

Antenatal screening for hepatitis C virus

An evidence map to outline the volume and type of evidence related to antenatal screening for hepatitis C virus for the UK National Screening Committee

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The UK National Screening Committee secretariat is hosted by the Department of Health and Social Care

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About the UK National Screening Committee

The UK National Screening Committee (UKNSC) advises ministers and the NHS in the 4 UK countries about all aspects of [population](#) and targeted screening and supports implementation of screening programmes.

Conditions are reviewed against [evidence review criteria](#) according to the UKNSC's [evidence review process](#).

Read a [complete list of UKNSC recommendations](#).

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www.gov.uk/uknsc

Blog: <https://nationalscreening.blog.gov.uk/>

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Summary

This document discusses the findings of an evidence map completed by the Bristol Evidence Synthesis for Screening (BESS) Group, hosted at the University of Bristol, on antenatal screening for hepatitis C virus (HCV).

Evidence maps are a way of scanning published literature to look at the volume and type of evidence in relation to a specific topic. They inform whether the evidence is sufficient to commission a more sustained analysis on the topic under consideration.

Question 1: Are there any national or international guidelines or recommendations for antenatal screening for HCV?

We identified 9 relevant publications of guidelines or recommendations. These provided an overview of the recommendations and guidelines for antenatal screening for HCV. While the US and Canadian guidelines recommend universal screening, UK National Institute for Health and Care Excellence (NICE), EU and German guidelines recommend targeted screening. Guidelines that report treatment recommendations in addition to recommendations on screening generally advise against antiviral therapy during pregnancy.

Question 2: What is the volume and type of evidence on reported effectiveness of direct-acting antivirals (DAAs) in pregnancy for the prevention of HCV vertical transmission and HCV associated morbidity in pregnant women?

We identified one systematic review (74 pregnant women) and 1 prospective single arm study (11 pregnant women) which provided evidence on the effectiveness of direct-acting antivirals (DAAs) for treating HCV and preventing vertical transmission during pregnancy. These suggested that DAAs may be effective for treating HCV and preventing vertical transmission but this was limited by the small sample size and non-comparative nature of the studies.

Question 3: What is the volume and type of evidence on the reported effectiveness of direct-acting antivirals (DAAs) in children with vertically acquired HCV on HCV associated morbidity and cure?

We identified one systematic review, 1 retrospective cohort study, and 2 prospective single arm trials. These studies provided evidence on the effectiveness of DAAs in children with vertically acquired HCV and children with HCV treated aged 3 to 5 years. All studies suggested that DAAs were effective at curing HCV with minimal serious adverse events, although minor adverse effects of treatment and treatment discontinuation were more common than in adults and older children. However, the findings were limited by the small sample size and non-comparative nature of the studies.

Conclusions

Based on the findings of this evidence map, no further synthesis work should be commissioned at this present time on these 3 questions on antenatal screening for HCV. These questions should be revisited in 3 years' time or in response to a request for an early update via the UK NSC open call for topics.

However, the evidence base and the discussion around the use of DAAs during pregnancy and in early childhood is evolving. Further synthesis work to understand if there is an identifiable group of pregnant women at higher risk of transmitting HCV to the baby could usefully inform the ongoing discussion on screening and research in this topic area.

Introduction and approach

The UK NSC makes recommendations based on careful review of evidence against specific criteria, with regular updates of the evidence that underpins the recommendations. The UKNSC external reviews (also known as evidence summaries or evidence reviews) are developed in keeping with the UKNSC evidence review process to ensure that each topic is addressed in the most appropriate and proportionate manner. Further information on the [UK NSC evidence review process](#) is available on GOV.UK.

Antenatal screening for hepatitis C virus (HCV) is a topic currently due for an updated external review.

Importance of evaluating potential screening programmes

“All screening programmes do harm. Some do good as well and, of these, some do more good than harm at reasonable cost.”¹ Screening programmes aim to identify people at risk at a stage that optimises the chances of effective treatment and improved patient outcomes. The UK National Screening Committee (NSC), a committee of independent experts, plays a critical role in determining whether the benefits of a potential screening programme outweigh the harms and justify the associated costs. UK NSC recommendations are based on careful review of evidence against specific criteria.

Several factors affect whether a screening programme is clinically and/or cost effective. These include people’s access to and uptake of screening, test accuracy, ease of use, cost and administration, whether the intervention leads to better outcomes compared with treating once symptoms develop, and any other unintended consequences.¹ It is essential to consider the harms that may result from false positives, false reassurance, overtreatment, and complications from tests or treatments. Critically, it cannot be assumed that screen-detection always leads to improved patient outcomes. Overdiagnosis, where screening detects an abnormality that would not have caused symptoms or harm, is an important risk.¹ Comprehensive evaluation of screening programmes acknowledges key biases that include healthy screenee bias, lead or length time biases, and overdiagnosis bias.¹ Ethical concerns include the need for informed consent, as well as impact on health inequalities, if some groups are less able to access screening,² and the potential strain on NHS services if the workload of screening worsens access to care for symptomatic patients.

Hepatitis C virus

Hepatitis C virus (HCV) is a bloodborne virus that primarily affects the liver. Some acute infections are symptomless and may clear within 6 months of infection without needing treatment.³ However, in around 70% of those affected by HCV the infection is chronic (long-term) and requires treatment.³ Symptoms are more common in chronic HCV infection and include fatigue, fever, nausea, vomiting, abdominal pain, dark-coloured urine, and jaundice.³

HCV is spread mainly through unsafe blood exposure (for example, injecting drug use, unscreened transfusions prior to 1991), and less often via needlestick injuries, tattoos, or vertical transmission.⁴

HCV is a global health concern. Prevalence is unclear, but it is estimated that 50 million people are affected by chronic HCV.³ In the UK, HCV prevalence has declined markedly in recent years. In 2023, an estimated 55,900 adults in England were living with chronic HCV, a 57% reduction from 2015 estimates.⁵ Chronic infection with HCV can lead to serious complications, including liver cirrhosis, liver failure, and hepatocellular carcinoma.⁶ Early detection and treatment of HCV has the potential to reduce the risk of these complications and improve long-term health.³ Fifteen to 30% of individuals with chronic HCV virus have liver cirrhosis within 20 years of infection.³ The infection is most common among people who inject drugs, who remain the group at highest risk. HCV-related mortality has also decreased, with the UK now meeting or nearing key WHO targets for elimination by 2030.

Hepatitis C virus in pregnancy

Although most women with chronic HCV have uneventful pregnancies, with some even experiencing improvement in symptoms, HCV infection during pregnancy can pose risks to both maternal and foetal health. There is some evidence that HCV is associated with increased risks of gestational diabetes, preterm birth, low birth weight and small-for-gestational-age infants.⁷

The HCV virus can also be transmitted vertically (from mother to baby), with an estimated transmission rate of 5 to 6%.⁸ However, the prevalence of HCV in pregnant women in the UK is unclear. Detecting HCV in pregnancy is particularly important because vertical transmission is the main source of paediatric HCV in high-income countries.⁸ It is unclear what makes it more likely that vertical transmission may occur and how this can be prevented.⁸ Early diagnosis allows appropriate follow-up of the infant for timely testing and treatment if needed.⁹

Language note: Although not all pregnant individuals identify as women, the majority do. For clarity, readability, and to reflect this distribution, we use the term “pregnant women” throughout. This term is intended to be inclusive of all people who are pregnant, regardless of gender identity.

Diagnosis and screening of hepatitis C virus

HCV is diagnosed through a two-step process involving antibody testing followed by confirmatory testing.¹⁰ Antibody tests include enzyme-linked immunosorbent assays (ELISA) and chemiluminescent immunoassays (CLIA).¹¹ The accuracy of these tests in pregnant women is uncertain, but a modelling study found that even if specificity is as high as 96% then there would be a high proportion of FPs in low prevalence settings.¹² Positive antibody tests can be

confirmed with tests for HCV ribonucleic acid (RNA) or HCV core antigen.¹³ Screening for HCV follows the same two-step process as standard diagnosis.³

Treatment of hepatitis C virus

Direct-acting antivirals (DAAs) are used in the treatment of HCV. There are three classes of DAAs, categorised according to the HCV protein they target and block: NS3/4A protease inhibitors (for example, sofosbuvir, dasabuvir), NS5A polymerase inhibitors, and NS5B polymerase inhibitors.¹⁴ DAA treatment is typically used in combination to improve cure rates and prevent resistance, though a single DAA may be used based on various factors, including HCV genotype, liver disease progression, and prior treatment history.¹⁵⁻²¹ At the time of the last UK NSC review,²² there was an absence of evidence on the use of DAAs during pregnancy but this is changing and has started to be reflected in guidance for clinicians.²³ One review article from 2019 concluded that treating HCV infection during pregnancy is feasible given the high effectiveness of DAAs and their relatively short treatment courses. It also concluded that there is an urgent need for research on the safety and efficacy of DAAs during pregnancy.²⁴

Several organisations have made recommendations on the use of DAAs during pregnancy. The American Association for the Study of Liver Disease (AASLD) and the Infection Diseases Society of America (IDSA) recommend considering treatment on an individual basis after a physician discussion with the patient about the potential risks and benefits.²⁵ The American College of Obstetricians and Gynecologists (ACOG) and the Society for Maternal-Fetal Medicine (SMFM) recommend that treatment with DAA should only be initiated in the setting of a clinical trial.⁸ The European Association for the Study of the Liver (EASL) only recommends DAA treatment after the patient has had a discussion with a multidisciplinary team.²⁶

UK NSC recommendation

The UK NSC does not currently recommend antenatal screening for HCV based on a review conducted in 2018,²² which reaffirmed the recommendation based on a review conducted in 2011.²⁷

The 2018 review of antenatal screening for HCV did not recommend screening for HCV because of uncertainties in:

1. the number of pregnant women in the UK who have HCV
2. the factors that increase the risk of a mother transferring the HCV to their child
3. the accuracy of screening tests for HCV in pregnant women
4. the effectiveness of treatments for pregnant women with HCV and their children

It also recommended that evidence relating to the effectiveness of treatment with DAAs for pregnant individuals and children with vertically acquired HCV be kept under review.⁸ The topic of antenatal screening for HCV is now due for review.

Aims of the evidence map

The BESS (Bristol Evidence Synthesis for Screening) Group has been commissioned to produce this evidence map. An evidence map is a rapid evidence product which aims to gauge the volume and type of evidence relating to a specific topic.

This evidence map has been developed to assess whether a more sustained review on antenatal screening for HCV should be commissioned and to evaluate the volume and type of evidence on key issues related to antenatal screening for HCV.

1. Are there any national or international guidelines or recommendations for antenatal screening for HCV?
2. What is the volume and type of evidence on the reported effectiveness of direct-acting antivirals (DAAs) in pregnancy for the prevention of HCV vertical transmission and HCV associated morbidity in pregnant women?
3. What is the volume and type of evidence on the reported effectiveness of direct-acting antivirals (DAAs) in children with vertically acquired HCV on HCV associated morbidity and cure?

The findings of this evidence map will provide the basis for discussion to support decision making on whether there is sufficient evidence to justify commissioning a more sustained review of the evidence on antenatal screening for HCV.

The aim of this document is to present the information necessary to inform UK NSC decision-making processes.

Search methods and results

Detailed methods, including eligibility criteria and search strategies, are available in Appendix 1. Evidence for all questions was restricted to published, full reports available in English reported from 1 February 2018 to July/August 2025.

