Brief Report

Public views of health insurance in Japan during the era of attaining universal health coverage: a secondary analysis of an opinion poll on health insurance in 1967

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Significance for public health

In our best knowledge, this is the first study describing perspectives from beneficiary of health insurance in Japan when it reached universal population coverage. This secondary analysis of opinion poll on health insurance in 1967 found that people in Japan in the date still facing slight barrier to access medicine (26% felt medical-expense as heavy burden and 60% weren't willing to see doctor unless very severe illness) and high expectation for health insurance (60% satisfied with insured medical services and 80% were willing to pay premium). The strongest predictor for willingness to pay premium was scheme of insurance, probably due to difference of copayment. Japan reduced copayment for insured of National Health Insurance to make it equivalent to other scheme.

Abstract

While Japan's success in achieving universal health insurance over a short period with controlled healthcare costs has been studied from various perspectives, that of beneficiaries have been overlooked. We conducted a secondary analysis of an opinion poll on health insurance in 1967, immediately after reaching universal coverage. We found that people continued to face a slight barrier to healthcare access (26.8% felt medical expenses were a heavy burden) and had high expectations for health insurance (60.5% were satisfied with insured medical services and 82.4% were willing to pay a premium). In our study, younger age, having children before school age, lower living standards, and the health insurance scheme were factors that were associated with a willingness to pay premiums. Involving high-income groups in public insurance is considered to be the key to ensuring universal coverage of social insurance.

Introduction

As one of the targets in the *2030 Agenda for Sustainable Development*, universal health coverage (UHC) has been widely recognized as an essential pillar of a country's development.[1] UHC ensures that everyone can obtain essential high quality healthcare services without suffering financial hardships.[2] It has become widely accepted that health is essential in eradicating extreme poverty and promoting the improvement in wellbeing and that global society has a vested interest in investing in health to transform lives and livelihoods.[3]

Social health insurance (SHI) is one of the principal methods of health financing. Twenty-seven countries including Japan have established the universal coverage via this method.[4] And Japan is recognized as one of the countries that has succeeded in achieving universal health insurance over a short period with controlled healthcare costs.[5] The development of Japan's social health insurance has been divided into four periods to understand how Japan accomplished both egalitarian access and cost.[5] During the first two periods of before and after the World War II (1922-1945 and 1945-1961), the population covered by health insurance had expanded to cover the entire nation. During the third period (1961-1982), the 50% copayment rate was gradually decreased to 30%. During the fourth period, which is characterized by the increasing healthcare costs and decreasing economic growth (1982-present), the copayment rate eventually equalized for most enrollees after the rate was increased for individuals who had previously had low rates.

Many studies have compiled the experience of Japan, which include the assessment of the roles of major stakeholders such as the policy makers, government, local governments, responsible ministry (Ministry of Health and Welfare, at that time), medical service providers who are represented by the Japan medical association, mass media, and business community.[5-11] To the best of our knowledge, the perspective of the beneficiaries, *i.e.,* the people of Japan, remains to be assessed.

This study aimed to describe the public views regarding health insurance in Japan during the era of establishing UHC by conducting a secondary analysis of an opinion poll on health insurance in 1967. This opinion poll was conducted in the days just after the realization of the universal population coverage, and still working on the extension of insured medical services, and reduction of copayments.

Materials and Methods

We conducted a secondary analysis of an opinion poll on health insurance in 1967 using the data of *Iryo hoken ni kansuru yoron chosa, Ichiro Miyake (M134)* from the Social Science Japan Data Archive, Center for Social Research and Data Archives, Institute of Social Science, The University of Tokyo.

The Cabinet Office of the Japanese government conducted original survey from 24 to 28 June 1967 to provide the necessary information regarding policy decisions for health insurance. A representative sample of 3000 households was selected using a two-stage stratified cluster sample design. After dividing Japan into 10 regions, this stratification was achieved by separating each region into the Tokyo metropolitan, other six largest cities, cities with populations of ≥100,000, cities with populations of <100,000, towns, and villages to create 32 sampling strata. According to the population size of each stratum, 3000 household samples were allocated into the 32 strata. The number of sampling points was calculated for each stratum to create a sampling size of 14 households at each point. During the first stage, a total of 211 sampling

points were randomly selected. For the second stage, a complete list of households from the resident's cards served as the sampling frame while selecting households for enumeration. A representative sample of 3000 households was selected from the 211 sampling points.

