



Minnesota Center of Excellence in Refugee Health Webinar Series

April 28, 2020

Housekeeping

- Use the “Chat” panel for any questions throughout the webinar. **Please make sure you send to “Host, Presenter & Panelists.”**
- Please fill out the post-webinar evaluation sent via email. CEU certificate will be available to save or print after you submit the evaluation.
- This webinar will be recorded and available at [MDH: Center of Excellence in Refugee Health \(https://www.health.state.mn.us/communities/rih/about/coe.html\)](https://www.health.state.mn.us/communities/rih/about/coe.html).





Minnesota Center of Excellence in Refugee Health Webinar Series

Hepatitis B in Refugees and Immigrants:
The Need for Improved Testing, Vaccination,
and Linkage to Ongoing Care

April 28, 2020



Presenters



Janine Young, MD, FAAP

General pediatrician at Denver Health and Hospitals; Associate Professor at the University of Colorado School of Medicine, Department of General Pediatrics



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Research Associate at HealthPartners Institute; Physician at St. Paul-Ramsey County Tuberculosis Clinic; Affiliated faculty appointment at the University of Minnesota in the Department of Medicine's Global Health Pathway

Acknowledgment

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 - Denver Health and Hospital Authority (Dr. Young) and HealthPartners Institute (Dr. DeSilva) are the CENTER's partners and site PIs.



Goal and Learning Objectives

- Case examples
- Hepatitis B diagnosis, acute/chronic infection
- Provide overview of hepatitis B epidemiology in refugee and immigrant populations
- Summarize approach to hepatitis B refugee screening and vaccination overseas and at US arrival
- Review international approaches to decreasing hepatitis B infections overseas
- Discuss strategies to improve hepatitis B screening, vaccination, and linkage to ongoing care in refugee and immigrant populations



Photo Credit : J Young

Case Example 1



Photo credit: Cynthia Maung, MD, Mae Tao Clinic, Mae Sot, Thailand

- Burmese women receiving prenatal care at local hospital. Prenatal lab testing done and she has hepatitis B, viral load not high enough for anti-virals during pregnancy.
- Infant is born, receives HBIG and 1st hepatitis B vaccine at dol 1.
- Infant discharged and receives timely hepatitis B vaccines and is found to be uninfected and protected against hepatitis B at 9 month Well-child check.
- Of note, mom has 2 other children

Questions:

- How is the mother managed after birth of the baby?
- Other children?
- What standards are in place in your hospital systems and community health centers to address this?
- How often do women have prenatal lab screenings done overseas?

Case Example 2



Photo credit: WHO Hepatitis 2017

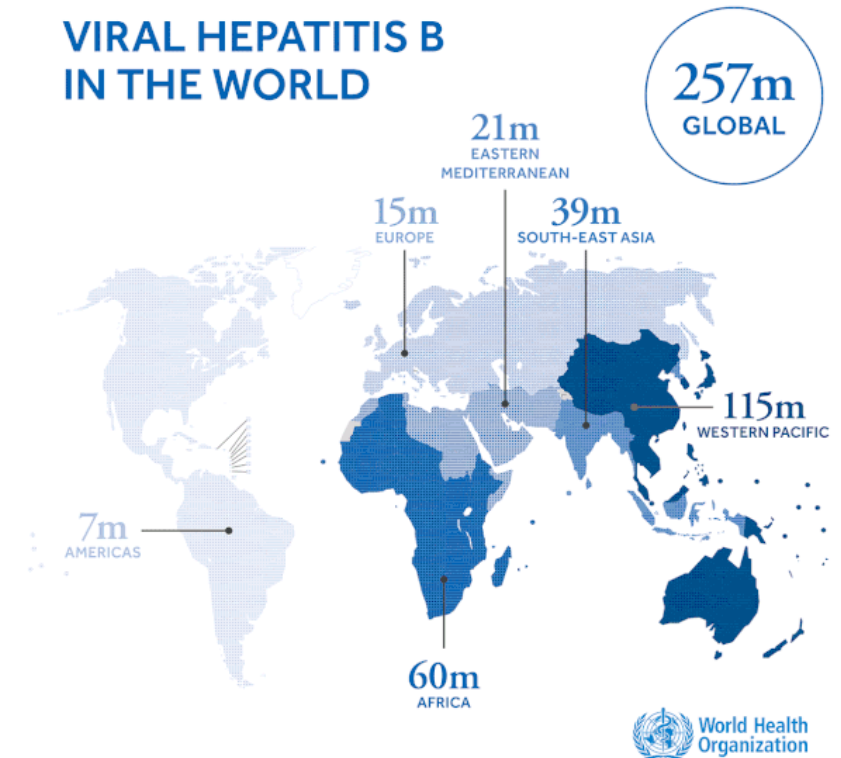
- Somali refugee woman tested in X State at US arrival for Hep B, diagnosed with HBV infection in 2007 and lost to follow-up since initial screening
- 5 yo daughter and other sibs not tested at arrival. Unclear if husband was tested and records cannot be tracked down.
- Her daughter now presents at age 17 yo and prior screening labs reviewed. No results for Hep B can be found. She is now tested and is Hep B s Ag positive.
- Mom and daughter re-linked to care, afraid to have liver biopsy
- Moved to MN

Hepatitis B is a Major Global Health Problem

- 1/3 world population infected ~2.5 billion
- >127 million chronic carriers
- ~65 million women of childbearing age are infected with HBV
- In 2016, only 10.5% aware of their infection
- >31.7 million develop serious liver disease
 - Chronic hepatitis
 - Cirrhosis
 - Hepatocellular carcinoma
- 2015, ~884,400 deaths from HBV, cirrhosis>HCC

[WHO: Hepatitis B \(https://www.who.int/news-room/fact-sheets/detail/hepatitis-b\)](https://www.who.int/news-room/fact-sheets/detail/hepatitis-b)

