Improving HBV vaccination: approaches within the community and clinical setting

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Director Public Health Programs & Grants
Liver Center

Cooperman Barnabas Medical Center | RWJBarnabas Health
Overview

• Background

• Community

• Clinical

• RWJBH HBV immunization initiative

• EMR processes
Background

- Cooperman Barnabas Medical Center (CBMC)
  - 597 bed suburban community hospital, Livingston NJ
  - Part of the RWJBH system, 12 hospitals

- NJ has 4th largest Asian population in the US
  - 1/3 of population is foreign-born
  - HBV only 35% of NJ residents with HBV know status
Center of Asian Health

• 2013- Center for Asian Health launched at Cooperman Barnabas Medical Center to reach the growing Asian population in NJ
  – Bilingual providers, staff, and navigator
  – Culturally sensitive care
• Disease focus
  • Diabetes
  • Cancer prevention
• HBV -have the tools for ending the HBV epidemic: prevention strategies, diagnostics, Hep B vaccines & treatments

• However, majority of people living with HBV have not been diagnosed yet
• Elimination will require innovative approaches:
  – Community based outreach and screening
  – Scale up testing & care delivery → hospital based screening & LTC program
  – Increasing patient/provider vaccine education
CDC Updates: Universal Vaccination (2022)

- All adults 19-59
- ≥60 with risk factors or if requesting
- Vaccine options
  - 3 dose: Engerix-B, Recombivax HB
  - 2 dose: Heplisav-B - 2 doses over 1 month
    - Higher vaccine completion rates
    - Higher seroprotection rates than 3 dose: **90-95%** vs **75-81%**
      - Response in people w HIV: **80-93%**
      - Hemodialysis patients: **4 dose 89%**
  - NEW- 3-antigen - PreHevbrio
    - 3 hepatitis B surface antigens of the hepatitis B virus – S, pre-S1, and pre-S2
    - Seroprotective rate **91.4-99%**
    - Immunogenicity develops sooner (high rate after 2nd dose)

CDC: Universal Screening (2023)

• [New] Screening is recommended
  • For all adults aged ≥ 18 years at least once in a lifetime
  • For anyone who requests it
  • Using a 3-test panel (HBsAg, Anti-HBs, Total anti-HBc)

• [Unchanged] Screening
  • Recommended for all pregnant persons during each pregnancy regardless of vaccination status or hx of testing
  • Testing is recommended for anyone with a history of risk (all ages)
  • Periodic testing for susceptible persons with ongoing risk (all ages) - expanded to include incarcerated people, people w hx of STI or multiple sex partners & people w HCV

Screening and Testing for Hepatitis B Virus Infection: CDC Recommendations — United States, 2023 | MMWR https://www.cdc.gov/mmwr/volumes/72/rr/rr7201a1.htm
Community & Clinical Reach

**Center for Asian Health**
- Partner with community groups
- Can reach into the Asian community
- Access to ethnic media (newspapers)
- Government/Private grants
- Activities
  - Community education & screenings
  - Chinese Wellness Day
  - Hepatitis testing day (May)
  - World Hepatitis Day (July)
- Patient navigation

**Cooperman Barnabas Medical Center**
- Extensive resources
- Primary Care-Based Screening
- Hospital Based Screening
- Barnabas Health Medical Group
  - Providers
  - Patients
- RWJBH system
  - Marketing
  - Workforce
  - Corporate Care
Community
Partnering with community groups

Medicare Made Clear
深入了解联邦医疗保险（俗称“红蓝卡”）
Health Insurance Information Seminar
医保保险信息分享
In Mandarin Chinese (中文讲座)

Sunday, September 17, 2023
2023年9月17日（星期日）
10:30 a.m. to 12:00 p.m.
上午10:30至中午12:00

William H. P. Sohn Community Center
新泽西州泽西市

Presenter:
Susan Chan
Co-Manager, Health Insurance Program
健康保险计划的联合管理人

For questions, please call:
609-883-3000

Services
- Internal Medicine
- Family Medicine
- Chinese Medicine/Acupuncture
- Otolaryngologist
- Cardiologist
- General Dentistry
- Physical Therapy
- Optometrist
- Flu Shot
- Psychologist

United Health Care
RW Barnabas
Cooperman Barnabas Medical Center

Lunar Fest NJ

A LUNAR NEW YEAR CELEBRATION
SUN JAN 23
12-3PM
THE WOODLAND MAPLEWOOD, NJ
PRESENTED BY
Reaching community through ethnic media

• Enhances public awareness of hepatitis B and encourages people to be screened

• Ethnic newspaper advertisements
  – QR code
  – raffle
Education & Screening events