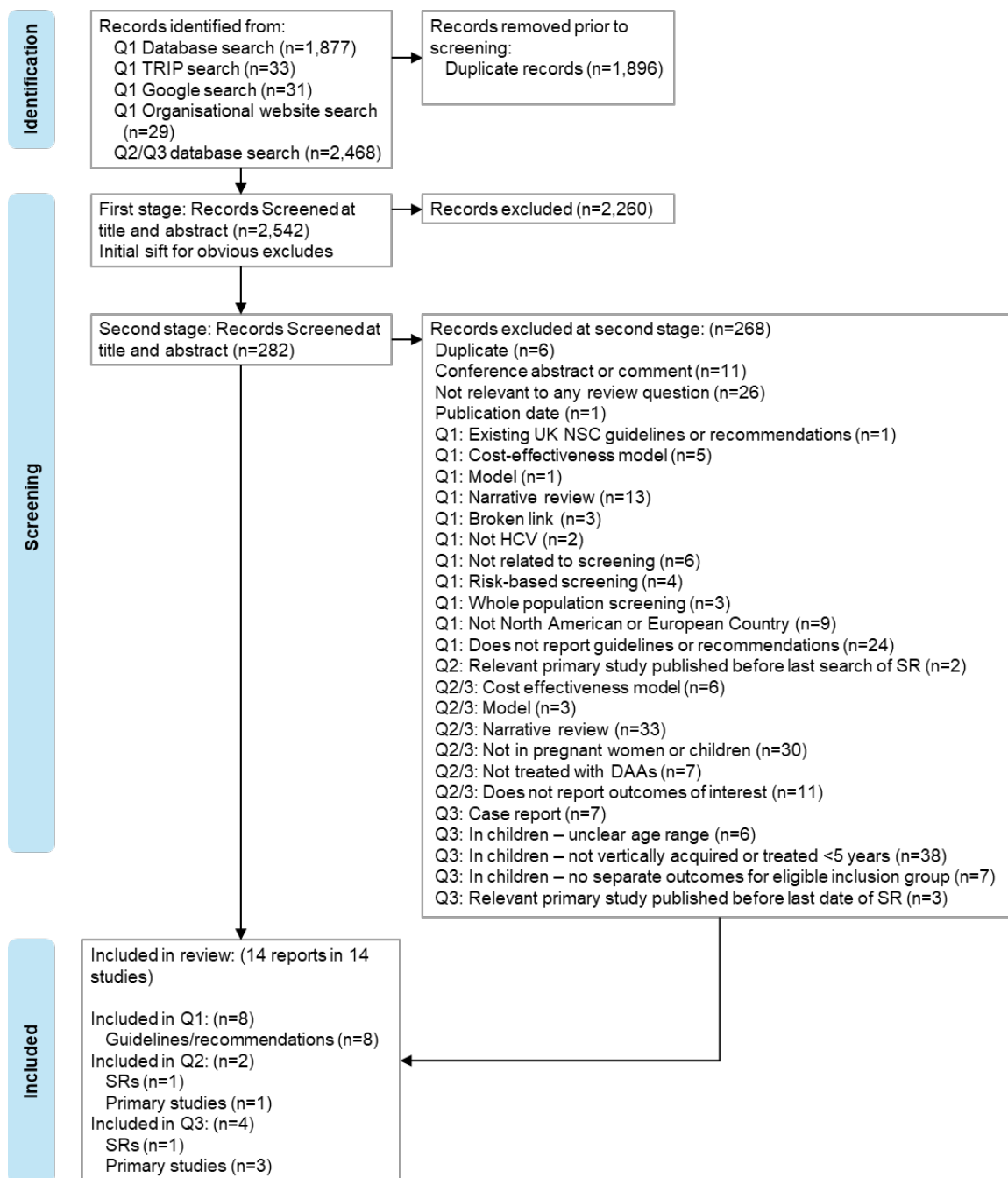
Two separate literature searches were conducted, the first focusing on question 1 and the second on questions 2 and 3. The searches were conducted on 15 and 16 July in 3 databases: MEDLINE, Embase and CINAHL. For question 1, we also conducted internet searches and searched the TRIP website. Deduplication was conducted automatically using Nested Knowledge® (nested-knowledge.org).

Inclusion screening used a two-stage approach. At the first stage, titles and abstracts were screened by 1 reviewer. A random sample of 20% of records were independently screened by a second reviewer. The remaining 80% were screened using the AI screening model (Robot Reviewer) integrated in Nested Knowledge®. Disagreements between the AI Screening and the human reviewer were resolved by a human reviewer. At the second stage, all references identified as potential included studies were independently screened by two reviewers. All references were reviewed at abstract level. Reasons for exclusions were recorded at this stage. As this was an evidence map, only 'top level' study information was extracted. Full texts were only reviewed to clarify uncertain pieces of information. A formal quality appraisal of the evidence was not required, given the remit of the evidence map.

The database search for question 1 retrieved 1,877 results. The supplementary search for North American or European guidelines identified 31 results from Google, 29 results from organisational websites and 33 results from the TRIP website. The literature search for questions 2 and 3 retrieved 2,468 results. After automatic de-duplication of all search results, 2,542 unique references were reviewed for relevance to the questions.

We included 8 reports for question 1, 1 systematic review and 1 additional primary study for question 2, and 1 systematic review (SR) and 3 additional primary studies for question 3. Abstract reporting tables are available in Appendix 2. A flow diagram summarising the flow of studies through the evidence map is presented in Figure 1.

Figure 1: PRISMA flow diagram



Abbreviations: DAAs = direct-acting antivirals, HCV = hepatitis C virus, NSC = National Screening Committee, SR(s) = systematic review(s), UK = United Kingdom

Summary of findings

Question 1: Are there any national or international guidelines or recommendations for antenatal screening for HCV?

Our searches identified eight relevant guidance documents from North America (5)^{25, 28-31}, Europe (2),^{32, 33} and the UK (1)^{22, 34} (Table 1 and Appendix 2).

In the UK, NICE recommends risk-factor-based testing for high-risk groups.³⁴ As outlined in the introduction, the UK NSC does not currently recommend universal antenatal screening for HCV.

The two guidance documents from European countries outside of the UK both recommend targeted screening rather than recommending a universal screening policy. The European Centre for Disease Prevention and Control (ECDC) suggests that HCV tests could be offered based on pregnant women's risk profiles.³³ Similarly, the German Task Force for Obstetrics recommends testing among patients with risk factors.³²

The five guidance documents from North America, recommend universal antenatal screening for HCV. In the United States, the ACOG recommends that all pregnant women be screened in each pregnancy.²⁹ This position is shared by other issuing bodies in the United States, including the SMFM³⁰, the US Preventive Services Task Force (USPSTF)³¹, and the AASLD.²⁵ All 4 of these recommend screening pregnant women for HCV to identify undiagnosed cases early, which they state may enable treatment that can prevent serious complications, reduce transmission, and improve long-term health. Similarly, the Society of Obstetricians and Gynaecologists of Canada (SOGC) recommends HCV antibody testing in the first trimester of every pregnancy in Canada.²⁸ These recommendations relate to the offer of testing rather than developing, evaluating, and monitoring an end-to-end quality assured screening programme.

Several guidelines that included recommendations related to screening also included treatment recommendations for HCV during pregnancy (Appendix 2). The ACOG and the AASLD recommend antiviral therapy for women of reproductive age with known HCV infection before considering pregnancy to reduce the risk of transmission to future offspring.^{25, 29} During pregnancy, DAA regimens are generally not recommended. The Society for Maternal-Fetal Medicine in the US suggests that DAAs should only be initiated in the setting of a clinical trial.³⁰ Similarly, Canadian guidance from the SOGC and German guidance from the Task Force for Obstetrics (Kühnert et al, 2021) state that treatment is not currently recommended during pregnancy.^{28, 32} The German guideline further notes that DAA regimens should only be administered post-partum or in clinical trials.³² The USPSTF recommend only using DAAs to treat HCV after birth, due to a lack of data on the safety of newer DAA regimens during pregnancy and breastfeeding.³¹

A number of guidelines published since the previous review recommend some form of antenatal screening for HCV. However, these suggest that consensus on the use of DAAs in pregnancy

has not been achieved. North American bodies largely recommend universal screening in every pregnancy. European guidelines from the UK, EU, and Germany recommend screening pregnant women with specific risk factors. Guidelines that report treatment recommendations in addition to recommendations on screening generally advise against antiviral therapy during pregnancy. Current recommendations suggest DAAs should only be used in the context of a research setting or on the basis of individual risk.

Table 1: Overview of guidelines and recommendations on antenatal screening for hepatitis C virus

Study	Issuing body	Country	Guidance type	Screening test recommendations	Treatment recommendations
Atkinson et al (2025) ²⁸	Society of Obstetricians and Gynaecologists of Canada	Canada	National	HCV screening in the form of antibody testing should be performed in the first trimester of every pregnancy.	Treatment is not currently recommended during pregnancy and breastfeeding.
European Centre for Disease Prevention and Control (2018) ³³	European Centre for Disease Prevention and Control	European Union and European Economic Area	International	An HCV test could be offered and recommended to a pregnant woman if indicated by her risk profile.	Treatment is not discussed in these guidelines
Kühnert et al (2021) ³²	Task Force for Obstetrics, Section Maternal Diseases	Germany	National	Pregnant women with risk factors should be tested for HCV infection, irrespective of the gestational age of their foetus.	Antiviral HCV therapy is contraindicated during pregnancy. DAA regimens should only be administered during pregnancy in the context of clinical trials or after birth.
NICE (2025) ³⁴	NICE	UK	National	Routine screening of pregnant women for HCV infection is currently not recommended. However, testing is recommended if the woman is at increased risk for HCV infection. They should be tested at their prenatal visits.	Treatment is not discussed in these guidelines.
American College of Obstetricians and Gynecologists (2023) ²⁹	American College of Obstetricians and Gynecologists	USA	National	All pregnant women should be screened for hepatitis C virus antibodies in each pregnancy.	Individuals with HCV should ideally complete treatment with DAAs before considering pregnancy. People who screen positive for HCV while pregnant should initiate treatment after birth and completion of breast-feeding.
Dotters-Katz et al (2021) ³⁰	The Society for Maternal-Fetal Medicine	USA	National	Obstetrical providers should screen all pregnant patients for hepatitis C virus, by testing for anti-hepatitis C virus antibodies in every pregnancy.	DAAs should only be initiated during pregnancy in the context of a clinical trial. People who become pregnant while taking DAAs should be counselled about the risks and benefits of continuation.

Study	Issuing body	Country	Guidance type	Screening test recommendations	Treatment recommendations
American Association for the Study of Liver Diseases (2023) ²⁵	American Association for the Study of Liver Diseases and Infectious Diseases Society of America.	USA	National	As part of prenatal care, all pregnant persons should be tested for HCV infection with each pregnancy, ideally at the initial visit.	Treatment with DAAs is recommended before considering pregnancy. Treatment during pregnancy can be considered on an individual basis after a patient-physician discussion about the potential risks and benefits.
US Preventive Services Task Force (2020) ³¹	US Preventive Services Task Force	USA	National	Pregnant women should be screened.	Treatment with DAAs during pregnancy is not currently recommended due to a lack of data on the safety of newer DAA regimens during pregnancy and breastfeeding.

Abbreviations: DAA = direct-acting antiviral, HCV = hepatitis C virus, NICE = National Institute for Health and Care Excellence, UK = United Kingdom, USA = United States of America

Question 2: What is the volume and type of evidence on reported effectiveness of direct-acting antivirals (DAAs) in pregnancy for the prevention of HCV vertical transmission and HCV associated morbidity in pregnant women?

One systematic review was included for this question (Table 2 and Appendix 2).³⁵ As per our protocol, primary studies were therefore only included if they were published since the search date of this systematic review. One additional primary study published since the latest search date of the included systematic review was identified for this question: a single arm trial conducted in the USA (Table 3 and Appendix 2).³⁶

The systematic review included 6 observational studies (including a total of 74 pregnant women) who were treated with DAAs during pregnancy. It was unclear whether these were comparative studies. Treatments evaluated in these studies included: sofosbuvir plus ledipasvir, sofosbuvir plus velpatasvir, and glecaprevir plus pibrentasvir.³⁵ The DAAs that 7 participants received were not specified.³⁵ The additional single arm trial included 11 pregnant women between 23 and 25 weeks' gestation who received treatment of sofosbuvir plus velpatasvir during pregnancy.³⁶

Data on the sustained virological response at 12 weeks post-treatment (SVR12) were not available for 13 participants who were lost to follow-up from studies included in the systematic review.³⁵ Of participants with available data, the systematic review reported that 60/61 (98.4%) of participants achieved SVR12.³⁵ For the additional single arm trial, ten participants completed treatment and data on SVR12 was available for 9 participants.³⁶ All achieved SVR12.³⁶ No serious adverse events were reported in either the systematic review or single arm trial.^{35, 36} The most common minor adverse effect of treatment reported in the systematic review was nausea or vomiting, which was reported by 17% of participants.³⁵ Other common minor adverse effects of treatment included headache and fatigue.³⁵ Minor adverse effects of treatment were reported by 82% of participants in the single arm trial and included headache, nausea, heartburn, vomiting, and fatigue.³⁶ One participant discontinued treatment due to worsening of hyperemesis.³⁶

Vertical transmission occurred in 9% of pregnancies in all studies included in the review, but results were not reported separately for women who were treated with DAAs.³⁵ There were no cases of vertical transmission of HCV in the single arm trial.³⁶ There were no reports of any foetal adverse effects or congenital malformation in the studies included in the systematic review.³⁵ Of the 11 enrolled participants in the single arm trial, two participants were diagnosed with a hypertensive disorder of pregnancy and three experienced post-partum haemorrhage.³⁶ Two participants, one with preeclampsia and one with placenta previa, delivered preterm at 36 and 35 weeks gestation, respectively.³⁶

In summary, we identified one systematic review and one primary study that looked at the efficacy and safety of DAA treatment in pregnant women. These suggested that DAAs may be effective for treating HCV and preventing vertical transmission but this was limited by the small

sample size and non-comparative nature of the studies. While some minor adverse effects of treatment were reported, no serious adverse events occurred.

Table 2: Overview of systematic reviews that provided evidence on question 2

Study	Country	Latest search date	Study size	Intervention	Comparator	Results
Quek et al (2024) ³⁵	Singapore	March 2024	311,905,738 pregnant women for all review questions 109 pregnant women were included for the question evaluating DAAs during pregnancy. 74 pregnant women received treatment with DAAs.	<ul style="list-style-type: none"> • Sofosbuvir plus ledipasvir • Sofosbuvir plus velpatasvir • Glecaprevir plus pibrentasvir • Unspecified DAAs 	None	<ul style="list-style-type: none"> • 98.4% of women treated with DAAs achieved SVR12 • No serious adverse events of treatment with DAAs were reported • Common adverse effects of treatment included <ul style="list-style-type: none"> ○ Nausea or vomiting (17.6%) ○ Headaches (10.8%) ○ Fatigue (9.5%) • The pooled vertical transmission rate across all studies irrespective of treatment was 9.0% (95% CI: 6.6-11.7, I² = 79%)

Abbreviations: DAAs = direct-acting antivirals, SVR12 = sustained virological response at 12 weeks post-treatment

Table 3: Overview of primary studies that provided evidence on question 2

Study	Country	Study type	Study size	Intervention	Comparator	Results reported in abstract
Chappell et al (2025) ³⁶	USA	Prospective single arm trial	11 participants (10 completed treatment)	Sofosbuvir + velpatasvir	None	<ul style="list-style-type: none"> • 100% achieved SVR12 • No infants acquired HCV • 82% of participants experienced adverse events including: <ul style="list-style-type: none"> ○ Headache ○ Nausea ○ Heartburn ○ Vomiting (leading to discontinuation of treatment in one participant) ○ Fatigue • Two infants were delivered preterm at 36 and 35 weeks due to maternal preeclampsia and placenta previa, respectively • Three participants experienced postpartum haemorrhage • Two participants were diagnosed with a hypertensive disorder of pregnancy

Abbreviations: HCV = hepatitis C virus, SVR12 = sustained virological response at 12 weeks post-treatment

Question 3: What is the volume and type of evidence on the reported effectiveness of direct-acting antivirals (DAAs) in children with vertically acquired HCV on HCV associated morbidity and cure?

