The Impact of Illness on Employment and Earnings and Its Policy Implications

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Introduction
The National Health Insurance has been expanding its coverage with a view to helping households ease their economic burden of illness. Concerns remain, however, that social health safety nets as they stand do not sufficiently prevent impoverishment due to illness. Indeed, there is no public sickness allowance program intended to reduce the income loss that occurs when a worker becomes unable to continue working because of an off-duty illness or injury. Nor are there formal regulations that require private-sector employers to see to it that their employees, when ill or injured, get proper treatment and recovery without risking job or income loss.\(^2\)

A previous study conducted of the Korea Health Panel shows that the proportion of households with catastrophic health expenditure—meaning households that spend 40 percent or more of their disposable income on health—has risen in recent years, with the increase especially steep for low-income groups (13.5 percent of the first income quintile and 0.3 percent of the fifth income quintile)\(^3\). This suggests that catastrophic health expenditures may be a consequence of a combination of high health costs and low income.

This study examines the financial risks of ill-health and draws policy suggestions for reducing them. Of particular interest for this study are changes in economic participation and income in households with the head diagnosed with a severe illness or admitted to a hospital for 15 days or more.\(^4\)

This study bases its analysis on data drawn from the Korea Health Panel for years 2008–2016. The sample consists of adults aged 20–59 who had been employed in the year preceding their diagnosis with a severe condition. The illness-affected group then was compared to a control group.\(^5\)

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1 This is a summary version of “Impact of ill health on employment and household economic condition and its policy implication” (Su-jin Kim et al.), KIHASA (2018)

2 The Labor Standards Act stipulates the responsibilities of employees when it comes to on-duty injury or illness. Conditions and rules concerning off-duty injury or illness are subject to collective bargaining for firms with a union. Firms with ten or more permanent employees may include in their terms of employment clauses pertaining to paid sick leave or leave of absence.


4 “Severe disease” here refers to either cancer or cardio- or cerebrovascular disease. Useful though it is as a standard against which to measure the effect of an unforeseen health event, severe diseases, compared to other diseases, usually take a long time to treat and recover from. This is why we had to examine the effect of inpatient hospital stay as well. We chose “15 days” on two accounts. Firstly, an inpatient stay of less than 15 days is considered concerning a less-than-serious condition where choice on the part of the patient herself is thought to play a part in the decision for hospitalization. Secondly, the criteria of “15 days or more” was assumed to point to conditions that are serious enough to require an inpatient hospital stay of longer than the annual minimum of 15 days’ paid leave stipulated by the Labor Standard Act stipulates.

5 We selected the control group by using coarsened exact matching where the matching variables included sex, age (in the year before the illness), whether a household head or not (in the year before the illness), marital status (in the year before the illness), educational attainment (the year before then illness), household size (in the year before the illness), employment precariousness (in the year before the illness), individual income (in the year before the illness and in the year before that), gross household income (in the year before the illness and in the year before that), and employment status (2 years prior to the illness).
Individual-level changes in workforce participation and income

Among those economically active, individuals diagnosed as having a severe condition (the diagnosed group) saw both their economic participation and income decline in the year of diagnosis. Before diagnosis, the workforce participation rate of the diagnosed group was little different from that of the non-diagnosed. In the year of diagnosis, however, the diagnosed group had a 22.1-percentage-point decline in their workforce participation rate, compared to an 8.7-percentage-point decline for the non-diagnosed. The difference narrowed from 13.4 percentage points in the year of diagnosis to 6.3 percentage points two years after. The average individual income showed a moderate change for the non-diagnosed, while the diagnosed group saw their average income drop by 7.3 percent in the year of diagnosis. The income level for the diagnosed group approximated to the income of the non-diagnosed two years after their diagnosis and then dropped thereafter. Low income earners as a share of the diagnosed increased by 10.8 percentage points around the time of diagnosis. Over time, however, the proportion of low income earners declined.

[Figure 1] Workforce participation, income, and percentage of low-income earners after being diagnosed with a severe illness

Source: Author’s analysis of Korea Health Panel for years 2008–2016 (National Health Insurance Service; Korea Institute for Health and Social Affairs)

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6 Low income here refers to an earned income lower than the minimum wage. The value of monthly minimum wage is calculated by multiplying the prescribed monthly working time of 209 hours by the hourly minimum wage announced for each year by the Minimum Wage Commission.
An inpatient stay of 15 days or more was found to reduce economic participation. However, the effect was such that the economic participation rate, while having declined in the year of hospitalization, tended to increase in the year after.

For those who had been hospitalized, the workforce participation rate dropped by 17.9 percentage points in the year of hospitalization against the year before. The difference in the decline in the economic participation rate between the group with hospitalization and the group without hospitalization—12.7 percentage points in the first year after hospitalization—narrowed to 5.2 percentage points in the third year after hospitalization.

