Clinical Policy: Sofosbuvir (Sovaldi)
Reference Number: HIM.PA.SP2
Effective Date: 08.01.16
Last Review Date: 08.19
Line of Business: HIM

See Important Reminder at the end of this policy for important regulatory and legal information.

Description
Sofosbuvir (Sovaldi®) is hepatitis C virus (HCV) nucleotide analog NS5B polymerase inhibitor.

FDA Approved Indication(s)
Sovaldi is indicated for the treatment of:
- Adult patients with genotype 1, 2, 3 or 4 chronic HCV infection without cirrhosis or with compensated cirrhosis as a component of a combination antiviral treatment regimen
- Pediatric patients 12 years of age and older or weighing at least 35 kg with genotype 2 or 3 chronic HCV infection without cirrhosis or with compensated cirrhosis in combination with ribavirin (RBV)

Policy/Criteria
Provider must submit documentation (such as office chart notes, lab results or other clinical information) supporting that member has met all approval criteria.

It is the policy of health plans affiliated with Centene Corporation® that Sovaldi is medically necessary when the following criteria are met:

I. Initial Approval Criteria
   A. Chronic Hepatitis C Infection (must meet all):
      1. Diagnosis of chronic HCV infection as evidenced by detectable serum HCV RNA levels by quantitative assay in the last 6 months;
      2. Confirmed HCV genotype is one of the following (a or b):
         a. For adults (> 18 years): Genotypes 1, 2, 3, 4, 5, or 6;
         b. For pediatrics (age ≥ 12 years or weight ≥ 35 kg): Genotypes 2 or 3;
         *Chart note documentation and copies of lab results are required
      3. Documentation of treatment status of the member (treatment-naïve or treatment-experienced);
      4. Documentation of cirrhosis status of the member (no cirrhosis, compensated cirrhosis, or decompensated cirrhosis);
      5. Prescribed by or in consultation with a gastroenterologist, hepatologist, or infectious disease specialist;
      6. Age ≥ 12 years or weight ≥ 35 kg;
      7. If age ≥ 12 years or weight ≥ 45 kg, member has at least one of the following contraindications to Mavyret™ (a or b):
         a. Decompensated cirrhosis (Child-Pugh B or C) confirmed by lab findings and clinical notes;
b. Receiving treatment with efavirenz or atazanavir;
   *See Appendix E for additional details on acceptable contraindications*
8. Life expectancy ≥ 12 months with HCV treatment;
9. Member agrees to participate in a medication adherence program including both of
   the following components (a and b):
   a. Medication adherence monitored by pharmacy claims data or member report;
   b. Member’s risk for non-adherence identified by adherence program or
      member/prescribing physician follow-up at least every 4 weeks;
10. Prescribed regimen is consistent with an FDA or AASLD-IDSA recommended
    regimen (see Section V for reference);
11. Dose does not exceed 400 mg (1 tablet) per day.

Approval duration:
Adults: up to a total of 24 weeks*
   (*Approved duration should be consistent with a regimen in Section V Dosage and Administration)
Pediatrics: 12 weeks for genotype 2; 24 weeks for genotype 3

B. Other diagnoses/indications
1. Refer to the off-label use policy for the relevant line of business if diagnosis is NOT
   specifically listed under section III (Diagnoses/Indications for which coverage is
   NOT authorized): HIM.PHAR.21 for health insurance marketplace.

II. Continued Therapy
A. Chronic Hepatitis C Infection (must meet all):
   1. Member meets one of the following (a or b):
      a. Currently receiving medication via Centene benefit or member has previously met
         initial approval criteria;
      b. Must meet both of the following (i and ii):
         i. Documentation supports that member is currently receiving Sovaldi for
            chronic HCV infection and has recently completed at least 60 days of
            treatment with Sovaldi;
         ii. Confirmed HCV genotype is one of the following (1 or 2):
            1) For adults (> 18 years): Genotypes 1, 2, 3, 4, 5, or 6;
            2) For pediatrics (age ≥ 12 years or weight ≥ 35 kg): Genotypes 2 or 3;
   2. Member is responding positively to therapy;
   3. Dose does not exceed 400 mg (1 tablet) per day.

