COST-EFFECTIVENESS OF INTERFERON-FREE THERAPY FOR HEPATITIS C IN GERMANY - AN APPLICATION OF THE EFFICIENCY FRONTIER APPROACH

Gissel C1, Götz C1, Mahlich JC2, Repp H1
1Hasso Plattner Institute, Potsdam, Germany, 2University of Applied Sciences in Potsdam, Germany

OBJECTIVES: The aim of direct-acting antiviral treatment was to revolutionize the therapy of chronic Hepatitis C infection. As of August 2014, two treatment regimens for genotype 1 infection received approval in the European Union. Sofosbuvir and Ribavirin for 24 weeks and Sofosbuvir and Simprevir with or without Ribavirin for 12 weeks. We aim to analyze the cost-effectiveness of both regimens in Germany. METHODS: We set up a Markov model with a lifetime horizon to simulate immediate treatment success and long-term disease progression for treatment naïve patients. The model analyzes both short-term and long-term costs and benefits from the perspective of the German Statutory Health Insurance. We apply the efficiency frontier method, which was suggested by German Institute for Quality and Efficiency in Health Care for cost-effectiveness analysis in Germany. RESULTS: The efficiency frontier is defined by dual therapy and first generation direct-acting antiviral Boceprevir, yielding a maximum of 1,447.69 per additional percentage point of sustained virologic response gained. Even without rebates, Sofosbuvir/Simprevir is more effective and less expensive than Sofosbuvir/Ribavirin. CONCLUSIONS: In addition to higher sustained virologic response rates, new direct-acting antivirals save long-term costs by preventing complications such as liver cirrhosis, hepatocellular carcinoma and ultimately liver transplants, thereby offsetting part of higher drug costs. Our findings are in line with the guidance published by German Society for Gastroenterology, Digestive and Metabolic Diseases, which recommends Sofosbuvir/Simprevir for interferon ineligible or intolerant patients.

LONG-TERM COST PER SUSTAINED VIROLOGIC RESPONSE IN PATIENTS WITH GENOTYPE 1 CHRONIC HEPATITIS C VIRUS TREATED WITH VIEKIRA PAK +/- RIBAVIRIN AND STANDARD OF CARE IN THE US

Virabek S1, Johnsson H1, Saab S1, Jury D2, Marx S1, Sanchez Y1, Wang A3
1Medicus Economics, LLC, Milton, MA, USA, 2Payer Liver Institute, Los Angeles, IL, USA

OBJECTIVES: This study reports the long-term cost per sustained virologic response (SVR) for Viekira Pak, partipating in the DASL study, and without ribavirin and standard of care in the US, including sofosbuvir plus simprevir (SOF+SMV) and sofosbuvir plus peg-interferon and ribavirin (SOF+PR), among patients with genotype 1 (GT1) chronic hepatitis C virus (HCV) infection. METHODS: A Markov cost-effectiveness model was used to estimate the long-term cost of HCV. The analysis modeled independent cohorts of GT1 HCV patients over a lifetime horizon with annual cycles from a US payer perspective. Liver disease progression was assessed based on previous natural history model. Direct medical costs (in 2014 prices and discounted at 3% per year) were obtained from the published literature. Efficacy and safety data were obtained from published clinical trials. SVR rates were stratified by patient treatment history, cirrhosis status, and sub-genotype, where available. Long-term cost per SVR for a patient segment was calculated by dividing total cost of HCV over patient's lifetime by the mean SVR rate in that patient segment. RESULTS: The long-term cost per SVR with Viekira Pak ranged from $1,328,779 to $2,972,619 in GT1 non-cirrhotic patients (12-week), $1,524,748 (12-week) to $2,615,520 (24-week) in GT1 cirrhotic patients, $94,433 to $141,413 in GT1a without ribavirin and standard of care in the US, including sofosbuvir plus simprevir (SOF+SMV) and sofosbuvir plus peg-interferon and ribavirin (SOF+PR), among patients with genotype 1 (GT1) chronic hepatitis C virus (HCV) infection. CONCLUSIONS: We set up a Markov model with a lifetime horizon to simulate immediate treatment success and long-term disease progression for treatment naïve patients. The results of this study suggest that the use of Viekira Pak is a clinically and economically viable strategy for GT1 HCV treatment.

USING THE MEDICARE CLAIMS DATABASE TO UNDERSTAND THE ECONOMIC BURDEN OF LIVER DISEASE: A CASE STUDY MIBOPHASE ENCEPHALOPATHY trish W1, Saynisch P1, Mailow PJ1, Faillen L1, Gunnerson C2
1CTI Clinical Trial and Consulting Services, Raleigh, NC, USA, 2Harvard University, Cambridge, MA, USA

