



**Implementation of Hepatitis B and Hepatitis C
Prevention and Control in Maryland**

2023 Annual Report

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I. Background

Hepatitis B in Maryland

Hepatitis B virus (HBV) infects the liver and can cause both acute and chronic diseases. Most healthy adults with acute HBV infection do not experience symptoms or complications; however, chronic HBV infections occur when an acute infection is not cleared by the immune system, and can lead to serious liver complications over time. There is currently no cure for chronic HBV infection, but there is an effective vaccine for the prevention of HBV. Based on national prevalence data, the Centers for Disease Control and Prevention (CDC) estimates that between 730,000 and 2.2 million individuals live with HBV in the United States.¹ In Maryland, the rate of reported acute HBV infection in 2022 was 0.7 cases per 100,000 people. The rate of reported chronic HBV infection was 24.0 cases per 100,000, representing a slight increase from 2021 (22.6 cases per 100,000).

Based on 2022 surveillance data from the Maryland National Electronic Disease Surveillance System (NEDSS), the jurisdictions in Maryland with the highest rates of reported chronic HBV were Howard, Prince George's, and Montgomery Counties, and Baltimore City.² Figure 1 below shows the trend of chronic HBV in Maryland from 2015 to 2022.

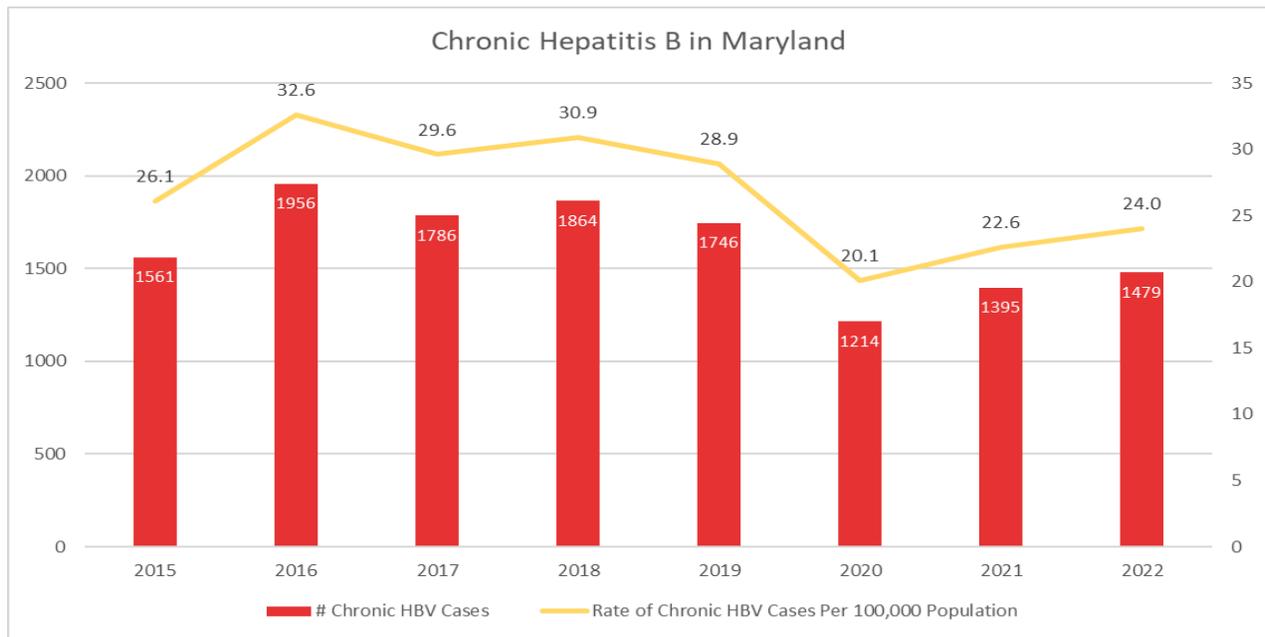


Figure 1: Chart of the number and rate of chronic HBV infections reported in Maryland from 2015-2022.

Source: Maryland National Electronic Disease Surveillance System (NEDSS).