Accessed 2.24.2020



The Lancet, HBV Infection ,Trepo C et al, 2014;
WHO Hepatitis Report, 2017

Global Burden of Disease

The silent epidemic killing more people than HIV, malaria or TB

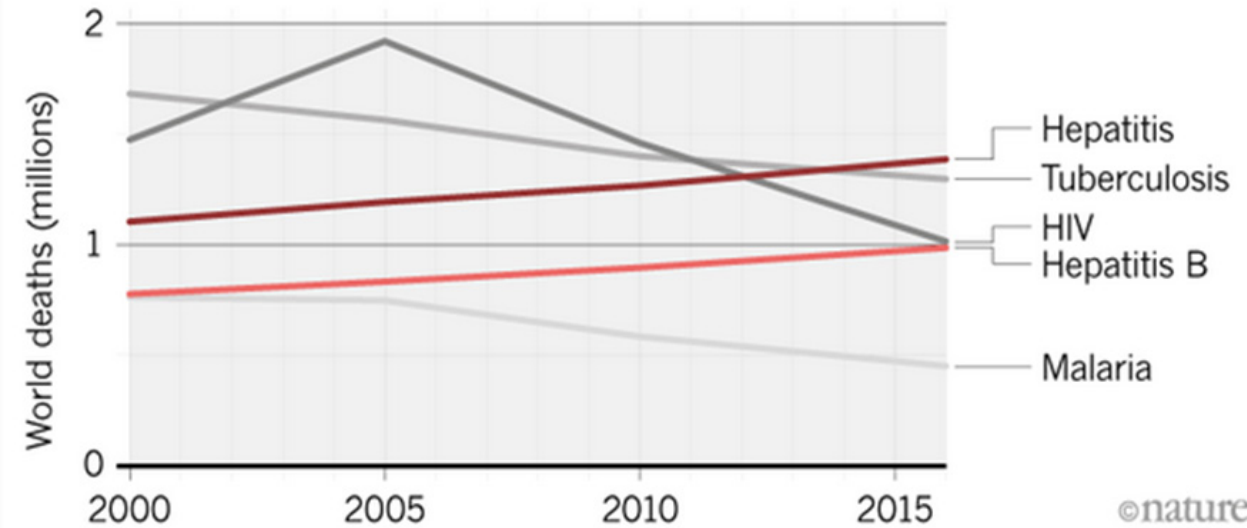
Viral hepatitis is on the rise. Tackling hepatitis B in Africa is key to fighting back.

Ian Graber-Stiehl



Rising death toll

Hepatitis infections are now associated with more deaths globally than are tuberculosis, HIV or malaria.



WHO Data (Accessed 2.28.17)

©nature



CENTER OF EXCELLENCE
IN REFUGEE HEALTH
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Definitions

- **Hepatitis B:**
 - Double-stranded DNA virus transmitted either horizontally (via blood, unprotected sex) or vertically
- **Hepatitis B Infection:**
 - +HBsAg
- **Chronic Hepatitis B Infection:**
 - +HBsAg >6 months
- **Vaccine-derived protection from Hep B:**
 - -HBsAg, -HBcAb, +HBsAb
- **Cleared Hep B infection:**
 - -HBsAg, +HBcAb, +HBsAb



The Mae La Refugee Camp.
Photo credit: Karen News

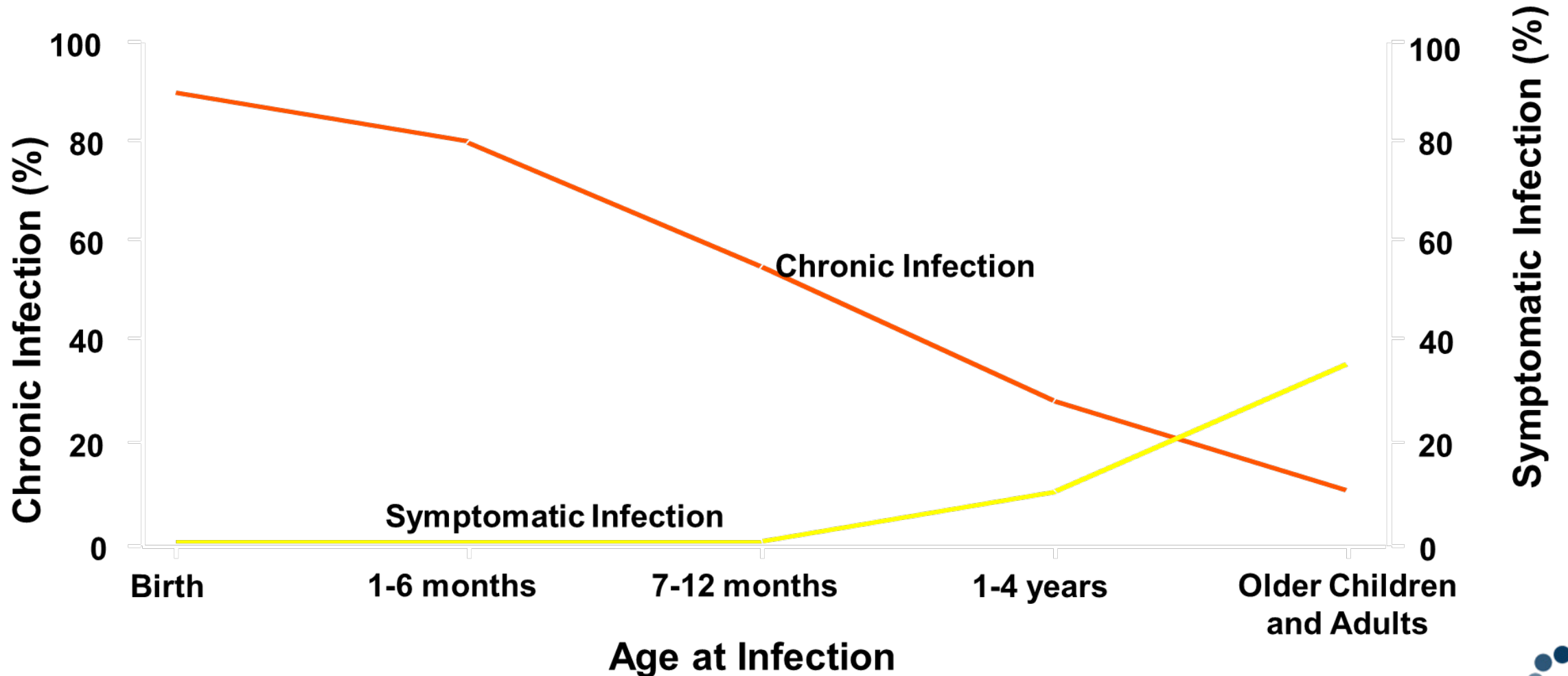
Hepatitis B Symptoms

- Acute Infection:
 - Jaundice:
 - <5 years old, <10%
 - >5 years old, 30-50%
- **Most newly infected patients have no signs or symptoms of disease**



