1. Background

Hepatitis C virus (HCV) is one of the most common blood-borne infections in the United States (US), affecting approximately 1.8% of the population (4 million people)\(^1\). Among all patients infected with HCV, approximately 20% develop cirrhosis of the liver\(^2\), which leads to a substantial consumption of health-care resources and associated costs. Costs with aging of the HCV population and increasing costs for treatment, chronic liver diseases from HCV is expected to present a substantial economic burden over the next 10 to 20 years\(^3\). Despite the potential cost implication managing care systems in the US, HCV-related medical costs have not been widely investigated using administrative claims data.

2. Objective

To analyze retrospective insurance claims to document diseasespecific resource utilization and costs associated with chronic HCV among managed care enrollees.

3. Methods

Study Design

The study involved a retrospective analysis of longitudinal insurance claims from a large US health plan.

Data Source

The data source was the Integrated Health Care Information Services (HCIS) database containing medical, outpatient, physician, and pharmacy claims from a national sample of 30 managed care health plans covering approximately 38 million lives from 1997 to 2006. We used the five most recent years (2002–2006) for our analysis.

Inclusion Criteria

Criteria for inclusion in the study were as follows:

- Primary or nonprimary diagnosis of chronic HCV (International Classification of Diseases, 9th Revision, Clinical Modification [ICD-9-CM] codes 070.44, 070.54, 070.70, or 070.71)
- No evidence of hepatitis B virus (HBV)
- Continuous plan enrollment for at least 6 months prior to and at least 12 months following the first observed diagnosis (index date)

Outcome Measures

Outcomes measured in the study included the following:

- Demographic characteristics of patients diagnosed with HCV
- Number and frequency of HCV-related surgeries, diagnostic procedures, and laboratory tests
- Per-patient utilization and charges for HCV-related encounters during a period of 12 months following patients' index diagnosis, stratified by cost category: - Inpatient stays
- Skilled nursing facility (SNF) stays
- Emergency department (ED) visits
- Physician office visits
- Durable medical equipment and home health visits
- Other outpatient/ancillary care
- Laboratory tests
- Pharmaceutical prescriptions

4. Results

Patient Characteristics

- A total of 20,662 patients with a diagnosis of chronic HCV met all study inclusion criteria
- Patients were predominantly male (81%), and the average age was 49 years
- Approximately half of the sample size was between the ages of 45 and 54
- More than 55% of the study sample was from the Northeast region
- The most common types of insurance plans among the study population were health maintenance organizations (HMOs) and preferred provider organizations (PPOs)
- The average Charlson Comorbidity Index (CCI) score was 0.95

5. Limitations

- Patients were identified based on ICD-9-CM codes that, if recorded inaccurately, may have caused some patients to be inaccurately identified as having HCV. The validity of the results therefore depend on the accuracy of record keeping among providers claiming in the HCIS database
- The analysis period covers only 12 months. Chronic HCV is likely to have a cost implication to third-party payers across the 12-month period. Therefore an analysis that spans multiple years would be ideal for estimating the long-term cost impact of chronic HCV

6. Conclusions

- Chronic HCV is a costly condition that presents significant economic burden to managed care payers
- Pharmacy and inpatient hospitalization costs are the primary drivers of HCV-related costs

References

4. D1, Davis KL1, Medjedovic J2, Beam C3, Rustgi VK4
5. Presenting at the ISPOR 13th Annual International Meeting May 5, 2008, Toronto, Ontario, Canada