Approval duration:
Adults: up to a total of 24 weeks*
   (*Approved duration should be consistent with a regimen in Section V Dosage and Administration)
Pediatrics: up to 12 weeks for genotype 2; up to 24 weeks for genotype 3

B. Other diagnoses/indications
1. Refer to the off-label use policy for the relevant line of business if diagnosis is NOT
   specifically listed under section III (Diagnoses/Indications for which coverage is
   NOT authorized): HIM.PHAR.21 for health insurance marketplace.
III. Diagnoses/Indications for which coverage is NOT authorized:
   A. Non-FDA approved indications, which are not addressed in this policy, unless there is sufficient documentation of efficacy and safety according to the off label use policy – HIM.PHAR.21 or evidence of coverage documents.

IV. Appendices/General Information
   Appendix A: Abbreviation/Acronym Key
   AASLD: American Association for the Study of Liver Diseases
   FDA: Food and Drug Administration
   HBV: hepatitis B virus
   HCV: hepatitis C virus
   HIV: human immunodeficiency virus
   IDSA: Infectious Diseases Society of America
   NS3/4A, NS5A/B: nonstructural protein
   PegIFN: pegylated interferon
   RBV: ribavirin
   RNA: ribonucleic acid

   Appendix B: Therapeutic Alternatives
   This table provides a listing of preferred alternative therapy recommended in the approval criteria. The drugs listed here may not be a formulary agent for all relevant lines of business and may require prior authorization.

<table>
<thead>
<tr>
<th>Drug Name</th>
<th>Dosing Regimen</th>
<th>Dose Limit/Maximum Dose</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mavyret™ (glecaprevir/pibrentasvir)</td>
<td>Treatment-naïve Chronic hepatitis C (CHC) infection: Genotypes 1, 2, 3, 4, 5, or 6</td>
<td>Mavyret: glecaprevir 300 mg/pibrentasvir 120 mg (3 tablets) per day</td>
</tr>
<tr>
<td></td>
<td>Without cirrhosis: Three tablets PO QD for 8 weeks</td>
<td></td>
</tr>
<tr>
<td></td>
<td>With compensated cirrhosis: 3 tablets PO QD for 12 weeks</td>
<td></td>
</tr>
<tr>
<td>Mavyret™ (glecaprevir/pibrentasvir)</td>
<td>Treatment-experienced with IFN/pegIFN + RBV +/- sofosbuvir CHC infection: Genotypes 1, 2, 4, 5, or 6</td>
<td>Mavyret: glecaprevir 300 mg/pibrentasvir 120 mg (3 tablets) per day</td>
</tr>
<tr>
<td></td>
<td>Without cirrhosis: Three tablets PO QD for 8 weeks</td>
<td></td>
</tr>
<tr>
<td></td>
<td>With compensated cirrhosis: Three tablets PO QD for 12 weeks</td>
<td></td>
</tr>
<tr>
<td>Mavyret™ (glecaprevir/pibrentasvir)</td>
<td>Treatment-experienced with IFN/pegIFN + RBV +/- sofosbuvir CHC infection: Genotype 3</td>
<td>Mavyret: glecaprevir 300 mg/pibrentasvir 120 mg (3 tablets) per day</td>
</tr>
<tr>
<td></td>
<td>Without cirrhosis or with compensated cirrhosis: Three tablets PO QD for 16 weeks</td>
<td></td>
</tr>
</tbody>
</table>
Drug Name | Dosing Regimen | Dose Limit/Maximum Dose
--- | --- | ---
Mavyret™ (glecaprevir/pibrentasvir) | Treatment-experienced with NS5A inhibitor without prior NS3/4A protease inhibitor CHC infection:
**Genotype 1**
Without cirrhosis or with compensated cirrhosis:
Three tablets PO QD for 16 weeks | Mavyret: glecaprevir 300 mg/pibrentasvir 120 mg (3 tablets) per day

