

## Household Health-Related Expenditure and Poverty Impact of Chronic Hepatitis C Disease: Evidence from Malaysia

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### ABSTRACT

**INTRODUCTION:** Chronic Hepatitis C virus (HCV) infection can incur high out-of-pocket (OOP) health-related expenditure, which may result in impoverishment. **METHODS:** This study aimed to describe the annual OOP expenditure among patients with various HCV-related disease states (non-cirrhotic chronic infection, compensated cirrhosis, decompensated cirrhosis and liver carcinoma) and the poverty impact following healthcare expenditure. This study was conducted in University Malaya Medical Centre (UMMC) through face-to-face interviews. Data on various household OOP expenditure related to clinical management of HCV disease states were gathered. Poverty impact was calculated as difference in poverty headcount and poverty gap before and after disease-related healthcare expenditures. **RESULTS:** The mean (SD) annual OOP expenditure for the studied households (n=135) was RM 5892(10405). The highest mean (SD) annual OOP expenditure was by patients with liver carcinoma at RM10172(16041) and the lowest expenditure was by patients with non-cirrhotic chronic HCV infection at RM1811(2504). The four main drivers for OOP expenditures were traditional and complementary medicine, antiviral treatment, clinical procedures and hospitalisation. OOP expenditures caused 18(13.3%) households to experience impoverishment. The income shortfall below the national poverty line was RM7054. **DISCUSSION:** Patients with advanced HCV-related disease states had higher health-related expenditure compared to those with early disease states, with OOP expenditure leading to impoverishment in a number of households. As this study was conducted in UMMC the charges can be higher than other public hospitals and reflected in the findings. These findings can be useful to inform future policies to minimise the financial impact of chronic HCV disease on the patients and their households.

**KEYWORDS:** hepatitis C, household expenditure, Malaysia, Out-of-pocket (OOP), poverty impact

## How Do We Conduct Measles Supplementary Immunization Activities? Experience of Titiwangsa Health Office, Kuala Lumpur

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### ABSTRACT

Supplementary immunisation activities (SIAs) are vaccination campaigns that supplement routine vaccination programs to ensure high levels of immunisation coverage. The incidence of Measles in Titiwangsa has risen from 29 cases in 2016 to 51 in 2017. In 2018, a total of 61 positive measles cases were detected. To combat the rising number of cases, SIAs were piloted in Titiwangsa Health Office. It was conducted for six months period from September 2018 to Mac 2019 among children aged 6 months to less than seven years old in the areas identified with Measles Risk Assessment above 50%. Monovalent measles supplementary vaccination was given via three approaches namely (1) health clinics, (2) door to door, and (3) kindergarten and pre-school. Health clinic strategy considered children who came to the maternal and child health clinic for routine check-up and vaccination. Door to door strategy targeted the high-risk localities for measles includes cluster or outbreak areas, and high population density of foreigners and anti-vaccination groups. Community leaders were approached, and children surveys were conducted prior to SIAs. For kindergarten and pre-school strategy, all kindergarten or pre-school teachers were explained regarding the SIAs and consent forms were distributed beforehand. The vaccination was given to the children at kindergartens or pre-schools by our designated teams. SWOT analysis was done to identify the strengths and limitations of each strategy. The SIAs benefited the Titiwangsa Health Office by successfully reduced the number of measles cases as well as improved the immunisation coverage, especially in high-risk areas.

**KEYWORDS:** Supplementary Immunisation Activities, measles, measles vaccine, Titiwangsa Health Office