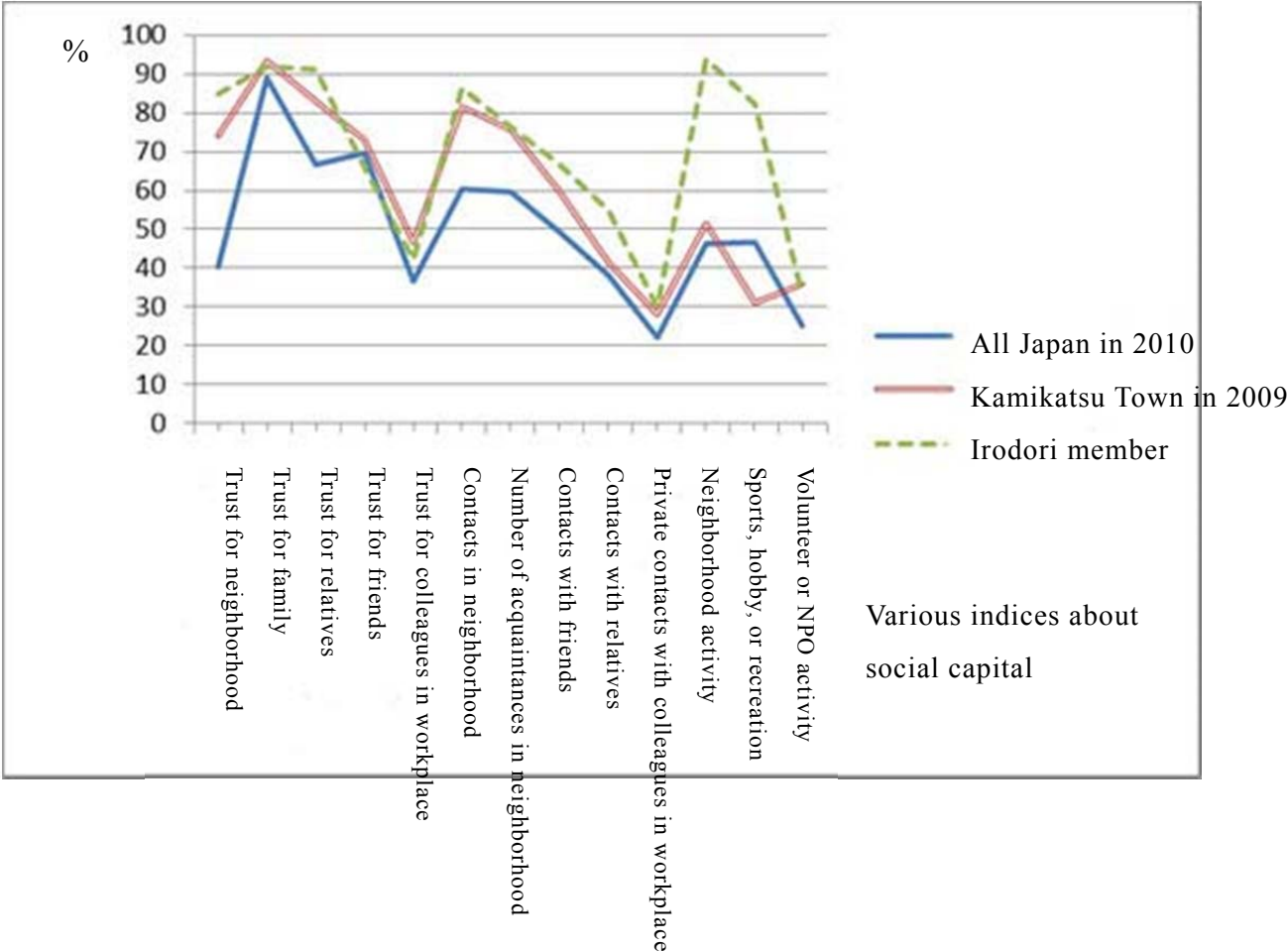
Aggregate values for the participants in the Irodori project are shown in Figure 3. For the Irodori project participants, the trends are more pronounced than the abovementioned figures for Kamikatsu as a whole in comparison with national averages.

Looking at these aggregate figures only, relationships with neighbors, relatives, and workplace colleagues seem to be much stronger in Kamikatsu than in the nation as a whole. Socializing with neighbors, friends and acquaintances, and workplace colleagues also far exceeds that in the entire nation. The group participation rate, excluding sports, hobbies, and leisure activities, is higher than the national average for community-based activities, volunteer activities, and NPO activities, respectively. The town is somewhat closed to the outside, as one may expect from a community of fewer than 2,000 people, but residents have a high level of trust in each other and a tight network.

Although not shown here, individual data also indicate higher levels of life satisfaction and subjective health, and lower levels of depression, plus higher levels of the general trust and networking known as social capital. Although a causal

Figure 3. Comparison of social capital

- Level, participation, and frequency have high rates
- Sample number: National 1599, Kamikatsu 632 (including 51 Irodori members)



association is not clear, these findings suggest some kind of relationship between social capital and the levels of life satisfaction, subjective health, and depression in residents of Kamikatsu.