Mavyret™ (glecaprevir/pibrentasvir) | Treatment-experienced with NS3/4A protease inhibitor without prior NS5A inhibitor CHC infection:
**Genotype 1**
Without cirrhosis or with compensated cirrhosis:
Three tablets PO QD for 12 weeks | Mavyret: glecaprevir 300 mg/pibrentasvir 120 mg (3 tablets) per day

**Appendix C: Contraindications/Boxed Warnings**
- Contraindication(s): When used in combination with peginterferon alfa/RBV or RBV alone, all contraindications to peginterferon alfa and/or RBV also apply to Sovaldi combination therapy.
- Boxed warning(s): risk of hepatitis B virus reactivation in patients coinfected with HCV and HBV.

**Appendix D: Direct-Acting Antivirals for Treatment of HCV Infection**

<table>
<thead>
<tr>
<th>Brand Name</th>
<th>NS5A Inhibitor</th>
<th>Nucleotide Analog NS5B Polymerase Inhibitor</th>
<th>Non-Nucleoside NS5B Palm Polymerase Inhibitor</th>
<th>NS3/4A Protease Inhibitor (PI)</th>
<th>CYP3A Inhibitor</th>
</tr>
</thead>
<tbody>
<tr>
<td>Daklinza</td>
<td>Daclatasvir</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Epclusa*</td>
<td>Velpatasvir</td>
<td>Sofosbuvir</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Harvoni*</td>
<td>Ledipasvir</td>
<td>Sofosbuvir</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mavyret*</td>
<td>Pibrentasvir</td>
<td></td>
<td>Glecaprevir</td>
<td></td>
<td></td>
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<tr>
<td>Olysio</td>
<td></td>
<td></td>
<td>Simeprevir</td>
<td></td>
<td></td>
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<tr>
<td>Sovaldi</td>
<td></td>
<td></td>
<td>Sofosbuvir</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Technivie*</td>
<td>Ombitasvir</td>
<td></td>
<td>Paritaprevir</td>
<td>Ritonavir</td>
<td></td>
</tr>
<tr>
<td>Viekira XR/PAK*</td>
<td>Ombitasvir</td>
<td>Dasabuvir</td>
<td>Paritaprevir</td>
<td>Ritonavir</td>
<td></td>
</tr>
<tr>
<td>Vosevi*</td>
<td>Velpatasvir</td>
<td>Sofosbuvir</td>
<td></td>
<td>Voxilaprevir</td>
<td></td>
</tr>
<tr>
<td>Zepatier*</td>
<td>Elbasvir</td>
<td></td>
<td></td>
<td>Grazoprevir</td>
<td></td>
</tr>
</tbody>
</table>

*Combination drugs
Appendix E: General Information

- Hepatitis B Virus Reactivation (HBV) is a Black Box Warning for all direct-acting antiviral drugs for the treatment of HCV. HBV reactivation has been reported when treating HCV for patients co-infected with HBV, leading to fulminant hepatitis, hepatic failure, and death, in some cases. Patients should be monitored for HBV reactivation and hepatitis flare during HCV treatment and post-treatment follow-up, with treatment of HBV infection as clinically indicated.