Hepatitis C in Maryland

Hepatitis C virus (HCV) is a major cause of chronic liver disease. The CDC estimates that 2.4 million individuals are living with HCV infection in the United States. Many acute cases of HCV also go unreported each year, as newly infected individuals may be asymptomatic or experience symptoms that do not present consistently. Chronic HCV places a significant burden on public health in Maryland, with 2,840 cases of chronic HCV infection reported through NEDSS in 2022. The rate of chronic HCV in Maryland was 46.1 cases per 100,000 population in 2022, representing a continued decline over the past several years. The jurisdictions with the highest reported rates in 2022 were Allegany, Cecil, Somerset, and Washington Counties, and Baltimore City. Figure 2 depicts a summary of the trend of the burden of HCV in Maryland from 2015-2022.

Although Maryland has increased efforts to address the HCV burden across the state, there are still high-risk populations affected by the disease who are not connected to care. These populations include justice-involved individuals, persons who use drugs, and Marylanders experiencing homelessness. New cases of chronic HCV are highest among young persons ages 20–29 who use drugs.

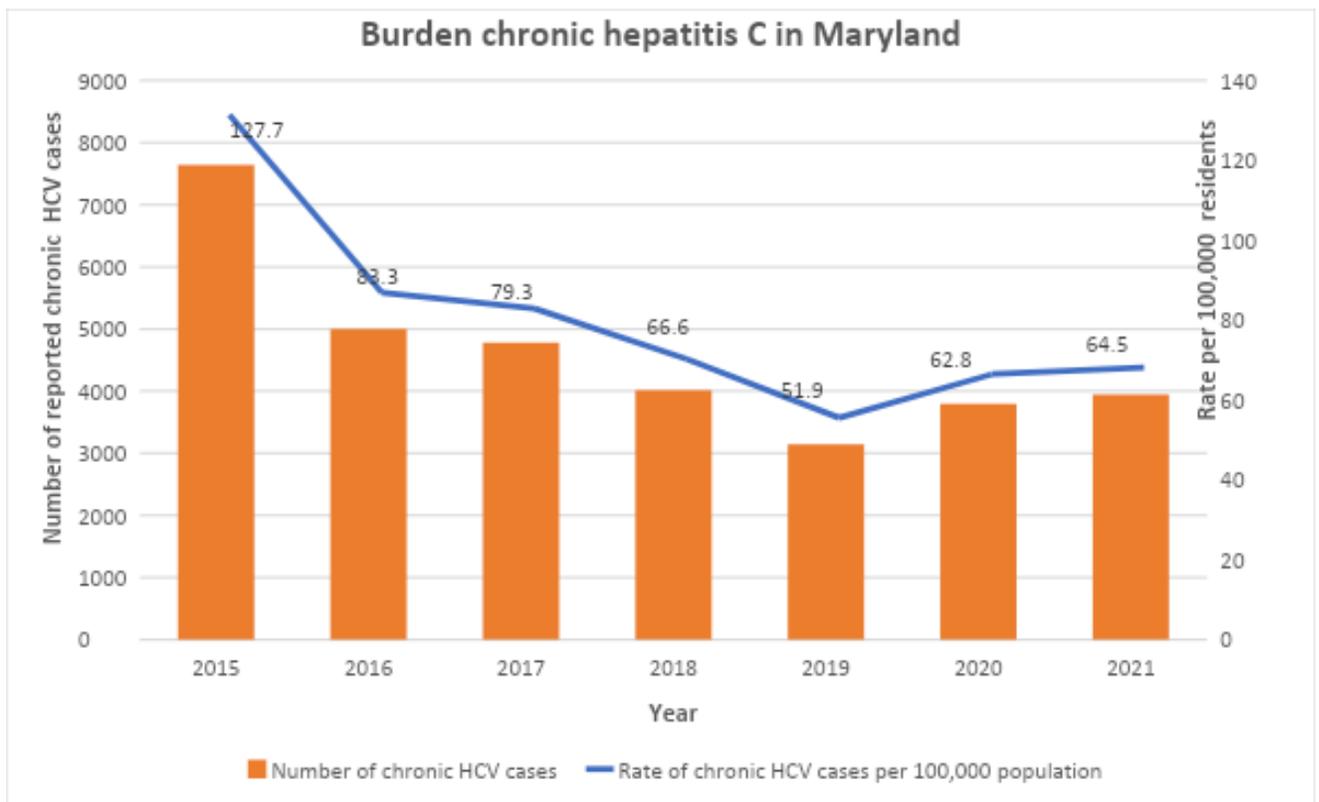


Figure 2: Chart of the number and rate of chronic HCV infections reported in Maryland from 2015-2022.

