

Regional Revitalization Through Health Promotion of “People” & “Cities”

By Shinya Kuno



Author Shinya Kuno

Introduction

Japan will be seeing an accelerated expansion of its aging population and, at the same time, a decrease in the general population in the coming 10 years. With that, the diverse issues that Japan will face stemming from the health conditions of its people will become an even greater social concern, and it is important to address solutions to these concerns, both in terms of ensuring public safety (the social welfare system) and maintaining Japan's economic power. Health conditions are greatly impacted by lifestyle-related diseases, which often occur with the young and middle-aged generation. Thus it is vital that Japan overcome this challenge, but reality shows that its policies have not been working.

At the same time, Japan will continue to see an accelerated decrease in its population and will likely see a shortage in the working population. If it chooses not to address immigration policies as part of the solution in addressing labor shortages, then Japan will have no alternative but to rely on the increased presence of the elderly and of women in the workforce. Evidence shows that especially in the case of the elderly, maintaining a social role (paid work, volunteer work, etc.) keeps them healthy, and therefore there is a need to seek ways to allow individuals to choose to work after retirement if they so desire, under various employment opportunities in their local communities.

On the other hand, there has been a clear indication of a relationship between the way cities are built and the number of occurrences of lifestyle-related diseases in them, such as an increase in diabetes. Through years of our research and experience, we have learned that in order to establish health services that deliver results we cannot just rely on the use of Information Communication Technology (ICT), and that it is important to skillfully combine this with face-to-face elements in local communities. An aging society is a national challenge and thus needs to be addressed properly from a regional revitalization standpoint. Unless this is done, there is a possibility that it may become a big negative factor which could hit regional revitalization like a punch to the body.

This article looks at the relationship between regional revitalization and health care, based on case studies that we have conducted jointly with regional governments.

Challenges for Local Governments

As many are aware, it is scientifically proven that in order to overcome lifestyle-related diseases, people need to control the amount of exercise and food intake in their everyday lives. However, although there are numerous such measures and attempts being taken around the world, the reality is these have not been successful. Moreover, as the number of citizens aged over 75, or the latter stage elderly, increases in Japan, the important challenge becomes how to slow the pace of weakening in this cluster of the Japanese population and ensure that they live each day happily.

To address these challenges, multiple policy mixes are required, and at the core of these policy groups are, undoubtedly, prevention measures. For example, in our research group, we have introduced ICT to health services by introducing exercise and diet routines based on individual prescriptions formulated through scientific evidence, and these were provided to around 50 regional governments across Japan. In each of the local communities, a certain level of prevention of lifestyle-related diseases and lowering of medical costs have been achieved (for example, in Mitsuke city, Niigata Prefecture, medical bills were down by 100,000 yen per person annually).

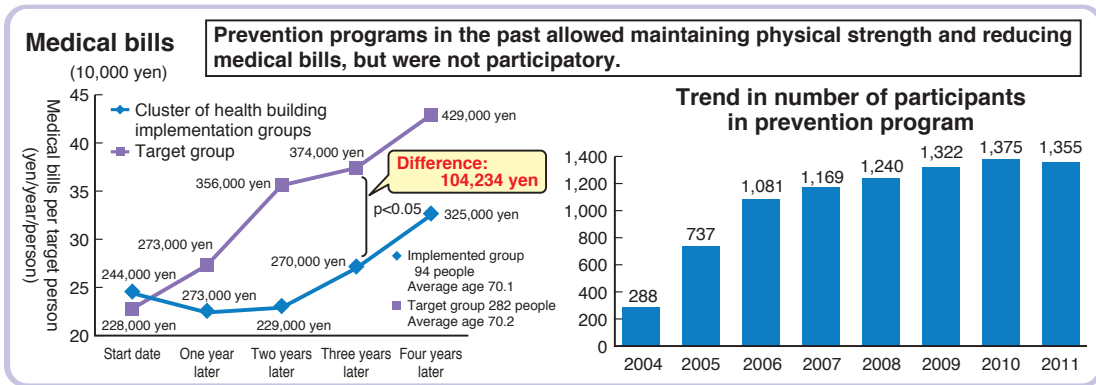
However, while there are local governments which have begun working on advanced measures, the scale of the programs is still small and the majority of the regional governments have not conducted assessments of the results. Unfortunately, therefore, these measures have not led to major policy shifts. While the majority of Japanese may adopt these health measures, there are still some 70% of adults who are indifferent to health building, and I therefore believe that policies to turn this group of indifferent individuals into a group of concerned individuals are necessary. In addition, policies to improve the health conditions of these individuals, while they remain indifferent to health building, are also necessary (*Chart 1*). The answer to the question “Is there such a handy policy?” is “Build a town that is walkable.”