- Child-Pugh Score

<table>
<thead>
<tr>
<th>Condition</th>
<th>1 Point</th>
<th>2 Points</th>
<th>3 Points</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bilirubin</td>
<td>Less than 2 mg/dL</td>
<td>2-3 mg/dL</td>
<td>Over 3 mg/dL</td>
</tr>
<tr>
<td></td>
<td>Less than 34 umol/L</td>
<td>34-50 umol/L</td>
<td>Over 50 umol/L</td>
</tr>
<tr>
<td>Albumin</td>
<td>Over 3.5 g/dL</td>
<td>2.8-3.5 g/dL</td>
<td>Less than 2.8 g/dL</td>
</tr>
<tr>
<td></td>
<td>Over 35 g/L</td>
<td>28-35 g/L</td>
<td>Less than 28 g/L</td>
</tr>
<tr>
<td>INR</td>
<td>Less than 1.7</td>
<td>1.7 - 2.2</td>
<td>Over 2.2</td>
</tr>
<tr>
<td>Ascites</td>
<td>None</td>
<td>Mild / medically controlled</td>
<td>Moderate-severe / poorly controlled</td>
</tr>
<tr>
<td>Encephalopathy</td>
<td>None</td>
<td>Mild / medically controlled</td>
<td>Moderate-severe / poorly controlled</td>
</tr>
<tr>
<td></td>
<td>Grade I-II</td>
<td>Grade I-II</td>
<td>Grade III-IV</td>
</tr>
</tbody>
</table>

Child-Pugh class is determined by the total number of points: A = 5-6 points; B = 7-9 points; C = 10-15 points

- Acceptable medical justification for inability to use Mavyret (preferred product):
  - Severe hepatic disease (Child-Pugh C): use of Mavyret is not recommended due to higher exposures of glecaprevir and pibrentasvir.
    - Alternatives on the formulary: Harvoni, Epclusa, Sovaldi, Daklinza
  - Moderate hepatic disease (Child-Pugh B): although not an absolute contraindication, use of Mavyret is not recommended in patients with moderate hepatic disease (Child-Pugh B) due to lack of safety and efficacy data.
    - Alternatives on the formulary: Harvoni, Epclusa, Sovaldi, Daklinza
    - Following administration of Mavryet in HCV infected subjects with compensated cirrhosis (Child-Pugh A), exposure of glecaprevir was approximately 2-fold and pibrentasvir exposure was similar to non-cirrhotic HCV infected subjects.
    - At the clinical dose, compared to non-HCV infected subjects with normal hepatic function, glecaprevir AUC was 100% higher in Child-Pugh B subjects, and increased to 11-fold in Child-Pugh C subjects. Pibrentasvir AUC was 26% higher in Child-Pugh B subjects, and 114% higher in Child-Pugh C subjects.

- Drug-drug interactions with one or more the following agents:
  - Atazanavir
    - Alternatives on the formulary: Harvoni, Epclusa, Sovaldi, Daklinza
  - Efavirenz:
    - Alternatives on the formulary: Harvoni, Sovaldi, Daklinza

- Unacceptable medical justification for inability to use Mavyret (preferred product):
Black Box Warning (BBW): currently or previously infected with hepatitis B virus. This BBW is not unique to Mavyret, and it applies across the entire therapeutic class of direct-acting antivirals for treatment of HCV infection. Therefore it is not a valid clinical reason not to use Mavyret.

Concurrent anticoagulant therapy: Fluctuations in International Normalized Ratio (INR) have been observed in warfarin recipients who were also receiving treatment for HCV infections. This BBW is not unique to Mavyret, and it applies across the entire therapeutic class of direct-acting antivirals for treatment of HCV infection. Although caution is advised when using Mavyret while receiving concurrent anticoagulant therapy, specifically warfarin, this is not an absolute contraindication as long as patient is adequately monitored and educated during therapy.

Drug-drug interactions with one or more the following agents:
- Rifampin, carbamazepine, or St. John’s wort:
  - Alternatives on the formulary: none
  - These drug-drug interactions are not unique to Mavyret, and they apply across the entire therapeutic class of direct-acting antivirals for treatment of HCV infection.

