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## **New Report Forecasts Hepatitis C Virus Epidemic Among Baby Boomers; Untreated HCV Progressing to Severe Liver Disease Seen Driving U.S. Costs to \$85 Billion**

***-Over 3 million Americans have chronic hepatitis C - -Baby boomers account for 2 of every 3 cases of hepatitis C virus and vast majority unaware they have this chronic disease - -Cost burden of hepatitis C to Medicare projected to increase 500% as baby boomers with HCV age into severe complications of liver disease-***

ATLANTA, May 18, 2009 (BUSINESS WIRE) -- Over three million Americans, mostly baby boomers, are living with hepatitis C virus (HCV) and nearly 80% don't know they're living with a disease that, absent intervention, may give rise to advanced liver disease, including liver cancer. A new study prepared by the actuarial firm Milliman, Inc. reports that, without changes in how these patients are identified and managed, the annual cost of advanced liver disease in HCV patients will jump to \$85 billion in the next two decades. Medicare costs will soar 500%, from \$5 billion to \$30 billion. Most individuals living with HCV were born between 1946 and 1964 and a disproportionate disease burden is borne by African Americans, who are almost twice as likely to have HCV as the general population. The \$85 billion estimated cost includes overall direct medical costs for patients with HCV infection.

*Consequences of Hepatitis C Virus (HCV): Costs of a Baby Boomer Epidemic of Liver Disease*, a new study commissioned by Vertex Pharmaceuticals, projects the direct medical cost impact of HCV on commercial and government payers over the next 20 years assuming no changes to current HCV management. Milliman employed payer datasets, population survey results and disease progression information to project chronic HCV disease states and associated direct medical costs. Societal burdens other than costs of HCV disease were not considered in the study.

"Hepatitis C presents a looming and underappreciated public health epidemic, with vital consequences for our nation's health and health care costs. As with other chronic diseases, much more can and should be done to prevent it and its complications. By addressing viral hepatitis with urgency, we have a real opportunity to spare millions of people from the consequences of advanced liver disease and liver cancer and avoid billions of dollars in potential costs," said Dr. Mark B. McClellan, Director, Engelberg Center for Health Care Reform, Brookings Institution.

The authors point out that "receiving treatment for HCV prior to the onset of severe complications can reduce long-term, life-threatening consequences, though only an estimated 22% of those infected with HCV are diagnosed." The report concludes that, "as the population ages and the disease progresses, government payers will bear the majority of the financial impact of chronic HCV infection."

"Millions of patients are affected by hepatitis C and hundreds of thousands will experience serious consequences of advanced liver disease, many, if not most, within their retirement years. This report is the clarion call for increased focus and resources to address preventable consequences of this mostly unrecognized infection," according to Gary L. Davis, M.D., Baylor University Medical Center in Dallas, Texas.

### **About Hepatitis C**

Hepatitis C is a liver disease and a public health concern caused by the hepatitis C virus (HCV), spread through direct contact with the blood containing the virus. It is mostly transmitted through contaminated medical equipment including needles, blood and blood products and organ transplantation from a donor with HCV. Though many people with HCV may not experience symptoms, others may have symptoms such as jaundice, abdominal pain, fatigue and fever. Chronic HCV significantly increases a person's risk for developing chronic liver disease, cirrhosis or death. The burden of liver disease associated with HCV is increasing. Current therapies typically provide sustained benefit in less than half of patients with genotype 1 HCV, the most common strain of the virus, but more than 60 treatments for HCV are currently in development. The report forecasts that the total number of patients with liver cancer will triple to 15,000 cases.

The current treatment standard for HCV is a regimen of pegylated interferon injections and ribavirin pills for multiple months. As many as 250,000 patients in the United States have received at least one course of treatment with pegylated interferon and ribavirin but have not achieved sustained virologic response. Presently, patients who have failed interferon-based treatment typically have few or no available treatment options, and are at risk for progressive liver disease. Though new HCV cases have

declined in the past two decades, 1% of the U.S. population is thought to have HCV, representing about 3 million people, most of whom are baby boomers, with the peak prevalence among those born in the early 1950s.