RWJBarnabas Health Medical Group
Center for Asian Health welcomes you to
Chinese Wellness Day 2023
Celebrating 10 years of building a healthy community

華人健康服務中心歡迎您參加
2023年華人健康日活動

慶祝為維護社區的十年努力

Saturday, June 3, 2023
9:30 a.m. to 12:30 p.m.
1250 South Orange Ave, Livingston, NJ 07039

Conf/Info tables and Health Tots 雙語表揚
8:00 a.m. Reception, Opening Remarks and Welcome 8:00 a.m.
9:00 a.m. Women's Health - Co-Occurrence of health issues: Dr. James Chen
10:00 a.m. The Aging Brain: Dr. Jeana Lee
10:30 a.m. State of Asian Cancer Prevention: Dr. Lucy So
11:30 a.m. The 2020 New Healthcare Guide: Dr. Michael Lee
12:00 p.m. Important Things to know about your Kid’s health and development: Dr. Cynthia Hahn
12:15 p.m. Questions and answers about chinese health

Free Screening 友誼病院
- Diabetes
- Cholesterol
- Vision

Hepatitis Screening 輔食肝炎篩檢

For questions, please call
609-361-1236
www.healthyheartsnj.org
Linking patients to vaccination

Center for Asian Health
222 Columbia Turnpike
Florham Park, NJ 07932
(973) 261-9077

Dear [Name],

We are glad you participated in our recent hepatitis B screening. You took an important step to protect your health. The results of your recent hepatitis B testing are below:

- Hepatitis B surface antigen (HBsAg) Negative
- Hepatitis B surface antibody (anti-HBs) Negative
- Hepatitis B core antibody (anti-HBc) Negative

You do not have hepatitis B infection and are not immune. Although you are currently not infected, you are at risk for infection. If exposed, you could get chronic hepatitis B infection and would be at risk for liver cancer and cirrhosis.

We strongly recommend that you have the hepatitis B vaccination, which is very effective in preventing the infection. Currently, there are two options for complete vaccination against hepatitis B: (1) a series of three doses, with the second and third doses given at 1 month and then 6-12 months after the first dose; or (2) a series of two doses (Engerix-B, with the second dose given at 1 month after the first dose).

Please call our office for an appointment to receive your hepatitis B vaccine (973) 261-9077. Our office carries both the three-dose and the two-dose vaccines. You may also see your primary care physician for the vaccine. Vaccination against hepatitis B infection is very important, so if we have not heard from you, we may contact you to assist you in any way we can.

In addition, please encourage your family members to be tested for hepatitis B, if they have not done so already. The Center for Asian Health provides comprehensive primary care and free hepatitis B testing. Please contact us if you schedule an appointment or for any questions you have (973) 261-9077.

For more information about hepatitis B, go to: [www.cdc.gov/hepatitis/b](http://www.cdc.gov/hepatitis/b)

We wish you good health and well-being.

Sincerely,

Su Wang

Dr. Su Wang, Center for Asian Health
Clinical
RWJBH extensive resources

• RWJBarnabas Health has a service area covering nine counties with five million people

• RWJBarnabas Health is New Jersey's largest private employer with more than 37,000 employees

• Multi-disciplinary team in program design and launch
  – Marketing & Design
  – Publicity
  – Community Health
  – Social Impact & Community Investment
  – Information Services
  – IT
  – Employee platforms (intranet/app)
  – VAX acct manager
Primary Care - Hepatitis Services

• Services
  – Hepatitis screening part of wellness care
  – Ambulatory pharmacist consultation
  – Assist with medications
  – Bloodwork, Radiology scheduling
  – Telehealth
  – Link to patient focused activities
    • Focus groups
    • Free screenings
    • Webinars
Hospital – Hepatitis Services

- Scale up HBV & HCV screening
- Identify people living with HBV & HCV
- Opportunity to reach household contacts
- Link to screening
- Providers education
- Dissemination

**Hepatitis B & C and HIV Testing**

This facility performs HBV, HCV, and HIV testing as part of our routine health care, as recommended by the U.S. Centers for Disease Control and Prevention (CDC) and United States Preventive Services Task Force (USPSTF).

Chronic hepatitis is the leading cause of liver cancer. Approximately 15% of the 1.1 million persons in the United States currently living with HIV are unaware of their infection.

Your healthcare provider may order these tests if you are 18 and older and have not been tested within the past year in our network:

- Hepatitis B: If you or your parents were born in a country where HBV is endemic
- Hepatitis C: If you have not been tested before (CDC and USPSTF updated recommendations in 2020 for all adults to receive a 1 time test)
- HIV: If you are age 18 or older with certain risk factors

Incorporating hepatitis and HIV testing into routine care helps to diagnose patients and offer them care and treatment before the disease progresses.

