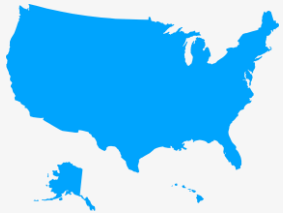
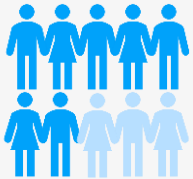
Hepatitis B Remains a Significant Clinical and Public Health Burden



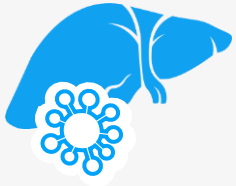
Over **14,000** estimated **acute hepatitis B cases** per year in the US (2023)[1]



From 2019-2023, **more than 70%** of acute infections occurred **among people aged 30–59 years**[2]

Progression from acute to chronic hepatitis B **varies with age and immune status**[3]

An estimated **2.4 million** Americans are living with **chronic hepatitis B** infection[4]



Chronic infection can progress to advanced liver disease[3] (i.e., cirrhosis, hepatocellular carcinoma, or liver failure)

1. Centers for Disease Control and Prevention. Viral Hepatitis Surveillance Report. https://www.cdc.gov/hepatitis-surveillance-2023/hepatitis-b/. Accessed April 23, 2025. **2**. CDC. Viral hepatitis surveillance report 2023. https://www.cdc.gov/hepatitis-surveillance-2023/hepatitis-b/table-2-2.html, Accessed April 23, 2025. **3**. Centers for Disease Control and Prevention. Hepatitis B. In: *Epidemiology and Prevention of Vaccine-Preventable Diseases.* Hall E, Wodi AP, Hamborsky J et al, eds.14th ed. Washington, DC: Public Health Foundation; 2021. **4.** Wong WJ et al. *Hepatology*. 2021;74:607-626.

GLOBAL GOAL: Elimination of Viral Hepatitis by 2030

Viral Hepatitis National Strategic Plan: Roadmap to Elimination[1]

Goal 1: Prevent New Viral Hepatitis Infections

Goal 2: Improve Viral Hepatitis–Related Health Outcomes of People with Viral Hepatitis

Goal 3: Reduce Viral Hepatitis–Related Disparities and Health Inequities

Goal 4: Improve Viral Hepatitis Surveillance and Data Usage

Goal 5: Achieve Integrated, Coordinated Efforts That Address the Viral Hepatitis Epidemics among All Partners and Stakeholders

Hepatitis B is a vaccine preventable disease, and the best way to prevent hepatitis B is to get vaccinated[2,3]

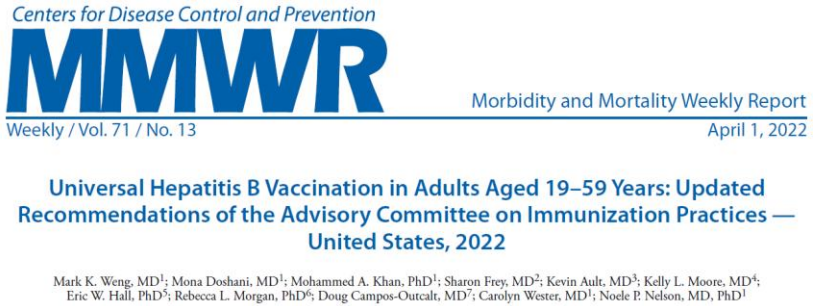
1. Department of Health and Human Services. Viral Hepatitis National Strategic Plan: A Roadmap to Elimination 2021–2025. https://www.hhs.gov/sites/default/files/Viral-Hepatitis-National-Strategic-Plan-2021-2025.pdf. Accessed March 4,2025. **2.** CDC. Why CDC is working to prevent hepatitis B globally https://www.cdc.gov/global-hepatitis-b-vaccination/why/ Accessed March 4, 2025. **3.** CDC. Hepatitis B. https://www.cdc.gov/hepatitis-b/prevention/index.html. Accessed March 4, 2025.

Universal Hepatitis B Vaccination Recommended in Adults

Simplified adult hepatitis B vaccine recommendations from the ACIP:[1,2]

- All adults aged 19–59 years **should** receive hepatitis B vaccination
- Adults aged ≥60 years with risk factors for hepatitis B **should** receive hepatitis B vaccination
- Adults aged ≥60 years without known risk factors for hepatitis B **may** receive hepatitis B vaccination

These recommendations do not apply to adults who have completed a hepatitis B vaccine series in their lifetime or who have a history of HBV infection


Centers for Disease Control and Prevention
MMWR
Morbidity and Mortality Weekly Report
Weekly / Vol. 71 / No. 13
April 1, 2022

Universal Hepatitis B Vaccination in Adults Aged 19–59 Years: Updated Recommendations of the Advisory Committee on Immunization Practices — United States, 2022

Mark K. Weng, MD[1]; Mona Doshani, MD[1]; Mohammed A. Khan, PhD[1]; Sharon Frey, MD[2]; Kevin Ault, MD[3]; Kelly L. Moore, MD[4]; Eric W. Hall, PhD[5]; Rebecca L. Morgan, PhD[6]; Doug Campos-Outcalt, MD[7]; Carolyn Wester, MD[1]; Noele P. Nelson, MD, PhD[1]

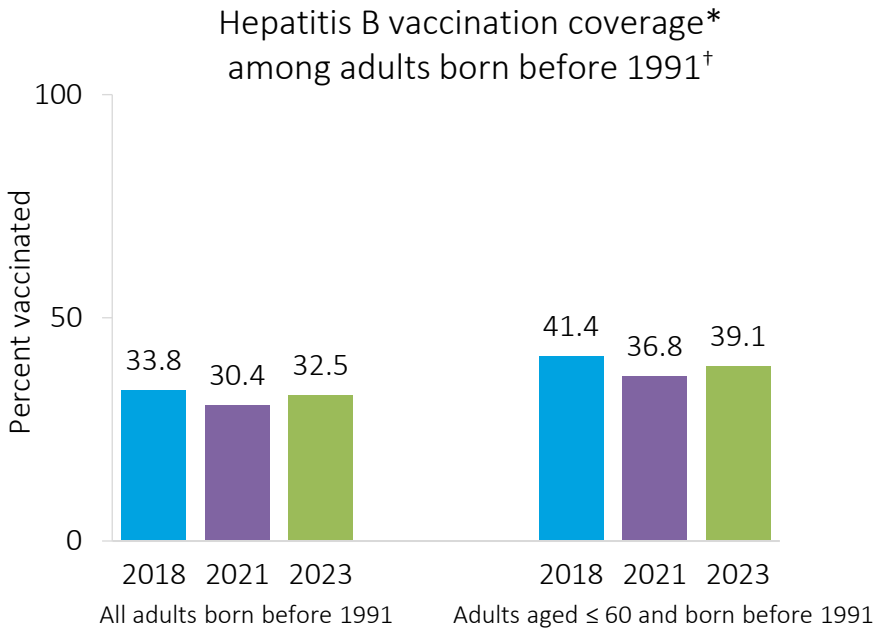
"Removing the risk factor assessment previously recommended to determine vaccine eligibility in this adult age group* could increase vaccination coverage and decrease hepatitis B cases."[2]

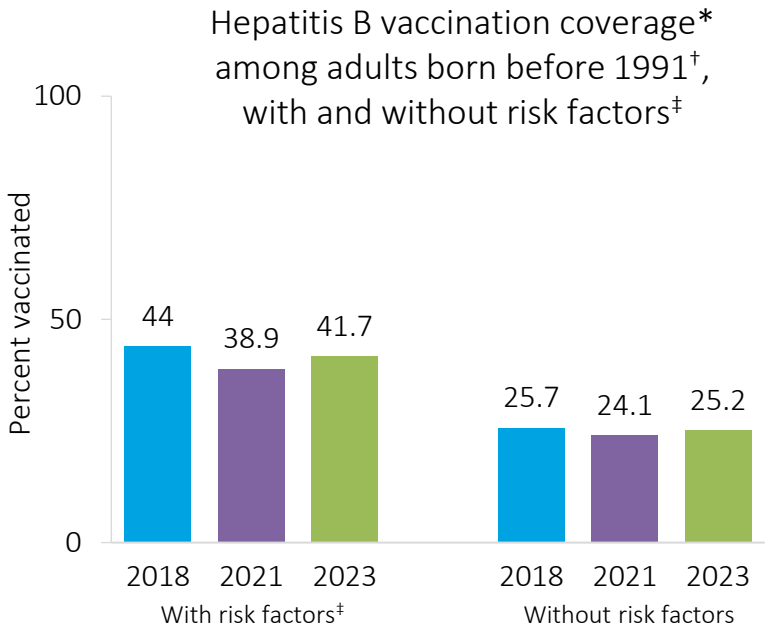
*Adults aged 19-59 years.
ACIP, Advisory Committee on Immunization Practices; HBV, hepatitis B virus.

1. Weng M. CDC ACIP presentation. November 2021. https://stacks.cdc.gov/view/cdc/111302. Accessed March 4, 2025. **2.** Weng MK, et al. *MMWR Morb Mortal Wkly Rep*. 2022;71(13):477-483.

Adult Hepatitis B Vaccination Coverage Rates Are Low

Vaccine coverage data for 2018, 2021, and 2023





Graphs adapted from Black C (CDC).