One systematic review was included for this question (Table 4 and Appendix 2).³⁷ The systematic review included 166 children aged 3 to 5 years who were treated with DAAs.³⁷ The review also included older children aged 6 to 11 years and adolescents aged 12 to 18 years who received these same treatments or sofosbuvir plus daclatasvir.³⁷ The number of children with vertically acquired HCV was not reported.³⁷ Three primary studies published after the latest search date of the included systematic review were also included for this question: 2 prospective single arm trials (n=61³⁸ and n=216³⁹) and 1 retrospective observational cohort study (n=98)⁴⁰ (Table 5 and Appendix 2). Two studies were conducted in the USA,^{39, 40} and one in Italy.³⁸ Both prospective single arm trials included children aged 3 to 17 years,^{38, 39} of which HCV was vertically acquired in 98%^{39, 40} and 100% of participants.³⁸ The retrospective cohort study included children up to the age of 17 years but did not report the number of cases acquired through vertical transmission.⁴⁰ No studies were identified which compared early treatment of symptomless children to late treatment after symptom onset.

DAA treatment in the systematic review included sofosbuvir plus velpatasvir and glecaprevir plus vibrentasvir.³⁷ Interventions evaluated in the prospective trials were: glecaprevir plus pibrentasvir³⁸ and sofosbuvir plus velpatasvir.³⁹ Interventions evaluated in the retrospective cohort study included glecaprevir plus pibrentasvir, sofosbuvir plus velpatasvir, and ledipasvir plus sofosbuvir.⁴⁰

Across the SR and additional included studies, all participants who completed and adhered to treatment and for whom follow-up data were available achieved SVR12. In the systematic review SVR12 was achieved by 96% of children aged 3 to 5 years treated with glecaprevir plus pibrentasvir, and by 83% of children aged 3 to 5 years treated with sofosbuvir plus velpatasvir.³⁷ Of the 166 children aged 3 to 5 years, including those who discontinued treatment or did not have follow-up data available, 11 were classified as not having achieved SVR12.³⁷ Of these, 5 had discontinued treatment and 6 were lost to follow-up.³⁷ SVR12 was achieved by 90% of participants aged 3 to 5 years in the retrospective cohort study.³⁹ Two participants did not achieve SVR12.⁴⁰ One of these was a child who reported several missed doses of the study drug, and the other was lost to follow-up.⁴⁰ In one prospective single arm trial, 83% of children (34 of 41 participants) aged 3 to 5 years achieved SVR12.³⁹ Of the 41 participants who initiated treatment, 6 discontinued treatment and 1 was lost to follow-up.³⁹ Reasons for treatment discontinuation were: non adherence (n=2), investigator discretion (n=2), adverse events (n=1), and withdrawal of consent (n=1).³⁹ In the other prospective single arm trial, 98% of participants achieved SVR12.³⁸ The participant who did not achieve SVR12 died from an oncological illness during the trial.³⁸

Adverse effects of treatment were reported by 72% of children aged 3 to 5 years in studies included in the systematic review.³⁷ The most common adverse effects were vomiting, cough,

and diarrhoea.³⁷ Serious adverse events or treatment discontinuation due to minor adverse effects were reported by 3% of children aged 3 to 5 years, and by less than 1% of older children and adolescents.³⁷ One child aged 3 to 5 years reported a serious adverse event of overdose of study drug.³⁷ Treatment was discontinued by 5 participants due to minor adverse effects of treatment and by 4 participants due to difficulty swallowing the treatment.³⁷

Mild adverse effects of treatment were reported by participants in all three primary studies.³⁸⁻⁴⁰ One study reported vomiting as the most common adverse effect.^{39, 40} Other reported adverse effects included headache, fatigue, weakness, abdominal pain, and diarrhoea.³⁸ Four participants receiving treatment with sofosbuvir plus velpatasvir in one prospective single arm trial reported serious adverse events.³⁹ Three participants in this trial discontinued treatment due to adverse effects.³⁹ However, only one serious adverse event, of auditory hallucinations, was considered treatment related.³⁹ No serious adverse events were reported by the two remaining studies.^{38, 40}

In summary, we identified one systematic review and three primary studies that looked at the efficacy and safety of DAA treatment in children up to the age of 5 and children with vertically acquired HCV. These suggested that DAAs may be effective for treating HCV but this was limited by the small sample size and non-comparative nature of the studies. Some minor adverse effects of treatment were reported, and two serious adverse events occurred. We identified 7 additional studies including a wider age range of children which could be considered to help answer this question (Appendix 3).

Although there is limited data available in children treated with DAAs up to the age of 5 or children who have acquired HCV through vertical transmission, the available data suggests that treatment could be safe and effective.

Table 4: Overview of systematic reviews that provided evidence on question 3

Study	Country	Study design	Latest search date	Study size	Intervention	Comparator	Results
Indolfi et al (2024) ³⁷	Italy	Systematic review	August 2021	49 studies including: <ul style="list-style-type: none"> • 882 adolescents (aged 12 to 18 years) • 436 older children (aged 6 to 11 years) • 166 young children (aged 3 to 5 years) 	<ul style="list-style-type: none"> • Sofosbuvir + daclatasvir (only in older children and adolescents) • Sofosbuvir + velpatasvir • Glecaprevir + pibrentasvir 	None	<p>SVR12 was achieved in:</p> <ul style="list-style-type: none"> • 96% of children aged 3 to 5 years treated with GLE/PIB • 83% of children aged 3 to 5 years treated with SOF/VEL <p>72% of children aged 3 to 5 years reported adverse effects of treatment, including:</p> <ul style="list-style-type: none"> • Vomiting (21%) • Cough (14%) • Diarrhoea (9%) <p>Rates of serious adverse events and treatment discontinuations were</p> <ul style="list-style-type: none"> • <1% in adolescents and older children • 3% in children aged 3 to 5 years

Abbreviations: SVR12 = sustained virological response at 12 weeks post-treatment

Table 3: Overview of primary studies that provided evidence on question 3

Study	Country	Study type	Intervention	Study size	Comparator	Results
Carver et al (2025) ⁴⁰	USA	Retrospective observational cohort study single arm study	<ul style="list-style-type: none"> • Glecaprevir + pibrentasvir • Sofosbuvir + velpatasvir • Ledipasvir + sofosbuvir 	98 participants with HCV aged <18 (n = 20 aged 3 to 5 years)	None	<p>In children aged 3 to 5:</p> <ul style="list-style-type: none"> • 90% achieved SVR12 • 5% did not achieve SVR12 • 5% were lost to follow up <p>In all participants:</p> <ul style="list-style-type: none"> • 92% achieved SVR12 • 53% reported ≥1 adverse event • None discontinued treatment
Jonas et al (2024) ³⁹	USA	Prospective single arm trial	Sofosbuvir + velpatasvir	<p>216 participants with HCV aged 3 to 17 (n = 41 aged 3 to 5 years).</p> <p>HCV was vertically acquired in 98% of participants</p>	None	<p>In children aged 3 to 5:</p> <ul style="list-style-type: none"> • 83% achieved SVR12 • The most common adverse event was vomiting <p>In all participants:</p> <ul style="list-style-type: none"> • 92% achieved SVR12 • Two patients experienced virologic failure • Three patients discontinued treatment because of adverse events • Four patients had serious adverse events; all except auditory hallucination (n = 1) were considered unrelated to study drug
Stinco et al (2025) ³⁸	Italy	Prospective single arm trial	Glecaprevir + pibrentasvir	61 participants with vertically acquired HCV aged 3 to 17 years	None	<ul style="list-style-type: none"> • 98.4% of participants achieved SVR12 • One participant died because of an oncological illness while on treatment • 13.1% of participants experienced mild adverse events • No participants discontinued treatment prematurely

Abbreviations: HCV = hepatitis C virus, SVR12 = sustained virological response at 12 weeks post-treatment

Conclusions

We identified some evidence for each review question. For question 1, we identified 9 relevant publications of guidelines or recommendations. These provided an overview of the recommendations and guidelines for antenatal screening for hepatitis C virus, which countries and regions they apply to, and some reported recommendations regarding treatment following screening.

For question 2, we identified one systematic review and 1 prospective single arm study which provided evidence on the effectiveness of direct-acting antivirals for treating HCV and preventing vertical transmission during pregnancy. While the amount of evidence is low, the evidence reviewed suggests that DAAs could be effective at curing HCV and preventing vertical transmission of HCV.

For question 3, we identified one systematic review, 1 retrospective cohort study, and 2 prospective single arm trials. These studies provided evidence on the effectiveness of DAAs in children with vertically acquired HCV and children with HCV treated aged 3 to 5 years. All studies suggested that DAAs were effective at curing HCV with minimal serious adverse events (2 in total), although minor adverse effects of treatment and treatment discontinuation were more common than in adults and older children. We additionally identified 7 studies which included a wider age range of participants which provide a more general overview of the safety and effectiveness of DAAs in a wider age range (Appendix 3). This demonstrates that the outcomes of treatment of HCV with DAAs is similar amongst children of all ages.

Recommendations

Recommendations are developed in collaboration between BESS, the Evidence Team (UK NSC Secretariat) and the UK NSC Fetal, Maternal and Child Health (FMCH) reference group.

On the basis of this evidence map, the volume and type of evidence related to antenatal screening for HCV is currently insufficient to justify an update review of these questions at this stage and should therefore be reconsidered in 3 years' time or in response to a proposal for an early update via the UK NSC open call for topics.

For question 1, treatment during pregnancy is widely not recommended outside the context of a clinical trial. However, the evidence base and discussion on the use of DAAs in pregnancy and early childhood are still evolving. Overall, the mother to child transmission rate is low (3 to 8%)²⁷ but the UK NSC has not reviewed the evidence on risk of transmission since the 2018 UK NSC review.²¹ Consequently, further synthesis work to identify whether a higher-risk group is more likely to benefit from treatment could help inform ongoing discussions on screening and research in this area. This would address UK NSC criterion 10 for a screening programme: 'There should be agreed evidence based policies covering which individuals should be offered interventions and the appropriate intervention to be offered.'

Declaration of interests

None

Appendix 1 — Search strategies for the evidence map

Search strategies for Question 1

MEDLINE search

Database, version and platform

Ovid MEDLINE(R) ALL 1946 to Jul 15, 2025 via OvidSP.

Search date

16 July 2025.

#	Search terms	Hits
1	exp Hepatitis C/ or "Hepatitis C, Chronic"/ or Hepacivirus/	81616
2	("Hep C" or "HepC" or "hepatitis C" or "viral hepatitis" or "hepatitis B and C" or "HCV").ti,ab,kw.	122615
3	((liver or hepatic) adj2 (disease\$ or disorder\$)).ti,ab,kw.	160955
4	or/1-3	270967
5	exp Pregnancy/ or Preconception Care/ or Prenatal Care/ or exp Perinatal Care/ or Postpartum Period/ or Peripartum Period/ or Maternal Health/ or "Infectious Disease Transmission, Vertical"/ or "Pregnancy Complications, Infectious"/ or Prenatal Diagnosis/ or "Delivery, Obstetric"/ or "Labor, Obstetric"/ or Pregnancy Outcome/	1091709
6	(pregnan\$ or gestation\$ or obstetric\$ or antenat\$ or "ante-nat\$" or prenat\$ or "pre-nat\$" or perinat\$ or "peri-nat\$" or neonat\$ or "neo-nat\$" or postnat\$ or "post-nat\$" or antepartum or "ante-partum" or prepartum or "pre-partum" or intrapartum or "intra-partum" or peripartum or "peri-partum" or postpartum or "post-partum" or prepregnancy or transplacental or mother\$ or matern\$).ti,ab,kf.	1553793
7	("mother to infant" or "mother-to-infant" or "mother to child" or "mother-to-child" or "maternal-f?etal").ti,ab,kw.	47796
8	or/5-7	1881822

#	Search terms	Hits
9	Guideline/ or Practice Guideline/ or Practice Guidelines as Topic/ or Guidelines as Topic/ or Consensus Development Conference/ or "Consensus Development Conference, NIH"/	224113
10	(guide\$ or guidance or recommend\$ or statement\$ or requirement\$ or standard\$ or policy or policies or "best practice\$" or consensus\$).ti,ab,kf.	4392350
11	9 or 10	4459038
12	4 and 8 and 11	1805
13	english.lg.	34246520
14	12 and 13	1642
15	limit 14 to yr="2019-2025"	646
16	(2018 Feb* or 2018 Mar* or 2018 Apr* or 2018 May* or 2018 Jun* or 2018 Jul* or 2018 Aug* or 2018 Sep* or 2018 Oct* or 2018 Nov* or 2018 Dec*).dp.	491081
17	(201802* or 201803* or 201804* or 201805* or 201806* or 201807* or 201808* or 201809* or 201810* or 201811* or 201812*).ez,dt,ep.	1253858
18	16 or 17	1341382
19	14 and 18	74
20	15 or 19	709
21	(case report or clinical conference or comment or congress or editorial or historical article or letter or news or newspaper article).pt.	2987080
22	20 not 21	682

Embase search

Database, version and platform

Embase 1974 to 2025 July 15 via OvidSP.

