1To estimate patient preferences for attributes of hepatitis C virus (HCV) treatments and the effect of product attributes on stated medication adherence. METHODS: HCV patients, 18 years and older completed an online survey instrument that included 9 conjoint choice-format trade-off tasks. Subjects chose among pairs of hypothetical medication alternatives, each defined by chance that the medicine will eliminate the virus completely (EFFICACY), injection frequency, duration of flu-like symptoms after each injection, injection device (DEVICE), average number of days of flu-like symptoms missed each week (LOST WORK DAYS), probability of reversible hair thinning while on treatment (HAIR THINNING), and probability of developing clinical depression while on treatment (DEPRESSION). Subjects also answered 3 rating questions assessing how often people with HCV would miss or skip doses of medications with different characteristics. We used mixed-logit methods to estimate mean relative importance weights for each attribute. We used a Heckman two-stage model to estimate first the effect of subject characteristics the effect of medication attributes on non-adherence. RESULTS: A total of 1413 subjects completed the survey. In the model, number of flu days (FLU DAYS) was specified as injection frequency multiplied by the duration of flu-like symptoms after each injection. EFFICACY was the most important attribute. The remaining attributes were ranked in order of importance as follows: DEPRESSION, FLU DAYS, LOST WORK DAYS, HAIR THINNING, and DEVICE. Subjects with flu had significantly more flu days than those without. The number of flu days increased the likelihood of non-adherence. CONCLUSIONS: The results of this study demonstrate that efficacy is the most important medication attribute to patients but medication side effects like the number of flu days affect stated medication adherence. Reducing the number of flu days by reducing the frequency of injections or the duration of flu-like symptoms after each injection may increase medication adherence.

2Regional assessment of disease burden for measles using a clinical and health outcomes approach: A focus on lower-income countries

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OBJECTIVES: We developed a measles health outcomes model for lower-income countries to analyze the impact of different interventions as well as long-term investment decisions for potential innovations. METHODS: The clinical, HO, and CE literature for measles was evaluated, including methodological issues related to using disability-adjusted life years (DALYs) and/or quality-adjusted life years (QALYs) to assess disease burden. We constructed a descriptive clinical model of measles infection depicting clinical sequelae as a health outcomes tree. DALY and QALY weights were estimated from the literature. Morbidity and mortality were considered using two alternative approaches, one based on an aggregate estimate of measles-associated disability and the other based on a detailed consideration of these sequelae. Deaths from measles were assumed to occur at 2.5 years of age. Aggregate impacts were assessed using estimates from an infectious disease model applied to 6 developing countries between 2010–2029. RESULTS: A focus on DALYs in the measles global health literature led us to concentrate on the aggregate and QALY approach of DALY estimates. India and Nigeria were estimated to have the greatest avoidance in life years lost and morbidity-adjusted life years (DALYs avoided). QALYs gained due to reduced measles outbreaks, partly due to population size (e.g., >170,000 and >34,000 DALYs avoided, respectively; 3% disc. ret). For all countries, under various scenarios and discount rates for both approaches, the mortality effect dominated morbidity effects and accounted for approximately 96–99% of the overall DALY burden. CONCLUSIONS: Evaluating morbidity and mortality outcomes of measles in developing countries is complex and involves substantial uncertainty. LYG effects dominated disability effects in resource-limited countries, even with higher rates of complications from measles (50–80% of cases). Several challenges included limited clinical and economic data, unavailable country-specific health-state weights, and sparse HO data for vulnerable sub-populations, such as those with HIV/AIDS or that are malnourished.

3Measurement of symptoms and impact of influenza: Development of the symptom intensity and impact of influenza questionnaire (FLU-IQ)

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OBJECTIVES: The assessment of new agents designed to reduce symptom severity and impact of influenza requires accurate and valid assessment of the onset, duration and resolution of the illness within clinical trials. New agents have a range of potential effects on individual susceptibility and impact of the illness. A Patient-Reported Outcome measure including two scales (symptom intensity severity and impact on well-being) was developed for use across clinical settings. METHODS: Items were generated directly from subjects (n = 16) with influenza through Concept Mapping, confirmed by expert input (n = 7) and supported by the review of the literature.

4ANALYZING IMPATIENT DATA FOR HEPATITIS PATIENTS

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OBJECTIVES: Anti-tuberculosis (Anti-TB) treatment commonly results in adverse drug reactions (ADRs). This study examined the impact of ADRs on health-related quality of life (HRQOL) among patients with active TB. METHODS: HRQOL was assessed at baseline and three months of the treatment using the Short-Form-36 (SF-36). Information regarding ADRs to anti-TB treatment was obtained from electronic health charts. Linear regression was used to explore the impact of ADRs on the 3-month SF-36 outcomes. Logistic regression was performed to examine the correlation between baseline SF-36 scores and occurrence of ADRs during the first three months of treatment. Socio-demographic factors were adjusted for in all regression models.

RESULTS: A total of 89 patients with active TB were included. During the first three months of treatment, 21 (23.6%) patients developed major ADR(s) that led to discontinuation of treatment and/or additional interventions. When compared to those who never experienced ADRs, subjects who developed major ADR(s) scored significantly lower on three SF-36 subscales: physical functioning (33.77 vs. 46.89, p = 0.033), vitality (39.13 vs. 50.08, p = 0.004), and mental health (39.16 vs. 50.28, p = 0.025). Compared to those who had no recent ADRs, subjects who experienced recent ADRs (within the past four weeks) had significantly lower on three SF-36 subscales, and also the mental component summary score. Logistic regression analyses suggested that baseline scores from the six SF-36 subscales (physical functioning, role-physical, vitality, role-emotional, social functioning, and mental health) and the summary component scores were significantly associated with developing ADR(s) during the first three months of treatment. CONCLUSIONS: ADRs due to anti-TB treatment had substantial and profound impact on patients’ HRQOL. Poor baseline HRQOL might be associated with a higher risk of developing ADRs during treatment.