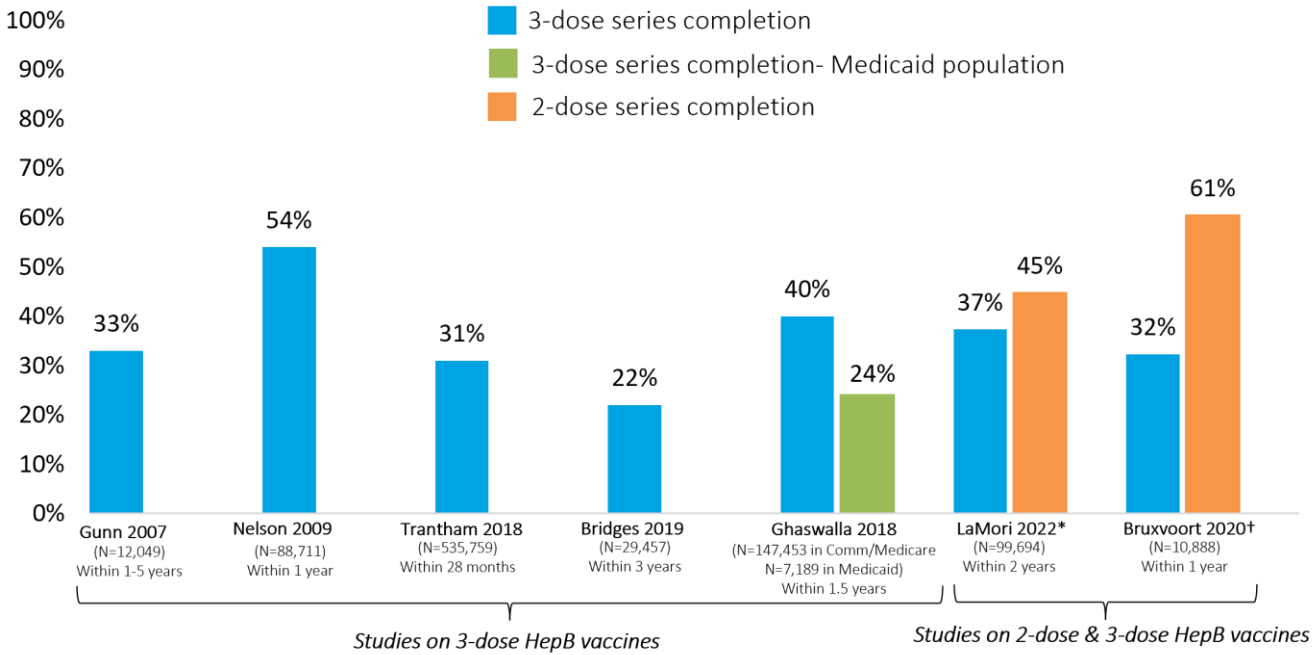
*Hepatitis B vaccine coverage rates among US adults were estimated based on the results of the National Health Interview Survey.

†Age ≥27 years in 2018, age ≥30 years in 2021, and age ≥32 years in 2023.

‡Travel, history of hepatitis, live with someone with hepatitis.

Black C (CDC). Adult and Influenza Vaccination Coverage Update. Presentation at the National Adult and Influenza Immunization Summit, May 2025.

HepB Vaccine Series Completion Rates



For most people, seroprotection is not achieved until the series is completed[8]

*N=134 for HepB-CpG and N=99,560 for 3-dose HepB vaccine. After 1 year, 42.5% of HepB-CpG initiators and 33.2% of 3-dose HepB vaccine initiators had completed the series. Adherence (receipt of all doses within the timeframes specified by the vaccine label's dosing schedule) was 32.2% for HepB-CpG and 14.3% for 3-dose HepB vaccine.

†At 3 months following recommended dosing schedule, 44.7% of HepB-CpG initiators and 26.1% of HepB-alum initiators completed the series

1. Gunn RA, et al. *Sex Transm Dis.* 2007;34(9):663-668. **2.** Nelson J, et al. *Am J Public Health.* 2009;99:S389-S397. **3.** Trantham L, et al. *Vaccine.* 2018;36(35):5333-5339. **4.** Bridges CB, et al. *Vaccine*. 2019;37(35):5111-5120. **5.** Ghaswalla PK, et al. *Hum Vaccin Immunother.* 2018;14(11):2780-2785. **6.** LaMori J, et al. PLOS One. 2022;17(2):e0264062. **7.** Bruxvoort K, et al. *JAMA Netw Open.* 2020;3(11):e2027577. **8.** Mast EE, et al. *MMWR Recomm Rep.* 2006;55(RR-16):1-33.

HepB Vaccine Series Completion Rates

Summary of hepatitis B vaccine series completion rates across US studies of adults

Study	N	Follow-up time for vaccine completion	2-dose vaccine	3-dose vaccine	
			Series completion rates	Completion rates for 2 doses	Series completion rates
Gunn et al[1]	12,049	≥ 12 months after first dose	ND	55%	33%
Nelson et al[2]	88,711	Within 12 months of first dose	ND	ND	53.66%
Trantham et al[3]	535,759	Within 28 months	ND	53.3%	31.17%
Bridges et al[4]	29,457	Within 36 months	ND	40.4%	22.3%
Ghaswalla et al[5*]	147,453*	≥ 18 months after first dose	ND	65.1%	39.6%
LaMori et al[6]	99,694	Within 24 months of first dose	44.8%	ND	37.3%
Bruxvoort et al[7]	10,888	Within 12 months of first dose	60.5%	ND	32.3%

*Reflective of series completion in the commercial/Medicare claims database cohort. In the Medicaid cohort of this study (N=7,189), the completion rates for ≥2- and 3-dose vaccination were 51.6% and 24.0%, respectively, ≥ 18 months after first dose.

ND, not determined.

1. Gunn RA, et al. *Sex Transm Dis.* 2007;34(9):663-668. **2.** Nelson J, et al. *Am J Public Health.* 2009;99:S389-S397. **3.** Trantham L, et al. *Vaccine.* 2018;36(35):5333-5339. **4.** Bridges CB, et al. *Vaccine*. 2019;37(35):5111-5120. **5.** Ghaswalla PK, et al. *Hum Vaccin Immunother.* 2018;14(11):2780-2785. **6.** LaMori J, et al. PLOS One. 2022;17(2):e0264062. **7.** Bruxvoort K, et al. *JAMA Netw Open.* 2020;3(11):e2027577.

Bridges et al: Hepatitis B Vaccine Series Completion Rates Among Dose 1 Recipients

Hepatitis B vaccination dose-series completion for persons who received a first dose among 6 awardee sites able to track patient-level dose-series completions

Setting Type (facility)	Number of persons who received dose 1	Number (%) of dose 1 recipients who received dose 2	Number (%) of dose 1 recipients who received dose 3
STD Clinics	11,245	4,000 (35.6%)	1,928 (17.1%)
Department of Corrections	5,150	2,058 (40.0%)	908 (17.6%)
Other*	3,447	1,552 (45.0%)	1,079 (31.3%)
Federally Qualified Health Center	2,432	1,359 (55.9%)	923 (38.0%)
Drug Treatment	2,564	791 (30.9%)	349 (13.6%)
Healthcare Facility Targeting IDU	2,008	674 (33.6%)	325 (16.2%)
HIV Clinics	1,278	551 (43.1%)	379 (29.7%)
Local Health Department Clinic	876	585 (66.8%)	531 (60.6%)
Healthcare Setting Targeting MSM	457	327 (71.6%)	135 (29.5%)
Total	**29,457**	**11,897 (40.4%)**	**6,557 (22.3%)**

Note: Hepatitis B vaccination in this pilot program occurred between 2012 and 2015, prior to the US licensure of HepB-CpG.
*Includes community-based organizations, homeless shelters, college events, mental health facilities, and health fairs, among others.
HIV, human immunodeficiency virus; IDU, injection drug user; MSM, men who have sex with men; STD, sexually transmitted disease.

Bridges CB, et al. *Vaccine*. 2019;37(35):5111-5120.

HepB-CpG

HepB-CpG Vaccine for Hepatitis B

Indication

- HepB-CpG is indicated for prevention of infection caused by all known subtypes of hepatitis B virus for adults 18 years of age and older

Important Safety Information

- Do not administer HepB-CpG to individuals with a history of severe allergic reaction (e.g., anaphylaxis) after a previous dose of any hepatitis B vaccine or to any component of HepB-CpG, including yeast.
- Appropriate medical treatment and supervision must be available to manage possible anaphylactic reactions following administration of HepB-CpG.
- Immunocompromised persons, including individuals receiving immunosuppressant therapy, may have a diminished immune response to HepB-CpG.
- Hepatitis B has a long incubation period. HepB-CpG may not prevent hepatitis B infection in individuals who have an unrecognized hepatitis B infection at the time of vaccine administration.
- The most common patient reported adverse reactions reported within 7 days of vaccination were injection site pain (23%-39%), fatigue (11%-17%) and headache (8%-17%).
- There are no adequate and well-controlled studies of HepB-CpG in pregnant individuals. Available data, primarily in individuals who received one dose of HepB-CpG in the 28 days prior to or during pregnancy, do not suggest an increased risk of major birth defects and miscarriage.
- It is not known whether HepB-CpG is excreted in human milk. Data are not available to assess the effects of HepB-CpG on the breastfed infant or on milk production/excretion.
- Vaccination with HepB-CpG may not result in protection in all vaccine recipients

HEPLISAV-B [package insert]. Emeryville, CA: Dynavax Technologies Corporation; 2024

HepB-CpG Vaccine for Hepatitis B

Dosing and Administration

- 2 doses administered 1 month apart
- Intramuscular injection

Formulation, How Supplied, and Storage

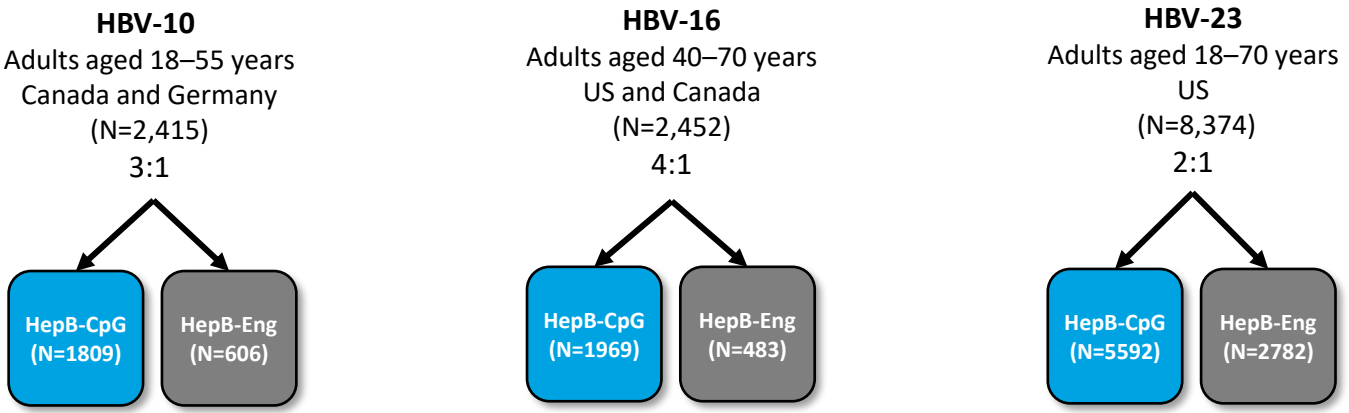
- Each 0.5-mL dose is formulated to contain 20 mcg of HBsAg and 3000 mcg of CpG 1018 adjuvant
- Supplied in prefilled syringes
  - Tip caps and stoppers of the prefilled syringes are not made with natural rubber latex
  - Formulated without preservatives
- Store in a refrigerator at 2°C to 8°C (36°F to 46°F)
  - Do not freeze; discard if the vaccine has been frozen

