OBJECTIVES: To perform a cost-utility analysis of fidaxomicin for the treatment of severe CDI patients in Poland. METHODS: The Markov model, "Fidaxomicin cost-effectiveness model", which was first constructed originally for similar study in UK, was modified and used for this analysis, while imputed data were replaced with Japanese data, as far as possible. Various health states, such as non-cirrhotic hepatitis, sustained virological response (SVR), compensated cirrhosis, decompensated cirrhosis and hepatocellular carcinomas were incorporated to the model. Analyses were conducted for 4 scenarios, classified by treatment history (naive/experienced) and eligibility for interferon. Peg-interferon alpha with ribavirin was found to be more cost-effective than sofosbuvir in patients who were interferon-inexperienced, and a PPR was selected for those who were eligible for interferon. Probability of SVR was derived from clinical trials conducted in Japan. Further transition probabilities and utility scores of each health state were obtained from published data in Japan. Cost data for interferon-alpha and ribavirin were derived from national drug tariff (2014). For sofosbuvir, average European price was adopted since it was not yet approved in Japan. Other cost data, such as costs related to health states, were mainly obtained from claim data, provided by JMDC (Japan Medical Data Center). Inc. Time-horizon was set to lifetime. Costs and outcomes were discounted with 2% per annum, according to Japanese guideline. RESULTS: For interferon-unsuitable patients, sofosbuvir was dominant to no-treatment. Fidaxomicin would save overall costs of JPY 1,170,000 and JPY 522,000 per QALY gained, respectively. For interferon-suitable patients, sofosbuvir would increase cost-effectiveness compared to vancomycin, resulting in cost savings of JPY 905 and 205 per QALY gained, respectively. Conclusion: Fidaxomicin was dominant compared to vancomycin, resulting in cost savings of PLN 905 and 470,000 per QALY gained, respectively. CONCLUSIONS: Fidaxomicin was considered to be cost-effective for treatment of severe-2 CDI patients in Poland.