Research Working Group on Smart Wellness City

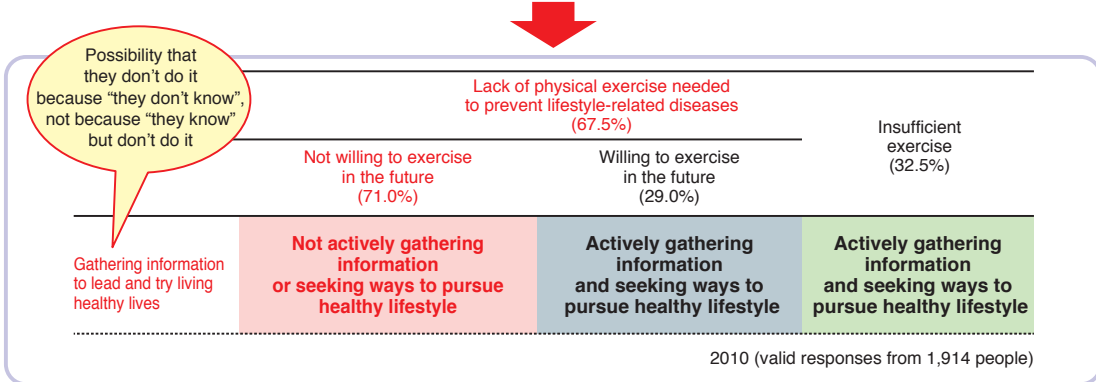
We believe that in order to achieve a town where people can walk easily, the heads of local governments must understand the need for promotion of scientific evidence-based policies, to build a system which acknowledges the importance of such policies. With this in

CHART 1

To prolong a healthy life expectancy, it is essential to address the cluster of people who are indifferent to health building through sports.



More than 70% are indifferent to health building.



Source: Kuno Research Group, University of Tsukuba

mind, the "Head of Local Governments Research Working Group on Smart Wellness City (SWC)" was established in 2009 with eight mayors from across Japan participating, and the University of Tsukuba serving as the secretariat (chairman: Mitsuke Mayor Tokio Kusumi). The working group initially did not aim to expand its size, and rather focused on communicating the results of the social experiments. But mostly through word of mouth, the number of heads of local governments wishing to participate has expanded, and the group currently has heads from 31 prefectures and 63 local cities and municipalities.

SWC has built a hypothesis that through comprehensive health-building policies with a scientific evidence-based town development mechanism at the core, the extension of a healthy life cycle can be achieved. To realize this hypothesis, building a "town" with the following four concepts has been envisioned: (1) a "town" that encourages its residents to live their daily lives on foot, or one whose main transportation method is walking: for this to happen, it needs to be compact and have a public transportation system conducive to walking; (2) a "town" where the elderly are not considered weak, but are able to naturally lead longer and healthier lives and can have a social role; (3) a "town" where appropriate health-building policies

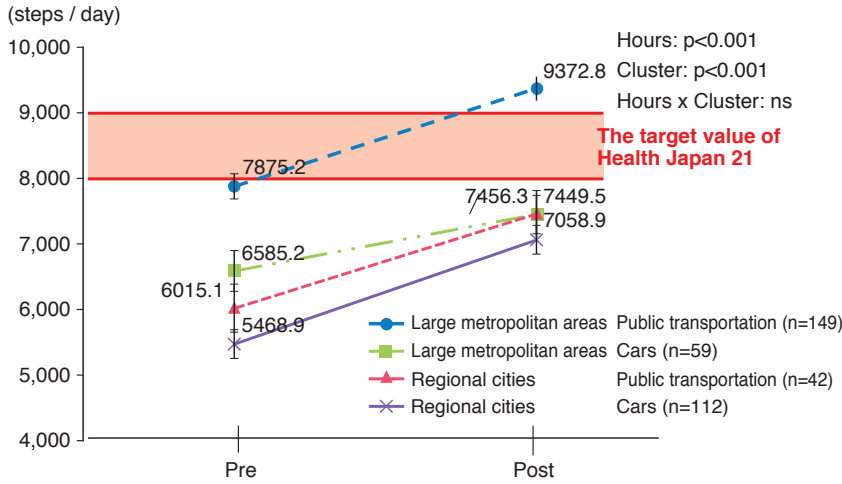
are undertaken based on the health and medical data of its residents; and (4) a "town" where adequate information is provided to promote a change in the behavioral patterns of its residents, including those who are less interested in health issues.

