



Health Services Utilization and Costs of Hepatitis C in Medicaid: Florida

Chronic hepatitis C (HCV) is a devastating viral disease that kills more Americans each year than HIV/AIDS. It is the leading cause of cirrhosis and liver cancer and is the most common reason for a liver transplant in the United States.^{i, ii} Until recently, the only available treatment for HCV was a 48 week course of combination pegylated interferon/ribavirin which often came with debilitating, flu-like side effects and only cured about half of patients. The past couple years have seen a transformation in treatment with the introduction of a new generation of HCV medicines which provide cure rates upwards of 90% with minimal side effects and in as little as 8 weeks.

The objective of this analysis is to derive and report state-specific estimates of the health services utilization and costs of Medicaid recipients with chronic HCV prior to the availability of new generation medicines. This information will be of significant value to policymakers in understanding the burden of illness of HCV and the role of these new medicines.

The findings provided here demonstrate the significant economic burden of treating the HCV Medicaid population and the opportunity for newer and more effective cures to avoid much of these costs with greater efficacy than previously available treatments. Prior to the availability of new HCV medicines, health services utilization and costs associated with treating HCV-infected Medicaid enrollees were substantially more than enrollees without the disease. Those who were treated with older generation treatments were also incurring significant prescription drug costs, much more than HCV enrollees who were not treated. Interestingly, even with cure rates of just 50% with older treatments, those who were treated with these medicines still had significantly less inpatient and outpatient service costs—suggesting the high cure rates provided by new generation medicines would have a substantially greater impact on reducing the costs of these services. Assessments of the value provided to the Florida Medicaid program by new generation HCV medicines should take into account that some spending on these medicines will replace program spending on older, less effective medicines and health services previously associated with treating HCV and its very expensive clinical consequences.

Results

Based on claims data for fee-for-service Florida Medicaid recipients prior to the availability of new HCV treatments in 2010:

Total annual healthcare spending averaged \$30,340 for Medicaid recipients with HCV compared to \$12,892 for those without HCV. Inpatient and outpatient costs, as well as hospitalizations, were also higher for recipients with HCV. The table below provides additional detail on costs by service type. Total Medicaid costs are broken down into drug and non-drug costs. Non-drug costs are further broken down into inpatient, outpatient, and other costs.

Table 1. Mean Health Services Utilization and Costs among Medicaid Recipients in Florida (2010)

	Medicaid Enrollees with HCV	Medicaid Enrollees without HCV
Number of Individuals	430 (2%)	26,981 (98%)
Total Medicaid Costs	\$30,340	\$12,892
Prescription Drug Costs	\$9,400	\$2,517
Non-Drug Costs	\$20,940	\$10,375
Inpatient Costs	\$11,601	\$3,131
Outpatient Costs	\$6,062	\$2,984
Other Costsⁱⁱⁱ	\$3,276	\$4,260
Hospitalizations		
No. of Inpatient Hospitalizations	1.59	0.52
No. of Inpatient Hospital Days	6.67	1.88

Total annual healthcare spending for Medicaid recipients treated for HCV averaged \$38,631 compared to \$29,696 for untreated recipients. Treated recipients averaged prescription drug costs of \$23,318 compared to \$8,319 for untreated recipients. While prescription drug costs were greater for treated patients relative to untreated patients, untreated patients were still averaging significantly more in non-drug health care costs. The table below provides additional detail by treatment status. Hospitalizations and hospitalization days were greater for HCV untreated recipients compared to those treated.

Table 2. Mean Health Services Utilization and Costs among Medicaid Recipients Diagnosed with HCV in Florida, by Treatment Status (2010)

	Medicaid Enrollees with HCV	
	Treated for HCV	Not treated for HCV
Number of Individuals	31 (7%)	399 (93%)
Total Medicaid Costs	\$38,631	\$29,696
Prescription Drug Costs	\$23,318	\$8,319
Non-Drug Costs	\$15,313	\$21,377
Inpatient Costs	\$7,831	\$11,894
Outpatient Costs	\$6,238	\$6,049
Other Costs ^{iv}	\$1,243	\$3,434
Hospitalizations		
No. of Inpatient Hospitalizations	0.71	1.66
No. of Inpatient Hospital Days	4.226	6.862

Data & Methods

The dataset used in this analysis was constructed using Medicaid Analytic Extract (MAX) files provided by the Centers for Medicare and Medicaid Services for this state from 2010. Starting with 100% MAX data, several exclusion restrictions were applied. First, because their claims are routinely prepaid or capitated, individuals enrolled in Medicaid managed care were excluded from the study given the research objective of estimating health care costs. With two exceptions—prepaid dental and primary care case management—Medicaid recipients had to be enrolled in fee-for-service plans only. Moreover, full (as opposed to partial/restricted) Medicaid coverage was required for the entire year. Second, Medicaid recipients who were also enrolled in Medicare (aged 65 and over or otherwise dually eligible) were removed since Medicare claims data were not available. Third, children (ages <18) were excluded due to the very low prevalence of chronic HCV in this population. After imposing these criteria, the resulting analytical dataset was further separated—according to individuals' Medicaid basis of eligibility—into two groups, blind/disabled and other adults. Medicaid recipients with chronic HCV infection were identified using diagnosis codes from all 2010 inpatient and outpatient claims. The classification algorithm implemented by Gordon et al. was used.^v For the cohort of patients diagnosed with HCV, another indicator variable was created. Namely, individuals with at least one prescription drug fill during the year for pegylated interferon/ribavirin were designated as treated. This bivariate analysis that does not adjust for other factors that may be driving differences in spending.

Disclosure

This study was conducted by RxEconomics LLC and funded by the Pharmaceutical Research and Manufacturers of America. Medicaid MAX data were obtained under Data Use Agreement #26081 from the Centers for Medicare & Medicaid Services. The Principal Investigator—M. Christopher Roebuck, MBA PhD—can be contacted via email at mcr@rxconomics.com.

ⁱ Ly, K.N. et al. (2012). The increasing burden of mortality from viral hepatitis in the United States between 1999 and 2007. *Annals Of Internal Medicine*, 156(4): 271-278. Available at: <http://annals.org/article.aspx?articleid=1169805>.

ⁱⁱ Centers for Disease Control and Prevention. (2015). Hepatitis C FAQs for the Public. Available at: <http://www.cdc.gov/hepatitis/hcv/cfaq.htm>.

ⁱⁱⁱ Examples of other costs include dental, sterilizations, transportation services, targeted case management, and hospice benefits.

^{iv} Examples of other costs include dental, sterilizations, transportation services, targeted case management, and hospice benefits.

^v Gordon SC, Pockros PJ, Terrault NA, Hoop RS, Buikema A, Nerenz D, Hamzeh FM. Impact of disease severity on healthcare costs in patients with chronic hepatitis C (CHC) virus infection. *Hepatology* 2012; 56(5):1651-60.