If you test positive, you will be contacted for further follow-up.

*Understand that notification is contingent on providing accurate contact information*
Automated EMR Based Protocol

Age 18 years or over, blood work ordered, and no previous HBV/HCV diagnosis or testing in system within past 5 years

- Born in/born to race of HBV endemic country
  - HBsAg order fires
    - Reflex to HCV RNA (done offsite)
- HCV Ab order fires
  - Ab+ result
    - Reflex to HCV RNA (done offsite)
- Urine Toxicology, Serum Toxicology, and/or Peer Recovery (IOP) consultation ordered
  - HBsAg order fires
  - HCV Ab order fires
    - Ab+ result
      - Reflex to HCV RNA (done offsite)
Hepatitis B Vaccines: Recommendations for Routine Adult Vaccination & 2-dose series

Situation:
As of 2021, adult hepatitis B (HepB) vaccination is now universally recommended for people 18-59 years old by the Advisory Committee on Immunization Practices (ACIP). Adults aged ≥60 years with no history for hepatitis B should also receive hepatitis vaccination, and adults aged ≥60 years with unknown risk factors for hepatitis B may receive HepB vaccine.

A 2-dose hepatitis B vaccine has been approved by the Food and Drug Administration (FDA) since 2017. In 2022, the RWJBH Vaccine Advisory Subcommittee reviewed and approved Heplisav-B, the 2-dose vaccine, as the preferred formulary vaccine at RWJBH. This applies to patients and employees ≥18 years of age who are recommended for HepB vaccination.

Background:
Chronic hepatitis B infection is the leading cause of hepatocellular cancer globally, and vaccination is a core strategy for prevention. While infant vaccination rates are high, there are significant gaps in adult vaccination. In 2018, self-reported hepatitis vaccination coverage was 30.0% among adults aged ≥19 years.

Many adults who initiate HepB vaccination do not complete the 3-shot series which is spread over 6 months (0, 1, 4-6 months) instead of a 2-dose HepB vaccine that can be completed in 4 weeks (0, 1 months). A study including 11,000 patients showed 60.5% completed a 2-dose series compared to 32.3% who completed the 3-dose series.

Assessment:
The ACIP analysis demonstrated that universal adult HepB vaccination could decrease the number of deaths prevented by 25%, reduce acute HepB infections by 24%, and reduce HepB-related deaths by 24%.

The cost analysis showed that the 3-shot series is not savings compared to 3 shots, with 3 shots costing $153,000 per Quality-Adjusted Life-Year (QALY) gained and 3 doses costing $122,208 per QALY gained. The Numbers Needed to Vaccinate (NNV) to avert an acute HepB infection also decreases from 374 (with 3 shots) to 324 with (2 shots).

Recommendation:
The Combined Medical Group recommends universal HepB vaccination for our patients ages 18-59, with the 2-dose Heplisav-B as the preferred vaccine.

- **SBAR**
  - Vaccination – prevention strategy for HCC
  - Patients’ incomplete dose series
  - Immunization recommendation
  - FDA approval 2 dose vaccination
  - RWJBH Advisory subcommittee’s approval of Hepli-Sav as preferred RWJBH vaccine
- **Cost analysis**

**Recommendation:**
“The Combined Medical Group recommends universal HepB vaccination for our patients ages 18-59, with the 2-dose Heplisav-B as the preferred vaccine.”
Did you know hepatitis B virus (HBV) infection is the leading cause of liver cancer? The good news is that chronic HBV infection can be prevented by hepatitis B vaccines. Many adults have not been vaccinated though and are at risk of being infected. In 2021, Advisory Committee on Immunization Practices began recommending all people aged 18-59 receive the hepatitis B vaccines, regardless of risk factors.*

Currently there are two options for complete vaccination against hepatitis B: 1) a series of three doses to be completed over 6 months or 2) a series of two doses (Healive B), that can be completed in 1 month.

The 2-dose Hepatitis B vaccine can be completed sooner, has higher efficacy, and has been available since 2017. In 2022, the RWJBH reviewed and approved Healive B as the preferred hepatitis B vaccine for adults at our RWJBH hospitals and outpatient sites.

According to CDC’s updated screening recommendation in March 2023, all adults aged 18 years and older should be screened for hepatitis B at least once in their lifetime.** Ask your doctor for a hepatitis B screening test, and if you are not immune, get your hepatitis B vaccines!

