The economic impact of national particularities in the healthcare system – calculation for hospital-related costs from pooled DUET trials by German diagnosis-related groups

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Abstract

Superiority in virological suppression of etravirine (ETR; TMC125) + background regimen (BR; ETR arm) versus placebo + BR (placebo arm) in HIV-1-treated, treatment-experienced patients was shown in the DUET-1 and DUET-2 trials. Previous studies could demonstrate cost-effectiveness for direct costs in the ETR arm using specific national pharmacy sales prices. Additional cost-saving effects by lower hospitalisation rates have been found for the ETR arm calculating hospitalisation costs for the USA. In this study we investigate the effect of the lump sum-based reimbursement for hospitalisation by the novel German diagnosis-related groups (DRGs).

Methods

The German DRG system was used to estimate hospital costs for each patient based on individually recorded disease characteristics and diagnoses. Exclusively for psychiatric admissions, where DRGs are not applicable, the fixed daily rate was used (€241).

Results

One thousand, two hundred and three patients were included: 599 vs 604 in the ETR versus placebo arms. Numbers (%) of hospitalised patients totalled 105 (17.5%) vs 139 (23.0%) for the ETR arm. Reimbursements by German DRGs are comparable to USA for shorter stays (≤5 days), but up to six-fold lower for longer stays (up to 140 days).

Conclusions

At Week 48, ETR + BR provided a statistically significant reduction in overall hospitalisation rate and days hospitalised versus placebo + BR (8.9 ± 9.5* days, n=129) and therefore with an elevated risk of underfunding (8.1–8.5* days, n=125) and therefore with an elevated risk of underfunding (8.1–8.5* days, n=125) and therefore with an elevated risk of underfunding (8.1–8.5* days, n=125) and therefore with an elevated risk of underfunding (8.1–8.5* days, n=125).

Implications of the study

This 48-week analysis suggests there is both a clinical and cost benefit for the use of ETR as part of a HAART regimen in highly treatment-experienced patients.

The study suggests potential mean hospitalisation cost savings of more than €40,000 for patients in the ETR arm.

Hospitalisation cost savings are sensitive to the specific healthcare system: substantially higher cost savings (mean of €1.0–1.9 million) were expected in healthcare systems (USA and Germany pre-DRGs, respectively) that apply fixed daily rates of reimbursement.

HIV-related German DRGs (MDC 18a, n=248) were associated with longer mean duration of stay (13.2 ± 16.7* days) as compared with non-DRGs (8.8 ± 8.5* days, n=125) and therefore with an elevated risk of underfunding for the hospital.

Future cost analyses are required to calculate the actual per patient savings. Current data suggest decreases in hospitalisation rates observed when ETR is added to HAART may be decreased in the absence of cost differences in care.

*Estimated duration

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DUE1


DUET2