HBsAg, hepatitis B surface antigen; mcg, micrograms

HEPLISAV-B [package insert]. Emeryville, CA: Dynavax Technologies Corporation; 2024

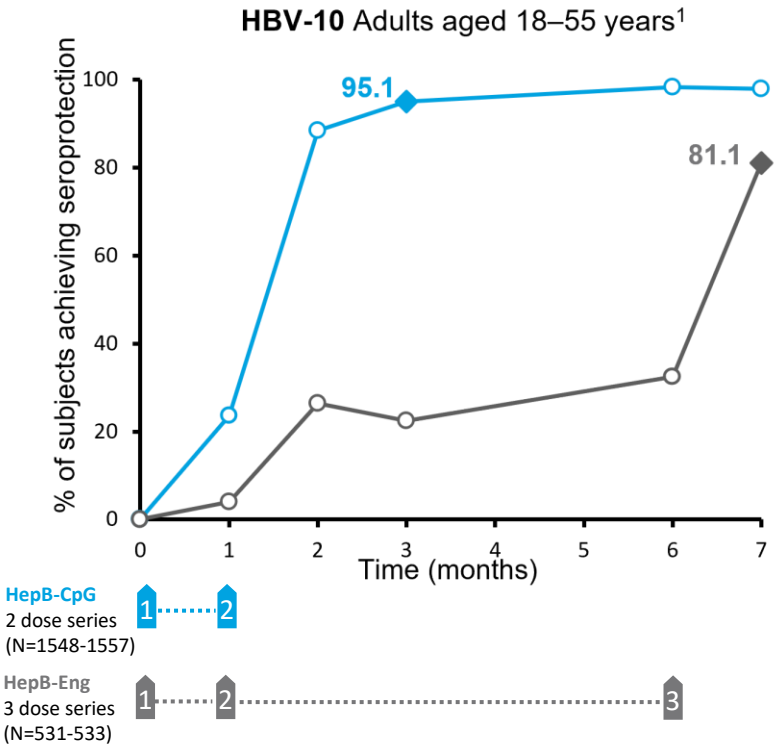
Pivotal Study Design

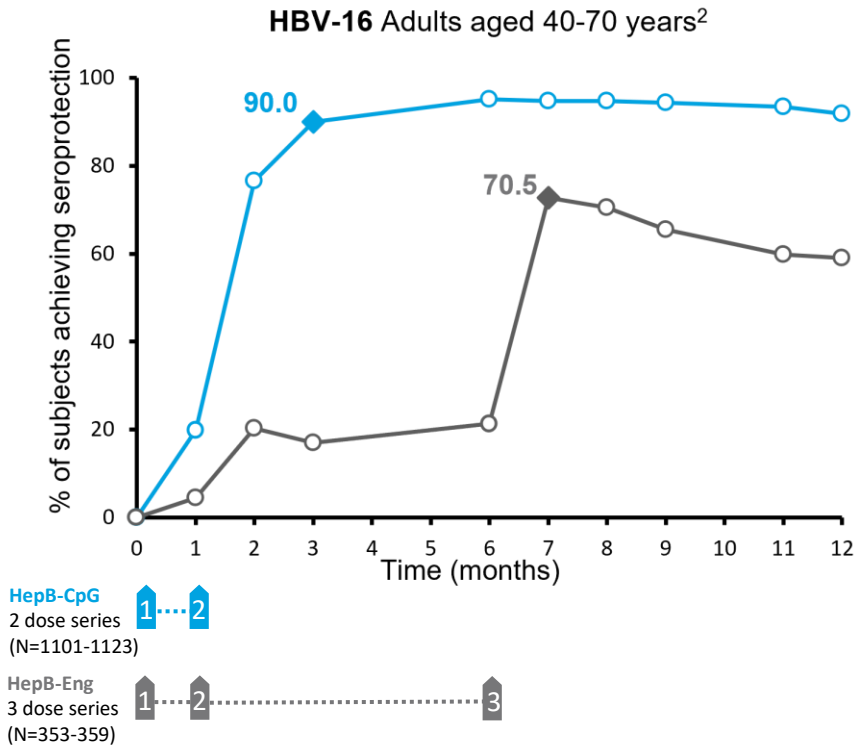
- 3 randomized, active-controlled, observer blinded, multi-center Phase 3 clinical trials (HBV-10[1], HBV-16[2], and HBV-23[3])
- Evaluate the non-inferiority of 2 doses HepB-CpG (dosed at 0, 1 month) compared to 3 doses HepB-Eng (dosed at 0, 1, and 6 months) measured by seroprotection rates
  - HepB-CpG group received placebo at month 6
- Evaluate safety of HepB-CpG



1. Halperin S, et al. *Vaccine.* 2012;30:2556-2563. **2.** Heyward WL, et al. *Vaccine.* 2013;31:5300-5305. **3.** Jackson S, et al. *Vaccine.* 2018;36(5):668-674.

Seroprotection Rates in HBV-10 and HBV-16





Seroprotection defined as having anti-HBs Ab ≥10 mIU/mL

◆ Primary Endpoint
○ Measured Timepoint

1. Halperin S, et al. *Vaccine.* 2012;30:2556-2563. **2.** Heyward WL, et al. *Vaccine.* 2013;31:5300-5305.

HBV-23: Seroprotection in Prespecified Hyporesponsive Populations

Adults 18–70 Years of Age

	HepB-CpG N	HepB-Eng N	Peak SPR (%)*	
			HepB-CpG	HepB-Eng
Total population	4,376	2,289	95.4%	81.3%
Non-diabetes	3,762	1,968	96.2%	83.9%
Diabetes	640	321	90.0%	65.1%
18 – 29 years	174	99	100.0%	93.9%
30 – 39 years	632	326	98.9%	92.0%
40 – 49 years	974	518	97.2%	84.2%
50 – 59 years	1,439	758	95.2%	79.7%
60 – 70 years	1,157	588	91.6%	72.6%
Men	2,203	1,150	94.5%	78.8%
Women	2,173	1,139	96.4%	83.8%
Obese†	2,165	1,076	94.7%	75.4%
Non-obese	2,208	1,212	96.1%	86.6%
Smoker	1,371	711	95.9%	78.6%
Non-smoker	3,005	1,578	95.2%	82.4%

Per protocol population

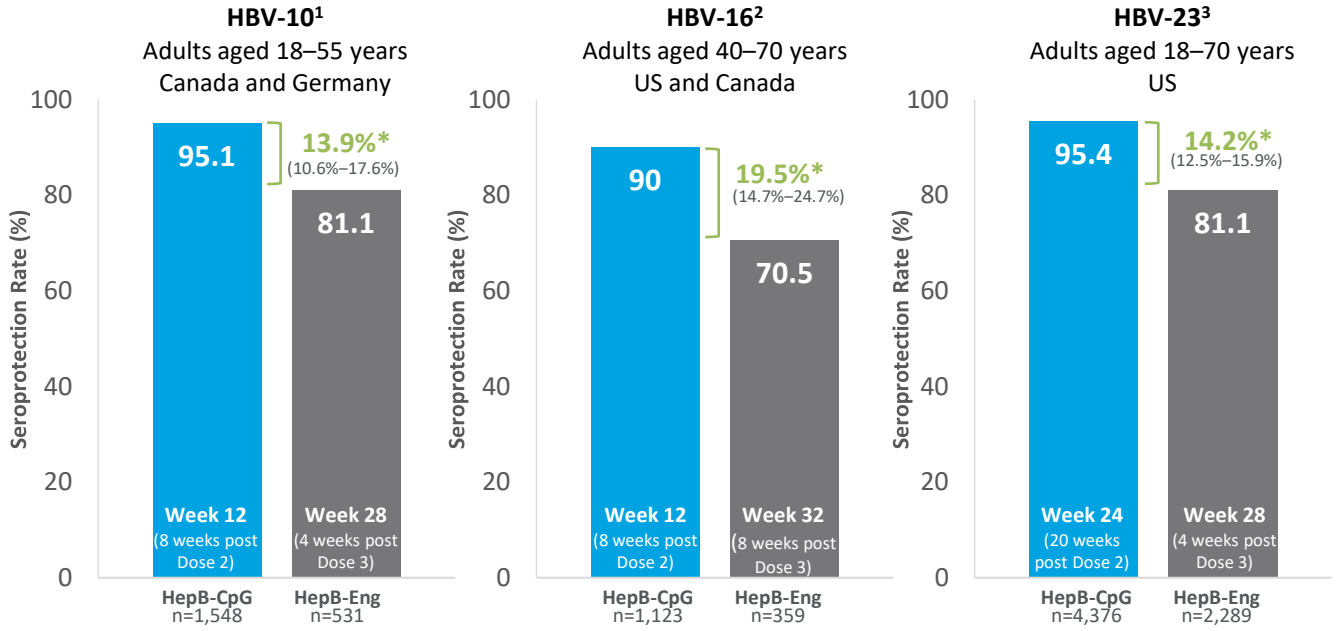
Seroprotection defined as antibody concentration ≥10 mIU/mL

*Peak SPR was measured at Week 24 for HepB-CpG (Week 28 for diabetes) and Week 28 for HepB-Eng. Noninferiority of peak SPRs was established for HepB-CpG compared to HepB-Eng for all group comparisons. Peak SPRs were statistically significantly higher for HepB-CpG compared to HepB-Eng for all group comparisons, $p < 0.0000001$

†Obese = Body mass index ≥30 kg/m^2

Jackson S, et al. *Vaccine.* 2018;36(5):668-674.