Trained interviewers conducted face-to-face interviews using structured questionnaires. The survey items included the characteristics of the respondents (sex, age group, education, occupation, and evaluation of living standards as assessed by the interviewer), health insurance scheme, health-seeking behaviors, medical expense burdens, willingness to pay the premiums for health insurance, and satisfaction over a range of the insured medical services.

The schemes (insurers) for social health insurance in Japan have been categorized into two major groups: employment- and community-based insurances. At the time of the study, the insurers for employment-based insurance included following subgroups: (a) society-managed health insurance for employees working at large corporations and their dependents; (b) government-managed health insurance, currently called Japan Employees' Health Insurance Association, for employees of smaller companies and their dependents; (c) insurance for specific occupational groups such as seamen and daily laborers; and (d) mutual aid associations for public employees and others. For people who were not employees, such as farmers, foresters, and fishermen, and those who were self-employed, a National Health Insurance that was community based and managed by municipalities was established to cover this entire population. The revenue of medical expense in Japan consists from premium of health insurance, public funds, and patients' co-payments. Premium rate and co-payment rate were varied among the insurer. In general, those who enrolled in the National Health Insurance had to pay co-payment more than those who enrolled in employee's health insurance. The question regarding the willingness to pay premiums was only asked to people who answered regarding their premium costs in the previous question; however, data on cost itself was not included in the dataset.

We used the survey feature of the Stata MP 14.0 (StataCorp, College Station, Texas, USA) for analysis. Because data regarding the strata and clusters were missing in the available dataset, we could not estimate population statistics. Descriptive statistics of the study participants were calculated. A logistic regression model was used to compute the association of possible factors with an unwillingness to see a doctor unless the illness was very severe, the burdens of medical expense, the willingness to pay health insurance premiums, and satisfaction regarding the range of insured medical services using odds ratios and 95% confidence intervals. In a multivariable logistic regression analysis, independent variables that had a significant relationship with the dependent variables at a P-value of <0.05 were selected and included in the analysis.

As this study was based on a secondary analysis of the existing data in the public domain, we did not seek approval from an institutional review board.

Results

The dataset contained individual data from 2522 respondents, with a valid response rate of 84.0%. The reported reasons for non-response were change of address (47), long-term absence (80), short-term absence (226), address unknown (49), and others (20).

The characteristics of the respondents and the opinions regarding health insurance are listed in Table 1. Because the study was designed to collect opinions from householders, most of the respondents were male. Self-employed was the most common job title among the respondents (44%); followed by agriculture, forestry, and fisheries (24%); and labor worker (24%). Thirty percent of families had young children who were not yet in school and 29% of them had elder family member (aged >65 years). About half of the respondents were enrolled in the National Health

Table 1. Characteristics of respondents and their opinions on health insurance.

	N.	%
Sex		
Male	2317	91.9
Female	204	8.1
Age group (years)		
0-29	199	7.9
30-39	701	27.8
40-49	688	27.3
50-59	512	20.3
>60	421	16.7
Education		
University graduate	268	10.7
High school graduate	712	28.3
Junior high graduate	1317	52.4
Elementary graduate or less	215	8.6
Occupation		
Agriculture/forestry/fisheries	562	22.3
Other self-employed	626	24.8
Office workers	613	24.3
Labor workers	625	24.8
Others	95	3.8
Economic status		
Mid-high - High	547	21.7
Middle	1433	56.9
Mid-low - Low	537	21.4
Having children before school		
Yes	760	30.1
No	1758	69.7
Having elderly (>65 year old)		
Yes	743	29.5
No	1777	70.5
Health insurance schemed		
National Health Insurance	1268	50.3
Society-managed Ins.	466	18.5
Government-managed Ins.	363	14.4
Other employee Ins.	46	1.8
Mutual aid associations	313	12.4
No insurance and others	65	2.6
Burden of medical expense		
Heavy burden	676	26.8
Not but worried about it	934	37.1
Not at all	707	28.0
No answer	204	8.1
Satisfaction on insured services		
Sufficient	1524	60.5
Not sufficient	598	23.7
Neither (neutral)	399	15.8
Willingness to see doctor		
Yes, with a slight illness	629	25.0
No, unless a severe illness	1.62	64.3
Neither (neutral)	272	10.8
For whom answer cost of premium (n=1860): willingness to pay premium		
Yes	1532	82.4
No	138	7.4
Neither (neutral)	190	10.2

Insurance and 1.4% still answered that they were not insured, although the entire population had been theoretically covered by insurance since 1961.

