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論文の内容の要旨

The summary of this doctoral dissertation entitled ‘Catastrophic health expenditure and demand for health insurance in Nepal in the era of universal health coverage: implications for equity’ is as follows:

Purpose/Objective(s):
Built on the notion of equity, universal health coverage (UHC) ensures that; a) all people can access health care services of sufficient quality they need, and b) all people using the needed health care services do not suffer from financial hardship. Financial protection in health is attained when out-of-pocket payment (OOP), at the point of service use, does not expose the user to financial hardship. OOP results in catastrophic health expenditure (CHE) if it exceeds a specified threshold of household expenditure. UHC financial protection focuses on the reduction of CHE incidence by covering everyone with risk-pooling mechanisms, such as health insurance. Despite the call of UHC to protect households from CHE, OOP still makes almost half of total health expenditure (THE) in many low-income countries because

risk-pooling mechanisms in those countries are either absent or inadequate.
Nepal is a low-income country in South Asia. OOP finances nearly 48% of THE. As a response to the high OOP, Nepal has established different public health subsidies. However, due to the fragmented nature of those subsidies, necessary financial protection against CHE has not been achieved.
In 2016, Nepal established a health insurance scheme called social health security program (SHSP), based on family contribution, designed to achieve UHC by mitigating CHE. Progress towards UHC, for Nepal, involves SHSP coverage expansion. However, the SHSP coverage in SHSP- implemented districts is low (5%).
When health insurance is voluntary, such as SHSP, health insurance coverage depends on households' demand for it. Therefore, a better understanding of households' attribute that influences the voluntary purchase of health insurance is essential to improve coverage.
As Nepal paves its way to UHC, it is crucial for Nepal to have evidence on equity emphasized by UHC. Despite high reliance on OOP in financing treatment, and low enrolment statistics in SHSP, which would seem to call for analyses; there has not been any studies on equity implication on Nepal's path to UHC focusing on CHE and demand of health insurance. Thus, with an intention to fill the existing evidence gap in Nepal this thesis overarchingly aimed to access equity implications of CHE and demand for SHSP in Nepal by uniquely integrating findings of the following objectives;

i) To measure the nation-wide incidence, distribution, and determinants of CHE in Nepal.

ii) To estimate the coverage of SHSP by measuring demand for SHSP using the contingent valuation method/willingness to pay approach, and to examine determinants of demand for SHSP.

Materials and Method:
Two data sources were used for two empirical studies. The first objective was achieved by empirical study 1. The Nepal Living Standards Survey 2010/11 dataset (n= 5988 households) was used to determine the national incidence, distribution, and determinants of CHE. Health expenditure was defined as catastrophic if it exceeded 40% of the household's capacity to pay. Multivariable regression was used explore determinants of CHE. The empirical study 2 achieved the second objective. The primary data from the cross-sectional household survey (n=1220) undertaken in Kathmandu and Kanchanpur districts in 2017 was utilized. The Tobit regression was used to determine factors influencing households' demand for SHSP.

Results:
Based on the household-weighted sample, study 1 found that the cumulative incidence of CHE was 10.3% per month in Nepal. This incidence was concentrated in the far-western region and households in the poorer expenditure quartiles. Multivariable logistic regression revealed that households were more likely to face CHE if they had chronically ill member(s), higher burden of acute illness and injuries, elderly member(s), belong to the poor income strata, and located in the far-western region. In contrast, households were less likely to incur CHE when their household head was literate.
Study 2 found a substantial variation between regional demand for SHSP. Households in Kathmandu and Kanchanpur were willing to pay an average of NRs 3457.4 and NRs 2249.9, respectively. SHSP had a higher coverage in Kathmandu and a lower coverage in Kanchanpur. The Tobit regression and its marginal effect analysis showed that households were likely to state a higher demand for SHSP if they were from Kathmandu, headed by an educated head, professionally employed, high income, and had chronic illness episodes.
Findings of two empirical studies, when seen together, exhibit the following: first, SHSP may fall short in coverage to provide equitable financial protection in health to the population in

the far-west region where CHE is concentrated. Second, many households from the low-income strata that are likely to face CHE remain uninsured even after the establishment of SHSP. Third, health risk population had a higher demand for SHSP. High health risk individuals are those likely to be exposed to CHE. Finally, illiterate households that are at risk of incurring CHE had a lower demand for SHSP when compared with educated households.

Discussion:
Study 1 identified a high incidence of CHE in Nepal. CHE was disproportionately concentrated in the low-income household and households located in the disadvantaged regions. While, study 2 found that SHSP leaves behind the low-income households and households in disadvantaged district – Kanchanpur. The agenda for universality in financial protection cannot be attained if SHSP does not cover vulnerable population at risk of incurring CHE. Reluctance of Kanchanpur residents, poor households, and households headed by illiterate heads to voluntarily enroll to SHSP implies that SHSP should re-design the current institutional arrangements to cover those population as they are the ones at high risk of CHE.

Conclusions:
Two studies in this thesis identified that CHE incidence is high in Nepal and SHSP tends to leave behind population that are at high risk of CHE. It is crucial for SHSP to ensure equity and not to leave the disadvantaged population behind. These studies suggest that SHSP should reach the poor and disadvantaged population to ensure the equity as those are the populations not only likely incur CHE and but also likely to be missed out by SHSP coverage.

審査の結果の要旨
Abstract of assessment result

General comments

This thesis contributes to the current knowledge of the effects to health insurance coverage in Nepal which is one of the important topics in the country. One of the results from this thesis was based upon the analyses of secondary data from a population-based survey and published on an international journal. The second piece of results from this thesis came from the primary analysis of survey data organized by the candidate after going to great length. Both studies have been well organized in order to contribute to the Nepalese health policy, a country in which evidence has not been enough as of now in this area.

Assessment

The final examination was conducted on 28th February 2019, by the examination committee. The candidate gave an overview of her dissertation, addressed questions and comments by the committee members during the Q&A session. These mainly suggested for him/her to focus more on the effects of educational and historical perspectives in Nepal, and I believe the candidate addressed these concerns well throughout the thesis.

Conclusion
The final examination committee approved that the applicant is qualified to be awarded Doctor of Philosophy in Human Care Sciences.