CDC Public Health Image Library, #2860

Age of Acquisition Determines Chronicity





Chronic Hepatitis B Infection

- 1991--US universal infant vaccination
- 90% infants infected vertically will develop chronic HBV infection
 - 15-25% will die of HCC and/or cirrhosis, as early as age 30 years
- 25-50% of acutely infected children 1-5 years will develop chronic HBV infection
 - 15-25% will die of HCC and/or cirrhosis
- <5% symptomatic teens and adults will develop chronic HBV infection
- 5-10% asymptomatic teens and adults will develop chronic HBV infection

Hepatocellular Carcinoma

“Culturally competent cancer screening”



Photo Credit: PF Walker, 1979

- 2nd most common cause of cancer related deaths in world: 746,000/year*
- 80% of the world's liver cancer is caused by cHBV
- Vaccine preventable cancer
- Population specific cancer screening:
e.g., LFTS q6 months & RUQ US q 6-12 months

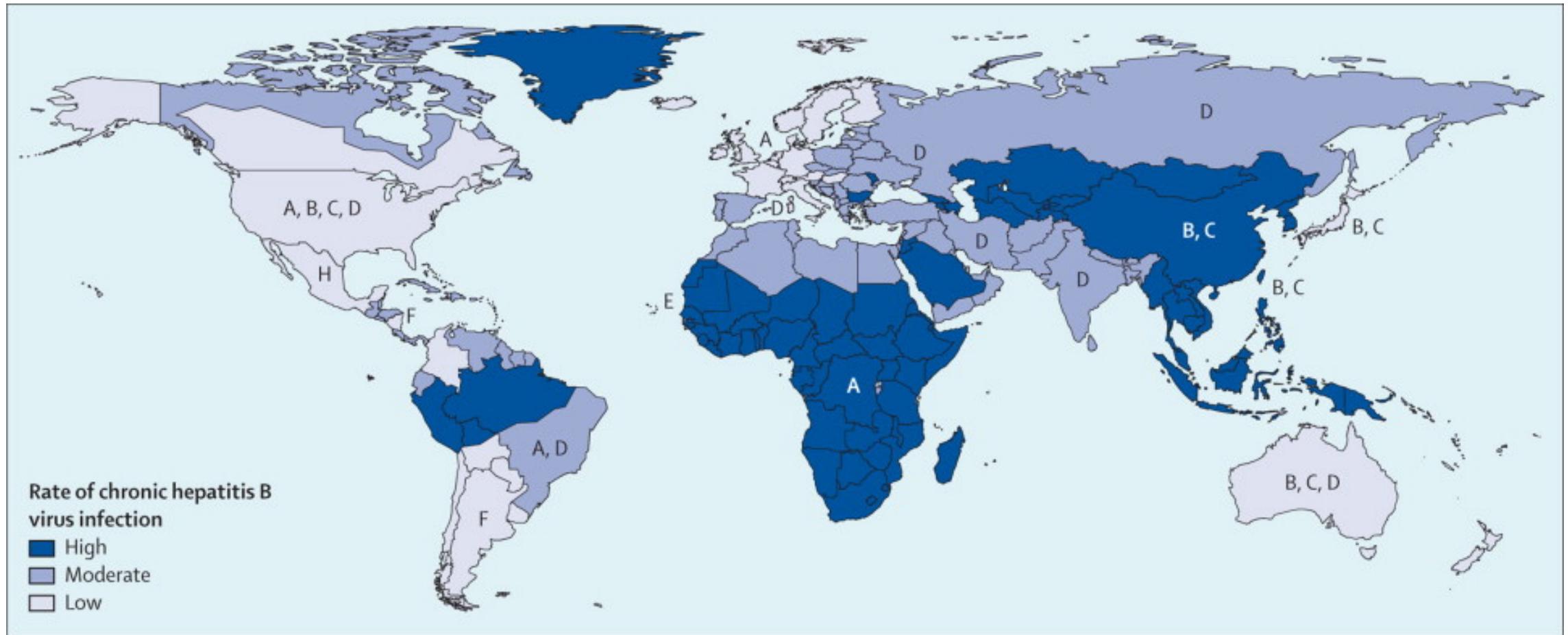
*<http://globocan.iarc.fr/old/FactSheets/cancers/liver-new.asp> - Accessed 6 March, 2018



Hepatitis B Mortality Data

- Deaths from HBV
 - W Pacific Region >SE Asia >Africa
- Men have a higher mortality than women
 - 23.3 deaths/100K vs 13.2 deaths/100K
- HCC deaths occur at younger age in SSA (median age 38.9 years) vs. W Pacific (median age 54.5 years)