Source: *Maryland National Electronic Disease Surveillance System (NEDSS)*

II. Maryland Department of Health HBV and HCV Infection Control Activities, 2023

The Maryland Department of Health (MDH) works with public, private, and community partners to maximize resources to address both HBV and HCV in Maryland. Activities conducted in fiscal year 2023 are described below.

Expansion of Maryland Community-Based Programs to Test and Cure HCV

The Maryland Community-based Program to Test and Cure Hepatitis C (the HCV Test and Cure Program) began in 2014 as a four-year CDC-funded initiative. The Test and Cure Program takes a multi-pronged approach to the clinical integration of HCV intervention, including testing, care, and treatment, in primary care settings in Baltimore County and Baltimore City.² The HCV Test and Cure Program has since grown into a coalition of medical and public health experts, including leading experts in the treatment of substance use disorders and HIV/HCV co-infected individuals, all with the shared goal of eliminating HCV in Maryland.

Following the expiration of CDC funding, MDH continued to fund the HCV Test and Cure Program in Baltimore County and Baltimore City, in addition to expanding the participation of clinical providers in jurisdictions outside of these areas. In 2023, HCV case management and linkage to care services were funded in three additional jurisdictions with high reported cases of chronic HCV: Harford, Somerset, and Washington Counties. Telemedicine services in collaboration with the Johns Hopkins University Division of Viral Hepatitis were included in the HCV Test and Cure Programs to treat individuals who have been diagnosed with chronic HCV infection. This collaboration, which proved critical during the COVID-19 pandemic response period when the strict stay-at-home mandate was imposed in Maryland, continued to expand to more locations in 2023, especially in suburban Maryland jurisdictions.

HCV Provider Education Program - Sharing the Cure

A core component of the HCV Test and Cure Program is the HCV provider education program, *Sharing the Cure*, which is administered by the Johns Hopkins University Division of Infectious Diseases (JHUDID). In 2023, MDH and JHUDID completed training of primary care providers and other clinicians selected from clinical partner sites. The 2023 cohort consisted of 25 clinicians who represented MDH-funded HIV providers and programs across Maryland from 11 jurisdictions as well as providers working in correctional settings. The providers participated in a 16-week-long virtual training that included didactic lectures, a clinical presentation, and a mini-preceptorship. The 2023 curriculum included a session on COVID-19 evaluation and management which was expanded to include participation of the general health workforce (nurses, pharmacists, public health workers, case managers, and care navigators) to improve all health workers' awareness of viral hepatitis. These teams of health workers play critical roles in promoting HCV screening and linkage to treatment for affected Marylanders.

HCV Care Markers at Participating Sites

Over the implementation period of the Maryland Community Based Program to Test and Cure Hepatitis C (10/1/2014 – 6/30/2023), over 7,000 unique individuals were diagnosed with confirmed chronic hepatitis C infection by providers in Baltimore City and Baltimore County trained in the *Sharing the Cure* program. 1,645 clients began treatment, and by the end of June of 2023, 616 clients treated by these providers achieved sustained virologic response. It is important to note that the treatment numbers may underrepresent the actual number of clients achieving sustained virologic response due to difficulty obtaining post-treatment laboratory testing for many clients.