Seroprotection Rates Across 3 Pivotal Trials



*Statistically significant difference
Seroprotection defined as having anti-HBs Ab ≥10 mIU/mL.
Seroprotection rates shown at primary endpoint for each study.
Numbers in parentheses represent 95% confidence intervals of differences in seroprotection rates.

1. Halperin S, et al. *Vaccine.* 2012;30:2556-2563. **2.** Heyward WL, et al. *Vaccine.* 2013;31:5300-5305. **3.** Jackson S, et al. *Vaccine*. 2018;36(5):668-674.

HepB-CpG Safety Profile Compared to HepB-Eng in Three Pivotal Clinical Trials With Up to 12 Months of Follow-Up

Percentage of subjects with an adverse event

			Unsolicited Adverse Event*		Serious Adverse Event	Potentially Immune-mediated Adverse Event
HBV-10	HepB-CpG (N=1810)	Within 28 days of any injection	42.0%	Within 7 months of the first vaccine dose	1.5%	0.2%
	HepB-Eng (N=605)		41.3%		2.1%	0.7%
HBV-16	HepB-CpG (N=1968)	Within 28 days of any injection	35.4%	Within 12 months of the first vaccine dose	3.9%	0.2%
	HepB-Eng (N=481)		36.2%		4.8%	0.0%
HBV-23	HepB-CpG (N=5587)	Within 28 days of any injection	20.1%	Within 13 months of the first vaccine dose	6.2%	0.1%
	HepB-Eng (N=2781)		20.1%		5.3%	0%

*For HBV-23, only unsolicited, medically attended adverse events (i.e., those for which a subject sought medical care) were captured.

HEPLISAV-B [package insert]. Emeryville, CA: Dynavax Technologies Corporation; 2024.

Common Implementation Questions

Clinical Guidance – Pregnancy & Breastfeeding[1-4]

- Pregnancy
  - On September 11, 2024, the FDA approved a request to update the labeling for HepB-CpG to include human pregnancy data[1,2]
  - On December 5, 2024, the CDC published updated recommendations for hepatitis B vaccination in adults[1]
  - CDC recommends that providers should vaccinate pregnant persons needing hepatitis B vaccination with HepB-alum, HepB-CpG, or HepA-HepB[1]
    - Data on 3A-HBV are currently insufficient to inform vaccine-associated risks in pregnancy[3]

- Breastfeeding[3,4]
  - Data are not available to assess the effects of HepB-CpG and 3A-HBV on the breastfed infant or on milk production and excretion[3,4]
  - However, there is no theoretical risk to the infant, and vaccination with any hepatitis B vaccine product is acceptable[4]

1. Sandul AL, et al. *MMWR Morb Mortal Wkly Rep*. 2024;73:1106. **2.** HEPLISAV-B [package insert]. Emeryville, CA: Dynavax Technologies Corporation; 2024. **3.** Weng MK, et al. *MMWR Morb Mortal Wkly Rep.* 2022;71(13):477-483. **4.** Immunize.org Ask the Experts. https://www.immunize.org/askexperts/experts_hepb.asp, Accessed 9 June 2025.

Dosing Intervals for Hepatitis B Vaccines[1,2]

- Minimum intervals for hepatitis B vaccines

	2-dose vaccine	3-dose vaccine
Between dose 1 and 2	4 weeks	4 weeks
Between dose 2 and 3	---	8 weeks
Between dose 1 and 3	---	16 weeks

  - Doses administered at less than the minimum interval should be repeated

- ACIP clinical guidance states that when the hepatitis B vaccine schedule is interrupted, the vaccine series does not need to be restarted. The series can be completed from the point it was interrupted.

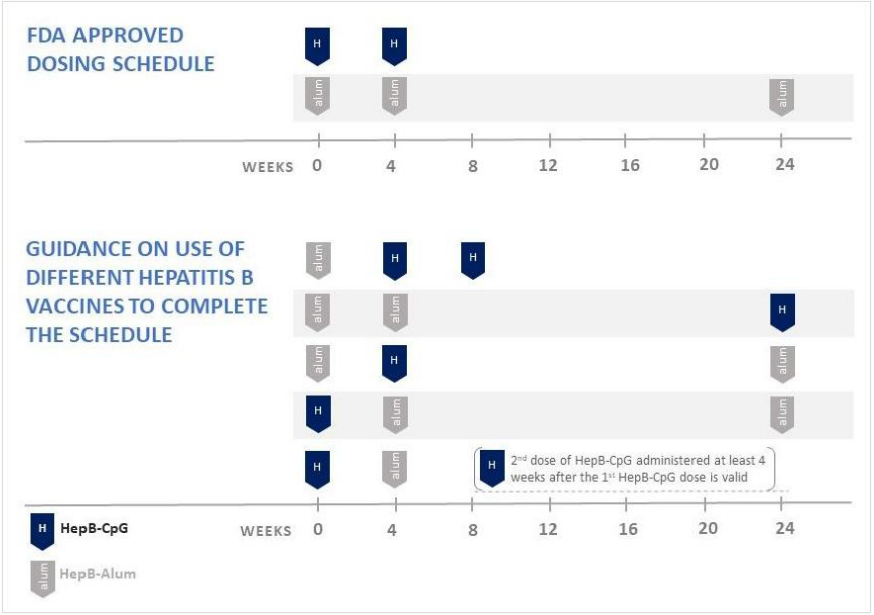
ACIP, Advisory Committee on Immunization Practices

1. Schillie S, et al. *MMWR Morb Mortal Wkly Rep* 2018;67:455–458. DOI: http://dx.doi.org/10.15585/mmwr.mm6715a5. **2.** Schillie S, et al. *MMWR Recomm Rep* 2018;67(No. RR-1):1–31. DOI: http://dx.doi.org/10.15585/mmwr.rr6701a1external icon.

Interchangeability of Hepatitis B Vaccines

- Data are limited on the safety and immunogenicity effects when HepB-CpG is interchanged with hepatitis B vaccines from other manufacturers
- Per ACIP guidance, when feasible the same manufacturer's vaccine should be used to complete the series
  - However, vaccination should not be deferred when the manufacturer of the previously administered vaccine is unknown or when the vaccine from the same manufacturer is unavailable
- The ACIP has issued guidance on situations consisting of a combination of HepB-CpG vaccine and HepB-alum vaccines[1]
  - The 2-dose hepatitis B vaccine series only applies when both doses in the series consist of HepB-CpG
  - A series consisting of a combination of 1 dose of HepB-CpG and a vaccine from a different manufacturer should consist of 3 total vaccine doses and should adhere to the 3-dose schedule minimum intervals:
    - 4 weeks between dose 1 and 2, 8 weeks between dose 2 and 3, and 16 weeks between dose 1 and 3
    - Doses administered at less than the minimal interval should be repeated
  - Any 2 HepB-CpG doses separated by 4 weeks constitutes a complete hepatitis B vaccine series, even if other doses of HepB-alum (or HepA/B), are administered before, after, or between the 2 doses of HepB-CpG (regardless of the interval between these other vaccines and HepB-CpG)[2]

Scenarios in which HepB-CpG may be interchanged with an aluminum-adjuvanted hepatitis B vaccine to complete a dosing regimen



ACIP, Advisory Committee on Immunization Practices

1. Schillie S, et al. *MMWR Morb Mortal Wkly Rep*. 2018;67(15):455-458. doi:10.15585/mmwr.mm6715a5 **2.** CDC. CDC Pink Book 2021: Epidemiology and Prevention of Vaccine-Preventable Diseases. Chapter 10: Hepatitis B. Haber P and Schillie S., eds. 14th ed. Washington, D.C. Public Health Foundation, 2021. https://www.cdc.gov/vaccines/pubs/pinkbook/hepb.html

Coadministration of Hepatitis B Vaccines

- According to the CDC, hepatitis B vaccines can be administered simultaneously with other vaccines
- Simultaneous administration of vaccines is defined as administering more than one vaccine on the same clinic day, at different anatomic sites, and not combined in the same syringe
- Experimental evidence and extensive clinical experience provide the scientific basis for administering vaccines simultaneously

CDC General Best Practice Guidelines for Immunization: Timing and Spacing of Immunobiologics. https://www.cdc.gov/vaccines/hcp/imz-best-practices/timing-spacing-immunobiologics.html, Accessed 18 Nov 2025.

Use of HepB-CpG for Nonresponders and Revaccination

- ACIP clinical guidance notes that HepB-CpG may be used for revaccination following an initial hepatitis B vaccine series that consisted of doses of HepB-CpG or doses from a different manufacturer
  - Revaccination may consist of administration of a second complete hepatitis B vaccine series followed by anti-HBs testing 1–2 months after the final dose
  - Alternatively, revaccination may consist of administration of an additional single hepatitis B vaccine dose followed by anti-HBs testing 1–2 months later (and, if anti-HBs remains <10 mIU/mL, completion of the second vaccine series followed again by anti-HBs testing 1–2 months after the final dose)

- HepB-CpG may also be used to revaccinate new health care personnel (including the challenge dose) initially vaccinated with a vaccine from a different manufacturer in the distant past who have anti-HBs <10 mIU/mL upon hire or matriculation

ACIP, Advisory Committee on Immunization Practices

Schillie S, et al. *MMWR Morb Mortal Wkly Rep* 2018;67:455–458. DOI: http://dx.doi.org/10.15585/mmwr.mm6715a5

HepB-CpG

Health Economics of Hepatitis B Vaccines

Rosenthal et al: Assessing the Cost-Utility of Preferentially Administering HepB-CpG Vaccine to Certain Populations

Background: Most hepatitis B vaccines for adults require 3 doses over 6 months. HepB-CpG, approved in 2017, has a 2-dose schedule over 1 month. However, the per-dose cost of HepB-CpG is higher compared to 3-dose hepatitis B vaccines.