Thirty percent of the respondents felt that medical expenses were still a burden, and >60% replied that they would not go to see a doctor unless their illness was severe. Among those 1860 respondents who responded regarding their premium costs, approximately 80% were willing to continue to pay the premiums to remain insured.

The results of the univariate and multivariate analyses of the willingness to pay premiums are presented in Table 2. Younger age, having children before school, lower living standards, and health insurance scheme were factors that were associated with a willingness to pay premiums. People who were insured by the National Health Insurance, which is the community-based insurance that was established to cover the entire population, were less willing to pay premiums. Lower economic status was associated with a willingness to pay premiums.

Table 2. Factors associated with a willingness to pay premiums.

	Willingness to pay premiums				Univariate OR[a]	P value	Adjusted OR[b]	P value
	Yes, n=1532		No, n=328					
	N.	%	N.	%				
Age group (years)								
20-29	122	88.4	16	11.6	REF		REF	
30-39	469	87.0	70	13.0	0.88 (0.49-1.57)	0.66	0.96 (0.52-1.76)	0.886
40-49	429	80.9	101	19.1	0.56 (0.32-0.98)	0.04	0.75 (0.41-1.39)	0.367
50-59	282	77.0	84	23.0	0.44 (0.25-0.78)	0.01?	0.66 (0.35-1.23)	0.190
>60	230	80.1	57	19.9	0.53 (0.29-0.96)	0.036	0.88 (0.46-1.68)	0.698
Education								
University graduate	177	86.8	27	13.2	1.06 (0.56-1.98)	0.867		
High school graduate	447	81.7	100	18.3	0.72 (0.42-1.22)	0.225		
Junior high graduate	787	81.3	181	18.7	0.70 (0.42-1.17)	0.171		
Elementary graduate or less	118	86.1	19	13.9	REF			
Occupation								
Agriculture, forestry, fisheries	441	90.6	46	9.4	REF		REF	
Self-employed (Others)	612	74.5	210	25.5	0.30 (0.22-0.43)	<0.001	0.63 (0.41-0.97)	0.038
Office worker	28	84.8	5	15.2	0.58 (0.22-1.59)	0.291	1.33 (0.46-3.82)	0.593
Labor worker	402	87.0	60	13.0	0.70 (0.47-1.05)	0.085	0.75 (0.48-1.17)	0.206
Jobless	5	83.3	1	16.7	0.52 (0.06-4.56)	0.556	0.77 (0.08-7.18)	0.819
Student	44	88.0	6	12.0	0.76 (0.31-1.89)	0.562	1.59 (0.60-4.18)	0.348
Number of family members								
≤2	172	81.1	40	18.9	REF			
3 or 4	689	84.9	123	15.1	1.30 (0.88-1.93)	0.188		
5 or 6	503	80.5	122	19.5	0.96 (0.64-1.43)	0.835		
≥7	167	79.5	43	20.5	0.90 (0.56-1.46)	0.678		
Having children before school								
Yes	501	86.2	80	13.8	REF		REF	
No	1028	80.6	248	19.4	0.66 (0.50-0.87)	0.003	0.80 (0.59-1.10)	0.165
Having elderly (aged >65)								
Yes	434	82.0	95	18.0	REF			
No	1097	82.5	233	17.5	1.03 (0.79-1.34)	0.822		
Living standard								
Mid-high-High	319	75.8	102	24.2	0.63 (0.48-0.83)	0.001	0.67 (0.50-0.90)	0.007
Middle	896	83.3	180	16.7	REF		REF	
Mid-low-Low	316	87.8	44	12.2	1.44 (1.01-2.05)	0.042	1.45 (1.01-2.10)	0.046
Health insurance scheme								
Society-managed Ins.	343	92.0	30	8.0	3.72 (2.49-5.57)	<0.001	3.05 (1.84-5.06)	<0.001
Government-managed Ins.	267	86.4	42	13.6	2.07 (1.49-2.96)	<0.001	1.63 (1.04-2.57)	0.034
Daily Laborers Ins.	28	93.3	2	6.7	4.56 (1.08-19.29)	0.039	3.30 (0.76-14.35)	0.112
Mutual aid associations	187	88.6	24	11.4	2.54 (1.62-3.98)	<0.001	2.36 (1.31-4.26)	0.004
National Health Insurance	706	75.4	230	24.6	REF		REF	
Burden of medical expense								
Heavy burden	427	82.3	92	17.7	1.06 (0.78-1.45)	0.703		
Not but worried about it	565	84.2	106	15.8	1.22 (0.91-1.64)	0.191		
Not at all	450	81.4	103	18.6	REF			
Range of insured services								
Not sufficient	371	78.8	100	21.2	REF		REF	
Sufficient or neutral	1161	83.6	228	16.4	1.37 (1.06-1.78)	0.018	1.32 (1.00-1.74)	0.046

