Socioeconomic Costs of Children <5 Years Admitted with Acute Respiratory Infections in Kuala Lumpur, Malaysia

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Background/Objective
There is a relative lack of data on the socioeconomic burden of acute respiratory infections (ARI) in developing countries, which contributes to low usage of preventive measures such as vaccines. We studied the socioeconomic burden of children <5 years hospitalised with ARI in a major teaching hospital in Kuala Lumpur, Malaysia.

Method
Children aged <5 years admitted with ARI to University Malaya Medical Centre between July 2013 and July 2015 were prospectively enrolled. Clinical and socioeconomic data were collected (including direct and indirect costs associated with admission) through interviews with carergivers during admission and one week after discharge. Hospital bed costs were taken as WHO-CHOICE (CHOosing Interventions that are Cost-Effective) cost estimates adjusted for inflation. Indirect costs were calculated as workdays missed by employed caregivers multiplied by daily gross national income (GNI) per capita.

Result
A total of 196 subjects were recruited. The male:female ratio was 1.8, median age was 1.0 years, and 82.1% were <2 years. The commonest clinical diagnoses were pneumonia (59.2%) and bronchiolitis (36.7%). Respiratory viruses were identified in 69 (35.2%), with RSV the most common. The median length of hospital stay was 4 days. Patients attending nursery or daycare (n=109) missed a median of 3 days (n=109), and caregivers missed a median of 3 workdays. The median financial cost for each case was USD 774, comprising median direct costs of USD 670 (including out-of-pocket costs of USD 183) and indirect costs of USD 100. This total cost represents 1.8 times the health expenditure per capita of USD 423 in 2013, and 7.4% of annual GNI per capita of USD 10,430 in 2013.

Conclusion
Considerable socioeconomic cost was incurred for children admitted with ARI in Kuala Lumpur. This data is a useful basis to study the cost-effectiveness of interventions against ARI, such as influenza and pneumococcal vaccines.