Relationship Between City Size & Physical Activities

We compared the size of large metropolitan areas (Osaka, Yokohama, etc) to regional cities (Takasaki, Tokushima, etc), looked at transportation methods that are prone to be affected by how the metropolitan area operates, and examined their impact on the physical activities of adults. The sample group was male employees of a pharmaceutical company with offices and branches in all of the capital cities in Japan's 47 prefectures as well as other major cities. Data was compiled and analyzed for 401 men (average age 46.3 ± 7.8 years) who underwent a year of health programs with the main focus being on exercising, and assessments were made to compare their data before and after the health programs. The size of the cities were categorized into two, based on the residency in metropolitan area or regional city of the sample person, with category one being a city with a population

CHART 2

Size of metropolitan areas & means of transportation versus physical activities



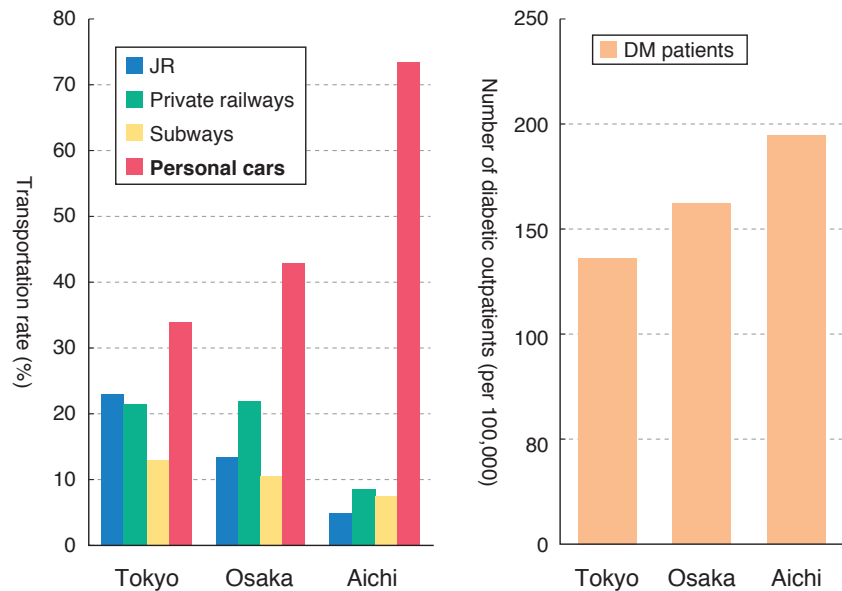
Repeated measures analysis of variance

Time: Pre-average total walking steps per day x post-average total walking steps per day

Source: Kuno Research Group, University of Tsukuba

CHART 3

Occurrence of lifestyle-related diseases connected not just to personal factors but also to surrounding region's environment



Source: Hiroyuki Tamemoto, *Obesity and Diabetics*, 8: 923, 2009

density of 3,000 people or more per square kilometer, and category two being less than 3,000 people per sq. km.

The results provided statistical data which showed the difference in physical activities between those living in category one and

category two, with average walking steps in the major metropolitan areas at 7,373 steps per day against 5,720 steps in regional cities (Chart 2). Some of the factors behind the difference between the two categories include: more people use public transportation to commute to work in metropolitan areas (71.6% versus 27.3% for regional cities); better access to public transportation from home in metropolitan areas (89.3% versus 79.5% for regional cities); better access to recreational facilities for exercising in metropolitan areas (68.4% versus 55.9%); sidewalks are well-maintained for pedestrians in metropolitan areas (83.1% versus 73.3%); and more people do not own cars in metropolitan areas (16.4% versus 1.9%).