Distribution of Hepatitis B Genotypes

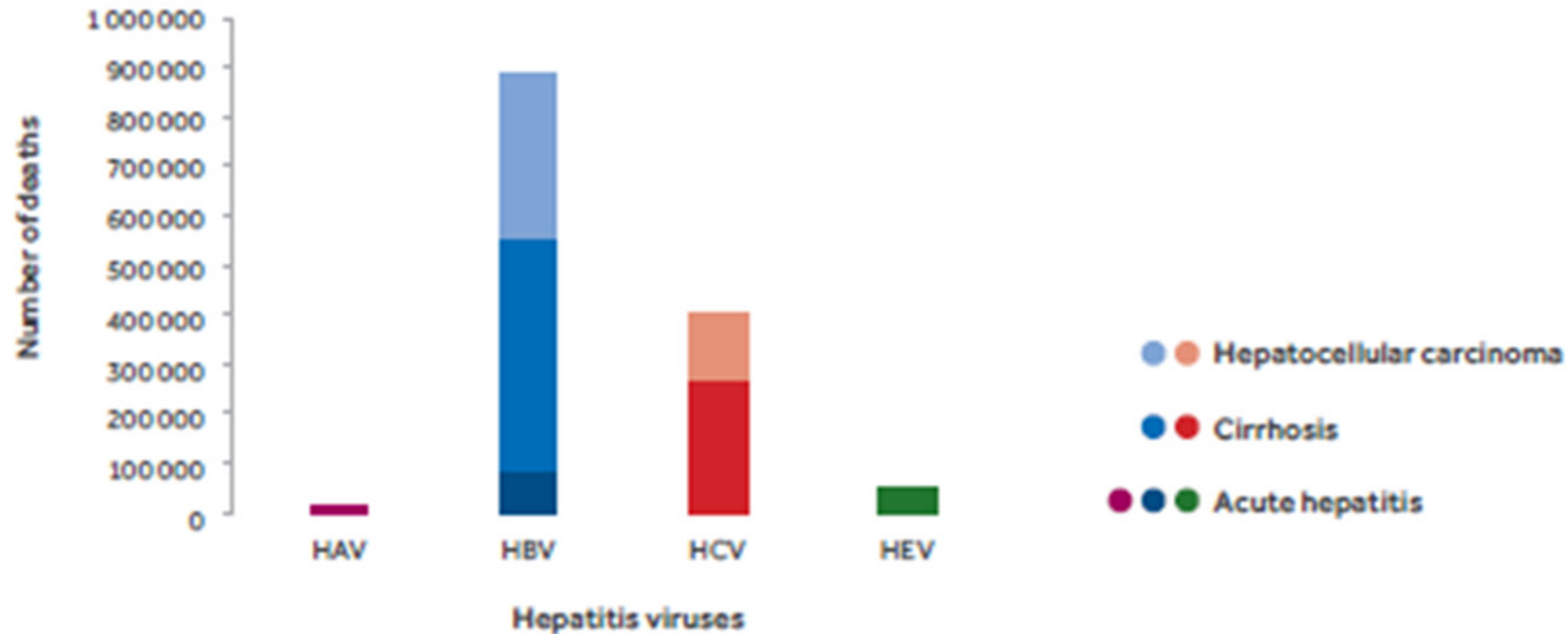


Global Vertical Transmission Rates

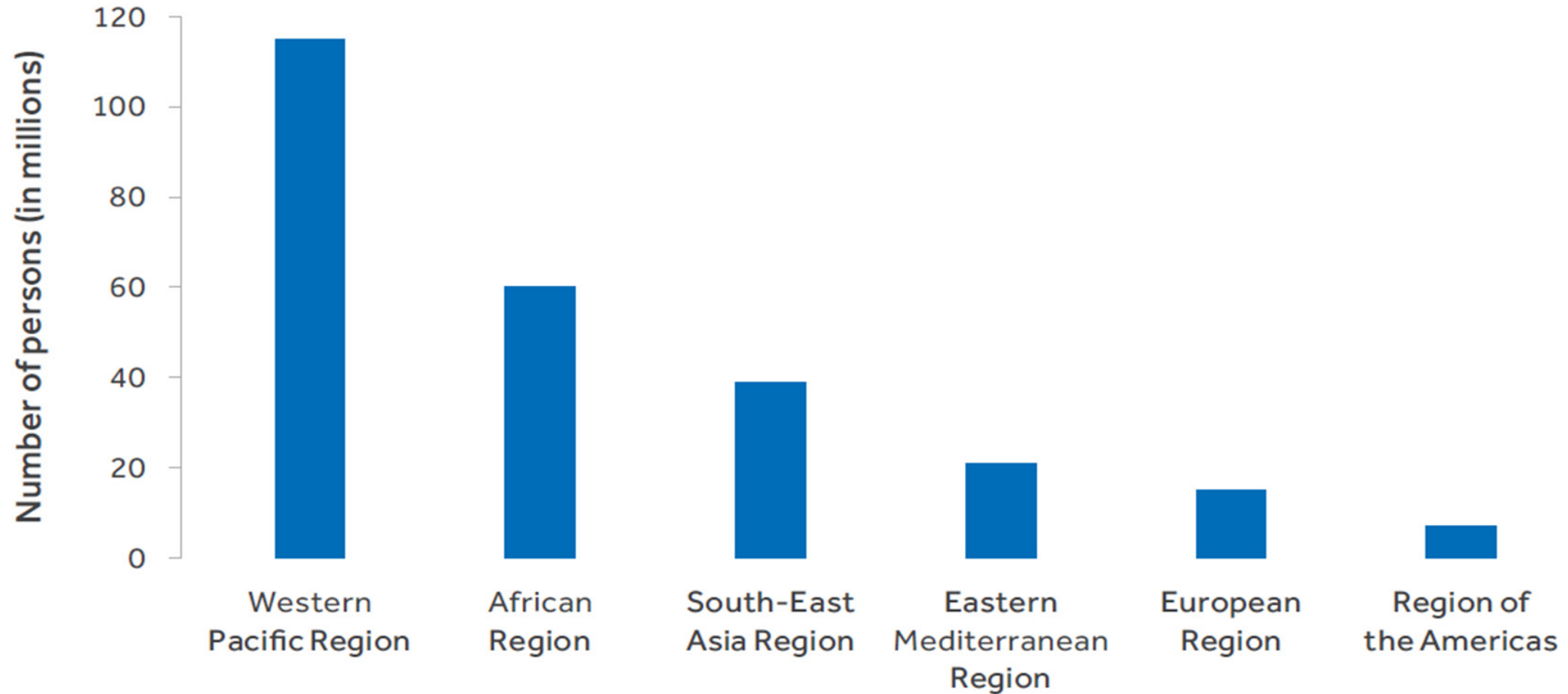
- HBsAg and **HBeAg positive** mothers have highest vertical transmission rate
 - Asia 70-100%
 - Africa 40%
- HBsAg positive, **HBeAg negative** mothers, lower transmission rate
 - Asia 5-30%
 - Africa 5%
- Goal: 1st dose of HB vaccine within 24 hours of birth → decreased rate of vertical transmission
 - **HBeAg neg** mothers: 0%
 - **HBeAg pos** mothers: 20%
- Treatment of pregnant women with antivirals has not been widely adopted

