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## The State of Hepatitis C in Illinois

SB 661 – Test Baby Boomers (born between the years 1946-1970 or aged 45-69)

In Illinois, according to https://suburbanstats.org/population/how-many-people-live-in-illinois, there are:

| Male Population | Total |
|---|---|
| 45 to 49 years | 452,345 |
| 50 to 54 years | 446,410 |
| 55 to 59 years | 385,540 |
| 60 and 61 years | 134,669 |
| 62 to 64 years | 179,517 |
| 65 and 66 years | 95,324 |
| 67 to 69 years | 127,225 |
| **Male Total** | **1,821,030** |
| **Female Population** | |
| 45 to 49 years | 473,426 |
| 50 to 54 years | 471,598 |
| 55 to 59 years | 412,568 |
| 60 and 61 years | 146,202 |
| 62 to 64 years | 197,523 |
| 65 and 66 years | 107,487 |
| 67 to 69 years | 148,766 |
| **Female Total** | **1,957,570** |
| **TOTAL** | **3,778,600 ~ 30% of Illinois Population** |

The following calculations were based off of David Rein's article (cited below) using relative numbers for the State of Illinois:

| | |
|---|---|
| # of people, age 45-69, living in HOUSEHOLDS who **need HCV testing** | 3,778,600 |
| Approximate # tested who will be **HCV antibody positive** (requires supplemental/confirmatory testing) ~ 3.5% | 132,215 |
| Approximate # of antibody positives that will have **CHRNOIC infection,** as determined by confirmatory testing) ~79% | 104,450 |
| Approximate # **unaware of HCV infection** ~63% | 65,804 |
| Approximately **20-30% will develop end stage liver disease** (ESLD) complications | ~26,113 |

https://suburbanstats.org/population/how-many-people-live-in-illinois

Therefore, AT LEAST 104,450 Illinoisans are at risk of developing **$$$**expensive**$$$** liver complications. The cost of ONE treatment for liver cancer is $80,000 for medications ONLY; A liver transplant costs $300,000/transplant and $1,000,000/lifetime of treatment for a liver transplant patient.

Based on the State of Oregon's EPI report, here are potential associated costs associated with untreated HCV:

## Facts at a glance

- In Oregon, from 2008 to 2012, 70% of HCV hospitalizations occurred in persons aged 50–64, and the average charges per hospitalization were $26,961.
- Most hospitalizations (62%) were in persons whose insurance payer was either Medicare or Medicaid.

**Table 1. Lengths of stay and total charges related to HCV hospitalizations, by category of liver disease,* Oregon 2008–2012 (n=3,917)**

| Condition** | Mean length of hospital stay in days | | | | | Mean health care charges per admission |
|---|---|---|---|---|---|---|
| (n = 3,917) | 2008 | 2009 | 2010 | 2011 | 2012 | 5-year average |
| Cirrhosis | 4.6 | 4.5 | 4.4 | 4.1 | 4.1 | $23,942 |
| Decompensated cirrhosis | 4.9 | 5.0 | 4.9 | 4.8 | 4.8 | $27,234 |
| Other chronic liver disease | 4.7 | 5.0 | 4.1 | 4.4 | 4.1 | $22,230 |
| Liver cancer | 5.3 | 5.5 | 4.6 | 4.1 | 5.7 | $52,345 |
| Liver transplant | 5.7 | 11.7 | 7.1 | 4.9 | 5.1 | $34,281 |
| Total | 4.9 | 5.0 | 4.7 | 4.6 | 4.6 | $26,961 |

(See Table 48 in the Appendix section for details.)

* See Table 45 in the Appendix section for list of ICD9 codes used to classify patients as having chronic liver disease, cirrhosis, decompensated cirrhosis, liver cancer or liver transplant

** These categories are not mutually exclusive, because patients can have more than one discharge diagnosis consistent with advanced liver disease.



Rein, D, Smith B, Liffmann, D, Ward, J. The Cost-effectiveness, Health Benefits, and Financial Costs of New Antiviral Treatments for Hepatitis C Virus. Clinical Infectious Diseases. 2015. Downloaded from http://cid.oxfordjournals.org

# HEPATITIS C

## Why Baby Boomers Should Get Tested

KNOW MORE HEPATITIS™

## Why should baby boomers get tested for Hepatitis C?

While anyone can get Hepatitis C, more than 75% of adults infected are baby boomers, people born from 1945 through 1965. Most people with Hepatitis C don't know they are infected.

