Article type: Editorial

Home Page URL: https://www.alliedacademies.org/virology-research/

Long-term health impacts of achieving SVR in hepatitis C.

Thomson Regan*

Department of Medicine, Emory University School of Medicine, USA

***Correspondence to:** Thomson Regan, Department of Medicine, Callen-Lorde Community Health Center, New York, USA, E-mail: Thomson.regan9@gmail.com

***Received:** 04-Jan-2024, Manuscript No. AAVRJ-25-169226; **Editor assigned:** 05-Jan-2024, PreQC No. AAVRJ-23-169226(PQ); **Reviewed:** 19-Jan-2024, QC No. AAVRJ -23-11210; **Revised:** 23-Jan-2024, Manuscript No. AAVRJ -23-169226(R); **Published:** 30-Jan-2024, DOI:10.35841/aavrj-8.1.175*

Introduction

Sustained Virological Response (SVR) marks a pivotal milestone in the treatment of chronic Hepatitis C virus (HCV) infection. Defined as the absence of detectable HCV RNA in the blood 12 to 24 weeks after completing antiviral therapy, SVR is widely considered a virological cure. But beyond viral eradication, SVR carries profound long-term health implications—ranging from improved liver function to reduced mortality and enhanced quality of life [1, 2].

SVR is not merely a laboratory benchmark; it represents a turning point in a patient's health trajectory. Achieving SVR halts the progression of liver damage, reduces the risk of hepatocellular carcinoma (HCC), and improves overall survival rates2. With the advent of direct-acting antivirals (DAAs), SVR rates now exceed 95% across most genotypes. One of the most significant benefits of SVR is the reversal or stabilization of liver fibrosis and cirrhosis. Studies show that patients who achieve SVR often experience regression of liver scarring, with some even showing complete resolution of fibrosis. This translates to a lower incidence of liver decompensation and portal hypertension. SVR lowers the relative risk of liver cancer by up to 75%. Enzyme levels normalize, and liver synthetic capacity improves post-SVR [3, 4].

However, patients with advanced fibrosis or cirrhosis still require ongoing surveillance, as the risk of HCC, though reduced, is not entirely eliminated. Beyond clinical metrics, SVR significantly enhances health-related quality of life (HRQoL). Fatigue, depression, and cognitive dysfunction—common in chronic HCV—often improve after viral clearance. Patients report reduced anxiety and depression symptoms post-SVR. Energy levels and physical functioning improve, enabling better daily activity and work productivity. These improvements are especially notable in populations previously considered difficult to treat, such as those with HIV coinfection or advanced liver disease [5, 6].

SVR also brings substantial economic advantages. A 2015 systematic review found that medical costs for patients achieving SVR were 13-fold lower than for nonresponders. Reduced hospitalizations, fewer complications, and less need for liver transplantation contribute to these savings. DAAs, despite their initial expense, are cost-saving in the long run due to reduced disease burden. Simplified regimens and shorter treatment durations have improved access and adherence globally [7, 8].

HCV is not confined to the liver—it affects multiple organ systems. Achieving SVR has been linked to reduced incidence of extrahepatic manifestations such as: SVR lowers insulin resistance and reduces diabetes risk. Inflammation and endothelial dysfunction improve post-SVR, reducing cardiovascular events. SVR stabilizes kidney function, especially in patients with pre-existing renal impairment. While SVR is durable—with relapse rates under 2%—reinfection remains a concern, particularly in high-risk populations such as people who inject drugs (PWID). Continued education, harm reduction strategies, and regular monitoring are essential [9, 10].

Conclusion

SVR is more than a clinical endpoint—it's a gateway to restored health, economic relief, and societal well-being. As treatment protocols evolve and access expands, the long-term benefits of SVR will continue to reshape the landscape of hepatitis C care. For patients, clinicians, and policymakers alike, SVR represents not just the end of infection, but the beginning of recovery.

Citation: Regan T. Long-term health impacts of achieving SVR in hepatitis C. Virol Res J. 2024;8(1):175

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