Search date

16 July 2025.

#	Search terms	Hits
1	exp hepatitis C/ or Hepatitis C virus/ or Hepacivirus/	179491
2	("Hep C" or "HepC" or "hepatitis C" or "viral hepatitis" or "hepatitis B and C" or "HCV").ti,ab,kw.	201561
3	((liver or hepatic) adj2 (disease\$ or disorder\$)).ti,ab,kw.	256046
4	or/1-3	450920
5	exp pregnancy/ or Prepregnancy Care/ or prenatal care/ or prenatal screening/ or exp perinatal care/ or perinatal period/ or maternal welfare/ or vertical transmission/ or exp mother to child transmission/ or exp infectious pregnancy complication/ or prenatal diagnosis/ or obstetric delivery/ or labor/ or pregnancy outcome/ or labor management/ or pregnant woman/ or newborn screening/	1152856
6	(pregnan\$ or gestation\$ or obstetric\$ or antenat\$ or "ante-nat\$" or prenat\$ or "pre-nat\$" or perinat\$ or "peri-nat\$" or neonat\$ or "neo-nat\$" or postnat\$ or "post-nat\$" or antepartum or "ante-partum" or prepartum or "pre-partum" or intrapartum or "intra-partum" or peripartum or "peri-partum" or postpartum or "post-partum" or prepregnancy or transplacental or mother\$ or matern\$).ti,ab,kf.	1978511
7	("mother to infant" or "mother-to-infant" or "mother to child" or "mother-to-child" or "maternal-f?etal").ti,ab,kw.	63189
8	or/5-7	2220482
9	practice guideline/ or best practice/ or good practice standard/ or consensus development/ or good clinical practice/ or exp medical guideline/	681026
10	(guide\$ or guidance or recommend\$ or statement\$ or requirement\$ or standard\$ or policy or policies or "best practice\$" or consensus\$).ti,ab,kf.	6209579
11	9 or 10	6408501
12	4 and 8 and 11	4274

#	Search terms	Hits
13	english.lg.	39271803
14	12 and 13	4026
15	limit 14 to yr="2018-2025"	2012
16	(Conference Abstract or Conference Paper or Conference Review or Editorial or Letter or Note).pt.	9554688
17	(Clinical Trials Repository or Conference Proceeding).su.	537792
18	16 or 17	10088341
19	15 not 18	976

CINAHL search

Database, version and platform

CINAHL via EBSCOHost.

Search date

16 July 2025.

#	Search terms	Hits
1	MH "Hepatitis C" or MH "Hepatitis C, Chronic"	16960
2	XB ("Hep C" or "HepC" or "hepatitis C" or "viral hepatitis" or "hepatitis B and C" or "HCV")	20884
3	XB ((liver or hepatic) N2 (disease* or disorder*))	24550
4	S1 or S2 or S3	46070
5	MH "Pregnancy+" or MH "Prepregnancy Care" or MH "Prenatal Care" or MH "Perinatal Care" or MH "Postnatal Care+" or MH "Perinatal Period" or MH "Maternal-Child Health" or MH "Disease Transmission, Vertical" or MH "Pregnancy Complications, Infectious" or MH "Prenatal Diagnosis" or MH "Delivery, Obstetric" or MH "Pregnancy Outcomes+"	268080
6	XB (pregnan* or gestation* or obstetric* or antenat* or "ante-nat*" or prenat* or "pre-nat*" or perinat* or "peri-nat*" or neonat* or "neo-nat*" or postnat* or "post-nat*" or antepartum or "ante-partum" or prepartum or "pre-partum" or intrapartum or "intra-partum" or peripartum or "peri-partum" or postpartum or "post-partum" or prepregnancy or transplacental or mother* or matern*)	434096
7	XB ("mother to infant" or "mother-to-infant" or "mother to child" or "mother-to-child" or "maternal-foetal" or "maternal-fetal")	6302
8	S5 or S6 or S7	508668
9	MH "Practice Guidelines" or MH "Consensus" or PT "Practice Guidelines" or PT "Standards"	113466
10	XB (guide* or guidance or recommend* or statement* or requirement* or standard* or policy or policies or "best practice*" or consensus*)	1198917
11	S9 or S10	1238475
12	S4 and S8 and S11	441
13	LA "English"	8957889

#	Search terms	Hits
14	S12 and S13	432
15	PY 2018-2025	3391143
16	S14 and S15	236
17	PT "Case Study" or PT "Commentary" or PT "Editorial" or PT "Historical Material" or PT "Letter" or PT "Proceedings" or PT "Response"	1310946
18	S16 not S17	219

Supplementary searches for question 1

Google search

Website: Google advanced search page at https://www.google.co.uk/advanced_search

Search date: 24 July 2025.

The following search terms and limits were entered into the Google Advanced Search page at https://www.google.co.uk/advanced_search.

1. "antenatal hepatitis C" OR "hepatitis C in pregnancy" OR "hepatitis C in pregnant" in 'this exact word or phrase' box
2. guideline guidelines guidance recommendation recommendations screening in 'any of these words' box
3. English language filter applied using the 'narrow your results by language' box.

The search results were sifted page-by-page (using a sensitive approach to ensure relevant publications were not missed) for all North American or European guidelines. Sifting stopped when the results were no longer directly relevant, for example when the last two pages of search results were irrelevant (not providing links to guidelines or recommendations for antenatal hepatitis C screening). Relevant publications were added to a list (in Word) and checked in EndNote against those already identified by the MEDLINE, EMBASE and CINAHL search. The list was shared with the review team and reviewed again to determine which publications to include.

Organisational website search

The organisational websites listed below were either searched or browsed for all North American or European guidelines published since 2018 and available in the English language. All relevant guidelines and links were added to a Word document, checked in EndNote against those already identified by the MEDLINE, EMBASE and CINAHL search and then screened by a member of the review team.

Search date: 21 July 2025.

Organisational websites: ECRI Guidelines Trust; International Federation of Gynecology and Obstetrics (FIGO); Guidelines International Network (GIN); Geneva Foundation for Medical Education and Research (GFMER); U.S. Centers for Disease Control and Prevention (CDC); U.S. Preventive Services Task Force; American College of Obstetricians and Gynecologists (ACOG); American Association for the Study of Liver Diseases (AASLD); American Academy of Pediatrics; Infection Diseases Society of America; Society for Maternal-Fetal Medicine; Public Health Agency of Canada; Canadian Task Force on Preventive Health Care; Society of Obstetricians and Gynaecologists of Canada (SOGC); Canadian Paediatric Society; Canadian Association for the Study of the Liver (CASL); European Centre for Disease Prevention and

Control; European Board and College of Obstetrics and Gynaecology; European Society of Human Reproduction and Embryology (ESHRE); European Society for Paediatric Gastroenterology Hepatology and Nutrition (ESPGHAN); European Academy of Paediatrics; European Association for the Study of the Liver; NICE Guidelines; Scottish Intercollegiate Guidelines Network (SIGN); Royal College of Obstetricians and Gynaecologists (RCOG); Royal College of Paediatrics and Child Health; British Association for the Study of the Liver.

TRIP search

Website: TRIP website at <https://www.tripdatabase.com/>

Search date: 4 August 2025

The following search terms were entered into the TRIP advanced search box and the search results were limited by using the date limit and guidelines filter.

1. title:"hepatitis C" OR title:"hep C" OR title:"HCV" OR title:"viral hepatitis" OR title:"hepatitis B and C"

Filtered by:

Year Range: 2018-2025

Guidelines

The search results were exported from the TRIP website and then imported into Nested Knowledge® ([nested-knowledge.org](https://www.nested-knowledge.org)) for screening.

Search strategies for Questions 2 and 3

MEDLINE Search

Database, version and platform

Ovid MEDLINE(R) ALL 1946 to July 14, 2025 via OvidSP.

Search date

15 July 2025.

#	Search terms	Hits
1	exp Hepatitis C/ or "Hepatitis C, Chronic"/ or Hepacivirus/	81610
2	("Hep C" or "HepC" or "hepatitis C" or "viral hepatitis" or "hepatitis B and C" or "HCV").ti,ab,kw.	122595
3	or/1-2	130206
4	exp Pregnancy/ or Preconception Care/ or Prenatal Care/ or exp Perinatal Care/ or Postpartum Period/ or Peripartum Period/ or Maternal Health/ or "Infectious Disease Transmission, Vertical"/ or "Pregnancy Complications, Infectious"/ or Prenatal Diagnosis/ or "Delivery, Obstetric"/ or "Labor, Obstetric"/ or Pregnancy Outcome/	1091623
5	(pregnan\$ or gestation\$ or obstetric\$ or antenat\$ or "ante-nat\$" or prenat\$ or "pre-nat\$" or perinat\$ or "peri-nat\$" or neonat\$ or "neo-nat\$" or postnat\$ or "post-nat\$" or antepartum or "ante-partum" or prepartum or "pre-partum" or intrapartum or "intra-partum" or peripartum or "peri-partum" or postpartum or "post-partum" or prepregnancy or transplacental or mother\$ or matern\$).ti,ab,kf.	1553563
6	("mother to infant" or "mother-to-infant" or "mother to child" or "mother-to-child" or "maternal-f?etal").ti,ab,kw.	47787
7	or/4-6	1881584
8	exp Child/ or exp Infant/	2934423
9	(f?etal or f?etus or neonat\$ or "neo-nat\$" or newborn or "new-born" or "new born" or babies or baby or infan\$ or "preschool\$" or "pre-school\$" or toddler\$ or congenital or girl\$ or boy\$ or child\$ or kid or kids or p?ediatric\$).ti,ab,kf.	3288173
10	8 or 9	4275999

#	Search terms	Hits
11	7 or 10	5127357
12	Antibodies, Viral/ or Antigens, Viral/ or Antiviral Agents/ or HCV NS3-4A Protease Inhibitors/ or Protease Inhibitors/ or Sofosbuvir/ or Ritonavir/ or Ribavirin/ or Simeprevir/ or Interferon alpha-2/	270542
13	("direct\$ antiviral agent\$" or "direct\$ acting antiviral\$" or "direct-acting antiviral\$" or "directly-acting antiviral\$" or "DAA" or "DAAs" or "pan-genotypic regimen\$" or "polymerase inhibitor\$" or "protease inhibitor\$" or "proteinase inhibitor\$" or antiviral\$ or "anti-viral\$").ti,ab,kw.	194739
14	(sofosbuvir or "SOF" or dasabuvir or velpatasvir or "VEL" or voxilaprevir or "VOX" or glecaprevir or "GLE" or pibrentasvir or "PIB" or daclatasvir or "DCV" or ledipasvir or "LDV" or elbasvir or "EBR" or "GZR" or grazoprevir or ombitasvir or "OBV" or paritaprevir or "PTV" or ritonavir or "RTV" or ribavirin or "RBV" or vedroprevir or sovaprevir or deldeprevir or simeprevir or asunaprevir or boceprevir or ciluprevir or danoprevir or faldaprevir or furaprevir or "gs 9256" or "idx 320" or narlaprevir or telaprevir or vaniprevir or beclabuvir).ti,ab,kf.	45348
15	("asunaprevir/beclabuvir/daclatasvir" or "asunaprevir-beclabuvir-daclatasvir" or "asunaprevir plus beclabuvir plus daclatasvir" or "asunaprevir+beclabuvir+daclatasvir" or "daclatasvir/sofosbuvir" or "daclatasvir-sofosbuvir" or "daclatasvir plus sofosbuvir" or "daclatasvir+sofosbuvir" or "glecaprevir/pibrentasvir" or "glecaprevir-pibrentasvir" or "glecaprevir plus pibrentasvir" or "glecaprevir+pibrentasvir" or "GLE/PIB" or "sofosbuvir/velpatasvir" or "sofosbuvir-velpatasvir" or "sofosbuvir plus velpatasvir" or "sofosbuvir+velpatasvir" or "SOF/VEL" or "sofosbuvir/daclatasvir" or "sofosbuvir-daclatasvir" or "sofosbuvir plus daclatasvir" or "sofosbuvir+daclatasvir" or "SOF/DCV" or "ledipasvir/sofosbuvir" or "ledipasvir-sofosbuvir" or "ledipasvir plus sofosbuvir" or "ledipasvir+sofosbuvir" or "SOF/LDV" or "sofosbuvir/velpatasvir" or "sofosbuvir-velpatasvir" or "sofosbuvir plus velpatasvir" or "sofosbuvir+velpatasvir" or "SOF/VEL" or "sofosbuvir/velpatasvir/voxilaprevir" or "sofosbuvir-velpatasvir-voxilaprevir" or "sofosbuvir plus velpatasvir plus voxilaprevir" or "sofosbuvir+velpatasvir+voxilaprevir" or "SOF/VEL/VOX" or "elbasvir/grazoprevir" or "elbasvir-grazoprevir" or "elbasvir plus grazoprevir" or "elbasvir+grazoprevir" or "EBR/GZR" or "sofosbuvir/ledipasvir plus ribavirin" or "sofosbuvir plus ledipasvir plus ribavirin" or "sofosbuvir+ledipasvir+ribavirin" or "sofosbuvir/ledipasvir/ribavirin" or "sofosbuvir-ledipasvir-ribavirin" or "SOF/LDV + RBV" or	2295