The World Health Organization (WHO) estimates that at the global level, there are approximately 2,278,400 HIV-HCV co-infections (IQR 1,271,300 to 4,417,000) of which 1,362,700 (IQR 847,770 to 1,381,800) in people who inject drugs (PWID), equaling an overall co-infection prevalence in HIV-infected individuals of 6.2% (IQR 3.4 to 1.9). In North America specifically, the meta-analysis showed that the best estimate for the percentage of total HIV-infected individuals with HCV co-infection was about 14%. On the other hand, the Centers of Disease Control and Prevention (CDC) estimates that about 25% of people with HIV in the US are co-infected with HCV.

As of March 2018, there are a total of 1.38 million members enrolled in Centene Health Insurance Marketplace. Out of those members, about 6,300 members are estimated to be diagnosed with HIV based on claims data, with about 173 members with recent claims for atazanavir and/or efavirenz. And based on the CDC as well as WHO prevalence estimation for North America, we can predict that about 14% to 25%, or 882 to 1,575 members, with HIV infection may be co-infected with HCV, with about 25 to 44 members who may not be eligible for treatment with Mavyret due to drug interactions involving atazanavir and/or efavirenz.

### V. Dosage and Administration

<table>
<thead>
<tr>
<th>Indication: Adult patients with chronic HCV infection</th>
</tr>
</thead>
<tbody>
<tr>
<td>Drugs</td>
</tr>
<tr>
<td>-------</td>
</tr>
<tr>
<td>Sovaldi, Olysio</td>
</tr>
<tr>
<td>Drugs</td>
</tr>
<tr>
<td>---------------------</td>
</tr>
<tr>
<td>Sovaldi, Olysio</td>
</tr>
<tr>
<td>Sovaldi, Daklinza</td>
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<tr>
<td>Sovaldi, Daklinza</td>
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<td>Sovaldi, Daklinza</td>
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<tr>
<td>Drugs</td>
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<tr>
<td>Sovaldi, Daklinza</td>
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<td>Sovaldi, Daklinza</td>
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<tr>
<td>Sovaldi, Daklinza</td>
</tr>
<tr>
<td>Sovaldi, Zepatier(^1)</td>
</tr>
</tbody>
</table>
AASLD/IDSA treatment guidelines for chronic hepatitis C infection are updated at irregular intervals; refer to the most updated AASLD/IDSA guideline for most accurate treatment regimen.

† Off-label, AASLD-IDSA guideline-supported dosing regimen

Treatment-experienced refers to previous treatment with peginterferon/RBV unless otherwise stated

The use of Sovaldi in combination with peginterferon and ribavirin for the treatment of chronic HCV is no longer recommended by the AASLD/IDSA guidelines.

<table>
<thead>
<tr>
<th>Indication:</th>
<th>Pediatric patients (age ≥ 12 years or weighing at least 35 kg) with chronic HCV infection</th>
</tr>
</thead>
<tbody>
<tr>
<td>Drugs</td>
<td>Dosing Regimen</td>
</tr>
<tr>
<td>Sovaldi, RBV</td>
<td>Genotype 2: Sovaldi 400 mg + RBV for 12 weeks</td>
</tr>
<tr>
<td>Sovaldi, RBV</td>
<td>Genotype 3: Sovaldi 400 mg + RBV for 24 weeks</td>
</tr>
</tbody>
</table>

VI. Product Availability

Tablet: 400 mg

VII. References


<table>
<thead>
<tr>
<th>Reviews, Revisions, and Approvals</th>
<th>Date</th>
<th>P&amp;T Approval Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>New policy created.</td>
<td>08.16</td>
<td>08.16</td>
</tr>
<tr>
<td>Added pediatric chronic hepatitis C infection criteria;</td>
<td>04.17</td>
<td>08.17</td>
</tr>
</tbody>
</table>
CLINICAL POLICY
Sofosbuvir