Viral Hepatitis Deaths, by Sequelae Type, 2015

Fig. 1. Deaths from viral hepatitis, by virus and type of sequelae, 2015:
most viral hepatitis deaths are due to the late complications of HBV and HCV infection



Hepatitis B Prevalence by Region, 2015





Prevalence of Hepatitis B in Refugee Children, by Age and Country of Origin, 2006-2012—CO, PA, WA, MN

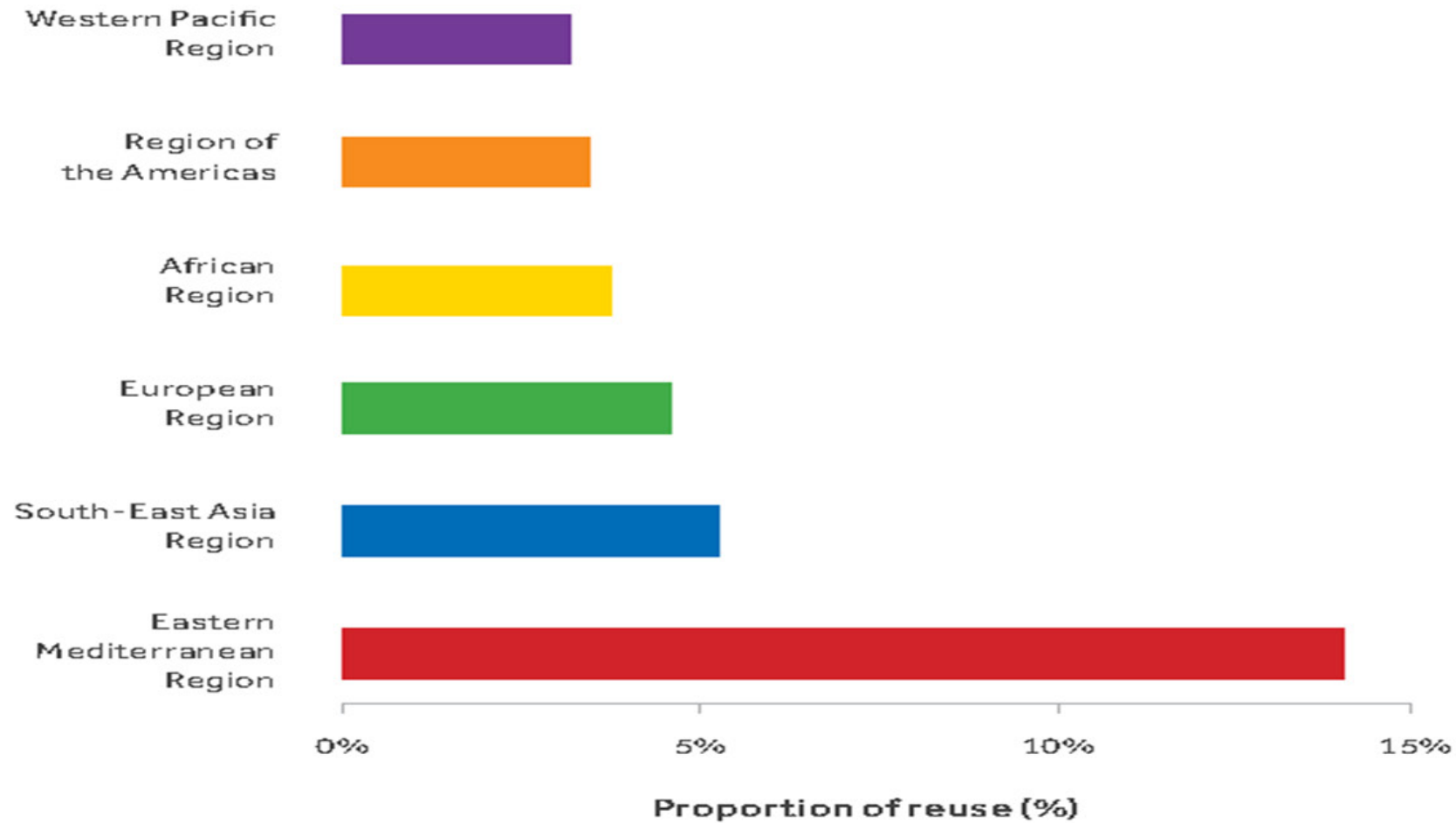
Condition	Bhutan	Burma via Thailand	Burma via Malaysia	DRC	Ethiopia	Iraq	Somalia
Hepatitis B surface antigen, no.	298	1952	64	44	511	308	2446
0-18 y, %	0.7	4.6	0.0	4.5	5.3	0.0	3.6
<5 y, %	0.0	0.6	3.6	0.0	1.1
≥5 y, %	0.9	6.1	0.0	5.9	5.5	0.0	4.0



Hepatitis B Screening Recommendations

- Children and adults born in a country endemic for HBV, **even if they received hepatitis B vaccine** in their country of origin, including:
 - All of Asia
 - All of Africa
 - South- and mid-Pacific Islands
 - Europe (Eastern and Mediterranean countries), Greenland, and Russia
 - Middle East
 - South America: Amazon Basin
 - Caribbean
 - Indigenous populations from the Arctic
 - Australia, and New Zealand
- Children and adults born in the United States to immigrant parents from endemic areas
- All pregnant women
- Infants born to HBsAg-positive mothers
- Children and adults living in a household with an HBsAg positive individual, including those children who received hepatitis B vaccine after birth who were not screened before vaccination
- IVDU, MSM, Hemodialysis patients, HIV positive patients

Health Care Injections with Reused Equipment, 2010



Source: Pepin et al. (40)