Enhanced HCV Surveillance Activities and Linkage-to-Care

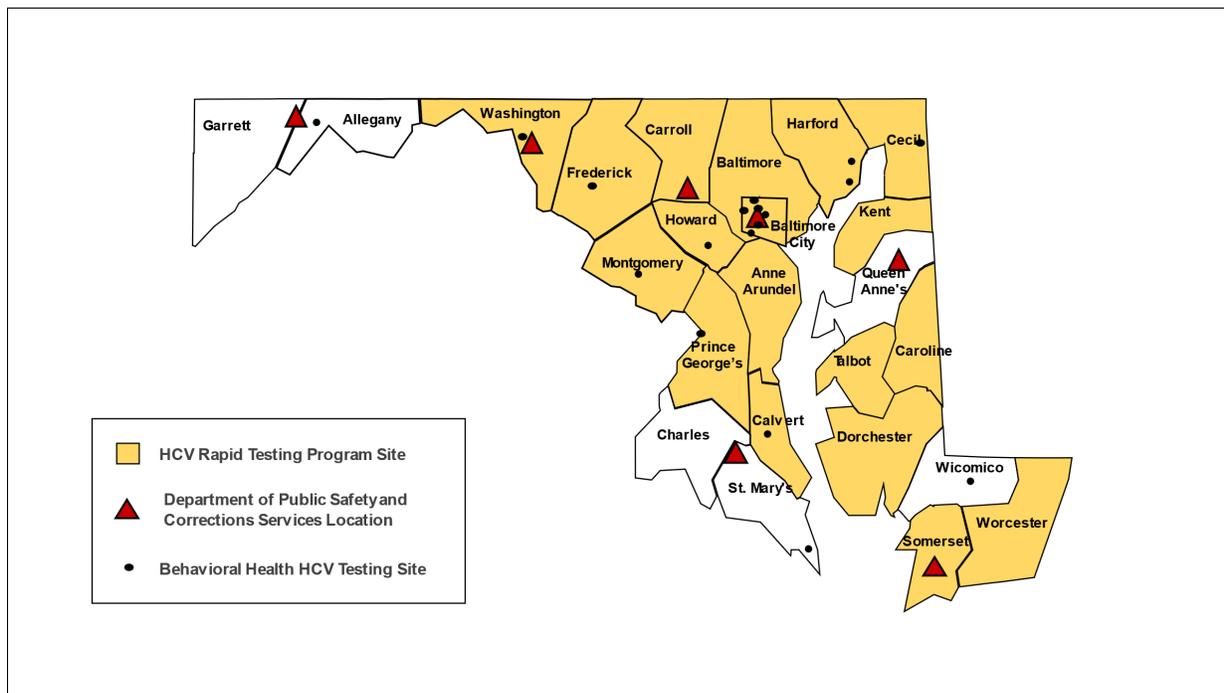
In SFY 2023, the local health departments and laboratories submitted all case reports through electronic laboratory reporting in NEDSS, making identifying new cases for surveillance, investigation, and linkage-to-care easier. During SFY 2023, the HCV rapid testing program linked 614 chronic HCV cases to treatment and care. This represents an improvement over the previous year when incomplete data reporting would not allow this information to be captured. Epidemiologists within the Infectious Disease Epidemiology and Outbreak Response Bureau conduct routine quality assurance for hepatitis B and C NEDSS data.

State-Led Rapid HCV Testing Program

MDH continued the implementation of the Maryland Rapid HCV Testing Program to identify individuals with HCV who were unaware of their status. The Program, modeled after MDH's HIV prevention, testing, and linkage-to-care program, integrates HCV rapid testing at existing HIV testing partner sites. MDH introduced HCV rapid testing into behavioral health programs conducted by local health departments. MDH also increased partnerships with local providers serving high-risk immigrant populations in Montgomery and Prince George's Counties to provide HBV and HCV screening and diagnosis. In collaboration with the Department of Safety and Correctional Services, HCV rapid screening is now offered to inmates at intake and pre-release. As of September 2023, there are 28 HCV rapid testing locations in 21 jurisdictions across the State, including several behavioral health and HIV/STI clinics that specifically cater to populations who use drugs, who are considered high-risk.

There is a well-documented connection between homelessness and HCV infection. In 2023, MDH's Infectious Disease Prevention and Health Services Bureau collaborated with the Baltimore City Health Department and the community-based organization Hepatitis B Initiative to organize community outreach testing events in the West Pratt neighborhoods of Baltimore City during National Hepatitis Awareness Month. This outreach effort was targeted at high-risk communities and clients seeking housing support at the Housing Authority of Baltimore City. In addition to HBV and HCV screening, the outreach provided: screening for Syphilis, HIV, blood glucose, blood cholesterol; linkage to care; and wound care services.

HCV Rapid Testing Program Locations in Maryland as of September 2023



Innovative Approaches to Manage HBV and HCV Co-infections

With the advent of the federal Ending the HIV Epidemic initiative, MDH launched initiatives to synchronize the delivery of services to populations who are at risk for co-morbid conditions. These initiatives target populations affected by one or more of the prevailing public health conditions and risk factors (also known as the Social Determinants of Health) responsible for HBV, HCV, HIV, sexually transmitted infections (STIs), and substance use disorder, including injection drug use.