Key question: How does the cost-utility of a 2-dose hepatitis B vaccine compare to a 3-dose vaccine among adult populations at high risk for hepatitis B infection?

Methods

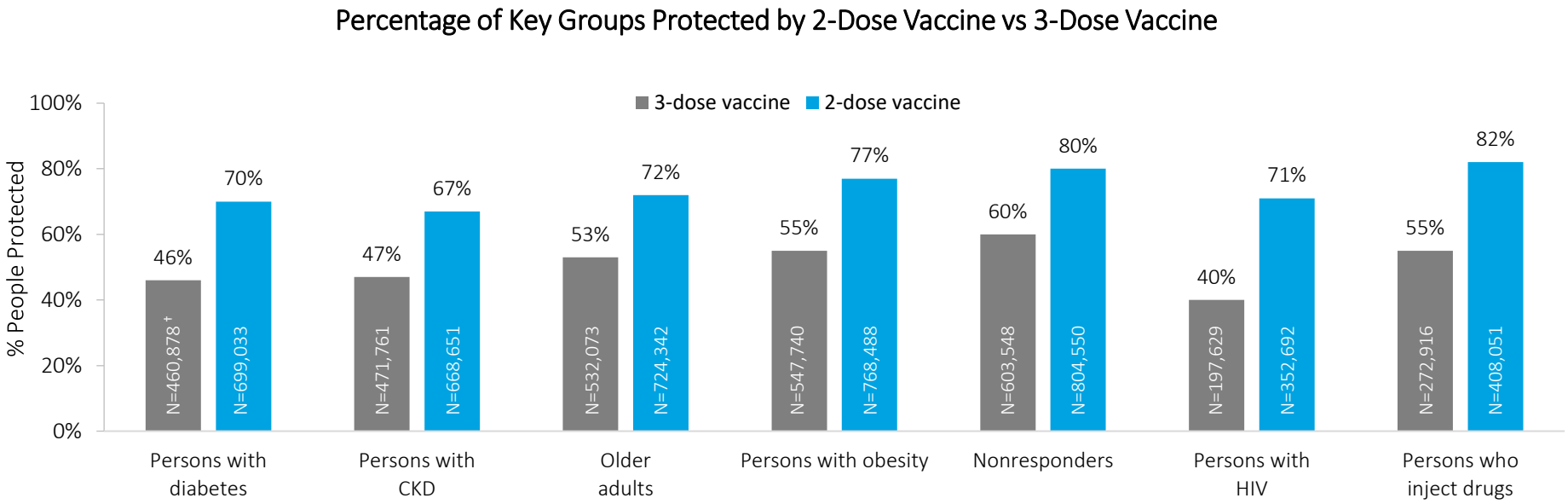
- Simulated modelling was used to quantify and compare health benefits (QALY) and costs of 2-dose (HepB-CpG) compared to 3-dose (HepB-Eng) vaccination in 7 adult risk groups: diabetes, obesity, chronic kidney disease, HIV, non-responders to previous hepatitis B vaccines, older adults, and persons who inject drugs
- Costs and outcomes of both vaccine strategies were analyzed using a decision-tree model with a Markov HBV-disease progression component

HBV, hepatitis B virus; HIV, human immunodeficiency virus; QALY, quality-adjusted life year.

Rosenthal EM, et al. *Vaccine*. 2020;38:8206-8215.

Rosenthal et al: Protection Against Hepatitis B With 2-Dose Vaccine Versus 3-Dose Vaccine

- According to this model, using the 2-dose vaccine preferentially would protect approximately 19%–31% more patients in every risk group evaluated*

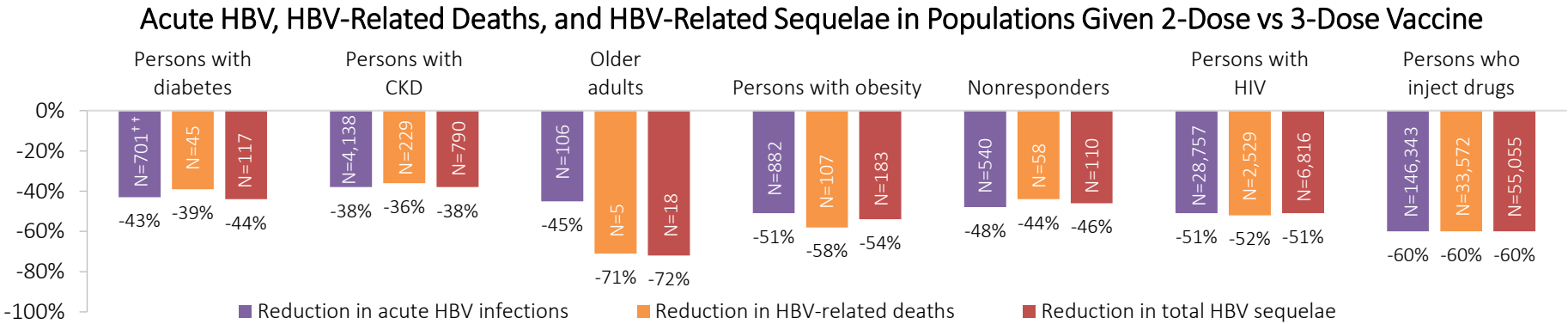


*Estimates based on modeling 1 million people per risk group (0.5 million for persons with HIV and persons who inject drugs)
† Represents the number of people protected against hepatitis B infection in each modeled group
CKD, chronic kidney disease; HIV, human immunodeficiency virus.

Rosenthal EM, et al. *Vaccine*. 2020;38:8206-8215.

Rosenthal et al: Vaccination Outcomes for 2-Dose Strategy Compared to 3-Dose Strategy

- The difference in protection between the vaccine strategies translated into the 2-dose strategy leading to fewer HBV infections, deaths, and total sequelae*
- Compared to the 3-dose strategy, the 2-dose strategy resulted in[†]:
  - 38-60% acute HBV infections averted
  - 36-71% HBV-related deaths averted
  - 38-72% total HBV-related sequelae averted



*Total HBV sequelae includes fulminant hepatitis + chronic HBV infections + hepatocellular carcinoma + liver transplant.
[†]Estimates based on modeling 1 million people per risk group (0.5 million for persons with HIV and persons who inject drugs).
[††] Represents the number of acute HBV cases, deaths, or sequalae averted per group with the 2-dose strategy vs the 3-dose strategy
CKD, chronic kidney disease; HBV, hepatitis B virus; HIV, human immunodeficiency virus.
Rosenthal EM, et al. *Vaccine*. 2020;38:8206-8215.

Rosenthal et al.: Cost-Effectiveness of Preferentially Using the 2-Dose Hepatitis B Vaccine for Each Risk Group

Population	Strategy	People protected against infection*	Cost/person (USD)	QALYs/person	ICER (USD/QALY gained)†
Persons with diabetes	3-dose vaccine	460,878	421.38	15.0827	Ref
	2-dose vaccine	699,033	416.74	15.0832	**Dominant**
Persons with CKD	3-dose vaccine	471,761	679.90	10.2952	Ref
	2-dose vaccine	668,651	631.62	10.2971	**Dominant**
Older adults	3-dose vaccine	532,073	409.03	10.6495	Ref
	2-dose vaccine	724,342	409.01	10.6495	**Dominant**
Persons with obesity	3-dose vaccine	547,740	430.21	18.9786	Ref
	2-dose vaccine	768,488	421.08	18.9796	**Dominant**
Non-responders	3-dose vaccine	603,548	497.95	16.5826	Ref
	2-dose vaccine	804,550	512.11	16.5831	**27,470**
Persons with HIV	3-dose vaccine	197,629	1368.08	16.8496	Ref
	2-dose vaccine	352,692	891.62	16.8959	**Dominant**
Persons who inject drugs	3-dose vaccine	250,351	8403.93	23.2534	Ref
	2-dose vaccine	399,771	3657.15	23.9608	**Dominant**

*Base case, per 1 million people (per 0.5 million people for Persons with HIV and Persons who inject drugs)

†Dominant indicates that the intervention strategy (2-dose) had lower costs and higher QALYs than the baseline strategy (3-dose).

CKD, chronic kidney disease; HIV, human immunodeficiency virus; ICER, incremental cost-effectiveness ratio; QALY, quality-adjusted life year; USD, US dollars. Table adapted from Rosenthal et al.

Rosenthal EM, et al. *Vaccine*. 2020;38:8206-8215.

Rosenthal et al: Summary

Author Conclusions

- The 2-dose vaccine strategy resulted in fewer HBV infections, sequelae, and HBV-related deaths compared to the 3-dose strategy in all assessed risk populations
- The 2-dose strategy was associated with decreased costs and increased benefits for six of the seven risk groups
- Vaccination with the 2-dose vaccine is cost-saving compared to the 3-dose vaccine for adults with diabetes, chronic kidney disease, obesity, and HIV; older adults; and persons who inject drugs

HBV, hepatitis B virus; HIV, human immunodeficiency virus

Rosenthal EM, et al. *Vaccine*. 2020;38:8206-8215.

Oster et al: Assessing the Economic Value of Universal 2-Dose versus 3-Dose HBV Vaccination in Unvaccinated Adults

Background: It is estimated that half of adults beginning an immunization series with a 3-dose HBV vaccine do not receive the third dose. The use of a 2-dose vaccine may improve adherence, leading to greater overall levels of seroprotection

Key question: What is the comparative economic value of a 2-dose versus 3-dose strategy for universal adult HBV vaccination?

Methods

A simple decision-analytic model was developed to estimate expected levels of adherence, expected levels of seroprotection (defined as HBsAg ≥10 mIU/mL), and expected overall costs of vaccination at 1 year among a hypothetical cohort of 1 million previously unvaccinated adults receiving first doses of either a 3-dose (HepB-Eng) or 2-dose (HepB-CpG) vaccine*

- The population was stratified by age (30–49 years vs ≥50 years) to allow for possible differences in adherence and seroprotection

*Estimations were made using published adherence rates for HBV vaccines. Seroprotection rates were reported by number of doses administered.
HBsAg, hepatitis B surface antigen; HBV, hepatitis B virus.