The results were analyzed using a sample group of people within a similar income range and similar education level, and therefore they highlight the difference in the goals of urban infrastructure development. More specifically, they show the difference in the functionality of a city, between regional cities developed on the assumption that people will be moving by cars and metropolitan areas developed around public transportation systems. Therefore, if regional cities are planning to become a Smart Wellness City, there is a need to redevelop their public transportation networks.

The Need for SWC

Many local cities around Japan sprawl outwards more and more towards the suburbs, and as a result the high streets in their centers have become desolate, making them ironically a “city where you cannot live on foot”. To leave this situation untouched not only speeds up future pressure on the finances of regional cities, but will also increase the number of lifestyle-related disease patients. This will have a negative impact on the sustainability of the social welfare system, and both local governments and the Japanese people need to come to terms with this reality (Chart 3). Below are some of the challenges in building a “Walkable City” in the future.

(a) Cities around Japan are structured and built on the assumption that people move by cars. This is especially true in regional cities compared to big metropolises: the number of city center high street stores has decreased, retail stores are pulling out, and

CHART 4

Smart Wellness City

An SWC is a development that enables everyone living in the city to be healthy and happy — in other words, the creation of a city where “you can live and walk around”.



To create such a city:

1. The citizens need to accept a lifestyle which does not aim for convenience only
2. They need to support:
 - ① Creating a place with a lively atmosphere for social participation
 - ② Implementing policies to strengthen self-help (incentives and literacy)
 - ③ Facilitating pleasant walking spaces
 - ④ Supporting public transportation systems to avoid too much dependence on cars
 - ⑤ Consolidating areas within the city

Source: Kuno Research Group, University of Tsukuba

CHART 5

A healthy city that accommodates rapidly aging population

A healthy city is one that is built so that people walk in it naturally and unintentionally. For such a city, consolidation of constituent areas, creating walking spaces and public transportation systems, and revitalizing high street stores are crucial factors, among others. This future direction for cities is also expected to solve health challenges, as well as many other regional challenges. (2011 Kuno, 2012 Hiroi)

1970s



Photo: National Archives of Freiburg

Present (2011)



Freiburg in Germany banned cars from the city center 44 years ago, and has succeeded in creating a pleasant walking space by reorganizing the public transportation system, such as the light rail transit (LRT).

Source: Kuno Research Group, University of Tsukuba

many people are forced to go shopping for daily necessities in large retail stores in the suburbs. As a result, this is creating a cluster of shopping refugees, especially amongst elderly people.

- (b) Even if one wished to move around without relying on cars, public transportation networks become obsolete when cars are the regular means of transport, and realistically there are not

many substitute modes of transportation. But generally speaking, the use of public transportation results in very noticeable increased physical activities as compared to using cars.

- (c) Many citizens are used to a convenient lifestyle using their cars, and do not see the need or merit to change that lifestyle, and therefore a shift in perception of values is required.

To resolve these challenges, policies as described in *Chart 4* are necessary, and because these are policy groups that are inter-linked one cannot just pick one policy and promote that one alone. Rather, these policies need to be adopted as a package to build an appropriate single policy.

For Japan to overcome the decline in its population and its rapidly aging society, and also build a more healthy society, it is imperative that social technology that can address these issues be developed, and business, government, and academia need to collaborate to address these issues.

Conclusion

If the population decreases by a certain percentage in a sprawling residential area because the main means of transportation is cars, it will not only create a declining area with an increase in empty houses and shopping refugees but will also cast a heavy burden on the local government. Urban development requires time and money, and with this in mind the efficiency and speed with which this challenge can be addressed will weigh heavily on whether local governments are faced with more or fewer challenges 10 years from now.

In Europe, towns are being developed so that people are able to live in them largely by walking, but there is no sign of the same thing happening in Japan, and we need to consider why that is so very carefully (*Chart 5*). JS

Shinya Kuno earned a Ph.D degree from the University of Tsukuba in 1992. He was invited as a visiting fellow to the University of Pennsylvania School of Medicine and as an instructor at Tsukuba Advanced Research Alliance. He is one of the most successful university-oriented entrepreneurs in the field of health promotion, and has also served as a key committee member in many government agencies in Japan.