- Baby boomers are five times more likely to have Hepatitis C.
- Liver disease, liver cancer, and deaths from Hepatitis C are on the rise.
- The longer people live with Hepatitis C, the more likely they are to develop serious, life-threatening liver disease.
- Getting tested can help people learn if they are infected and get them into lifesaving care and treatment.
- Treatments are available that can eliminate the virus from the body and prevent liver damage, cirrhosis, and even liver cancer.

CDC recommends that anyone born from 1945 through 1965 get tested for Hepatitis C.

## Why do baby boomers have such high rates of Hepatitis C?

The reason that baby boomers have high rates of Hepatitis C is not completely understood. Most boomers are believed to have become infected in the 1970s and 1980s when rates of Hepatitis C were the highest. Since people with Hepatitis C can live for decades without symptoms, many baby boomers are unknowingly living with an infection they got many years ago.

Hepatitis C is primarily spread through contact with blood from an infected person. Many baby boomers could have gotten infected from contaminated blood and blood products before widespread screening of the blood supply began in 1992 and universal precautions were adopted. Others may have become infected from injecting drugs, even if only once in the past. Still, many baby boomers do not know how or when they were infected.

## What should baby boomers know about Hepatitis C?

Hepatitis C is a serious liver disease that results from infection with the Hepatitis C virus. Some people who get infected with Hepatitis C are able to clear, or get rid of, the virus, but most people who get infected develop a chronic, or lifelong, infection. Over time, chronic Hepatitis C can cause serious health problems including liver damage, cirrhosis, liver cancer and even death. In fact, Hepatitis C is a leading cause of liver cancer and the leading cause of liver transplants.

People with Hepatitis C:

- Often have no symptoms
- Can live with an infection for decades without feeling sick
- Can be successfully treated with medications

*Continued on next page*

**U.S. Department of Health and Human Services**
Centers for Disease Control and Prevention

## How would someone know they have Hepatitis C?

The only way to know if someone has Hepatitis C is to get tested. Doctors use a blood test, called a Hepatitis C Antibody Test, to find out if a person has ever been infected with Hepatitis C. The Hepatitis C Antibody Test looks for antibodies to the Hepatitis C virus. Antibodies are chemicals released into the bloodstream when someone gets infected.

## Hepatitis C Antibody Test results

When getting tested for Hepatitis C, ask when and how test results will be shared. The test results usually take anywhere from a few days to a few weeks to come back.

### Non-reactive or a negative Hepatitis C Antibody Test

- A **non-reactive**, or negative, antibody test means that a person does not have Hepatitis C.
- However, if a person has been recently exposed to the Hepatitis C virus, he or she will need to be tested again.

### Reactive or a positive Hepatitis C Antibody Test

- A **reactive**, or positive, antibody test means that Hepatitis C antibodies were found in the blood and a person has been infected with the Hepatitis C virus at some point in time.
- A reactive antibody test **does not** necessarily mean a person still has Hepatitis C.
- Once people have been infected, they will always have antibodies in their blood. This is true if even if they have cleared the Hepatitis C virus.
- A reactive antibody test requires an additional, follow-up test to determine if a person is currently infected with Hepatitis C.

## For more information

Talk to a health professional, call the health department, or visit www.cdc.gov/knowmorehepatitis.

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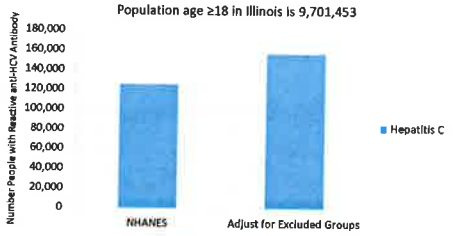
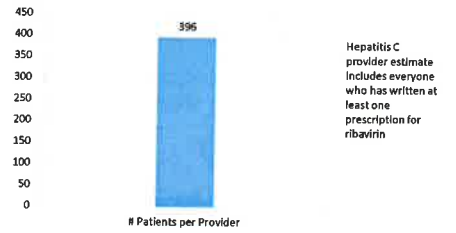
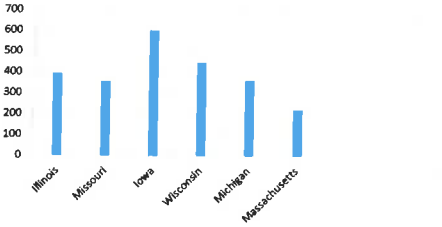
## Estimates of People with Hepatitis C in Illinois




## Estimate of the Number of People with Hepatitis C per HCV Provider in Illinois




## Estimates of the Number of People with Hepatitis C Infection per HCV Provider in Illinois Compared with Nearby States and Massachusetts



J Manag Care Pharm. 2011 Sep;17(7):531-46.