* People over 60 who have risk factors should also get vaccinated or anybody who would like to can get HBV vaccines. Universal Hepatitis B Vaccination in Adults Aged 19–59 Years: Updated Recommendations of the Advisory Committee on Immunization Practices — United States, 2022 | MMWR (cdc.gov)

It's Liver Cancer Awareness Month -
Did you complete your Hepatitis B Vaccines?

Liver cancer is the third leading cause of cancer-related deaths and chronic hepatitis B infection, causing more than 56% of liver cancers worldwide. While hepatitis B can be effectively prevented through vaccination, many adults remain unvaccinated, including healthcare professionals who are at greater risk.

RWJBarnabas Health Corporate Care screens new employees for hepatitis B and offers vaccines for people who are not immune. However, many never complete the series. An estimate at one site reports that only about 35% of individuals complete their hepatitis B vaccine series.

Not being protected for hepatitis B means that you are at risk of being infected, and for healthcare workers, this can potentially come from a needle stick injury or other exposure. If you experience a needle stick injury and are not vaccinated, you will need additional testing and a hepatitis B immunoglobulin injection, and it can lead to undue worry.

There is now a two-shot hepatitis B vaccine series (Hepatitis B) that is given over one month (versus three shots over six months in the past), which makes it easier to complete your series. In 2002, RWJBarnabas Health Pharmacy and Therapeutic Committees approved the Hepatitis B series as the preferred hepatitis B vaccine for adults at our RWJBarnabas hospitals and outpatient sites.

To check your hepatitis B status and determine if you need to complete the vaccines, please contact your local Corporate Care office. If you did not complete the series, you
Reaching Patients - Healthcare Workers
RWJBarnabas Hepli-Sav

*Q4 reflects 2023 to date (October only)*
EMR processes
EMR – Immunization screens
EMR – Immunization screens

<table>
<thead>
<tr>
<th>Immunization</th>
<th>Administered On</th>
</tr>
</thead>
<tbody>
<tr>
<td>DTaP 5</td>
<td>4/11/2016</td>
</tr>
<tr>
<td>Influenza Split High Dose Preservative Free IM</td>
<td>10/7/2020, 3/11/2016</td>
</tr>
<tr>
<td>Influenza, high-dose, quadrivalent</td>
<td>10/7/2020, 3/11/2016</td>
</tr>
<tr>
<td>Influenza, Unspecified</td>
<td>10/7/2020, 3/11/2016</td>
</tr>
<tr>
<td>Moderna Covid-19, Mrna, Lnp-s, Pi, 100 Mcg/0.5 Ml</td>
<td>11/8/2021, 11/19/2021</td>
</tr>
<tr>
<td>Pneumococcal Conjugate 13-Valent</td>
<td>9/24/2021</td>
</tr>
<tr>
<td>Pneumococcal Conjugate vaccine, 20 Valant</td>
<td>11/15/2023</td>
</tr>
<tr>
<td>Tdap</td>
<td>4/11/2016</td>
</tr>
</tbody>
</table>
EMR – Immunization screens

[Image of an EMR screen showing immunization records, including dates and types of vaccines administered.]

- **COVID-19, mRNA, LNP-S, bivalent booster, PF, 10 mcg/0.2 ml, dose**: 10/5/2022
- **Hepatitis B**: 11/14/2023, 10/25/2021
- **Moderna Covid-19, mRNA, Lnp-s, Pf, 100 Mcg/0.5 MI**: 11/2/2021, 4/15/2021, 3/18/2021

**New Jersey Immunization Registry**

Immunizations as of 11/14/2023 at 8:50 AM

- **COVID-19, mRNA, LNP-S, PF, 100 mcg/0.5ML, dose or 50 mcg/0.23ml, dose (Moderna Covid-19, Mrna, Lnp-s, Pf, 100 Mcg/0.5 MI)**: 11/2/2021, 4/15/2021, 3/18/2021
- **COVID-19, mRNA, LNP-S, bivalent booster, PF, 30 mcg/0.3 ml dose**: 10/5/2022
Summary

• Reach providers and patients through community and clinical partnerships
  – Successful:
    • community outreach and partnerships
    • hospital/clinical resources, reach providers and patients, & opportunities
  – Multi-prong, re-engaging target audience

• Challenge
  – program resources (clinical champion, staff)
  – EMR immunization screens

• Next steps:
  – Collaborate RWJBH Corporate Care site to increase education & HCW vaccination
  – EMR prompts for clinicians
Thank You!

CBMC & RWJBarnabas Health Team

Contact: Ruth Brogden
973-261-9081
ruth.brogden@rwjbh.org