The Difference of Cost Savings of National Standardized Health Training Among Health Insurance Societies:

A Cohort Study Using "Wellness-Star☆" Health Insurance Claims Database

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Background

- Since 2008, Standardized Health Training (SHT) has been offered to members of Japan's national health insurance system along with Standardized Health Check-ups (SHC). SHT aims to help people at risk for metabolic syndrome prevent lifestyle-related diseases through behavioral changes.

- There are two types of SHT: Proactive Support (PS) and Motivational Support (MS). MS is designed to encourage people to reflect on their lifestyles and set goals. In addition to MS, PS is designed to provide continuous support by public health nurses.

Objectives

- We have previously demonstrated that the return on investment of SHT exceeds 1, using real world data owned by Nippon Life insurance company, Wellness-Star.[1]

- Although SHT is a standardized system, there are differences among providers, both the specific content and cost. These differences may affect the effectiveness of SHT.

- In this study, we estimated the differences in the effectiveness of SHT and the magnitude of those differences among health insurance societies.

Methods

- We used the Wellness-Star database, which includes claims data and information on SHC and SHT from multiple health insurance societies. The health insurance societies are insurers established by large corporations exclusively for their employees and their dependents.

- Individuals who received SHT and had a one-year baseline period prior to the month of SHC associated with their earliest SHT in the database (defined as the index month) were identified as the intervention group. Among these, only those who had matched individuals without SHT (control group) were included in the analysis.

  ➤ Matched individuals were selected based on gender, age (integer index age divided by 10), baseline medical expenses (log10 of baseline per member per month (PMPM) medical costs multiplied by 5), metabolic syndrome judgement (applicable, at risk, or other), and health training level assigned based on SHC results (PS, MS, information provided, or other).

  ➤ Matching was performed on a many-to-many basis. Weights were applied to ensure that the intervention and control groups had the same weighted numbers of individuals within each combination of these factors.

- During the one-year period from the index month onward (defined as the follow-up period), the PMPM medical costs were calculated for both the intervention and control groups within each health insurance society, separately for PS and MS.

- The difference in average PMPM during the follow-up period between these groups (defined as ΔPMPM) was calculated, and the distribution of ΔPMPM across health insurance societies was assessed.

Reference:

1. Ueda, et al. Return on Investment of National Standardized Health Training in Japan – a Cohort Study Using "Wellness-Star☆" Health Insurance Claims Database. ISPOR Europe 2024.

NISSAY   Wellness-Star☆

Results

- Of the 4,881,403 insured individuals, 175,263 received SHT. After matching, there were 128,803 individuals in the intervention group and 956,217 individuals in the control group (Fig. 1).

- ΔPMPM was calculated for 171 health insurance societies.

  ✓ The means and standard deviations of ΔPMPM across the health insurance societies were 2,608 JPY and 8,809 JPY for PS and 1,666 JPY and 8,144 JPY for MS.

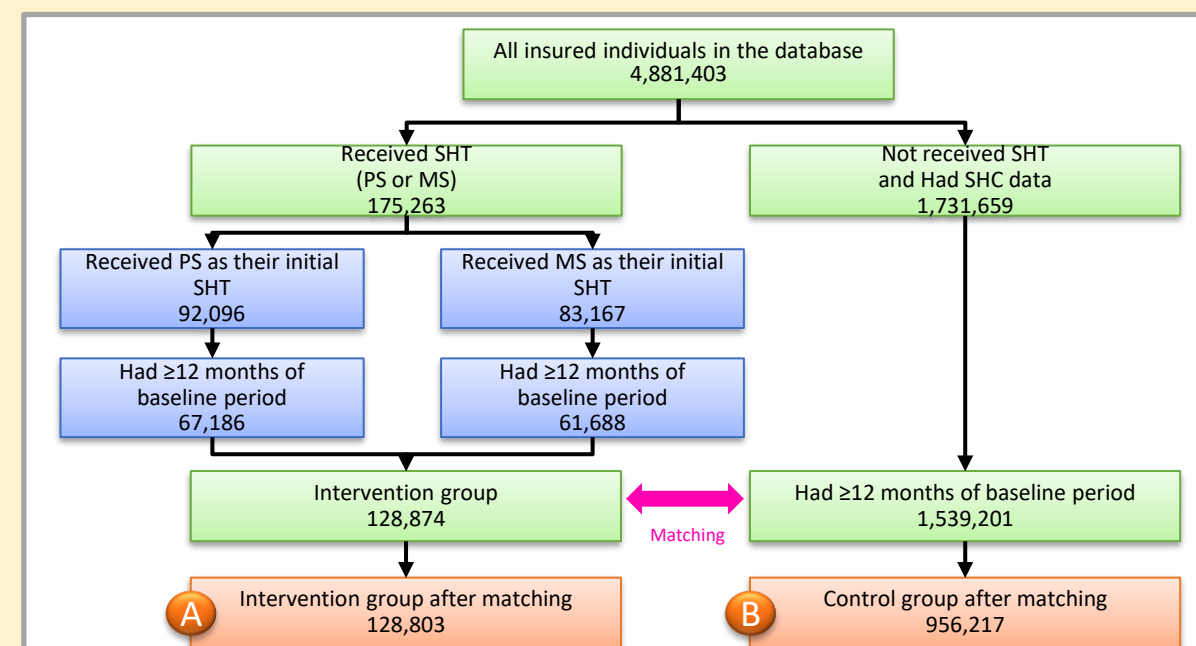 ✓ There was a wide variation in ΔPMPM across the societies. (Fig. 2).