#	Search terms	Hits
	<p>"ombitasvir/paritaprevir plus ritonavir" or "OBV/PTV + RTV" or "ombitasvir–paritaprevir–ritonavir" or "OBV/PTV/RTV" or "ombitasvir plus paritaprevir plus ritonavir" or "ombitasvir/paritaprevir/ritonavir" or "ombitasvir+paritaprevir+ritonavir" or "dasabuvir plus ombitasvir plus paritaprevir plus ritonavir" or "dasabuvir/ombitasvir/paritaprevir/ritonavir" or "dasabuvir-ombitasvir-paritaprevir-ritonavir" or "dasabuvir+ombitasvir+paritaprevir+ritonavir" or "sofosbuvir/ribavirin" or "sofosbuvir-ribavirin" or "sofosbuvir plus ribavirin" or "sofosbuvir+ribavirin" or "SOF + RBV").ti,ab,kw.</p>	
16	<p>("alpha2b interferon plus ribavirin" or "alpha2b interferon/ribavirin" or "alpha2b interferon-ribavirin" or "alpha 2b interferon plus ribavirin" or "alpha 2b interferon/ribavirin" or "alpha 2b interferon-ribavirin" or "alpha-2b interferon plus ribavirin" or "alpha-2b interferon/ribavirin" or "alpha-2b interferon-ribavirin" or "peginterferon alpha2a plus ribavirin" or "peginterferon alpha2a/ribavirin" or "peginterferon alpha2a-ribavirin" or "peginterferon alpha 2a plus ribavirin" or "peginterferon alpha 2a/ribavirin" or "peginterferon alpha 2a-ribavirin" or "peginterferon-alpha2a-ribavirin" or "peginterferon alpha2b plus ribavirin" or "peginterferon alpha2b/ribavirin" or "peginterferon alpha2b-ribavirin" or "peginterferon alpha 2b plus ribavirin" or "peginterferon alpha 2b/ribavirin" or "peginterferon alpha 2b-ribavirin" or "peginterferon-alpha2b-ribavirin" or "peginterferon alpha2 plus ribavirin" or "peginterferon alpha2/ribavirin" or "peginterferon alpha2-ribavirin" or "peginterferon alpha 2 plus ribavirin" or "peginterferon alpha 2/ribavirin" or "peginterferon alpha 2-ribavirin" or "peginterferon-alpha2-ribavirin" or "alfa2b interferon plus ribavirin" or "alfa2b interferon/ribavirin" or "alfa2b interferon-ribavirin" or "alfa 2b interferon plus ribavirin" or "alfa 2b interferon/ribavirin" or "alfa 2b interferon-ribavirin" or "alfa-2b interferon plus ribavirin" or "alfa-2b interferon/ribavirin" or "alfa-2b interferon-ribavirin" or "peginterferon alfa2a plus ribavirin" or "peginterferon alfa2a/ribavirin" or "peginterferon alfa2a-ribavirin" or "peginterferon alfa 2a plus ribavirin" or "peginterferon alfa 2a/ribavirin" or "peginterferon alfa 2a-ribavirin" or "peginterferon-alfa2a-ribavirin" or "peginterferon alfa2b plus ribavirin" or "peginterferon alfa2b/ribavirin" or "peginterferon alfa2b-ribavirin" or "peginterferon alfa 2b plus ribavirin" or "peginterferon alfa 2b/ribavirin" or "peginterferon alfa 2b-ribavirin" or "peginterferon-alfa2b-ribavirin" or "peginterferon alfa-2b plus ribavirin" or "peginterferon alfa2 plus ribavirin" or "peginterferon alfa2/ribavirin" or "peginterferon alfa2-ribavirin" or "peginterferon alfa 2 plus ribavirin" or "peginterferon alfa 2/ribavirin" or "peginterferon alfa 2-ribavirin" or "peginterferon-alfa2-ribavirin").ti,ab,kw.</p>	325

#	Search terms	Hits
17	((ns3\$ or ns5\$) adj2 inhibitor\$).ti,ab,kw.	1912
18	or/12-17	415186
19	3 and 11 and 18	2667
20	english.lg.	34241019
21	19 and 20	2327
22	(case report or clinical conference or comment or congress or editorial or historical article or letter or news or newspaper article).pt.	2986812
23	21 not 22	2237
24	limit 23 to yr="2019-2025"	677
25	(2018 Feb* or 2018 Mar* or 2018 Apr* or 2018 May* or 2018 Jun* or 2018 Jul* or 2018 Aug* or 2018 Sep* or 2018 Oct* or 2018 Nov* or 2018 Dec*).dp.	491082
26	(201802* or 201803* or 201804* or 201805* or 201806* or 201807* or 201808* or 201809* or 201810* or 201811* or 201812*).ez,dt,ep.	1253858
27	25 or 26	1341382
28	23 and 27	153
29	24 or 28	799

Embase Search

Database, version and platform

Embase 1974 to 2025 July 14 via OvidSP.

Search date

15 July 2025.

#	Search terms	Hits
1	exp hepatitis C/ or Hepatitis C virus/ or Hepacivirus/	179469
2	("Hep C" or "HepC" or "hepatitis C" or "viral hepatitis" or "hepatitis B and C" or "HCV").ti,ab,kw.	201533
3	or/1-2	236214
4	exp pregnancy/ or prepregnancy care/ or prenatal care/ or prenatal screening/ or exp perinatal care/ or perinatal period/ or maternal welfare/ or vertical transmission/ or exp mother to child transmission/ or exp infectious pregnancy complication/ or prenatal diagnosis/ or obstetric delivery/ or labor/ or pregnancy outcome/ or labor management/ or pregnant woman/ or newborn screening/	1152378
5	(pregnan\$ or gestation\$ or obstetric\$ or antenat\$ or "ante-nat\$" or prenat\$ or "pre-nat\$" or perinat\$ or "peri-nat\$" or neonat\$ or "neo-nat\$" or postnat\$ or "post-nat\$" or antepartum or "ante-partum" or prepartum or "pre-partum" or intrapartum or "intra-partum" or peripartum or "peri-partum" or postpartum or "post-partum" or prepregnancy or transplacental or mother\$ or matern\$).ti,ab,kf.	1977602
6	("mother to infant" or "mother-to-infant" or "mother to child" or "mother-to-child" or "maternal-f?etal").ti,ab,kw.	63149
7	or/4-6	2219546
8	child/ or boy/ or girl/ or preschool child/ or toddler/ or exp infant/	3325927
9	(f?etal or f?etus or neonat\$ or "neo-nat\$" or newborn or "new-born" or "new born" or babies or baby or infan\$ or "preschool\$" or "pre-school\$" or toddler\$ or congenital or girl\$ or boy\$ or child\$ or kid or kids or p?ediatric\$).ti,ab,kf.	4156060
10	8 or 9	4992856
11	7 or 10	5911646

#	Search terms	Hits
12	antivirus agent/ or virus antigen/ or antiviral therapy/ or hepatitis C antigen/ or hepatitis antigen/ or exp hepacivirin inhibitor/ or virus antibody/ or hepatitis antibody/ or hepatitis C antibody/ or proteinase inhibitor/	288134
13	sofosbuvir/ or sofosbuvir plus velpatasvir/ or dasabuvir/ or ribavirin/ or ritonavir/ or velpatasvir/ or sofosbuvir plus velpatasvir/ or daclatasvir/ or ledipasvir/ or ledipasvir plus sofosbuvir/ or elbasvir/ or ombitasvir/ or alpha2b interferon plus ribavirin/ or peginterferon alpha2a plus ribavirin/ or peginterferon alpha2b plus ribavirin/ or peginterferon alpha2a/ or peginterferon alpha2b/ or asunaprevir/	82418
14	("direct\$ antiviral agent\$" or "direct\$ acting antiviral\$" or "direct-acting antiviral\$" or "directly-acting antiviral\$" or "DAA" or "DAAs" or "pan-genotypic regimen\$" or "polymerase inhibitor\$" or "protease inhibitor\$" or "proteinase inhibitor\$" or antiviral\$ or "anti-viral\$").ti,ab,kw.	259551
15	(sofosbuvir or "SOF" or dasabuvir or velpatasvir or "VEL" or voxilaprevir or "VOX" or glecaprevir or "GLE" or pibrentasvir or "PIB" or daclatasvir or "DCV" or ledipasvir or "LDV" or elbasvir or "EBR" or "GZR" or grazoprevir or ombitasvir or "OBV" or paritaprevir or "PTV" or ritonavir or "RTV" or ribavirin or "RBV" or vedroprevir or sovaprevir or deldeprevir or simeprevir or asunaprevir or boceprevir or ciluprevir or danoprevir or faldaprevir or furaprevir or "gs 9256" or "idx 320" or narlaprevir or telaprevir or vaniprevir or beclabuvir).ti,ab,kf.	87355
16	("asunaprevir/beclabuvir/daclatasvir" or "asunaprevir-beclabuvir-daclatasvir" or "asunaprevir plus beclabuvir plus daclatasvir" or "asunaprevir+beclabuvir+daclatasvir" or "daclatasvir/sofosbuvir" or "daclatasvir-sofosbuvir" or "daclatasvir plus sofosbuvir" or "daclatasvir+sofosbuvir" or "glecaprevir/pibrentasvir" or "glecaprevir-pibrentasvir" or "glecaprevir plus pibrentasvir" or "glecaprevir+pibrentasvir" or "GLE/PIB" or "sofosbuvir/velpatasvir" or "sofosbuvir-velpatasvir" or "sofosbuvir plus velpatasvir" or "sofosbuvir+velpatasvir" or "SOF/VEL" or "sofosbuvir/daclatasvir" or "sofosbuvir-daclatasvir" or "sofosbuvir plus daclatasvir" or "sofosbuvir+daclatasvir" or "SOF/DCV" or "ledipasvir/sofosbuvir" or "ledipasvir-sofosbuvir" or "ledipasvir plus sofosbuvir" or "ledipasvir+sofosbuvir" or "SOF/LDV" or "sofosbuvir/velpatasvir" or "sofosbuvir-velpatasvir" or "sofosbuvir plus velpatasvir" or "sofosbuvir+velpatasvir" or "SOF/VEL" or "sofosbuvir/velpatasvir/voxilaprevir" or "sofosbuvir-velpatasvir-voxilaprevir" or "sofosbuvir plus velpatasvir plus voxilaprevir" or "sofosbuvir+velpatasvir+voxilaprevir" or "SOF/VEL/VOX" or	6936

#	Search terms	Hits
	<p>"elbasvir/grazoprevir" or "elbasvir-grazoprevir" or "elbasvir plus grazoprevir" or "elbasvir+grazoprevir" or "EBR/GZR" or "sofosbuvir/ledipasvir plus ribavirin" or "sofosbuvir plus ledipasvir plus ribavirin" or "sofosbuvir+ledipasvir+ribavirin" or "sofosbuvir/ledipasvir/ribavirin" or "sofosbuvir-ledipasvir-ribavirin" or "SOF/LDV + RBV" or "ombitasvir/paritaprevir plus ritonavir" or "OBV/PTV + RTV" or "ombitasvir-paritaprevir-ritonavir" or "OBV/PTV/RTV" or "ombitasvir plus paritaprevir plus ritonavir" or "ombitasvir/paritaprevir/ritonavir" or "ombitasvir+paritaprevir+ritonavir" or "dasabuvir plus ombitasvir plus paritaprevir plus ritonavir" or "dasabuvir/ombitasvir/paritaprevir/ritonavir" or "dasabuvir-ombitasvir-paritaprevir-ritonavir" or "dasabuvir+ombitasvir+paritaprevir+ritonavir" or "sofosbuvir/ribavirin" or "sofosbuvir-ribavirin" or "sofosbuvir plus ribavirin" or "sofosbuvir+ribavirin" or "SOF + RBV").ti,ab,kw.</p>	
17	<p>("alpha2b interferon plus ribavirin" or "alpha2b interferon/ribavirin" or "alpha2b interferon-ribavirin" or "alpha 2b interferon plus ribavirin" or "alpha 2b interferon/ribavirin" or "alpha 2b interferon-ribavirin" or "alpha-2b interferon plus ribavirin" or "alpha-2b interferon/ribavirin" or "alpha-2b interferon-ribavirin" or "peginterferon alpha2a plus ribavirin" or "peginterferon alpha2a/ribavirin" or "peginterferon alpha2a-ribavirin" or "peginterferon alpha 2a plus ribavirin" or "peginterferon alpha 2a/ribavirin" or "peginterferon alpha 2a-ribavirin" or "peginterferon-alpha2a-ribavirin" or "peginterferon alpha2b plus ribavirin" or "peginterferon alpha2b/ribavirin" or "peginterferon alpha2b-ribavirin" or "peginterferon alpha 2b plus ribavirin" or "peginterferon alpha 2b/ribavirin" or "peginterferon alpha 2b-ribavirin" or "peginterferon-alpha2b-ribavirin" or "peginterferon alpha2 plus ribavirin" or "peginterferon alpha2/ribavirin" or "peginterferon alpha2-ribavirin" or "peginterferon alpha 2 plus ribavirin" or "peginterferon alpha 2/ribavirin" or "peginterferon alpha 2-ribavirin" or "peginterferon-alpha2-ribavirin" or "alfa2b interferon plus ribavirin" or "alfa2b interferon/ribavirin" or "alfa2b interferon-ribavirin" or "alfa 2b interferon plus ribavirin" or "alfa 2b interferon/ribavirin" or "alfa 2b interferon-ribavirin" or "alfa-2b interferon plus ribavirin" or "alfa-2b interferon/ribavirin" or "alfa-2b interferon-ribavirin" or "peginterferon alfa2a plus ribavirin" or "peginterferon alfa2a/ribavirin" or "peginterferon alfa2a-ribavirin" or "peginterferon alfa 2a plus ribavirin" or "peginterferon alfa 2a/ribavirin" or "peginterferon alfa 2a-ribavirin" or "peginterferon-alfa2a-ribavirin" or "peginterferon alfa2b plus ribavirin" or "peginterferon alfa2b/ribavirin" or "peginterferon alfa2b-ribavirin" or "peginterferon alfa 2b plus ribavirin" or "peginterferon alfa 2b/ribavirin" or "peginterferon alfa 2b-</p>	678