Oster G, et al. *Vaccine.* 2022;40(26):3597-3604.

Oster et al: HepB-CpG is Expected to Result in Higher Vaccination Coverage and Seroprotection vs HepB-Eng

Base Case Analyses: Use of 2-Dose (HepB-CpG) vs 3-Dose (HepB-Eng) HBV Vaccine

	HepB-CpG	HepB-Eng	Difference
Expected number of persons fully vaccinated at 1 year by age			
30–49 years	567,000	273,000	294,000
≥50 years	690,000	398,000	292,000
Expected number of persons with seroprotection at 1 year by age			
30–49 years	664,947	392,463	272,484
≥50 years	689,490	411,894	277,596
Expected total costs at 1 year by age (USD)			
30–49 years	$238.7 M	$161.3 M	$77.4M
≥50 years	$257.4 M	$183.0 M	$74.4M

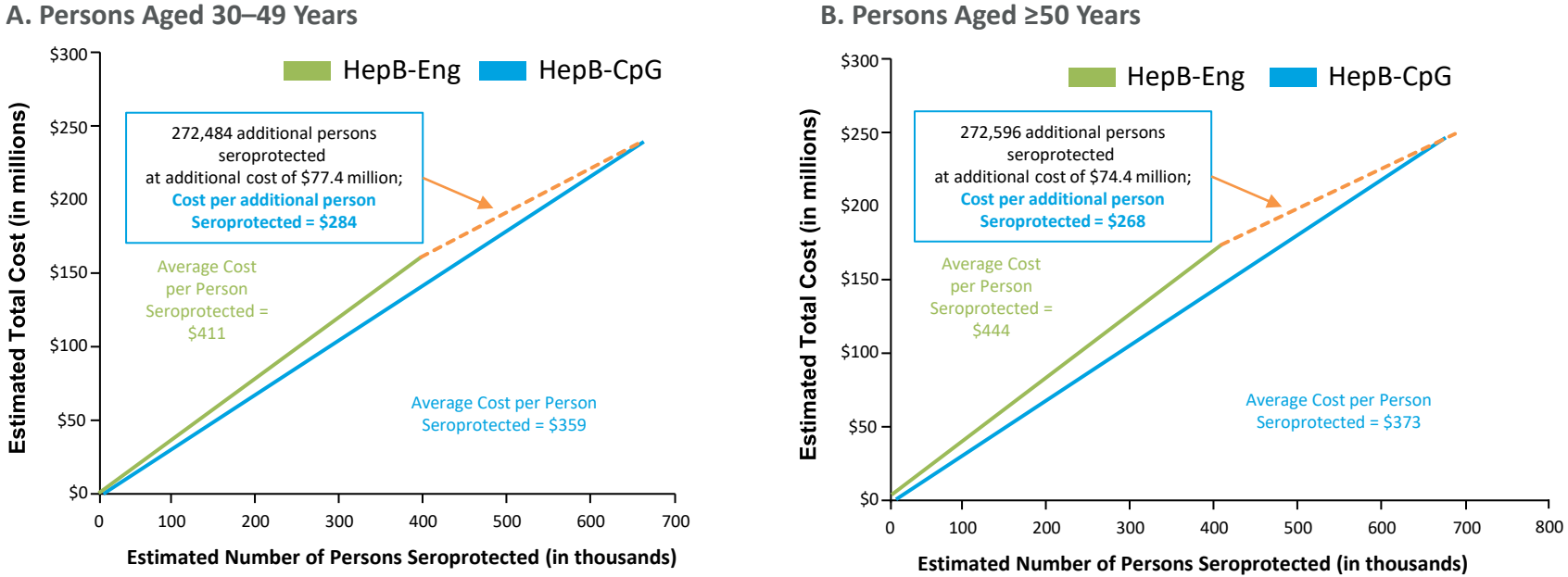
Table adapted from Oster et al.

- For both age groups evaluated, the expected number of individuals fully vaccinated at 1 year,* and the number of individuals that achieved seroprotection at 1 year, was **higher for HepB-CpG than HepB-Eng**
- Expected total costs of HBV vaccination were estimated to be ~$75 million higher with HepB-CpG than with HepB-Eng

*Per 1M persons receiving an initial dose of HBV vaccine.
HBsAg, hepatitis B surface antigen; HBV, hepatitis B virus; USD, US dollars.
Oster G, et al. *Vaccine*. 2022;40(26):3597-3604.

Oster et al: HepB-CpG is Estimated to Have a Lower Cost Per Person Seroprotected versus HepB-Eng

Estimated Total Cost (USD) And Number Of Persons Seroprotected At 1 Year



- The **average estimated cost per person who achieves seroprotection** is **lower with HepB-CpG versus HepB-Eng** ($359 versus $411 in those 30–49 years of age and $373 versus $444 in those ≥50 years of age)
- When accounting for *the additional individuals who achieve seroprotection with HepB-CpG versus HepB-Eng*, the cost per person is even lower ($284 in those 30–49 years of age and $268 in those ≥50 years of age)

Figures adapted from Oster et al.

Oster G, et al. *Vaccine*. 2022;40(26):3597–3604.

Oster et al: Summary

Author conclusions

- In adults ≥30 years of age, the use of a 2-dose rather than a 3-dose HBV vaccine is expected to result in a robust increase in both the number of individuals who become fully vaccinated* and the number of individuals who achieve seroprotection
- While the cost per dose is higher with HepB-CpG versus HepB-Eng, the cost per person seroprotected at 1 year (a meaningful measure of value) would decline by $50–$70 with HepB-CpG
- The model described in this study is unique in that it incorporated nonadherence in its analysis. This is an important factor that is observed in real-world practice, as roughly half of all adults who receive the first dose of a 3-dose HBV vaccine fail to complete the series
- The results suggest that the use of a 2-dose vaccine would help improve patient adherence compared with the conventional 3-dose series

*The term "fully vaccinated" is used to describe individuals who have received all doses of the vaccine as per the approved product label.
HBV, hepatitis B virus.

Oster G, et al. *Vaccine.* 2022;40(26):3597-3604.

Hall et al: Evaluating the Cost-Effectiveness of Hepatitis B Vaccination Strategies in High-impact Settings for Adults

Background: Vaccination coverage among persons at high risk of HBV infection remains low. A 2-dose vaccine that can be completed in one month is considered a cost-effective approach compared to the 3-dose vaccine among several high-risk groups. The 2-dose vaccine may result in higher vaccine completion rates, especially in settings in which many patients have HBV risk factors and follow-up is a challenge.

Key question: What is the most cost-effective approach for HBV vaccination in these six high-impact settings?

1) Community outreach events*, 2) syringe service programs, 3) substance use treatment centers, 4) STI clinics, 5) TB clinics, and 6) jails.

Methods

- Simulated modelling was used to quantify and compare health benefits (QALY) and costs of four HBV vaccination strategies in six settings
- Costs and benefits of the four strategies were analyzed using a decision-tree model with a Markov HBV-disease progression component

*Events with a large proportion of immigrants from countries with high prevalence of HBV infection.
HBV, hepatitis B virus; QALY, quality-adjusted life years; STI, sexually transmitted infection; TB, tuberculosis.

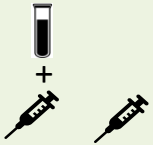
Hall EW, et al. *J Viral Hep* 2022; 29(12): 1115-1126.

Hall et al: Baseline Comparison Strategy and Intervention Strategies

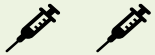
Baseline strategy
- Pre-vaccination testing & screening
- 3-dose vaccine, starting at first encounter

Intervention 1
- Pre-vaccination testing & screening
- 2-dose vaccine at subsequent encounters

Intervention 2
- Pre-vaccination testing & screening
- 2-dose vaccine, starting at first encounter



Intervention 3
- No pre-vaccination testing/screening
- 2-dose vaccine, starting at first encounter



4 strategies were modeled for each of the six high-impact settings
- 3 out of 4 strategies included pre-vaccination testing & screening
- Vaccination started either at the initial encounter (with testing) or at a subsequent encounter

Six high-impact settings
- Community outreach events*
- Syringe service programs
- Substance use treatment centers
- Sexually transmitted infection clinics
- Tuberculosis clinics
- Jails

*Events with a large proportion of immigrants from countries with high prevalence of HBV infection.

Hall EW, et al. *J Viral Hep* 2022; 29(12): 1115-1126.

Hall et al: Cost-effectiveness Analysis Results of Adult HBV Vaccination Strategies in Six Settings, Compared to Baseline Strategy (1 of 2)

Table adapted from Hall et al.	Intervention 1 Screen, 2 doses		Intervention 2 Screen, 2 doses, 1st dose at visit		Intervention 3 2 doses, 1st dose at visit	
Community outreach events	**Median**	**IQR**	**Median**	**IQR**	**Median**	**IQR**
% change in new persons protected	-39.1	-39.2 to -39.0	23.9	23.8 to 24.1	23.9	23.8 to 24.1
% change in incident chronic infections	36.4	21.2 to 51.3	-12.8	-16.4 to -9.6	-12.8	-16.4 to -9.6
% change in total HBV deaths	0.2	0.2 to 0.2	-0.1	-0.1 to 0.0	3.7	3.6 to 3.8
Incremental USD per person	-72	-75 to -69	52	50 to 52	-676	-690 to -664
ICER (USD/QALY)	Less QALYs, less cost		121,320	94,759 to 167,606	Less QALYs, less cost	
Jails	**Median**	**IQR**	**Median**	**IQR**	**Median**	**IQR**
% change in new persons protected	-65.2	-65.3 to -65.1	36.3	36.2 to 36.4	36.3	36.2 to 36.4
% change in incident chronic infections	32.4	31.0 to 33.5	-13.6	-13.8 to -13.2	-13.6	-13.8 to -13.2
% change in total HBV deaths	23.2	22.7 to 23.8	-8.6	-8.8 to -8.5	-7.1	-7.2 to -6.9
Incremental USD per person	810	792 to 838	-266	-272 to -258	-510	-525 to -503
ICER (USD/QALY)	Less QALYs		Less cost		Less cost	
Tuberculosis clinics	**Median**	**IQR**	**Median**	**IQR**	**Median**	**IQR**
% change in new persons protected	-8.9	-9.0 to -8.9	9.0	8.9 to 9.1	9.0	8.9 to 9.1
% change in incident chronic infections	21.0	5.4 to 34.9	-8.2	-14.6 to -2.8	-8.2	-14.6 to -2.8
% change in total HBV deaths	0.1	0.1 to 0.2	0.0	0.0 to 0.0	3.8	3.7 to 4.0
Incremental USD per person	-55	-57 to -53	51	50 to 51	-285	-290 to -275
ICER (USD/QALY)	Less QALYs, less cost		488,239	331,210 to 882,120	Less QALYs, less cost	

HBV, hepatitis B virus; ICER, incremental cost-effectiveness ratio; IQR, interquartile range; QALY, quality-adjusted life years; USD, 2021 US dollars.