Figure 1: Selection of individuals in the intervention group (A) and matched individuals in the control group (B)
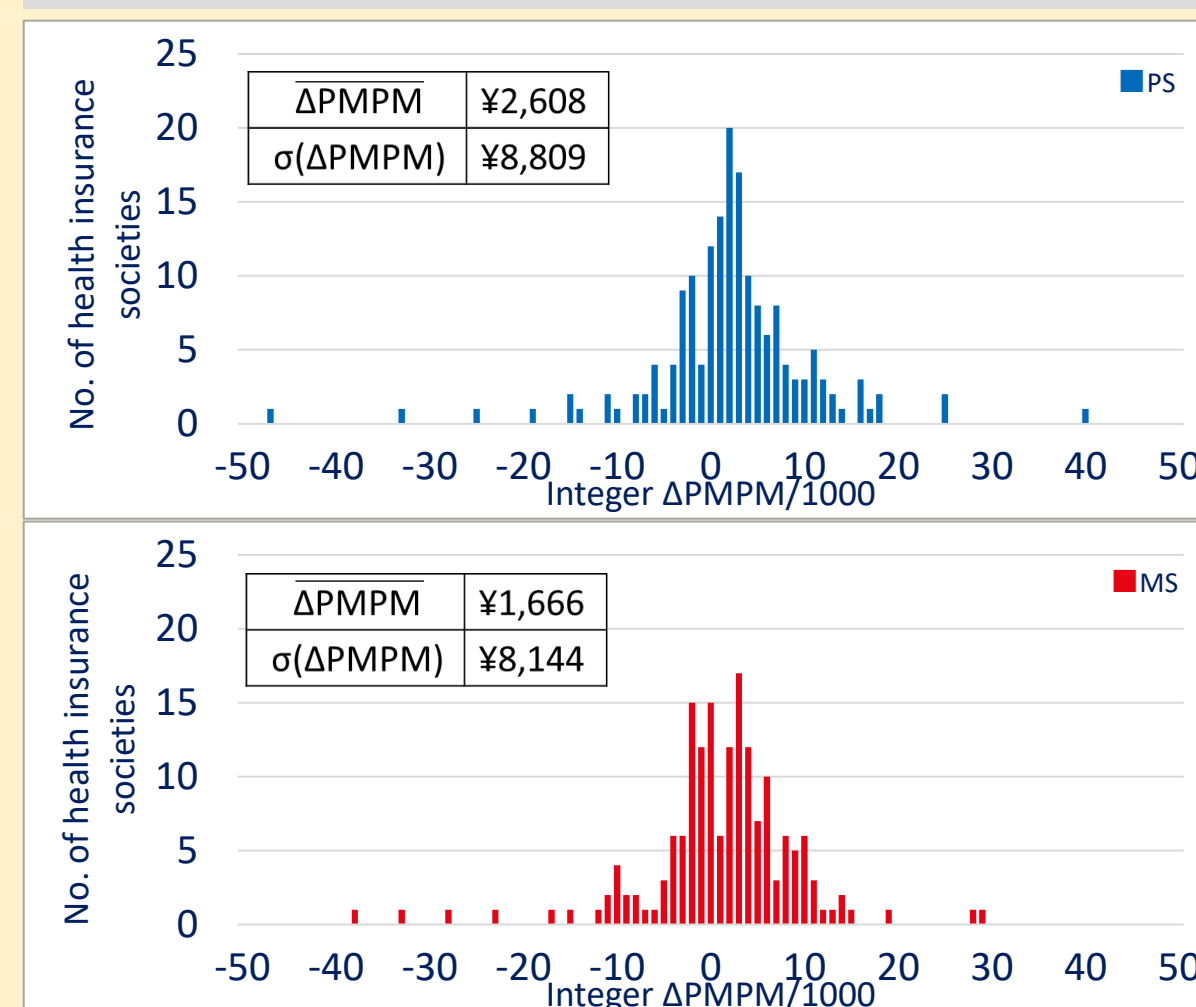

Figure 2: Distribution of health insurance societies by ΔPMPM

ΔPMPM = (average PMPM for control group)
        - (average PMPM for intervention group)

Conclusions

- This study indicated that the average reduction in medical costs for individuals who received SHT was positive in both PS and MS. However, the ΔPMPM varied widely across the health insurance societies, and some societies showed negative reductions in medical costs.

- Because SHT providers vary across health insurance societies, this difference in the effect of SHT may be associated with differences in SHT implementation across providers.