#	Search terms	Hits
	ribavirin" or "peginterferon-alfa2b-ribavirin" or "peginterferon alfa-2b plus ribavirin" or "peginterferon alfa2 plus ribavirin" or "peginterferon alfa2/ribavirin" or "peginterferon alfa2-ribavirin" or "peginterferon alfa 2 plus ribavirin" or "peginterferon alfa 2/ribavirin" or "peginterferon alfa 2-ribavirin" or "peginterferon-alfa2-ribavirin").ti,ab,kw.	
18	((ns3\$ or ns5\$) adj2 inhibitor\$).ti,ab,kw.	3620
19	or/12-18	508293
20	3 and 11 and 19	7419
21	english.lg.	39253355
22	20 and 21	6730
23	(Conference Abstract or Conference Paper or Conference Review or Editorial or Letter or Note).pt.	9548371
24	(Clinical Trials Repository or Conference Proceeding).su.	537792
25	23 or 24	10082024
26	22 not 25	4074
27	limit 26 to yr="2018-2025"	1430

CINAHL Search

Database, version and platform

CINAHL via EBSCOHost.

Search date

15 July 2025.

#	Search terms	Hits
1	MH "Hepatitis C" or MH "Hepatitis C, Chronic"	16958
2	XB ("Hep C" or "HepC" or "hepatitis C" or "viral hepatitis" or "hepatitis B and C" or "HCV")	20881
3	S1 or S2	24045
4	MH "Pregnancy+" or MH "Pregpregnancy Care" or MH "Prenatal Care" or MH "Perinatal Care" or MH "Postnatal Care+" or MH "Perinatal Period" or MH "Maternal-Child Health" or MH "Disease Transmission, Vertical" or MH "Pregnancy Complications, Infectious" or MH "Prenatal Diagnosis" or MH "Delivery, Obstetric" or MH "Pregnancy Outcomes+"	268037
5	XB (pregnan* or gestation* or obstetric* or antenat* or "ante-nat*" or prenatal* or "pre-nat*" or perinat* or "peri-nat*" or neonat* or "neo-nat*" or postnat* or "post-nat*" or antepartum or "ante-partum" or prepartum or "pre-partum" or intrapartum or "intra-partum" or peripartum or "peri-partum" or postpartum or "post-partum" or prepregnancy or transplacental or mother* or matern*)	433940
6	XB ("mother to infant" or "mother-to-infant" or "mother to child" or "mother-to-child" or "maternal-foetal" or "maternal-fetal")	6301
7	S4 or S5 or S6	508504
8	MH "Child" or MH "Child, Preschool" or MH "Infant" or MH "Infant, Newborn+"	775954
9	XB (f#etal or f#etus or neonat* or "neo-nat*" or newborn or "new-born" or "new born" or babies or baby or infan* or "preschool*" or "pre-school*" or toddler* or congenital or girl* or boy* or child* or kid or kids or p#ediatric*)	985771
10	S8 or S9	1208220
11	S7 or S10	1427505
12	MH "Antiviral Agents" or MH "Ribavirin" or MH "Antibodies, Viral" or MH "Antigens, Viral" or MH "HCV NS3-4A Protease Inhibitors" or MH "Protease Inhibitors" or MH "Ritonavir" or MH Boceprevir or MH Telaprevir	34835

#	Search terms	Hits
13	XB ("direct* antiviral agent*" or "direct* acting antiviral*" or "direct-acting antiviral*" or "directly-acting antiviral*" or "DAA" or "DAAs" or "pan-genotypic regimen*" or "polymerase inhibitor*" or "proteinase inhibitor*" or "protease inhibitor*" or antiviral* or "anti-viral*")	15572
14	XB (sofosbuvir or "SOF" or dasabuvir or velpatasvir or "VEL" or voxilaprevir or "VOX" or glecaprevir or "GLE" or pibrentasvir or "PIB" or daclatasvir or "DCV" or ledipasvir or "LDV" or elbasvir or "EBR" or "GZR" or grazoprevir or ombitasvir or "OBV" or paritaprevir or "PTV" or ritonavir or "RTV" or ribavirin or "RBV" or vedroprevir or sovaprevir or deldeprevir or simeprevir or asunaprevir or boceprevir or ciluprevir or danoprevir or faldaprevir or furaprevir or "gs 9256" or "idx 320" or narlaprevir or telaprevir or vaniprevir or beclabuvir)	7882
15	XB ("asunaprevir/beclabuvir/daclatasvir" or "asunaprevir-beclabuvir-daclatasvir" or "asunaprevir plus beclabuvir plus daclatasvir" or "asunaprevir+beclabuvir+daclatasvir" or "daclatasvir/sofosbuvir" or "daclatasvir-sofosbuvir" or "daclatasvir plus sofosbuvir" or "daclatasvir+sofosbuvir" or "glecaprevir/pibrentasvir" or "glecaprevir-pibrentasvir" or "glecaprevir plus pibrentasvir" or "glecaprevir+pibrentasvir" or "GLE/PIB" or "sofosbuvir/velpatasvir" or "sofosbuvir-velpatasvir" or "sofosbuvir plus velpatasvir" or "sofosbuvir+velpatasvir" or "SOF/VEL" or "sofosbuvir/daclatasvir" or "sofosbuvir-daclatasvir" or "sofosbuvir plus daclatasvir" or "sofosbuvir+daclatasvir" or "SOF/DCV" or "ledipasvir/sofosbuvir" or "ledipasvir-sofosbuvir" or "ledipasvir plus sofosbuvir" or "ledipasvir+sofosbuvir" or "SOF/LDV" or "sofosbuvir/velpatasvir" or "sofosbuvir-velpatasvir" or "sofosbuvir plus velpatasvir" or "sofosbuvir+velpatasvir" or "SOF/VEL" or "sofosbuvir/velpatasvir/voxilaprevir" or "sofosbuvir-velpatasvir-voxilaprevir" or "sofosbuvir plus velpatasvir plus voxilaprevir" or "sofosbuvir+velpatasvir+voxilaprevir" or "SOF/VEL/VOX" or "elbasvir/grazoprevir" or "elbasvir-grazoprevir" or "elbasvir plus grazoprevir" or "elbasvir+grazoprevir" or "EBR/GZR" or "sofosbuvir/ledipasvir plus ribavirin" or "sofosbuvir plus ledipasvir plus ribavirin" or "sofosbuvir+ledipasvir+ribavirin" or "sofosbuvir/ledipasvir/ribavirin" or "sofosbuvir-ledipasvir-ribavirin" or "SOF/LDV + RBV" or "ombitasvir/paritaprevir plus ritonavir" or "OBV/PTV + RTV" or "ombitasvir-paritaprevir-ritonavir" or "OBV/PTV/RTV" or "ombitasvir plus paritaprevir plus ritonavir" or "ombitasvir/paritaprevir/ritonavir" or "ombitasvir+paritaprevir+ritonavir" or "dasabuvir plus ombitasvir plus paritaprevir plus ritonavir" or "dasabuvir/ombitasvir/paritaprevir/ritonavir" or "dasabuvir-ombitasvir-paritaprevir-ritonavir" or "dasabuvir+ombitasvir+paritaprevir+ritonavir" or "sofosbuvir/ribavirin" or	550

#	Search terms	Hits
	"sofosbuvir-ribavirin" or "sofosbuvir plus ribavirin" or "sofosbuvir+ribavirin" or "SOF + RBV")	
16	XB ("alpha2b interferon plus ribavirin" or "alpha2b interferon/ribavirin" or "alpha2b interferon-ribavirin" or "alpha 2b interferon plus ribavirin" or "alpha 2b interferon/ribavirin" or "alpha 2b interferon-ribavirin" or "alpha-2b interferon plus ribavirin" or "alpha-2b interferon/ribavirin" or "alpha-2b interferon-ribavirin" or "peginterferon alpha2a plus ribavirin" or "peginterferon alpha2a/ribavirin" or "peginterferon alpha2a-ribavirin" or "peginterferon alpha 2a plus ribavirin" or "peginterferon alpha 2a/ribavirin" or "peginterferon alpha 2a-ribavirin" or "peginterferon-alpha2a-ribavirin" or "peginterferon alpha2b plus ribavirin" or "peginterferon alpha2b/ribavirin" or "peginterferon alpha2b-ribavirin" or "peginterferon alpha 2b plus ribavirin" or "peginterferon alpha 2b/ribavirin" or "peginterferon alpha 2b-ribavirin" or "peginterferon-alpha2b-ribavirin" or "peginterferon alpha2 plus ribavirin" or "peginterferon alpha2/ribavirin" or "peginterferon alpha2-ribavirin" or "peginterferon alpha 2 plus ribavirin" or "peginterferon alpha 2/ribavirin" or "peginterferon alpha 2-ribavirin" or "peginterferon-alpha2-ribavirin" or "alfa2b interferon plus ribavirin" or "alfa2b interferon/ribavirin" or "alfa2b interferon-ribavirin" or "alfa 2b interferon plus ribavirin" or "alfa 2b interferon/ribavirin" or "alfa 2b interferon-ribavirin" or "alfa-2b interferon plus ribavirin" or "alfa-2b interferon/ribavirin" or "alfa-2b interferon-ribavirin" or "peginterferon alfa2a plus ribavirin" or "peginterferon alfa2a/ribavirin" or "peginterferon alfa2a-ribavirin" or "peginterferon alfa 2a plus ribavirin" or "peginterferon alfa 2a/ribavirin" or "peginterferon alfa 2a-ribavirin" or "peginterferon-alfa2a-ribavirin" or "peginterferon alfa2b plus ribavirin" or "peginterferon alfa2b/ribavirin" or "peginterferon alfa2b-ribavirin" or "peginterferon alfa 2b plus ribavirin" or "peginterferon alfa 2b/ribavirin" or "peginterferon alfa 2b-ribavirin" or "peginterferon-alfa2b-ribavirin" or "peginterferon alfa-2b plus ribavirin" or "peginterferon alfa2 plus ribavirin" or "peginterferon alfa2/ribavirin" or "peginterferon alfa2-ribavirin" or "peginterferon alfa 2 plus ribavirin" or "peginterferon alfa 2/ribavirin" or "peginterferon alfa 2-ribavirin" or "peginterferon-alfa2-ribavirin")	13
17	XB ((ns3* or ns5*) N2 inhibitor*)	199
18	S12 or S13 or S14 or S15 or S16 or S17	47134
19	S3 and S11 and S18	650
20	LA "English"	8955164
21	S19 and S20	638

#	Search terms	Hits
22	PY 2018-2025	3388349
23	S21 and S22	255
24	PT "Case Study" or PT "Commentary" or PT "Editorial" or PT "Historical Material" or PT "Letter" or PT "Proceedings" or PT "Response"	1310814
25	S23 not S24	239

Inclusions and Exclusions

Evidence for all questions was restricted to full reports available in English reported since February 2018. Conference abstracts, commentaries and editorials were not included. Systematic reviews were eligible for all questions and were treated as a source of eligible studies, unless they fulfilled all inclusion criteria for a particular question. In this case, they were considered as the primary source of evidence for that question and supplemented by primary studies published since the last search date for the systematic review.

Question 1: Are there any national or international guidelines or recommendations for antenatal screening for hepatitis C virus?

Any current European or North American guidelines or recommendations on antenatal screening for HCV were eligible. Details of any implemented or recommended screening programmes were provided, irrespective of whether related published guidelines are identified.

Question 2: What is the volume and type of evidence on reported effectiveness of direct-acting antivirals (DAAs) in pregnancy for the prevention of hepatitis C vertical transmission and hepatitis C associated morbidity in pregnant women?

Population	Pregnant women with HCV
Intervention	Direct-acting antivirals (DAAs)
Comparator	Any or none
Outcomes	Vertical HCV transmission Any HCV related outcomes on pregnancy or childbirth (e.g. hypertension, antepartum haemorrhage, cholestasis of pregnancy) Cure rates (sustained virological response, sustained virological response at 12 weeks post-treatment, and when and how in the clinical pathway this is determined in pregnancy) Adverse effects of treatment
Study designs	Randomised controlled trials, quasi-experimental studies, and cohort studies. Where studies of these designs were not identified, we broadened to include non-comparative observational studies.