[a]Odds ratio; 95% confidential interval in parentheses. [b]Adjusted for age group, occupation, health insurance scheme, and range of insured services.

Discussion

At the time when the original survey was conducted (1967), Japan was in the midst of rapid economic growth; however, GDP per capita was still 1228 USD.[12] Although Japan reached universal coverage of health insurance in 1961, the result of the survey showed one-fourth of the respondents still felt significant medical burdens and more than half of the respondents were not willing to see a doctor unless they were very ill.

In fact, the number of out- and inpatients per 100,000 people, which is often used as an access indicator, had still been increasing during the 1960s until it reached a plateau in the 1970s.[13] Therefore, how universal health insurance is accepted by people is crucial for political decision makers even though its benefits have already been proven, including growth promotion, income redistribution, and society stabilization.[14] This results of the survey conducted by cabinet office revealed universal health insurance was positively accepted by people as 80% of the population was willing to continue to pay their premiums for insurance.

In recent years, many countries have adopted UHC as a national aspiration. Supportive social movements have been crucial in advancing the UHC agenda.[15] One of the factors that facilitated the UHC process in Japan was high political commitment supported by the public opinion. An opinion poll is not only a simple tool to obtain the perspectives of the population but is also a strong tool for agenda setting and may be politically useful. In fact, copayment rate for both insured and their dependents had been gradually reduced and range of insured medical service had been expanded until raising health care cost and decreasing economic growth was recognized as major challenge for maintaining the scheme in 1980`s.

There are two major financial mechanisms for universal health coverage are the social insurance-based model and the tax-based model. For countries that adopted social insurance scheme for health financing, it is quite important to maintain the willingness to pay premiums, particularly in the informal employee sectors.[16] Japan established the National Health Insurance to cover these people; however, it was one of the factors associated with an unwillingness to pay premiums. Copayments for people who are insured by the National Health Insurance was reduced to 30% (including dependents) from 50% in 1968, probably encouraging them to pay their premiums.[5]

Various studies regarding the factors that influenced the willingness to pay health insurance have been conducted. Older age, female, poor economic status, and lower education level have been associated with a lower willingness to pay health insurance.[17] In our study, we found a similar tendency with respect to the age group, but an opposite tendency with respect to the economic status. People with poorer economic standings were more willing to be enrolled in a health insurance by paying their premiums, while people who were richer were not. How high-income groups, who can afford to pay expensive private health insurance premiums and who may not want to pay double for public health insurance with limited benefits, could be involved in public health is a key question for countries that want to newly introduce a social insurance scheme to achieve UHC.[11].

Satisfaction over the range of insured medical services was also found to be associated with the willingness to pay premiums. Deciding the proportion of direct health costs that are covered by the pooled funds and the range of healthcare services covered by those funds are critical decision points for UHC.[11] If the proportion of costs covered and/or the range of insured medical services were too limited, UHC would not function as an effective health protection. Conversely, if the proportion of costs covered and/or the range of insured medical services were too generous, UHC would not be financially sustainable.

There were some limitations to this study. Because the original survey was conducted more than 50 years ago, the sampling methods at the time were not very sophisticated. In addition, information regarding the stratum and clusters were missing in the dataset; therefore, we could not calculate the estimation in population.

However, to the best of our knowledge, this was the only dataset that we could use to analyze the publics' views of health insurance in Japan at that time. Because the data was collected from 2522 respondents in 211 sampling points nationwide, we believe that the results of this assessment somehow reflected the public's views, although it does have the abovementioned limitations.

Conclusions

As 80% of the respondents replied that they were willing continue to pay premiums to remain insured, health insurance was accepted by the Japanese population even with limited benefit packages and higher copayments in 1967. As higher economic status was associated with low willingness to pay premiums, involving high-income groups in public insurance is considered to be the key to ensuring universal coverage of social insurance.

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