# All-cause and incremental per patient per year cost associated with chronic hepatitis C virus and associated liver complications in the United States: a managed care perspective.

McAdam-Marx C[1], McGarry LJ, Hane CA, Biskupiak J, Deniz B, Brixner DI.

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## Abstract

**BACKGROUND:**

Approximately 3.2-3.9 million U.S. residents are infected with the hepatitis C virus (HCV). Total annual costs (direct and indirect) in the United States for HCV were estimated to be $5.46 billion in 1997, and direct medical costs have been predicted to increase to $10.7 billion for the 10-year period from 2010 through 2019, due in part to the increasing number of HCV patients developing advanced liver disease (AdvLD).

**OBJECTIVE:**

To quantify in a sample of commercially insured enrollees (a) total per patient per year (PPPY) all-cause costs to the payer, overall and by the stage of liver disease, for patients diagnosed with HCV; and (b) incremental all-cause costs for patients diagnosed with HCV relative to a matched non-HCV cohort.

**METHODS:**

This retrospective, matched cohort study included patients aged at least 18 years and with at least 6 months of continuous enrollment in a large managed care organization (MCO) claims database from July 1, 2001, through March 31, 2010. Patients with a diagnosis of HCV (ICD-9-CM codes 070.54, 070.70) were identified and stratified into those with and without AdvLD, defined as decompensated cirrhosis (ICD-9-CM codes 070.44, 070.71, 348.3x, 456.0, 456.1, 456.2x, 572.2, 572.3, 572.4, 782.4, 789.59); hepatocellular carcinoma (HCC, ICD-9-CM code 155); or liver transplant (ICD-9-CM codes V42.7, 50.5 or CPT codes 47135, 47136). For patients without AdvLD, the index date was the first HCV diagnosis date observed at least 6 months after the first enrollment date, and at least 6 months of continuous enrollment after the index date were required. HCV patients without AdvLD were stratified into those with and without compensated cirrhosis (ICD-9-CM codes 571.2, 571.5, 571.6). For patients with AdvLD, the index date was the date of the first AdvLD diagnosis observed at least 6 months after the first enrollment date, and at least 1 day of enrollment after the index date was required. Cases were matched in an approximate 1:10 ratio to comparison patients without an HCV diagnosis or AdvLD diagnosis who met all other inclusion criteria based on gender, age, hospital referral region state, pre-index health care costs, alcoholism, human immunodeficiency virus/acquired immune deficiency syndrome (HIV/AIDS), and a modified Charlson Comorbidity Index. For the HCV and comparison patient cohorts, PPPY all-cause costs to the payer were calculated as total allowed charges summed across all patients divided by total patient-days of follow-up for the cohort, multiplied by 365, inflation-normalized to 2009 dollars. Because the calculation of PPPY cost generated a single value for each cohort, bootstrapping was used to generate descriptive statistics. Incremental PPPY costs for HCV patients relative to non-HCV patients were calculated as between-group differences in PPPY costs. T-tests for independent samples were used to compare costs between case and comparison cohorts.

**RESULTS:**

A total of 34,597 patients diagnosed with HCV, 78.0% with HCV without AdvLD, 4.4% with compensated cirrhosis, 12.3% with decompensated cirrhosis, 2.8% with HCC, and 2.6% with liver transplant, were matched to 330,435 comparison patients. Mean (SD) age of all HCV cases was 49.9 (8.5) years; 61.7% were male. Incremental mean (SD) PPPY costs in 2009 dollars for all HCV patients relative to comparison patients were $ 9,681 ($176) PPPY. Incremental PPPY costs were $5,870 ($157) and $5,330 ($491) for HCV patients without liver disease and with compensated cirrhosis, respectively. Incremental PPPY costs for patients with AdvLD were $27,845 ($ 965) for decompensated cirrhosis, $43,671 ($2,588) for HCC, and $ 93,609 ($4,482) for transplant. Incremental prescription drug costs, including the cost of antiviral drugs, were $2,739 ($37) for HCV patients overall, $2,659 ($41) for HCV without liver involvement, and $3,102 ($157) for HCV with compensated cirrhosis. These between-group differences were statistically significant at $P<0.001$.

**CONCLUSIONS:**

Based on a retrospective analysis of data from a large, MCO claims database, patients diagnosed with HCV had annual all-cause medical costs that were almost twice as high as those of enrollees without a diagnosis of HCV. Health care costs increased dramatically with AdvLD. Data from this study may help MCOs project future HCV costs and facilitate planning for HCV patient management efforts.