Hall EW, et al. *J Viral Hep* 2022; 29(12): 1115-1126.

Hall et al: Cost-effectiveness Analysis Results of Adult HBV Vaccination Strategies in Six Settings, Compared to Baseline Strategy (2 of 2)

Table adapted from Hall et al.	Intervention 1 Screen, 2 doses		Intervention 2 Screen, 2 doses, 1st dose at visit		Intervention 3 2 doses, 1st dose at visit	
Sexually transmitted infections clinics	**Median**	**IQR**	**Median**	**IQR**	**Median**	**IQR**
% change in new persons protected	-50.3	-50.4 to -50.2	17.1	17.0 to 17.3	17.1	17.0 to 17.3
% change in incident chronic infections	37.5	34.9 to 40.9	-10.5	-11.1 to -9.7	-10.5	-11.1 to -9.7
% change in total HBV deaths	4.5	4.3 to 4.7	-1.1	-1.1 to -1.0	2.4	2.3 to 2.6
Incremental USD per person	94	83 to 105	19	16 to 21	-525	-538 to -514
ICER (USD/QALY)	Less QALYs		3,058	2,549 to 3,570	Less QALYs, less cost	
Syringe service programs	**Median**	**IQR**	**Median**	**IQR**	**Median**	**IQR**
% change in new persons protected	-46.1	-46.1 to -46.0	30.5	30.4 to 30.6	30.5	30.4 to 30.6
% change in incident chronic infections	29.4	28.6 to 30.1	-14.8	-15.0 to -14.6	-14.8	-15.0 to -14.6
% change in total HBV deaths	27.9	27.4 to 28.3	-11.5	-11.6 to -11.3	-10.6	-10.8 to -10.5
Incremental USD per person	1,534	1,502 to 1,569	-597	-608 to -592	-812	-822 to -798
ICER (USD/QALY)	Less QALYs		Less cost		Less cost	
Substance use treatment centers	**Median**	**IQR**	**Median**	**IQR**	**Median**	**IQR**
% change in new persons protected	-52.5	-52.6 to -52.5	26.2	26.1 to 26.3	26.2	26.1 to 26.3
% change in incident chronic infections	33.9	32.5 to 35.6	-10.9	-11.3 to -10.5	-10.9	-11.3 to -10.5
% change in total HBV deaths	30.0	29.0 to 30.7	-8.3	-8.5 to -8.1	-7.1	-7.4 to -7.0
Incremental USD per person	618	595 to 638	-130	-136 to -125	-234	-241 to -226
ICER (USD/QALY)	Less QALYs		Less cost		Less cost	

HBV, hepatitis B virus; ICER, incremental cost-effectiveness ratio; IQR, interquartile range; QALY, quality-adjusted life years; USD, 2021 US dollars.

Hall EW, et al. *J Viral Hep* 2022; 29(12): 1115-1126.

Hall et al: Summary

Results and author conclusions

- Intervention 1 (testing/screening followed by 2-dose vaccination at subsequent encounters) resulted in worse health outcomes compared to the baseline strategy across all six settings
  - As the only strategy that did not provide vaccination at the initial encounter, these results highlight the need to begin vaccination at the initial encounter in all settings
- Intervention 2 (testing/screening with the start of a 2-dose vaccine series at initial encounter) resulted in an increased number of persons protected and a reduced number of incident chronic infections and deaths across all settings
  - Intervention 2 was a cost-saving approach in settings with higher risk of infection (jails, syringe service programs, substance use treatment centers)
  - In settings with a lower risk of infection, the ICER was still favorable for this intervention
- Intervention 3 (2-dose vaccine series, starting at the initial encounter) resulted in the same number of persons protected as Intervention 2, and resulted in a reduced number of incident chronic infections in all settings with lower costs per person. In some settings, this intervention resulted in more HBV deaths.
  - Intervention 3 was cost-saving in all settings, indicating a lack of screening should not be a barrier to providing vaccination
- A 2-dose HBV vaccine series is a cost-effective approach in these high-impact settings, even if pre-vaccination testing is not possible

HBV, hepatitis B virus; ICER, incremental cost-effectiveness ratio.
Hall EW, et al. *J Viral Hep* 2022; 29(12): 1115-1126.

HepB-CpG

Implementation Considerations for Adult Hepatitis B Vaccination

DYNAVAX

Insights Into Hepatitis B Vaccination Decision-Making: Exploring Vaccine Preferences, Health Disparities, and Practice Patterns Among Patients and Healthcare Providers

Melissa Scherkoske[1]; James Moran[1]; Michael Barnett[1]; Clem Lewin[2]; Stephanie Campbell[3]; Patricia Novy[3]

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Scherkoske M et al. *Hum Vaccin Immunother* 2025;21(1): 2555698.

Background

Scherkoske et al.[1]

HBV remains a public health burden, particularly in minority racial/ethnic populations[2]

In April 2022, the CDC expanded adult HBV vaccine recommendations to persons aged 19-59 years who have no documentation of a complete HBV vaccine series[3]

- Both 2- and 3-dose regimens of the HBV vaccine are recommended for adults

Social determinants of health influence vaccination rates and healthcare access[4]

- Health disparities among adults and racial/ethnic minorities in the United States negatively impact vaccination coverage and uptake[5]
- Barriers to healthcare access include lack of transportation and childcare, inability to take time off work, unstable housing, and communication difficulties[6]

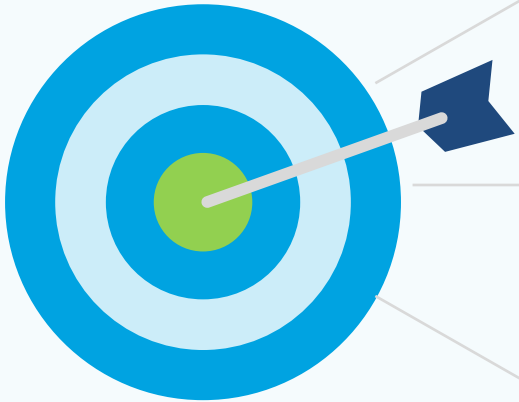
Understanding barriers to completion of a vaccine series, such as cost to patients and how social determinants impact vaccination, is critical[1]

CDC, Centers for Disease Control and Prevention; HBV, hepatitis B virus; HCP, healthcare provider.

1. Scherkoske M et al. *Hum Vaccin Immunother* 2025;21(1): 2555698. **2.** Patel EU et al. *Clin Infect Dis*. 2019;69(4):709-712. **3.** Weng MK et al. *MMWR Morb Mortal Wkly Rep*. 2022;71(13):477-483. **4.** Sangster AV. *Vaccines*. 2021;9(12):1378. **5.** Hung MC et al. Vaccination Coverage among Adults in the United States, National Health Interview Survey, 2021. July 19, 2024. Accessed November 12, 2025. https://www.cdc.gov/adultvaxview/publications-resources/vaccination-coverage-adults-2021.html **6.** Ngugga N et al. Disparities in health and health care: 5 key questions and answers, Kaiser Family Foundation (KFF) website. August 14, 2024. Accessed November 12, 2025. https://www.kff.org/racial-equity-and-health-policy/disparities-in-health-and-health-care-5-key-question-and-answers/

Objectives

Scherkoske et al.



01 Identify potential drivers of health disparities associated with multidose vaccines

02 Analyze patient and HCP criteria in HBV vaccine decision-making and selection and assess their impact on the propensity to obtain HBV vaccination

03 Evaluate patient and HCP preferences for HBV vaccines (specifically 2-dose vs 3-dose options)

HBV, hepatitis B virus; HCP, healthcare provider.

Scherkoske M et al. *Hum Vaccin Immunother* 2025;21(1): 2555698.

Methods

Scherkoske et al.