The study, commissioned by Vertex Pharmaceuticals Incorporated (NASDAQ: VRTX), was issued during Hepatitis Awareness Month and in advance of World Hepatitis Day on May 19, 2009 to raise awareness about and to the 170 million people living with hepatitis C around the world. World Hepatitis Day is a call-to-action to screen, treat and eliminate viral hepatitis globally. For more information visit <http://www.aminumber12.org/> and <http://www.cdc.gov/hepatitis/>

To obtain a copy of the complete Milliman study entitled "Consequences of Hepatitis C Virus (HCV): Costs of a Baby Boomer Epidemic of Liver Disease" by Bruce Pyenson, FSA, MAAA, Kathryn Fitch, RN, MEd and Kosuke Iwasaki, FIAJ, MAAA, MBA, go to <http://www.vrtx.com/millimanreport.html>

## **About Vertex**

Vertex Pharmaceuticals Incorporated (NASDAQ:VRTX) is a global biotechnology company committed to the discovery and development of breakthrough small molecule drugs for serious diseases. The Company's strategy is to commercialize its products both independently and in collaboration with major pharmaceutical companies. Vertex's product pipeline is focused on viral diseases, cystic fibrosis, inflammation, autoimmune diseases, cancer and pain. The company is developing telaprevir, an investigational drug for the treatment of hepatitis C which is in Phase 3. The company, together with its collaborators Tibotec and Mitsubishi Tanabe, intends to file for marketing approval of telaprevir with U.S. Food and Drug Administration and other regulatory agencies in the second half of 2010. Vertex co-discovered the HIV protease inhibitor, Lexiva, with GlaxoSmithKline. Lexiva is a registered trademark of the GlaxoSmithKline group of companies.

## **About Milliman**

Milliman is among the world's largest independent actuarial and consulting firms. Founded in 1947 as Milliman & Robertson, the company currently has 49 offices worldwide. Milliman employs more than two thousand people, with a professional staff of more than a thousand qualified actuaries and consultants in specialties ranging from clinicians to economists. The firm has consulting practices in healthcare, employee benefits, property and casualty insurance, life insurance, and financial services. Milliman serves the full spectrum of business, financial, government, union, education, and nonprofit organizations. For further information, visit [www.milliman.com](http://www.milliman.com).

This press release contains forward-looking statements, including statements regarding (i) the projected annual overall cost burden of liver disease in HCV patients in the U.S. and the projected increase in Medicare costs, (ii) projections regarding the direct medical cost impact of HCV on commercial and government payers over the next 20 years, (iii) the possibility that receiving treatment for HCV prior to the onset of severe complications can reduce long-term, life-threatening consequences, (iv) the expectations of Dr. McClellan and Dr. Davis, (v) government payers bearing the majority of the financial impact of chronic HCV infection, (vi) forecasts that the total number of patients with liver cancer will triple to 15,000 cases and (vii) the intention of Vertex and its collaborators to file for marketing approval of telaprevir with the FDA and other regulatory agencies in the second half of 2010. While the Company believes the forward-looking statements contained in this press release are accurate, there are a number of factors that could cause actual events or results to differ materially from those indicated in the forward-looking statements. Those risks and uncertainties include, among other things, that the outcomes from any one or all of its ongoing clinical trials of telaprevir and its drug candidates may not be favorable, that regulatory authorities may require supplemental trials in order to support registration of telaprevir or other drug candidates, that unexpected and adverse drug safety experience in any one or more of the ongoing trials being conducted by Vertex or its collaborators could negatively impact development timelines and commercial possibilities for any drug candidate, that Milliman, Inc.'s projections may not be accurate and other risks listed under Risk Factors in Vertex's annual report and quarterly reports filed with the Securities and Exchange Commission and available through the Company's website at [www.vrtx.com](http://www.vrtx.com). Vertex disclaims any obligation to update the information contained in this press release as new information becomes available.

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