Additionally, initiatives integrate HCV screening, diagnosis, and linkage-to-care interventions into HIV/STI control activities (e.g., testing, awareness education), syphilis screening programs, and substance use treatment facility programs. Provider training focuses more on the comprehensive management of co-infections and addresses behavioral factors responsible for the increased risk of HBV and HCV transmission.

HCV Provider Survey

In addition to the Maryland Hepatitis C Provider Survey launched in selected high-prevalence jurisdictions in 2023, MDH introduced two new assessments to better understand facilities' capabilities and needs. The Health Facility Needs Assessment identifies strengths and gaps of the health facilities to implement routine HCV screening and diagnosis, and the Laboratory Needs

Assessment identifies the capacity of the laboratories for HCV reflex testing. These assessments are ongoing, and the final results are expected in Spring 2024.

Expansion of Maryland Medical Assistance for HCV Treatment

In 2019, the Maryland General Assembly passed Senate Bill 598, Maryland Medical Assistance Program - Coverage - Hepatitis C Drugs. The legislation directs the Maryland Medical Assistance Program (Medicaid) to expand HCV treatment to all Medicaid recipients, regardless of liver fibrosis score.^{3,4} This treatment expansion plan went into effect on January 1, 2020, making a large pool of individuals previously diagnosed with chronic HCV eligible for pre-treatment and prior authorization processing to obtain approval for HCV treatment. MDH continued to partner with clinical providers across Maryland to improve access to HCV treatment for all Medicaid-eligible clients. An increasing number of chronic HCV patients on Medicaid continue to benefit from the full implementation of this bill. In SFY2023, under the Maryland Community-based Test and Cure Hepatitis C Program, 593 chronic HCV patients received prescriptions for HCV treatment regardless of liver fibrosis staging.

Maryland Viral Hepatitis Epidemiological Profile

To monitor the disease burden and better understand the factors responsible for the spread of viral hepatitis, MDH collated morbidity and mortality data from relevant agencies across Maryland to update the viral hepatitis epidemiological profile which was first published in 2019.⁶ The epidemiological profile provides measurable indicators to ascertain progress toward the elimination of HBV and HCV. In SFY 2023, data through calendar year (CY) 2022 were collected to update the surveillance and program components of the profile. Some of the key findings of the viral hepatitis epidemiological profile update are highlighted below:

- An average of 27 cases per 100,000 population of chronic HBV was reported yearly from 2015-2022. To break the chain of community transmission, the prevalence of chronic HBV should be less than 10 cases per 100,000 population (<1% prevalence). Therefore, this rate is considered high for a vaccine-preventable disease and sufficient to continue to sustain community transmission of HBV if unaddressed. An effective vaccine is available to prevent hepatitis B infection and transmission. Universal hepatitis B vaccination has been proposed as an effective means to interrupt and eliminate transmission of HBV; currently, there is no State-led or funded HBV vaccination program. This could be a future program focus for MDH if funding is available.
- Although acute HCV cases remained steady over the last six years under review, as of 2022, chronic HCV cases have declined more than 50% compared to the 2015 baseline
- There was a 23% decrease in the rate of reported chronic HCV in SFY 2022 compared to SFY 2021.
- Mortality among people living with HIV/HCV co-infection increased from 2.4% to 5.8%, while mortality among people living with only HIV decreased from 2.9% to 2.0% over the

same period. These data indicate that HCV infection increases mortality among HIV/HCV co-infected individuals.

- People with viral HBV or HCV tend to die at a significantly younger age compared to the general population, with the majority of deaths occurring between the ages of 50-60 for HBV and 60-70 for HCV, while the average mortality age for all causes is typically much higher, usually falling within the 70-79 year range.
- In Fiscal Year 2023, a total of 11,467 rapid HCV tests were conducted under the Maryland Hepatitis C Testing Program. A total of 414 (3.6%) tests were positive for HCV antibody.
- 237 unique clients with positive HCV antibody tests completed the HCV confirmatory diagnosis with 136 cases confirmed as having current HCV infection requiring linkage to care and treatment. There are still missed opportunities in the health care system to identify cases and provide navigation to care.