- **Participants were recruited by means of convenience sampling across the US using a flexible online survey tool (Qualtrics, Seattle, WA, USA)**
  - The Qualtrics ExpertReview validation tool was used to ensure data quality standards were met and potential bot responses were removed
  - Participants completed the study June 9-28, 2023

- **Patient and HCP decision-making was assessed by developing hypothetical and situational HBV vignettes**
  - Scenarios for patients were based on HCP recommendations or seeking an HBV vaccine themselves
    - Answers related to the time required to obtain and the likelihood the patient would receive a 2-dose versus a 3-dose series vaccine
  - Scenario for HCPs
    - Provide clinical, operational, and patient preferences for a 2-dose versus a 3-dose series vaccine as a member of a vaccine task force

- **Health disparities were assessed using the social vulnerability index (SVI)**
  - Main quantifiable SVI elements
    - Socioeconomic status
    - Demographics (household characteristics, minority racial/ethnic group status, housing type, and transportation)
  - SVI status categorized into continuous variables and directly proportional to social vulnerability

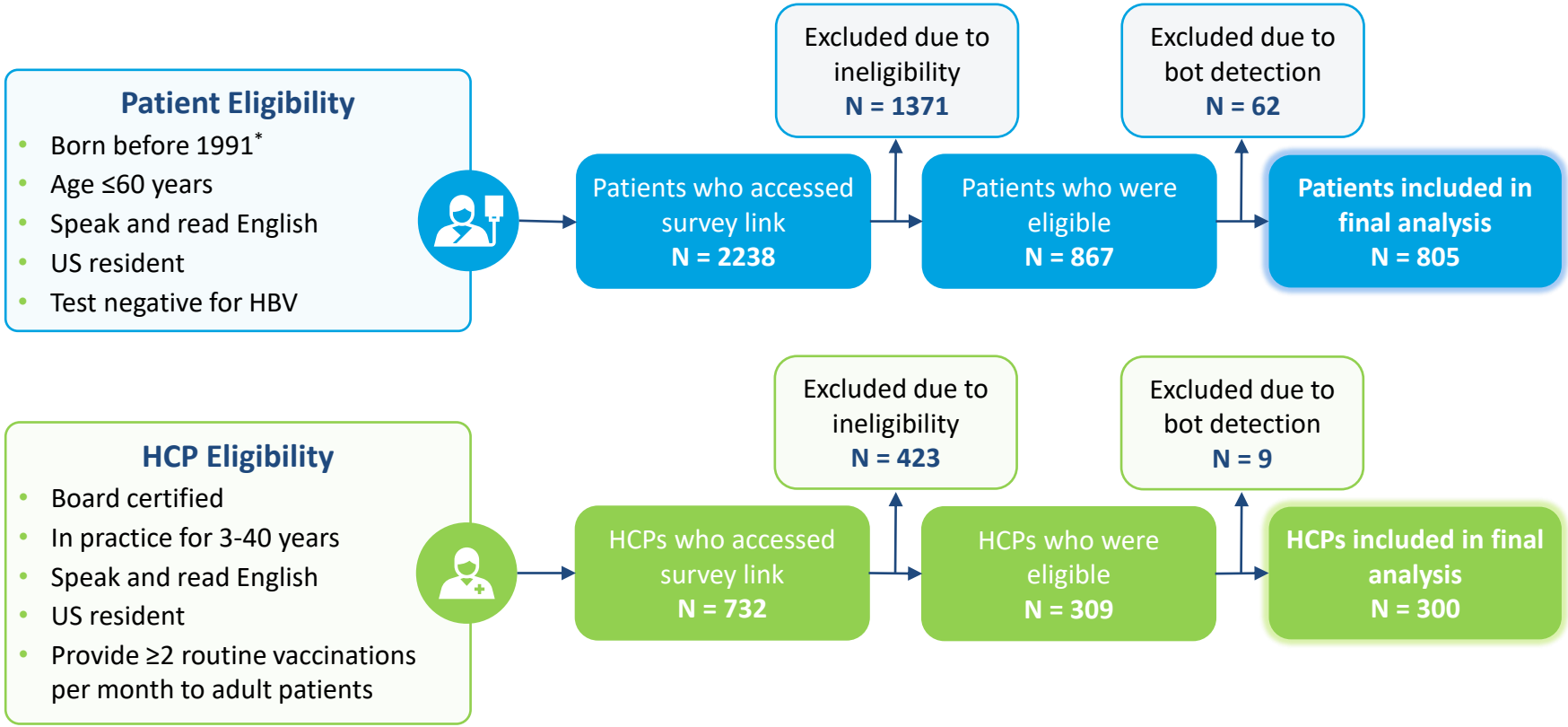
- **Statistical analysis was performed**
  - Descriptive statistics using the Qualtrics QM program
  - ANOVA was used to determine significant differences between groups ($p \leq 0.05$ at the 95% CI)
  - Univariate logistic regression was used to assess the likelihood of decisions for binary dependent variables
  - Multinomial logistic regression was used for categorical dependent variables with more than two outcomes (significance level [α], 0.05 at 95% CIs)

ANOVA, analysis of variance; CI, confidence interval; HBV, hepatitis B virus; HCP, healthcare provider; SVI, social vulnerability index.

Scherkoske M et al. *Hum Vaccin Immunother* 2025;21(1): 2555698.

Survey Respondent Disposition

Scherkoske et al.



*Respondents born after 1991 outside of the United States were allowed to participate if they met all other criteria.

HBV, hepatitis B virus; HCP, healthcare provider.

Scherkoske M et al. *Hum Vaccin Immunother* 2025;21(1): 2555698.

Participant Demographics

Scherkoske et al.

	Patients n = 805	HCPs n = 300
Age, mean (range), years	45.8 (19-60)	ND
Sex, n (%)		
Male	386 (48%)	199 (66%)
Female	419 (52%)	101 (34%)
Income, n (%)		
<$15,000	102 (13%)	ND
$15,000-$35,000	154 (19%)	ND
$35,000-$60,000	190 (24%)	ND
$60,000 or more	359 (45%)	ND
Health insurance status, n (%)		
Yes	698 (87%)	ND
Time in practice, mean (range), years	ND	18.6 (3-37)
Type of institution for primary affiliation, n (%)		
Private practice	ND	173 (58%)
Community hospital	ND	56 (19%)
Academic medical center	ND	44 (15%)
Integrated delivery network-affiliated hospital	ND	14 (5%)

Table adapted from Scherkoske et al.

HCP, healthcare provider; ND, not determined.

Scherkoske M et al. *Hum Vaccin Immunother* 2025;21(1): 2555698.

Patient Survey Results: Access to Healthcare

Scherkoske et al.

Access

72% of patients saw an HCP for sickness or a regular checkup within the past year

Median time involved in a doctor's office/clinic visit was **<2.0 hours**

40% of patients reported spending ≥2 hours going to a healthcare appointment

Maximum reported time spent was **10 hours**

Time considerations included the following: requesting approval to take time off work, time to plan for dependent care, travel to/from the appointment, time for parking or travel from a public transit stop, time in the waiting room, and time during the appointment.

~33% of patients reported missing a follow-up appointment with their HCP

Cost

31% of patients reported having to cancel an appointment due to financial constraints

Those with a higher SVI score had a significantly higher percentage of missed HCP appointments due to cost limitations ($p < 0.001$).

27% of patients reported spending more than **$100** per visit for a single visit at an HCP office/clinic

Cost considerations included time off work, lost wages, dependent care, transportation, and copays. Because the estimate was patient reported, the total cost might be underestimated.

HCP, healthcare provider; SVI, social vulnerability index.

Scherkoske M et al. *Hum Vaccin Immunother* 2025;21(1): 2555698.

Patient Survey Results: HBV Vaccines

Scherkoske et al.

Vaccinated

34% reported being vaccinated for HBV

25% were unsure of their vaccination status

Insurance coverage had a strong positive association with vaccination status ($p < 0.001$).
A higher proportion of females were vaccinated than males ($p = 0.018$)

71% reported completing the entire vaccine series

6% had not completed their series

23% were unsure

Respondents with high SVI status (i.e., more socially vulnerable) were significantly more often unsure of vaccine completion status or had not completed their HBV vaccine series ($p = 0.027$)

Of those given a choice

58%
chose the 2-dose option

42%
chose the 3-dose option

Unvaccinated

Of those who reported being unvaccinated but who were planning to receive an HBV vaccine in the future

49%
would prefer the 2-dose option

4%
would prefer the 3-dose option

Factors influencing preference for a 2-dose option

- Travel to/from the doctor's office/clinic
- More time with the doctor
- The need to take time off work
- The need to find dependent care
- Amount of money required

Regardless of Vaccine Status

75% would agree to receive HBV vaccination if recommended by their HCP

HBV, hepatitis B virus; HCP, healthcare provider; SVI, social vulnerability index.

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HCP Survey Results

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78% of HCP respondents were aware of a 2-dose vaccine option

85% of HCPs reported that adult patients are more likely to complete a full HBV vaccine series when fewer doses are required

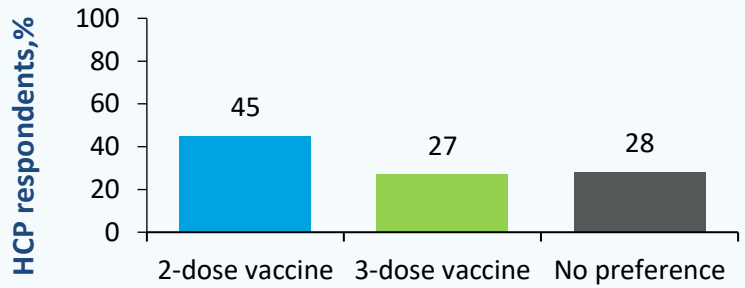
79%

When HCPs were aware of the 2-dose HBV vaccine series option, the odds of **recommending the 3-dose HBV vaccine** was reduced by 79% (OR, 0.215; 95% CI, 0.101-0.458; $p < 0.001$)

Criteria HCPs considered important when selecting HBV vaccine

- Strong efficacy data for at-risk patient subpopulations
- Patient convenience to ensure dose series completion
- Convenience of administration to ensure dose completion
- Simple dosing to assist with patient flow/logistics
- Applicability across adult populations

Which vaccine is most beneficial for your patients?



Primary reasons HCPs reported for selecting the most beneficial HBV vaccine dose series

- Seroprotection rates **(43%)**
- Safety profile **(19%)**
- Adherence rates **(13%)**
- Reduction in the number of health disparities **(9%)**
- Cost **(7%)**
- Patient convenience **(5%)**

CI, confidence interval; HBV, hepatitis B virus; HCP, healthcare provider; OR, odds ratio.

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Conclusions

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When selecting whether a 2-dose or 3-dose series was more beneficial for their patients, only a small proportion of HCPs considered health disparity, cost, or patient convenience

- This finding might indicate that HCPs do not consider patient-centric factors such as cost and convenience in their vaccine decision-making process

The findings regarding the cost and time for patients that are associated with a healthcare visit suggest that HCPs offering a choice of vaccine could play a role in decreasing health disparities

- The decision to use the 2-dose versus the 3-dose vaccine may be a more critical factor for people with low SES

Educating HCPs about the challenges some patients face in accessing healthcare could enhance vaccine series completion and improve public health outcomes, particularly among patients who face health disparities

HCP, healthcare provider; SES, socioeconomic status.

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