OBJECTIVES: Hepatic encephalopathy (HE) is a major complication of liver disease and is becoming more problematic in an aging population with cirrhosis. Medicare is a United States (US) government-sponsored health insurance program that guarantees access to healthcare for all individuals 65 or older, or who are younger with disability. The objective of this study was to estimate the annual healthcare expenditures of patients with HE from a Medicare perspective. METHODS: Inpatient, Outpatient, and Master Beneficiary Research Identifiable Files (RBIFs) from the Medicare 5% Sample were utilized for this study. Medicare 5% Sample is a nationally representative sample of healthcare claims data for the Medicare population. RBIFs include procedure codes, diagnosis codes, reimbursement, and demographic information. To be included in the study, patients had to have a primary diagnosis code of HE during an inpatient hospitalization. Healthcare utilization/expenditures for inpatient (IP) and outpatient (OP) procedures for the calendar year 2012 were estimated overall and by age cohorts: ≤52, 53-67, 68-72, 73-77, 78-82, 83+. RESULTS: A total of 1,112 patients were identified with HE in 2012 (47% were male). 27% of the patients were ≤62 years of age while 11% were 83 or older. The most common chronic comorbid condition was hypertension (75%) and 41% had renal failure. The total mean number of visits and hospital days presented a mean number of 4 (range 1.10 to 11.60) visits and 4.4 hospital days (range 1.10 to 11.60) respectively and varied across age cohorts 14.6 in the ≤62 cohort to 10.7 in the 83+ cohort; p<0.0001. For patients who had an IP visit the mean length of stay was 5.9 days. Mean inpatient expenditures ranged from $25,364 to $58,625 with the highest expenditures in the ≤62 cohort. CONCLUSIONS: HE is a growing problem in the US and becoming increasingly costly condition for the Medicare population.

GASTROINTESTINAL DISORDERS - Patient-Reported Outcomes & Patient Preference Studies

PREDICTORS OF HEALTH-RELATED UTILITY WEIGHTS IN A CONSECUTIVE COHORT OF REAL-WORLD CROHN'S DISEASE PATIENTS IN ISRAEL

Greenberg D1, Vardi H1, Schwartz D1, Friger M1, Sarid O1, Sliomon-Vero V1, Odes S1
1Ben-Gurion University of the Negev, Beer Sheva, Israel, 2Yasko Medical Center, Beer-Sheva, Israel

OBJECTIVES: The approval of direct-acting antivirals for Interferon-free treatment of Hepatic encephalopathy (HE) is a major complication of liver disease. OBJECTIVES: To study the variations in self-reported health status of mainland Chinese patients with chronic hepatitis B (CHB) prior to initiating nucleoside analogues (NUC) treatment. METHODS: The evaluation focused on three items of the DSQ. Psychometric data were analyzed against the FDA guidance and included item level analysis as well as score validation including floor/ceiling, item discrimination, construct validity and known group's method, test-retest reliability, responsiveness, and calculation of minimally important differences (MID). RESULTS: Patients were 69.6% male, 62% age ≥18, 95% white. Test-retest reliability was strong (r=0.90 for all items; range 0.70-0.96). There were strong item discrimination with 98.1% of patients indicating dysphagia in the quartile of DSQ scores. Physician's global ratings of severity and EoE symptom scores were consistent with monotonically increasing DSQ scores. Anchor-based MIDs were 6.5 “a little better” and 13.5 “much better”, respectively. CONCLUSIONS: The DSQ is a reliable and valid measure able to clinically discriminate patients along the continuum of dysphagia severity.

Self-reported Health Status of Patients with Chronic Hepatitis B in China

Liu C1, Zhang M2, Zhang S3, Shang M4, Han T5, Guo Y1, Wang X1, Liu B0, Q1, Wang X3, Jia F1
1Sao Suei Hack School of Public Health, National University of Singapore, Singapore, Singapore, 2The Sixth People’s Hospital of Shanghai, China, 3Shenyang, China, 4Hepatology Hospital of Jinlin Province, Jinlin, China, 5Yuen Ham Provincial People’s Hospital, Zhengzhou, China, 6Tiangiang 3rd Central Hospital, Tianjing, China, 7The 3rd People’s Hospital of Tianjin, Tianjin, China, 8Bristol-Myers Squibb, Shanghai, China, 9GCP Clinical Plus Co., Ltd., Beijing, China, 10Beijing Friendship Hospital, Capital Medical University, Beijing, China

OBJECTIVES: To study the variations in self-reported health status of mainland Chinese patients with chronic hepatitis B (CHB) prior to initiating nucleoside analogues (NUC) treatment. METHODS: The evaluation focused on three items of the DSQ. Psychometric data were analyzed against the FDA guidance and included item level analysis as well as score validation including floor/ceiling, item discrimination, construct validity and known group's method, test-retest reliability, responsiveness, and calculation of minimally important differences (MID). RESULTS: Patients were 69.6% male, 62% age ≥18, 95% white. Test-retest reliability was strong (r=0.90 for all items; range 0.70-0.96). There were strong item discrimination with 98.1% of patients indicating dysphagia in the quartile of DSQ scores. Physician's global ratings of severity and EoE symptom scores were consistent with monotonically increasing DSQ scores. Anchor-based MIDs were 6.5 “a little better” and 13.5 “much better”, respectively. CONCLUSIONS: The DSQ is a reliable and valid measure able to clinically discriminate patients along the continuum of dysphagia severity.