Comparative analysis of healthcare cost reduction across intensive support modalities in Japan's specific health guidance program: Using large-scale real-world data of employment-based health insurance claims(Wellness-Star☆ database)

EE228

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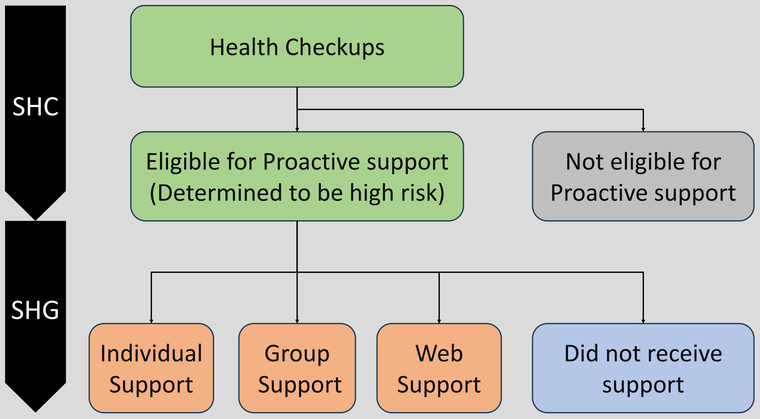
OBJECTIVES

- Since 2008, Japan's National Health Insurance system has implemented Specific Health Guidance (SHG), together with Specific Health Checkups (SHC), to prevent lifestyle-related diseases among individuals at risk of metabolic syndrome.
- Depending on their risk level, participants receive either Motivational Support (MS) or Proactive Support (PS), the latter of which includes continuous follow-up by public health nurses.
- PS is delivered in three formats: individual support, group support, and web-based support. However, the relative effectiveness of these formats remains unclear.
- Individual support offers a high degree of interactivity and is well suited to approaches such as Motivational Interviewing, but it is also costly.
- Group support provides less individualization, but interactions among participants, or peer effects, may enhance motivation.
- Using the "*Wellness-Star☆*" database provided by Nippon Life Insurance Company, which includes SHG, SHC, and medical expenditure data, we compared the effectiveness of these PS delivery formats.

Flow from health checkup to receiving support



METHODS

Study Design

This observational study used health insurance claims data. Claims records were retained from enrollment, such as company employment, until withdrawal, such as retirement or death.

Population

The Wellness Star database includes data from health insurance societies covering company employees and their family members. The study population comprised 5.1 million insured individuals from January 2014 to March 2025.

Inclusion Criteria

Individuals aged 40 to under 75 years who underwent a health checkup and were determined to require Proactive Support were included.

Exclusion Criteria

Individuals with any lifestyle-related disease, including diabetes, hypertension, or dyslipidemia, at the time of the health checkup were excluded. Those without continuous enrollment for 12 months before and 6 months after the checkup were also excluded.

Follow-up Period

The follow-up period covered 12 months before the health checkup and up to 60 months after it.

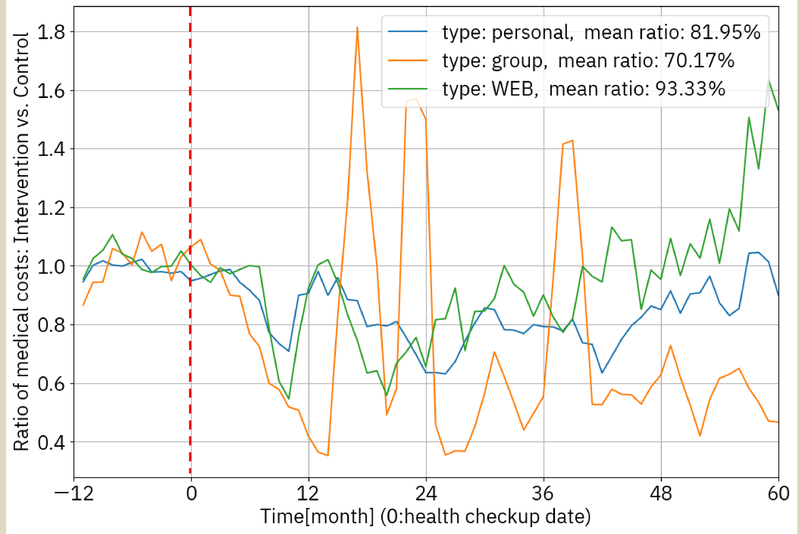
Calculation of Medical Expenditures

Claims data included ICD-10 disease codes and claims for procedures, treatments, and medications. Claim amounts were allocated to recorded disease names, and expenditures related to lifestyle-related diseases were tracked. Costs not directly attributable to a specific disease, such as inpatient meal charges, were prorated based on allocable costs.

Definition of Intervention and Control Groups

Among individuals requiring Proactive Support, those who received support were assigned to the intervention group, and those who did not were assigned to the control group. Each intervention participant was matched 1:N with controls based on age, sex, BMI, HbA1c, triglycerides, blood pressure, and baseline medical expenditures during the preceding 12 months.

RESULTS



Support	Itrv N	Ctrl N	Itrv / Ctrl [-6 to 0]	Itrv / Ctrl [0 to 60]
Individual	20,046	27,757	98.96%	81.95%
Group	1,153	5,939	101.64%	70.17%
Web-based	5,662	15,585	102.28%	93.33%

CONCLUSIONS

- Group support was suggested to be potentially more effective than individual support.
- Web-based support was relatively less effective.(93.33%)

Funding Statement:
This study was funded by Nippon Life Insurance Company.