Chronic HBV Infection, 2006



Refugee Arrival by Country of Origin, 2017-2019*

Table 1. Top Ten Origin Countries of Refugee Arrivals, FY 2017-19*

2019*			2018			2017		
Country	Number	Percent	Country	Number	Percent	Country	Number	Percent
Dem. Rep. Congo	6,907	46.6	Dem. Rep. Congo	7,878	35.0	Dem. Rep. Congo	9,377	17.5
Burma	2,571	17.4	Burma	3,555	15.8	Iraq	6,886	12.8
Ukraine	1,825	12.3	Ukraine	2,635	11.7	Syria	6,557	12.2
Eritrea	932	6.3	Bhutan	2,228	9.9	Somalia	6,130	11.4
Afghanistan	330	2.2	Eritrea	1,269	5.6	Burma	5,078	9.5
Syria	286	1.9	Afghanistan	805	3.6	Ukraine	4,264	7.9
Iraq	234	1.6	El Salvador	725	3.2	Bhutan	3,550	6.6
Sudan	168	1.1	Pakistan	441	2.0	Iran	2,577	4.8
Burundi	150	1.0	Russia	437	1.9	Eritrea	1,917	3.6
Colombia	148	1.0	Ethiopia	376	1.7	Afghanistan	1,311	2.4
All other countries, including unknown	1,257	8.5	All other countries, including unknown	2,142	9.5	All other countries, including unknown	6,069	11.3
Total	14,808	100.0	Total	22,491	100.0	Total	53,716	100.0

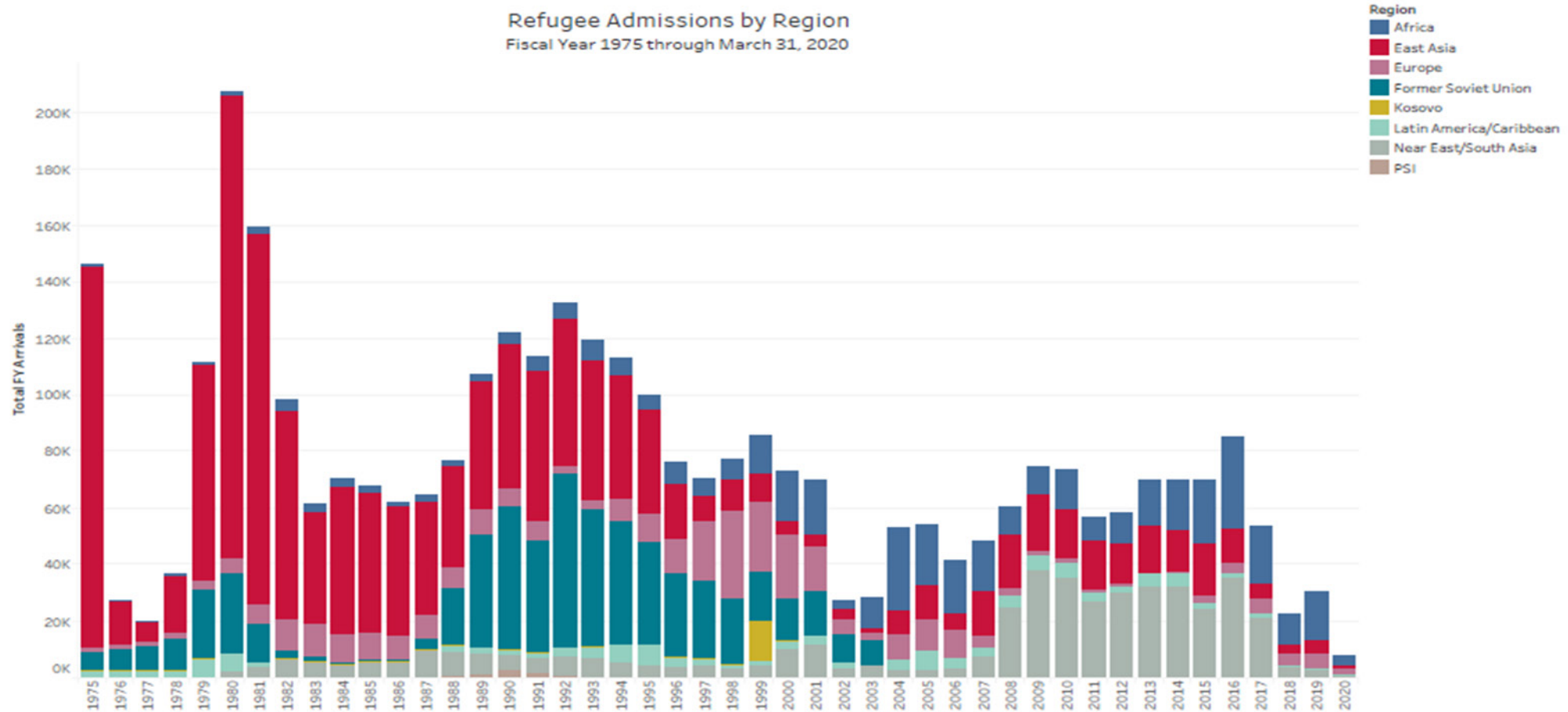
*Data for FY 2019 are partial and refer to resettlement between October 1, 2018 and April 30, 2019.

Source: MPI analysis of State Department WRAPS data.

*FY 2019-4/30/2019

Migration Policy Institute: Refugees and Asylees in the United States (<https://www.migrationpolicy.org/article/refugees-and-asylees-united-states>), Accessed 4/12/20

U.S. Department of State, Refugee Admissions by Region, 1975-3/31/2020



Based on the terms of a settlement in *Doe et al. v. Trump et al.*, No. 17-0178 (W.D. Wash), certain refugee applicants that arrive in FY 2020 and any future fiscal years are counted toward the FY 2018 refugee admissions ceiling.