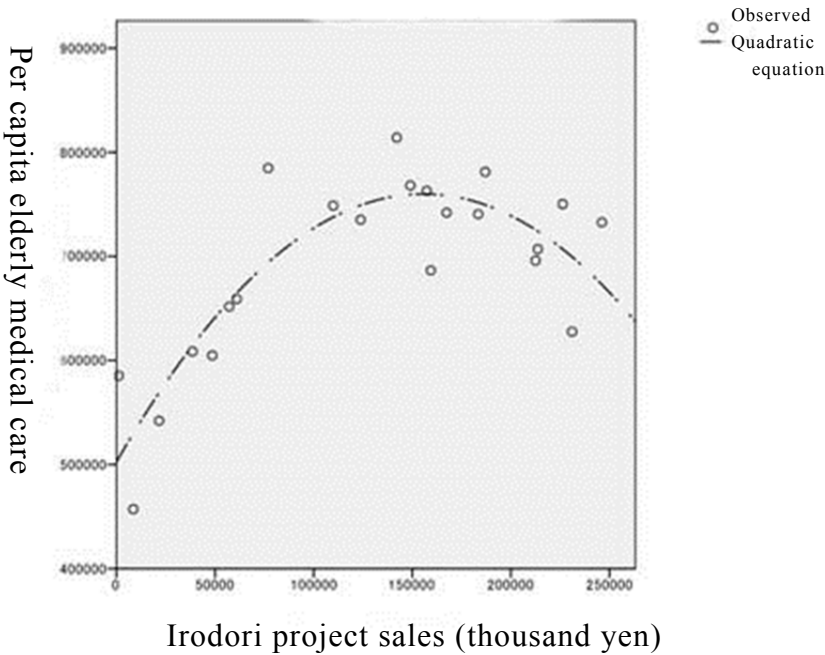
Does social participation improve health?

If we had annual data on social participation we could examine how they relate to health-related data, such as medical care expenditures. Unfortunately, the only data on trends in the elderly employment rate in Kamikatsu available are the data from the national census every five years. According to the Kamikatsu town office, no year-by-year data exist. Moreover, just under 200 town residents, or about 10% of the town’s population, participate in the Irodori project, so not all elderly people in the town are involved in the project.

However, looking at the sales from the Irodori project and the data for per capita medical expenditures for people aged 65 years and older for the past 23 years, provided by the town government, we find that an inverse U-shaped curve fits the scatter diagrams for both, as shown in Figure 4. In other words, per capita medical care expenditures for the elderly rose until the sales from the Irodori project reach 150 million yen. Then, after sales went beyond 150 million yen, these per capita medical care expenditures declined.

Although this does not demonstrate a causal association, more than

Figure 4. Irodori project sales and per capita medical care expenditure for the elderly in Kamikatsu
Per capita elderly medical care expenditure decreased when Irodori project sales exceeded 150 million yen



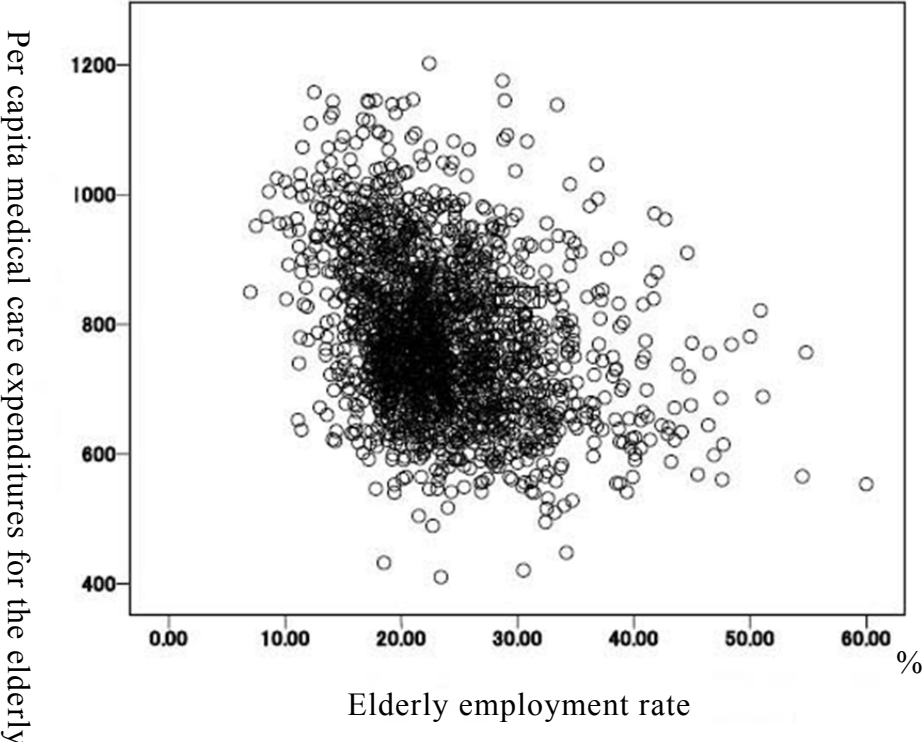
Adjusted coefficient of determination = 0.732
Prepared based on Tokushima Prefectural data

70% of the per capita medical care expenditures for the elderly in Kamikatsu can be explained by the changes in Irodori sales. However, both Irodori sales and medical care expenditures are nominal rather than real values, and as a result we are limited to an approximation. Moreover, this could also be seen as a result of pure economic factors rather than the social factor of social participation. However, interpretation of these results as consistent with Yokoishi’s hypothesis that social participation makes elderly people healthier is certainly plausible.

In the above we looked at the data for Kamikatsu, but, as seen in Figure 5, the relationship between employment rates for the elderly and per capita medical care expenses for the elderly in other cities, towns, and villages also show a clear decrease in elderly medical care expenses in cities, towns, and villages with high elderly employment rates. Of course, this could also be understood as showing that the people in those places work because they are healthy. However, a visit to Kamikatsu in Tokushima Prefecture holds much persuasive power for the opposite way of thinking: that people become energized by social participation (employment). Of course, readers will view this in the light of their own experiences.

Figure 5. Per capita medical care expenditure for the elderly and elderly employment rate: Scatter diagrams for individual municipalities

The dots indicate municipalities. Per capita medical care expenditures for the elderly are lower in municipalities with higher elderly employment rates



Source: Reference 3

● References

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