Question 3: What is the volume and type of evidence on the reported effectiveness of direct-acting antivirals (DAAs) in children with vertically acquired hepatitis C on hepatitis C associated morbidity and cure?

Population	Children with vertically transmitted HCV, or children treated for HCV before the age of five.
Intervention	Direct-acting antivirals (DAAs)
Comparator	Any or none
Outcomes	Any HCV related outcome investigated, such as: Cure rates: SVR rates versus spontaneous viral clearance, and when and how in the clinical pathway this is determined in children Liver damage Alanine transaminase (ALT) levels Cirrhosis Obesity Adverse events from treatment
Study designs	Randomised controlled trials, quasi-experimental studies, and cohort studies. Where studies of these designs were not identified, we broadened to include non-comparative observational studies.

If studies were identified that compared early treatment of symptomless children to late treatment after symptom onset, these were included and considered as a separate group of studies.

Appendix 2 – Abstract reporting

Question 1: Are there any national or international guidelines or recommendations for antenatal screening for HCV?

Citation 1: Atkinson et al (2025)²⁸

Type: National

Country: Canada

Issuing Body: Society of Obstetricians and Gynaecologists of Canada

End users: Healthcare professionals.

Target group: Pregnant women/pregnant individuals receiving antenatal care in Canada and consenting to routine infectious disease screening.

Purpose of screening: Not Reported.

Objectives: To provide guidance for routine antenatal screening of hepatitis C virus in pregnancy to support best practice and optimize antenatal and infectious disease care.

Treatment of HCV: Not Reported.

Recommendations: Hepatitis C virus screening in the form of antibody testing should be performed in the first trimester of every pregnancy. If a pregnant woman/pregnant individual has a history of hepatitis C virus infection (treated or untreated), a hepatitis C viral load test should be requested if there is ongoing risk of reinfection or a viral load had not previously been performed to determine the presence of active disease. Repeat hepatitis C virus antibody testing should not be performed, as the result will remain positive. Persons diagnosed with hepatitis C virus through antenatal screening or based on review of prior serology should be made aware of treatment options following pregnancy and linked with available treatment providers. Treatment is not currently recommended during pregnancy and breastfeeding.

Full text checked: No

Citation 2: Kühnert et al (2021)³²

Type: National

Country: Germany

Issuing Body: Task Force for Obstetrics, Section Maternal Diseases

End users: Healthcare professionals.

Target group: Pregnant women.

Purpose of screening: Not Reported.

Objectives: To provide appropriate information about maternal and fetal routes of infection, screening, detection of risk factors, diagnostic procedures, treatment, birth planning and peripartum and postpartum management of maternal hepatitis infection and offer pointers for prenatal counselling and routine clinical care on delivery wards.

Treatment of HCV: After birth.

Recommendations: Patients with risk factors should be tested for hepatitis C virus infection, irrespective of the gestational age of their fetus. DAA (= direct-acting antiviral) regimens should only be administered in the context of clinical trials or only post partum (no testing during pregnancy). Antiviral HCV therapy is contraindicated during pregnancy.

Full text checked: Yes; all information was extracted from the full text.

Citation 3: American College of Obstetricians and Gynecologists (2023)²⁹

Type: National

Country: USA

Issuing Body: American College of Obstetricians and Gynecologists

End users: Healthcare professionals.

Target group: Pregnant or postpartum women and individuals who screen positive for viral hepatitis infection.

Purpose of screening: Not Reported

Objectives: To describe the specific types of viral hepatitis, their implications during pregnancy, the risk of perinatal transmission, and issues related to both treatment and prevention of infection.

Treatment of HCV: Before considering pregnancy.

Recommendations: ACOG recommends that all patients be screened for hepatitis C virus antibodies in each pregnancy.

Full text checked: No

Citation 4: Dotters-Katz et al (2021)³⁰

Type: National

Country: USA

Issuing Body: The Society for Maternal-Fetal Medicine

End users: Healthcare professionals

Target group: Pregnant women and their offspring

Purpose of screening: Not Reported

Objectives: To discuss the current evidence, provide updated recommendations regarding screening, review treatment, and address management of hepatitis C virus during pregnancy.

Treatment of HCV: During pregnancy - only in a clinical trial

Recommendations: (1) We suggest that third trimester assessment of fetal growth may be performed, but antenatal testing is not indicated in the setting of hepatitis C virus diagnosis alone; (2) we suggest screening for viral hepatitis in patients with a diagnosis of intrahepatic cholestasis of pregnancy at an early gestational age or with high levels of bile acids; (3) we recommend that obstetrical providers screen all pregnant patients for hepatitis C virus by testing for anti-hepatitis C virus antibodies in every pregnancy; (4) we suggest that obstetrical care providers screen hepatitis C virus-positive pregnant patients for other sexually transmitted infections (if not done previously), including human immunodeficiency virus, syphilis, gonorrhea, chlamydia, and hepatitis B virus; (5) we recommend vaccination against hepatitis A and B viruses (if not immune) for patients with hepatitis C virus; (6) we recommend that direct-acting antiviral regimens only be initiated in the setting of a clinical trial during pregnancy and that people who become pregnant while taking a direct-acting antiviral should be counseled in a shared decision-making framework about the risks and benefits of continuation; (7) we suggest that if prenatal diagnostic testing is requested, patients are counseled that data regarding the risk of vertical transmission are reassuring but limited; (8) we recommend against cesarean delivery solely for the indication of hepatitis C virus; (9) we suggest that obstetrical care providers avoid internal fetal monitors and early artificial rupture of membranes when managing labor in patients with hepatitis C virus unless necessary in the course of management (ie, when unable to trace the fetal heart rate with external monitors and the alternative is proceeding with cesarean delivery); (10) we recommend that hepatitis C virus status not alter standard breastfeeding counseling and recommendations unless nipples are cracked or bleeding.

Full text checked: No

Citation 5: American Association for the Study of Liver Diseases (2023)²⁵

Type: National

Country: USA

Issuing Body: American Association for the Study of Liver Diseases and Infectious Diseases Society of America.

End users: Healthcare professionals

Target group: Pregnant women

Purpose of screening: Education, referral, and appropriate testing for the exposed infants; antiviral treatment can be initiated at the appropriate time.

Objectives: To provide guidelines for HCV in pregnancy, including testing, whom to treat, monitoring, and postpartum issues.

Treatment of HCV: Before considering pregnancy

Recommendations: As part of prenatal care, all pregnant persons should be tested for HCV infection with each pregnancy, ideally at the initial visit. For women of reproductive age with known HCV infection, antiviral therapy is recommended before considering pregnancy, whenever practical and feasible, to reduce the risk of HCV transmission to future offspring.

Full text checked: Yes

Citation 6: NICE (2025)³⁴

Type: National

Country: UK

Issuing Body: NICE

End users: Healthcare professionals

Target group: People who are at risk of hepatitis C virus

Purpose of screening: Not Reported

Objectives: To offer guidance regarding to who should clinicians test and screen for HCV.

Treatment of HCV: Not Reported

Recommendations: Routine screening of pregnant women for HCV infection is currently not recommended. However, testing is recommended if the woman is at increased risk for HCV infection. They should be tested at their prenatal visits. If the initial results in pregnant women with on-going risk factors for hepatitis C infection are negative, this should be repeated in the third trimester.

Full text checked: Yes; all information.

Citation 7: US Preventive Services Task Force (2020)³¹

Type: National

Country: USA

Issuing Body: US Preventive Services Task Force

End users: Healthcare professionals.

Target group: This recommendation applies to all asymptomatic adults aged 18 to 79 years without known liver disease.

Purpose of screening: To identify individuals with undiagnosed HCV early, enabling treatment to prevent serious complications, reduce transmission, and improve long-term health outcomes.; identify individuals with undiagnosed HCV early, enabling treatment to prevent serious complications, reduce transmission, and improve long-term health outcomes.

Objectives: To recommend screening for HCV infection in all adults aged 18 to 79 years, regardless of risk factors.

Treatment of HCV: Not Reported

Recommendations: Pregnant adults should be screened. HCV prevalence has doubled in women aged 15 to 44 years from 2006 to 2014. From 2011 to 2014, 0.73% of pregnant women tested had an HCV infection, with a 68% increase in the proportion of infants born to HCV-infected mothers. Approximately 1700 infected infants are born annually to 29,000 HCV-infected mothers. Because of the increasing prevalence of HCV in women aged 15 to 44 years and in infants born to HCV-infected mothers, clinicians may want to consider screening pregnant persons younger than 18 years.

Full text checked: Yes; Recommendations on screening for pregnant women. Purpose of screening (summarised from full text.)

Citation 8: European Centre for Disease Prevention and Control (2018)³³

Type: International

Country: European Union and European Economic Area

Issuing Body: European Centre for Disease Prevention and Control

End users: Policy makers

Target group: General population, including pregnant women

Purpose of screening: Not Reported.

Objectives: To provide EU/EEA countries with an evidence-based framework to help develop, implement, monitor and evaluate their own national HBV, HCV and HIV testing guidelines and programmes.

Treatment of HCV: Not Reported

Recommendations: An HCV test could be offered and recommended to a pregnant woman if indicated by her risk profile.

Full text checked: Yes; Information related to screening recommendation for pregnant women as these are not detailed in the abstract.

Question 2: What is the volume and type of evidence on reported effectiveness of direct-acting antivirals (DAAs) in pregnancy for the prevention of HCV vertical transmission and HCV associated morbidity in pregnant women?

Citation 1: Quek et al (2024)³⁵

Study type: Systematic reviews

Last search date: March 2024

Study size: 311,905,738 pregnant women (n=74 treated with DAAs)

Objectives: To determine the prevalence, vertical transmission rates, maternal and fetal complication rates, and direct acting antivirals (DAAs) treatment outcomes of chronic HCV infection in pregnant women.

Intervention: DAAs (not specified in abstract)

Comparator: None

Outcomes reported: Adverse effects of treatment; SVR

Results: Majority of the HCV cases in pregnant women (75%) are diagnosed through universal screening. The pooled vertical transmission rate was 9.0% (95% CI: 6.6-11.7, I² = 79%), which was higher with HIV co-infection (OR: 3.1, 95% CI: 2.1-4.6, I² = 10%), but was not influenced by the mode of delivery or breastfeeding. Pregnant women with HCV infection had more maternal complications, including intrahepatic cholestasis, preterm delivery, and antepartum hemorrhage. Neonates of mothers with HCV had higher odds of being small for gestational age. The pooled rate of sustained virologic response (SVR12) among the 74 women treated with DAA during pregnancy was 98.4%, with no serious adverse events reported.

Conclusions: The incidence of both maternal and neonatal complications is significantly higher in patients with HCV infection. Limited data suggest that DAA are safe in pregnant women with HCV infection.

Full text check: Yes: Checked for number of participants included in evaluation of DAAs during pregnancy, types of DAAs included, number of participants with available data or lost to follow-up and adverse effects of treatment

Citation 2: Chappell et al (2025)³⁶

Study type: Prospective single arm trial

Number of participants: 11 enrolled participants (n = 10 completed treatment)

Objectives: To compare the pharmacokinetics of sofosbuvir and velpatasvir in pregnant versus nonpregnant people.

Population: Pregnant women

Intervention: Sofosbuvir + velpatasvir

Comparator: None

Outcomes reported: Vertical transmission; Cure rates; Adverse effects of treatment; HCV related outcomes on pregnancy or childbirth

Results: All 10 participants who completed treatment had undetectable HCV RNA at delivery. Two participants were lost to follow-up after delivery, but 1 had an HCV RNA through clinical care. All participants with data were cured (n = 9) and none of the infants acquired HCV (n = 8).

Conclusions: Sofosbuvir plus velpatasvir exposures were not clinically different in pregnancy and support further evaluation of antenatal sofosbuvir plus velpatasvir treatment.

Full text check: Yes: Checked for publication country, adverse effects of treatment, and pregnancy and childbirth-related outcomes

Question 3: What is the volume and type of evidence on the reported effectiveness of direct-acting antivirals (DAAs) in children with vertically acquired HCV on HCV associated morbidity and cure?

Citation 1: Indolfi et al (2024)³⁷

Study type: Systematic review

Last search date: August 2021

Study size: 49 studies including n=1882 adolescents (12 to 18 years), n=436 older children (6 to 11 years), and n=166 young children (3 to 5 years) with HCV

Objectives: To evaluate the effectiveness and safety of pan-genotypic regimens, glecaprevir/pibrentasvir, sofosbuvir/velpatasvir, and sofosbuvir/daclatasvir and other direct-acting antivirals (DAA) regimens for the treatment of hepatitis C virus (HCV)-infected adolescents (12-18 years), older children (6-11 years), and young children (3-5 years).