Those who had been hospitalized had a 4.2 percent decrease in their household income in the year of hospitalization compared to the year before, while the income of the group with no hospital stay increased by 8.8 percent over the same period. After a year following hospitalization, however, the income of the hospitalized group began increasing in a rate comparable to that of the non-hospitalized group. In the year of hospitalization, low-income earners as a share increased from the year before by 7.6 percentage points; the non-hospitalized had a 0.6-percentage-point increase in the share of low-income earners over the same period. The gap between the two groups—initially 7.0 percentage points—narrowed in the year that followed to 3.2 percentage points.

[Figure 2] Workforce participation, income, and percentage of low-income earners after hospitalization
Changes in household-level economic conditions
Households with the head diagnosed with a severe illness showed, in the year of diagnosis, a 0.3-percent decrease in equivalised earned income, while their non-diagnosed counterparts in the same year had a 1.3-percent increase, as against the year before. The gap between the two narrowed from 2 years after diagnosis onward.

In the year of diagnosis, compared to the year before, the proportion of households with an earned income below the poverty threshold (50 percent of the median disposable income) increased by 7.2 percentage points in the diagnosed group and decreased by 0.5 percentage points in the non-diagnosed group. Having narrowed somewhat in the year after diagnosis, the difference between the two groups again widened to an extent in the subsequent two years.

[Figure 3] Trends in household earned income and earned income poverty (below 50 percent of the median) after the household head was diagnosed with a severe condition

Households with the head diagnosed with a severe disease were found to have increased, as their earned income fell from the year of diagnosis onward, their reliance on such private sources of income as private insurance, real estate income and property income. Income from private insurance plans showed significant increases, which, as they lasted only temporarily, may be thought to have been due to the effect of fixed benefits associated with illness and accidents. The steep increase observed in real estate income in the first two years after diagnosis does not necessarily point to a comparably rapid growth in rental income, as income from real estate properties also include profits gained from buying and selling them. The amount of private transfers increased over the 3~4 years following diagnosis. Income from ‘other sources’ had a little rise in the first and third years after diagnosis, presumably an effect of severance pay. Job loss due to off-duty illness or injury is usually compensated for in part through such social insurance programs as unemployment benefits, which, as this study found, contributed little to income gains for the diagnosed group.
The earned income of households whose head had been hospitalized for 15 days or more declined around the time of hospitalization and then bounced back thereafter. The duration of impact on earned income was shorter in the case of the hospitalized group than in the case of the diagnosed group.

There was a mere 1.0-percent increase in equivalised household earned income for the hospitalized group at the point of hospitalization compared to the year before. The corresponding increase for the non-hospitalized group was 9.6 percent. The difference between the two groups diminished to an almost undetectable level from the first year after hospitalization onward. In the year of hospitalization, compared to the year before, the earned-income poverty rate rose by 5.3 percentage points in the hospitalized group and declined by 1.3 percentage points in the non-hospitalized group, but the gap narrowed over time.
As was the case with households with the head diagnosed with a severe disease, households with the head hospitalized saw an increase in non-earned income that was due mostly to increased private income. There was a salient increase in private insurance income around the time of hospitalization. In the year following hospitalization, both real estate income and property income increased for the hospitalized group. There were increases in other income components in the year that followed. Overall, however, both the magnitude and duration of the increase were less than in the diagnosed group.
**Concluding remarks**

Severe diseases lead to loss of work and income. If and when hit by disease or accident, people at individual and household levels tend to make use mainly of private resources. This is to say that when one suffers from a severe disease long enough without sufficient personal resources to cover living expenses, one is likely to go under the poverty line. This study found that loss of earned income due to ill health often leads to an increase in the use of other income sources, among which the one with the most increase was income from private insurance plans. In comparison, there was only small increase in cash income from social insurance and other public transfer programs.

Keeping workers safe from the vicious cycle of ill-health and poverty would require providing them with proper sick leave so they can regain their health in a timely manner. Equally necessary is ensuring that workers get compensated for the wage loss that may occur during their recovery. With the intention of reducing such social risks of illness as health cost burden, loss of earnings and loss of job, many OECD countries have increased the legal responsibilities of employers and broadened the availability of public sickness benefit programs, with most of these countries taking both approaches rather than either.

**Table 1** Sick leave and cash benefits for off-duty injury and illness in OECD countries

<table>
<thead>
<tr>
<th>With nationally mandated support for employee sick leave</th>
<th>With public cash support</th>
<th>Without public cash support</th>
</tr>
</thead>
<tbody>
<tr>
<td>28 OECD countries</td>
<td>Swiss, US, and Israel</td>
<td></td>
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<tr>
<td>Ireland, Mexico</td>
<td>Korea</td>
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Source: Su-jin Kim et al. (2018)

Policymakers could consider, on the one hand, mandating corporate employers to provide paid sick leave to their employees and, on the other, implementing a publicly-financed system that pays sickness benefits. Public sickness benefit programs can be conducive to reducing health inequalities, especially for those with precarious employment status who, when they fall ill, fail to make use of employer-based paid sick leave plans. Publicly-financed programs can be used also as a supplement for workers with conditions that medically require more days off than a standard corporate paid sick leave allows.