Reviews, Revisions, and Approvals

<table>
<thead>
<tr>
<th>Description</th>
<th>Date</th>
<th>P&amp;T Approval Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Removed HCV RNA is not present or, if present, has not increased by &gt;10 fold (&gt;1 log_{10} IU/mL) per specialist feedback.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Added preferencing requiring Mavyret for FDA-approved indications. Safety criteria was applied according to the safety guidance discussed at CPAC and endorsed by Centene Medical Affairs. Exception made to require Hep B screening for all patients prior to treatment to ensure that proper risk reduction measures are taking, though this is not specifically addressed in boxed warning.</td>
<td>08.17</td>
<td></td>
</tr>
<tr>
<td>3Q18 annual review: added specific scenarios of clinically acceptable and unacceptable rationale for inability to use Mavyret; removed requirement for contraindications such as pregnancy and CrCl with RBV; added requirement for documentation of previous treatment and cirrhosis status; expanded duration of tx required for COC from 30 days to 60 days; required verification of genotype for COC; required verification of genotype for COC; removed requirement for advanced liver disease; references reviewed and updated.</td>
<td>05.22.18</td>
<td>06.18</td>
</tr>
<tr>
<td>2Q 2019 annual review: no significant changes; references reviewed and updated.</td>
<td>02.05.19</td>
<td>05.19</td>
</tr>
<tr>
<td>3Q 2019 annual review: updated age limit (12 years old) for Mavyret in initial approval; removed documented sobriety from alcohol and illicit IV drugs for ≥ 6 months prior to starting therapy; references reviewed and updated.</td>
<td>07.02.19</td>
<td>08.19</td>
</tr>
</tbody>
</table>

Important Reminder

This clinical policy has been developed by appropriately experienced and licensed health care professionals based on a review and consideration of currently available generally accepted standards of medical practice; peer-reviewed medical literature; government agency/program approval status; evidence-based guidelines and positions of leading national health professional organizations; views of physicians practicing in relevant clinical areas affected by this clinical policy; and other available clinical information. The Health Plan makes no representations and accepts no liability with respect to the content of any external information used or relied upon in developing this clinical policy. This clinical policy is consistent with standards of medical practice current at the time that this clinical policy was approved. “Health Plan” means a health plan that has adopted this clinical policy and that is operated or administered, in whole or in part, by Centene Management Company, LLC, or any of such health plan’s affiliates, as applicable.

The purpose of this clinical policy is to provide a guide to medical necessity, which is a component of the guidelines used to assist in making coverage decisions and administering benefits. It does not constitute a contract or guarantee regarding payment or results. Coverage decisions and the administration of benefits are subject to all terms, conditions, exclusions and limitations of the coverage documents (e.g., evidence of coverage, certificate of coverage, policy, contract of
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insurance, etc.), as well as to state and federal requirements and applicable Health Plan-level administrative policies and procedures.

This clinical policy is effective as of the date determined by the Health Plan. The date of posting may not be the effective date of this clinical policy. This clinical policy may be subject to applicable legal and regulatory requirements relating to provider notification. If there is a discrepancy between the effective date of this clinical policy and any applicable legal or regulatory requirement, the requirements of law and regulation shall govern. The Health Plan retains the right to change, amend or withdraw this clinical policy, and additional clinical policies may be developed and adopted as needed, at any time.

This clinical policy does not constitute medical advice, medical treatment or medical care. It is not intended to dictate to providers how to practice medicine. Providers are expected to exercise professional medical judgment in providing the most appropriate care, and are solely responsible for the medical advice and treatment of members. This clinical policy is not intended to recommend treatment for members. Members should consult with their treating physician in connection with diagnosis and treatment decisions.

Providers referred to in this clinical policy are independent contractors who exercise independent judgment and over whom the Health Plan has no control or right of control. Providers are not agents or employees of the Health Plan.

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Note:
For Health Insurance Marketplace members, when applicable, this policy applies only when the prescribed agent is on your health plan approved formulary. Request for non-formulary drugs must be reviewed using the formulary exception policy.

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