Intervention: Sofosbuvir + daclatasvir; Sofosbuvir + velpatasvir; Glecaprevir + pibrentasvir

Comparator: None

Outcomes reported: Treatment discontinuation; Side effects; SVR

Results: The SVR12 was 100% (95% CI 96, 100), 96% (95% CI 90, 100), and 96% (95% CI 83, 100) for glecaprevir plus pibrentasvir in adolescents, older, and young children, respectively; 95% (95% CI 90, 99), 93% (95% CI 86, 98), and 83% (95% CI 70, 93), for sofosbuvir plus velpatasvir, respectively; and 100% (95% CI 97, 100) and 100% (95% CI 94, 100) for sofosbuvir plus daclatasvir in adolescent and older children, respectively. There was a clear trend towards a higher rate of any reported adverse events (AEs) from adolescents (50%), older children (53%), to young children (72%). Serious AEs and treatment discontinuations were uncommon in adolescents and older children (<1%) but slightly higher in young children (3%).

Conclusions: All three pan-genotypic DAA regimens were highly effective and well-tolerated and are now recommended by the WHO for use in adults, adolescents, and children down to 3 years, which will simplify procurement and supply chain management. The evidence was based largely on single-arm non-randomized controlled studies. Moreover, there were also missing data regarding key variables such as route of HCV acquisition, presence or absence of cirrhosis, or HIV co-infection that precluded evaluation of the impact of these factors on outcomes.

Full text check: Yes: Checked for details of treatment discontinuation.

Citation 3: Carver et al (2025)⁴⁰

Study type: Retrospective cohort study

Number of participants: 98 (n = 20 aged 3 to 5)

Objectives: To evaluate real-world efficacy of direct-acting antivirals for hepatitis C treatment in paediatric and adolescent patients

Population: Children with HCV aged <18

Intervention: Glecaprevir + pibrentasvir; Sofosbuvir + velpatasvir; Ledipasvir + sofosbuvir

Comparator: None

Outcomes reported: Adverse effects of treatment; Sustained virological response

Results: Following health system speciality pharmacy referral, 88% (64/73) initiated DAA and 92% (59/64) of those achieved SVR. Over half (53%; 34/64) of patients initiating DAA reported ≥1 adverse event, and none discontinued treatment. Of those aged 3 to 5, 90% achieved SVR, 5% did not achieve SVR, and 5% were lost to follow up

Conclusions: Nearly all patients referred to the health system speciality pharmacy were initiated on direct-acting antivirals, completed therapy, and achieved sustained virological response

Full text check: Yes: Checked publication country, to identify separate outcomes related to children under 5 years of age, and adverse effects of treatment

Citation 3: Jonas et al (2024)³⁹

Study type: Prospective single arm trial

Number of participants: 216 participants with HCV (n = 41 aged 3 to 5 years).

Objectives: To evaluate the safety and efficacy of sofosbuvir-velpatasvir in children aged 3-17 years with chronic hepatitis C virus infection of any genotype.

Population: Children aged 3 to 17 years with hepatitis C virus. Hepatitis C virus was vertically acquired in 98% of participants (n = 40) aged 3 to 5 years, 95% aged 6 to 11 years, and 89% aged 12 to 17 years.

Intervention: Sofosbuvir + velpatasvir

Comparator: None

Outcomes reported: Adverse effects of treatment; Virologic failure; Sustained virological response

Results: Rates of sustained virological response at 12 weeks post-treatment were 83% (34/41) among 3 to 5 year-olds, 93% (68/73) among 6 to 11 year-olds, and 95% (97/102) among 12 to 17 year-olds. Only two patients experienced virologic failure. The most common adverse events were headache, fatigue, and nausea in 12 to 17 year-olds; vomiting, cough, and headache in 6 to 11 year-olds; and vomiting in 3 to 5 year-olds. Three patients discontinued treatment because of adverse events. Four patients had serious adverse events; all except auditory hallucination (n = 1) were considered unrelated to study drug.

Conclusions: The pangenotypic regimen of sofosbuvir plus velpatasvir is highly effective and safe in treating children 3 to 17 years with chronic hepatitis C virus infection.

Full text check: Yes: Checked to identify the number of participants aged ≤5, the proportion of participants with vertically acquired HCV, and the rates of treatment discontinuation and loss to follow-up.

Citation 4: Stinco et al (2025)³⁸

Study type: Prospective single arm trial

Number of participants: 61 participants aged 3 to 17 (n = 3 aged 3 to 5 years)

Objectives: To confirm the real-world effectiveness and safety of glecaprevir plus pibrentasvir in children and adolescents (3 to 17 years old) with chronic hepatitis C virus

Population: Children with vertically transmitted HCV

Intervention: Glecaprevir + pibrentasvir

Comparator: None

Outcomes reported: Adverse effects of treatment; Sustained virological response

Results: Sixty-one patients (median age 12 years, interquartile range 5) were enrolled and treated between June 2020 and October 2023. Sixty (98.4%) patients completed treatment and follow-up. Sustained virological response was obtained by 60/61 patients (98.4%). One patient died because of an oncological illness while on treatment. Adverse events occurred in 13.1% of the patients, were mild and no patients prematurely stopped treatment.

Conclusions: This study confirmed the real-life effectiveness and safety of the 8-week therapy with glecaprevir plus pibrentasvir for treatment of CHC in children and adolescents.

Full text check: Yes: Checked to identify the number of participants under 5 years old, proportion of participants with vertically acquired hepatitis C virus and rates and types of adverse events

Appendix 3 – Additional relevant evidence

This section presents additional relevant evidence that, while not meeting the inclusion criteria, offers potentially valuable insights related to review question 3 (effectiveness of DAAs in children under 5 or children with vertically acquired HCV). These studies were excluded as they included children over the age of 5 with HCV, who were not reported to have acquired HCV through vertical transmission. The studies included some children who meet the inclusion criteria (children treated for HCV up to age 5 years, and children with vertically acquired HCV) but did not report separate outcomes specifically for these groups. These studies provide a wider view of the effectiveness and safety of DAAs in children of all ages and may be particularly of interest when evaluating the occurrence of serious adverse events. Additionally, these studies provide information on HCV and DAA related outcomes which were not reported in any fully included studies, such as liver outcomes, time to virologic negativity, and rates of spontaneous clearance of HCV.

Seven studies were identified which did not fully meet the inclusion criteria for this evidence map but may still provide useful information on the use of direct-acting antivirals for treating hepatitis C virus in children (Table 4).⁴¹⁻⁴⁷ Five studies were prospective single arm trials (n=22 to n=30),^{41, 42, 44, 46, 47} one was a retrospective single arm study (n=28),⁴³ and one was a retrospective cohort study (n= 373).⁴⁵ Studies were conducted in Egypt (2 studies), Iraq (1 study), Japan (1 study), Pakistan (2 studies), and the USA (1 study).

The ages of children included in these studies ranged from 3 to 17, and all included some children aged 5 or younger, but results were not reported separately for those aged 5 years or younger. The retrospective cohort study included 328 participants who had acquired HCV through vertical transmission, including 31 of the 32 participants treated with direct-acting antivirals.⁴⁵ No other study reported rates of vertically acquired HCV in their abstracts.

Interventions evaluated in the prospective single arm trials included: ledipasvir plus sofosbuvir (3 trials), a combination of ombitasvir, paritaprevir, ritonavir, dasabuvir, and ribavirin (1 trial)⁴⁶ and sofosbuvir plus ribavirin (1 trial).⁴⁷ The retrospective single arm study evaluated the effectiveness of sofosbuvir plus daclatasvir.⁴³ The types of DAAs included in the retrospective cohort study were not specified.⁴⁵

Sustained virological response at 12 weeks post-treatment was achieved by 100% of participants in 4/5 prospective single arm trials,^{41, 42, 44, 47} the retrospective single arm study,⁴³ and the retrospective cohort study.⁴⁵ The remaining prospective single arm trial reported an SVR12 of 96%, with one participant failing to achieve SVR12 due to treatment non-adherence and discontinuation.⁴⁶

Serious adverse events occurred in 3 participants of one prospective single arm trial, with none leading to treatment discontinuation.⁴⁶ No other serious adverse events were reported by any other prospective single arm study or the retrospective single arm study. Outcomes relating to

adverse effects of treatment were not reported by the retrospective cohort study.⁴⁵ All studies, other than the retrospective cohort study, reported minor adverse events.^{41-44, 46, 47} Reported adverse effects of treatment included fatigue, headache, nausea, vomiting, diarrhoea, abdominal pain, cough, and pyrexia.^{41, 42, 44, 46} Fatigue and headache were the most common adverse effects of treatment. Fatigue and headache were reported by 90% and 76% of participants in one prospective single arm study,⁴¹ respectively, and tiredness was reported by one-third of participants in another prospective single arm study.⁴² Both studies evaluated ledipasvir plus sofosbuvir.^{41, 42} Minor adverse effects of treatment did not lead to treatment discontinuation, interfere with daily activities, or require additional treatments.^{41, 42, 47}

Two prospective single arm studies and the retrospective single arm study reported improvements in liver enzymes, total serum bilirubin, serum creatinine, mean serum albumin, and mean alanine transaminase levels.⁴¹⁻⁴³

Rates of spontaneous resolution of HCV were reported in the retrospective cohort study.⁴⁵ Around 10% of children with vertically acquired HCV had spontaneous resolution HCV.⁴⁵ The length of time taken to spontaneous clearance of HCV ranged from 0.9 years to 7.2 years.⁴⁵

Table 6: Overview of studies that provided additional evidence on question 3 but did not meet the inclusion criteria for this evidence map

Study	Country	Study type	Intervention	Study size	Comparator	Results
Behairy et al (2020) ⁴¹	Egypt	Prospective single arm trial	Ledipasvir + sofosbuvir	30 participants with HCV aged 4 to 10 years	None	<ul style="list-style-type: none"> • 100% achieved SVR12 • Major side effects were <ul style="list-style-type: none"> ○ Fatigue (90%) ○ Headache (76.7%) • Transaminase levels declined and returned to normal levels by week 2 • Side effects did not interfere with daily activity or necessitate treatment discontinuation
Ibraheem (2022) ⁴²	Iraq	Prospective single arm trial	Ledipasvir + sofosbuvir	30 participants with HCV aged 3 to 15 years	None	<ul style="list-style-type: none"> • 100% achieved SVR12 • The most common side effect was tiredness (33.3%) • There were gradual dramatic improvements of liver enzymes, TSB, serum creatinine, and serum albumin • No serious adverse events were reported • There was no treatment discontinuation or death
Imam (2023) ⁴³	Pakistan	Retrospective single arm study	Sofosbuvir + daclatasvir	28 paediatric participants with HCV	None	<ul style="list-style-type: none"> • 92.85% achieved rapid viral response • 100% achieved early viral response and SVR • 14.28% of participants reported minor adverse events • Pre- and post-treatment mean alanine transaminase levels were 328.00+/-324.00IU and 36.00+/-29.00IU, respectively (p=0.003). • Pre- and post- treatment mean serum bilirubin levels were 3.13+/-3.95mg/dl and 0.61+/-0.21mg/dl (p=0.022)

Study	Country	Study type	Intervention	Study size	Comparator	Results
Kamal et al (2020) ⁴⁴	Egypt	Prospective single arm trial	Ledipasvir + sofosbuvir	22 participants with HCV aged 3 to 6 years	8-week treatment duration vs 12-week treatment duration	<p>Overall:</p> <ul style="list-style-type: none"> 100% of participants achieved SVR12 The reported side effects were cough, abdominal pain, nausea, vomiting, and diarrhoea <p>At week 4, virologic negativity was achieved by:</p> <ul style="list-style-type: none"> 81.8% of 12-week group 90.9% of 8-week group achieved virologic negativity <p>At week 8, virologic negativity was achieved by:</p> <ul style="list-style-type: none"> 90.8% of 12-week group 100% of 8-week group
Nakano et al (2024) ⁴⁵	Japan	Retrospective cohort study	DAA (unspecified in abstract)	<p>373 paediatric participants with HCV, including 328 cases of vertically acquired HCV</p> <p>32 participants were treated with DAAs (aged >5) 31/32 had vertically acquired HCV</p>	Interferon-based therapy	<ul style="list-style-type: none"> 100% of participants treated with DAAs achieved SVR Approximately 10% of children infected by vertical transmission achieved spontaneous resolution of HCV infection The median time to spontaneous clearance of HCV in children with vertically acquired was 3.1 years (ranged 0.9 to 7.2 years)
Rosenthal et al (2020) ⁴⁶	USA	Prospective single arm trial	Ombitasvir + paritaprevir + ritonavir + dasabuvir + ribavirin	26 participants with HCV aged 3 to 11 years (n = 14 aged 3 to 8 years, n = 12 aged 9 to 11 years)	None	<ul style="list-style-type: none"> 96% (95% CI 81.1, 99.3) achieved SVR12 One child did not achieve SVR12 due to treatment discontinuation Adverse events of grade ≥ 3 occurred in 3 children The most common adverse events were: <ul style="list-style-type: none"> Headache (27%) Fatigue (23%) Pyrexia (19%) Vomiting (19%)

Study	Country	Study type	Intervention	Study size	Comparator	Results
						<ul style="list-style-type: none"> No adverse events were considered treatment-related or led to discontinuation of treatment.
Sheikh et al (2023) ⁴⁷	Pakistan	Prospective single arm trial	Sofosbuvir + ribavirin	28 children with HCV aged 4 to 12 years	None	<ul style="list-style-type: none"> 100% of participants achieved SVR12 No serious treatment-related side effects were reported No treatment-related side effects required any additional treatments

Abbreviations: DAAs = direct-acting antivirals, HCV = hepatitis C virus, SVR12 = sustained virological response at 12 weeks post-treatment, TSB = total serum bilirubin

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