Education outreach efforts are crucial for populations in Maryland who are at the highest risk of HCV infection. In 2023, the Maryland HCV Testing Program reached an estimated 15,000 Marylanders with viral hepatitis prevention education, including prevention education, awareness education, and mobilization for testing and vaccination. This information was targeted towards people who inject drugs, people infected with or at high risk for HIV and STI, and the general population accessing health care through outreach.

Maryland Viral Hepatitis Elimination Plan

As a core deliverable of the CDC's Integrated Viral Hepatitis Surveillance and Prevention Funding for Health Departments which commenced in 2021, MDH collaborated with several partners to develop a framework for the Maryland Viral Hepatitis Elimination Plan (the Framework) to develop objectives and strategies to prevent, control, and manage HBV and HCV. The Framework builds on the Maryland Hepatitis C Strategic Plan and the US Department of Health and Human Services' National Strategic Plan: A Roadmap to Elimination for the United States 2021-2025.⁷ The Framework synthesizes the following five strategic objectives:

- Preventing new viral hepatitis infections;
- Improving viral hepatitis-related health outcomes for people with viral hepatitis;
- Reducing viral hepatitis-related disparities and health inequities;
- Improving viral hepatitis surveillance and data usage; and
- Achieving integrated, coordinated efforts that address the viral hepatitis epidemics among all partners and stakeholders.

In 2023, MDH continued to engage several partners, including the Maryland Hepatitis Coalition, to transform the Framework into the Maryland Viral Hepatitis Elimination Action Plan (the Action Plan). The Action Plan will describe the goals, strategic objectives, activities, and

performance measures to prevent new viral hepatitis infections, provide early intervention including diagnosis and treatment, and foster partnership among all stakeholders. MDH will continue to collaborate with stakeholders and partners on the Action Plan and expects to release a final draft by Fall 2024.

Educational Activities to Inform the Public, Providers, and Stakeholders

In 2022, MDH, under a collaborative program with HealthHIV and the Center for HIV Capacity and Integration, launched an on-demand, web-based HCV training as part of a supplemental training series for infectious diseases Testing and Linkage to Care (TLC). The objectives of the training are to understand the overall burden of viral hepatitis infections in Maryland, share basic information about viral hepatitis, and provide an overview of viral hepatitis screening, testing, and prevention recommendations. This training is offered to all community-level staff involved in HCV rapid testing at the community level, including those at local health departments, health systems, and community-based organizations.

In 2023, MDH implemented two 90-minute hepatitis webinars to improve the knowledge and awareness of HBV and HCV screening and linkage-to-care among staff at local health departments, community-based organizations, federally qualified health centers, and hospitals that serve at-risk populations.

The webinars covered a wide of viral hepatitis topics including:

- An overview of viral hepatitis.
- Updates on current HBV and HCV screening and treatment guidelines.
- How to identify special and priority populations.
- An introduction to issues related to treatment access.
- Information about resources available to screen and treat HCV.
- Information on housing support, transport, food pantries, and health insurance.
- Case management and linkage to care information.

The webinar training module was expanded to include strategies on viral hepatitis screening and linkage-to-care among both persons who inject drugs and foreign-born Marylanders. This expansion addresses the service gaps for these high-risk target groups.

III. Conclusion

MDH continues to provide leadership, guidance, and technical assistance across Maryland to support growing efforts to address HBV and HCV to the local health departments, health facilities, community-based organizations, and other stakeholders. Over the last year, MDH significantly increased its efforts to provide screening, testing, and treatment for HBV and HCV in Maryland despite the impact of COVID-19; these ongoing efforts resulted in a marked increase in availability. MDH continued into the third year of implementation of the CDC's first integrated viral hepatitis surveillance and prevention grant - CDC PS-21-2103 "Integrated Viral

Hepatitis Surveillance and Prevention Funding for Health Departments.” This grant opportunity supports viral hepatitis outbreak response, comprehensive viral hepatitis surveillance and reporting, expansion of HBV and HCV testing, and linkage-to-care activities.

In 2024, MDH will update the Maryland Viral Hepatitis Epidemiological Profile. The Maryland Viral Hepatitis Elimination Action Plan will also be published on the MDH website to make it publicly available for all stakeholders.

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