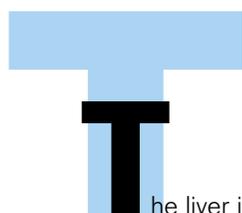


MITIGATING THE IMPACT OF LIVER DISEASE FOR HEALTH PLAN MEMBERS —IMPROVE OVERALL HEALTH AND PRODUCTIVITY, REDUCE PRESCRIPTION COSTS



The liver is the [primary organ](#) responsible for multiple functions in the body, including filtering and neutralizing toxins in the blood, eliminating waste, breaking down fats in the small intestine, producing proteins for blood plasma and regulating blood clotting. Given its important functions, maintaining a healthy liver can have a significant impact on overall health and wellbeing.

For self-insured employers and plan sponsors, the benefits of preventing and managing chronic liver disease can improve member health—creating a more [productive workforce](#)—and reduce medical costs.

As companies strive to optimize the health management of their members, a growing number have come to recognize that chronic care disease management (CCDM) programs that integrate non-invasive tests (NITs) in the diagnosis and ongoing management of plan members with chronic liver disease can play a significant role in effectively halting disease progression.

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Being overweight or obese is responsible for about 85% of fatty liver disease (FLD). Non-alcoholic fatty liver disease (NAFLD) and non-alcoholic steatohepatitis (NASH) are the leading causes of liver disease. Over 30% of the U.S. population has some degree of NAFLD, which is linked to diabetes, obesity, insulin resistance and other metabolic risk factors.

This disease costs the health care system over \$100 billion. Between 5% and 12% of people with NASH will progress to cirrhosis.

UNDERSTANDING LIVER DISEASE TRENDS

A number of diseases and conditions can affect the liver, including excessive amounts of acetaminophen, statins, alcohol abuse, hepatitis A, B, C, D, and E, infectious mononucleosis and iron overload, known as hemochromatosis.

A recent U.S. population-based study focusing on cirrhosis-related mortality observed that increasing cirrhosis death rates driven by alcoholic cirrhosis, with the greatest increases seen among young adults aged 25 to 34 years.

The challenge is that FLD in the workforce cannot be determined by examining claims or biometric screening data, which often fail to accurately represent the incidence of diabetes or obesity – two conditions that lead to the onset of FLD. Currently, no approved pharmacological treatment exists for this disease, making it more important than ever to detect, prevent, halt and monitor every employee who may be at risk.

Because NAFLD and NASH are so tightly intertwined with obesity, diabetes and lifestyle, a holistic approach to patient engagement can help support behavioral changes that will lead to better outcomes across the co-morbid conditions affecting the individual patient. What's more, recent studies show that noninvasive exams at the point of care can cost-effectively identify individuals at risk for liver disease.

IMPACT OF OBESITY

Obesity is not simply a matter of over-eating, but rather a complex disease that involves an excessive amount of body fat. It's important to think of this disease as a complex medical issue that increases the risk of heart disease, diabetes, high blood pressure and certain cancers.

Obesity can be devastating on vital organs, especially on the liver, causing insulin resistance that leads to buildup of blood sugar and increases the amount of free fatty acids circulating in the blood and inside the liver cells.

Of the \$3.3 trillion spent annually on medical care for chronic conditions, obesity alone is associated with \$1.4 trillion. For employers, CCDM represents the most effective approach for treating patients with liver disease and comorbidities, such as obesity and Type 2 diabetes.

HIGH COST OF HEPATITIS C

Up to 70% of patients with chronic hepatitis C have fatty liver. While antiviral drugs for hepatitis C virus (HCV) are very effective, they come at a steep cost. In fact, one Sovaldi pill costs \$1,000 and a full 12-week course of treatment costs \$84,000.

The price of other HCV drugs include:

- Harvoni costs \$94,500 for a 12-week treatment
- Mavyret costs \$39,600 for a 12-week treatment
- Zepatier costs \$54,600 for a 12-week treatment
- Technivie costs \$76,653 for a 12-week treatment

Another factor adding to the high cost is the lack of competition from other drug companies. As a result, hepatitis C drug manufacturers can essentially charge whatever they want.

TARGETING LIVER HEALTH

Diet and exercise are effective at reversing steatosis and modification of cardio-metabolic risk factors. For many patients, a 3% reduction in body weight has been associated with reversal of steatosis and a reduction of greater than 7% may resolve NASH in many patients.

A CCDM program should be designed to target liver health to not only address the broader needs of individuals, but also prevent NASH—a challenging, high-volume and chronic condition that lacks a standardized approach to care.