[Refugee Processing Center: Admissions & Arrivals \(https://www.wrapsnet.org/admissions-and-arrivals/\)](https://www.wrapsnet.org/admissions-and-arrivals/),

Accessed 4/12/20

Pre-Departure Refugee Screening and Treatment

- IGRA 2-14 yrs (TST if IGRA is not licensed)
- CXR \geq 15 yrs
- **Hepatitis B s Ag, If negative, Hepatitis B vaccinations initiated**
- GC/Chlam \geq 15 years
- VDRL \geq 15 yrs, No HIV testing since 2010
- PMH checklist
- PE
- Presumptive treatment for STH (albendazole), strongyloidiasis (ivermectin)



Photo credit:
CDC Domestic Refugee Screening Guidelines

Hepatitis B Global Approach to Eradication

- Vaccination widely available since 1981
 - WHO recommended routine Hepatitis B vaccination in 1992 → widespread use
- Pre-vaccine era (e.g., 1980's to early 2000) to 2015:
 - Children <5 years with chronic infection dropped from 4.7% to 1.3%.
 - However, most disease burden is still in children <5 years
 - Remaining infections via vertical transmission

Hepatitis B Global Approach to Eradication, Cont'd

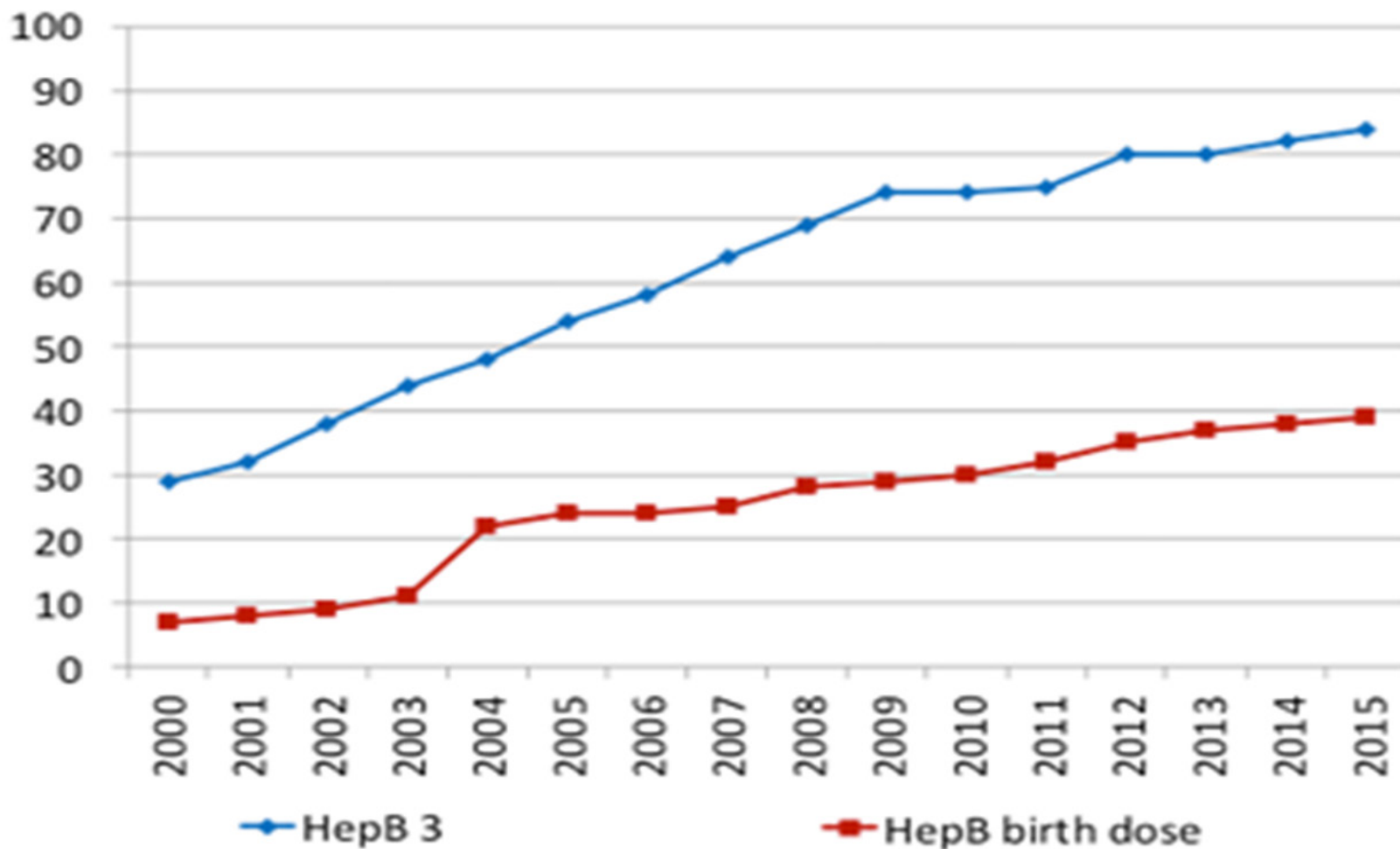
- Access to HBV testing limited
 - 9% of people with HBV infection have been diagnosed (22 million/257 million)
 - However, testing available at low cost (US\$0.50)
- Access to HBV treatment is more limited
 - 8% of those diagnosed are on treatment (1.7 million/22 million)
 - Cost of treatment with tenofovir US\$48 per year