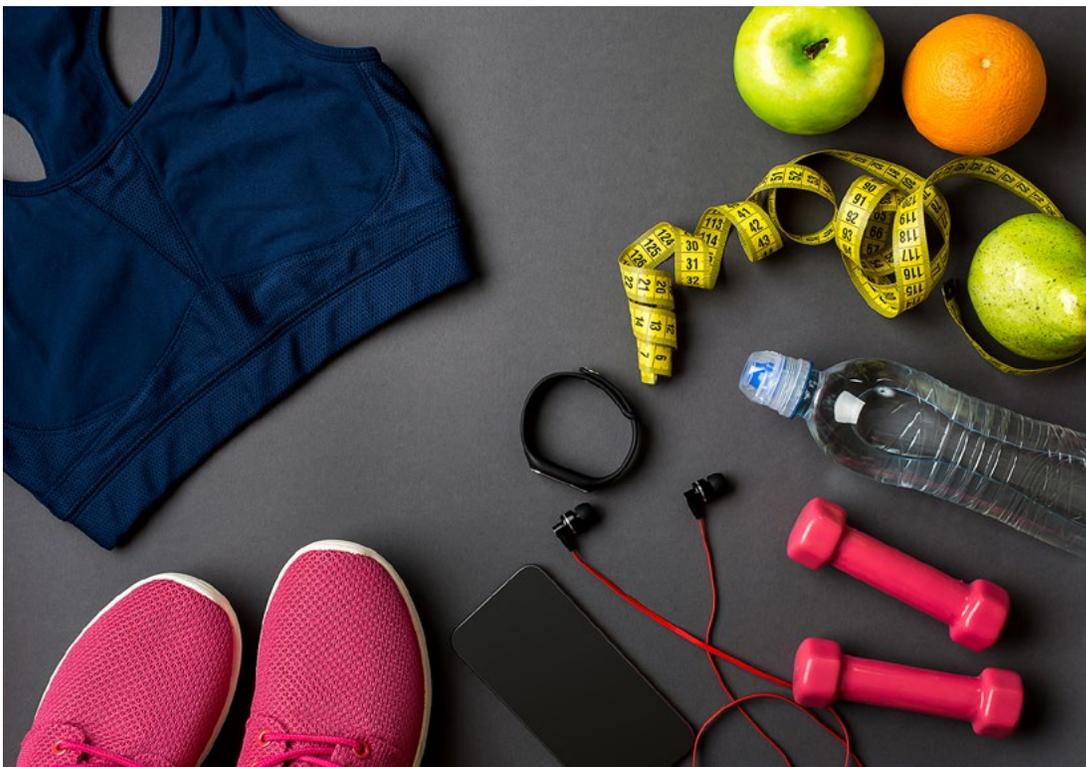
In recent years, the fibrosis stage of liver disease has been identified as the most important predictor of liver outcomes, making it critical to identify patients with NAFLD and NASH.

A follow-up visit ensures that the patient is following the weight loss program, consulting with a dietician or nutritionist and adhering to the CCDM program. It's also helpful to share the patient's liver exam score with them to illustrate the change in liver fat and potential need for adjusting treatment. This is where noninvasive tests play a key role.

THE VALUE OF NONINVASIVE LIVER EXAMS

Employers should look for primary care physicians and specialists who understand the growing need for cost-effective ways to detect and monitor liver disease, being mindful that current approaches for identifying fibrotic NASH tend to be complicated, expensive and potentially wasteful. A recent [expert review](#) conducted through the Chronic Liver Disease Foundation suggests a streamlined approach that is cost-effective.

Researchers identified [vibration controlled transient elastography \(VCTE\)](#) as a helpful direct biomarker of liver stiffness and fat in point of care. A CCDM program helps educate plan members about maintaining liver health, mitigates the high costs of prescriptions and aids preventive measures.



What's more, a VCTE tool creates even greater value by quickly providing a quantitative assessment of liver stiffness and liver fat at the point of care to make the detection of liver disease and long-term care for individuals with NAFLD and NASH more effective.

At the point of care, FibroScan, for example, provides a simple, validated and reliable exam that creates savings to benefit payers. It does this by **early identification** of patients with FLD for proactive intervention and behavior change to slow disease progression. For those identified with liver fibrosis, this exam can also reduce the aggregate volume of some current diagnosis methods, such as liver biopsy.

The most effective non-invasive liver exam tools are highly mobile, can be operated by a medical assistant and interpreted by the healthcare professional. They produce numeric measurements, rather than images, for simplified interpretation and consistency of measurement. This enables clinicians to monitor changes in liver tissue over time. In fact, experts anticipate that such rapid tools that provide consistent liver measurements will be performed as a routine part of patient management.

The good news is that self-insured employers and plan sponsors can take proactive steps and gain the **advantages** of helping plan members prevent and manage chronic liver disease, and improve health and productivity among plan member while reducing medical and prescription costs. ■

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