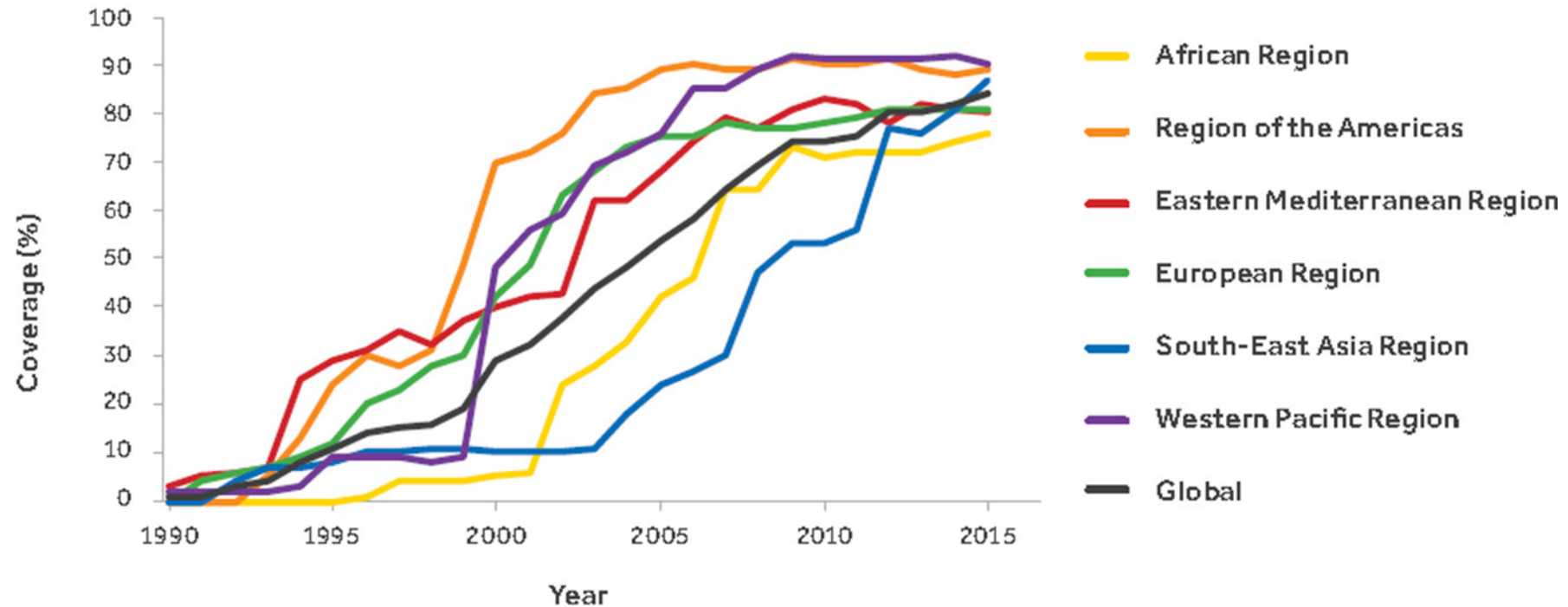


Photo credit: WHO Hepatitis Report, 2017

Global Hepatitis B Vaccination Coverage, 2000-2015

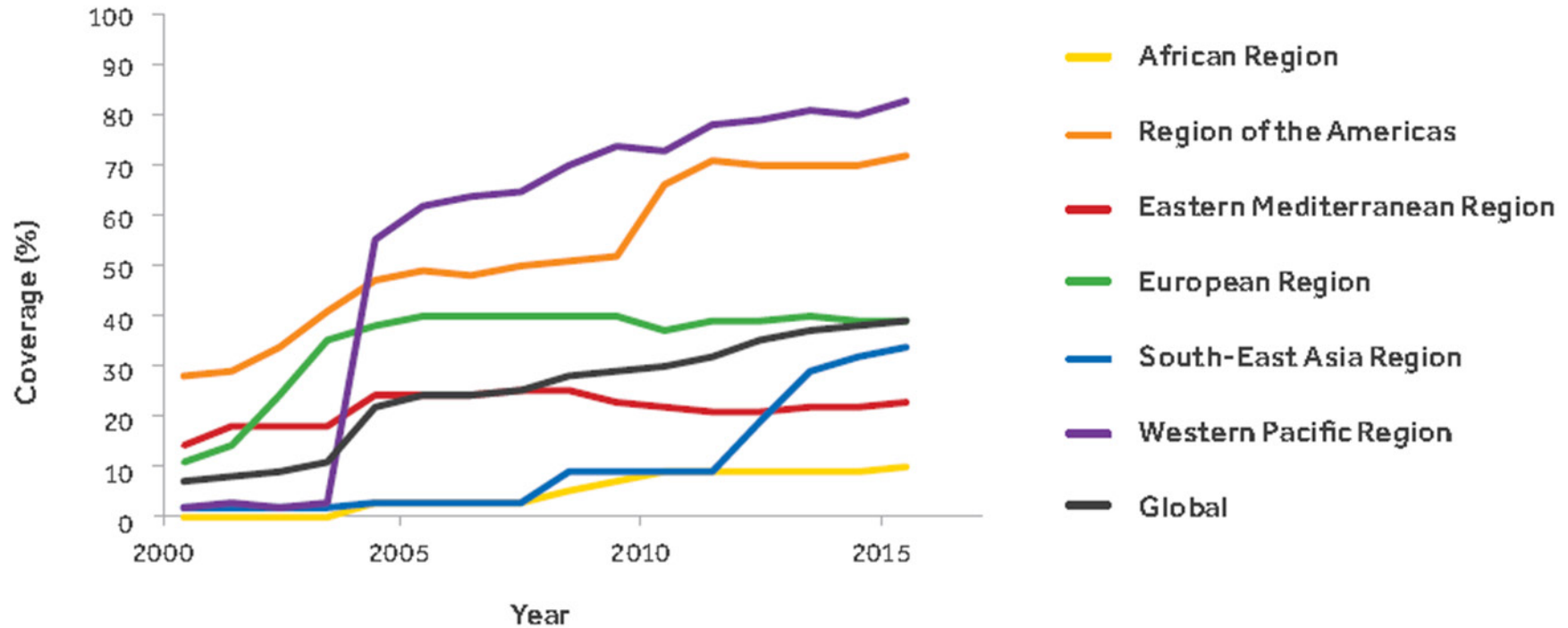


Three-dose Hepatitis B Vaccine Coverage, 2000-2015



Source: Joint UNICEF–WHO reporting form

Hepatitis B Birth Dose Coverage, 2000- 2015



Source: Joint UNICEF–WHO reporting form



Refugee/Immigrant Child

Plan ? Actions

Problem List Visit Diagnoses **BestPractice** Meds & Orders Lab Labels SmartSets

LOWRY FAMILY HEALTH CENTER PHARMACY ☎ 303-602-4630

▼ Refugee/Immigrant Child Initial

Refugee/Immigrant Child Close

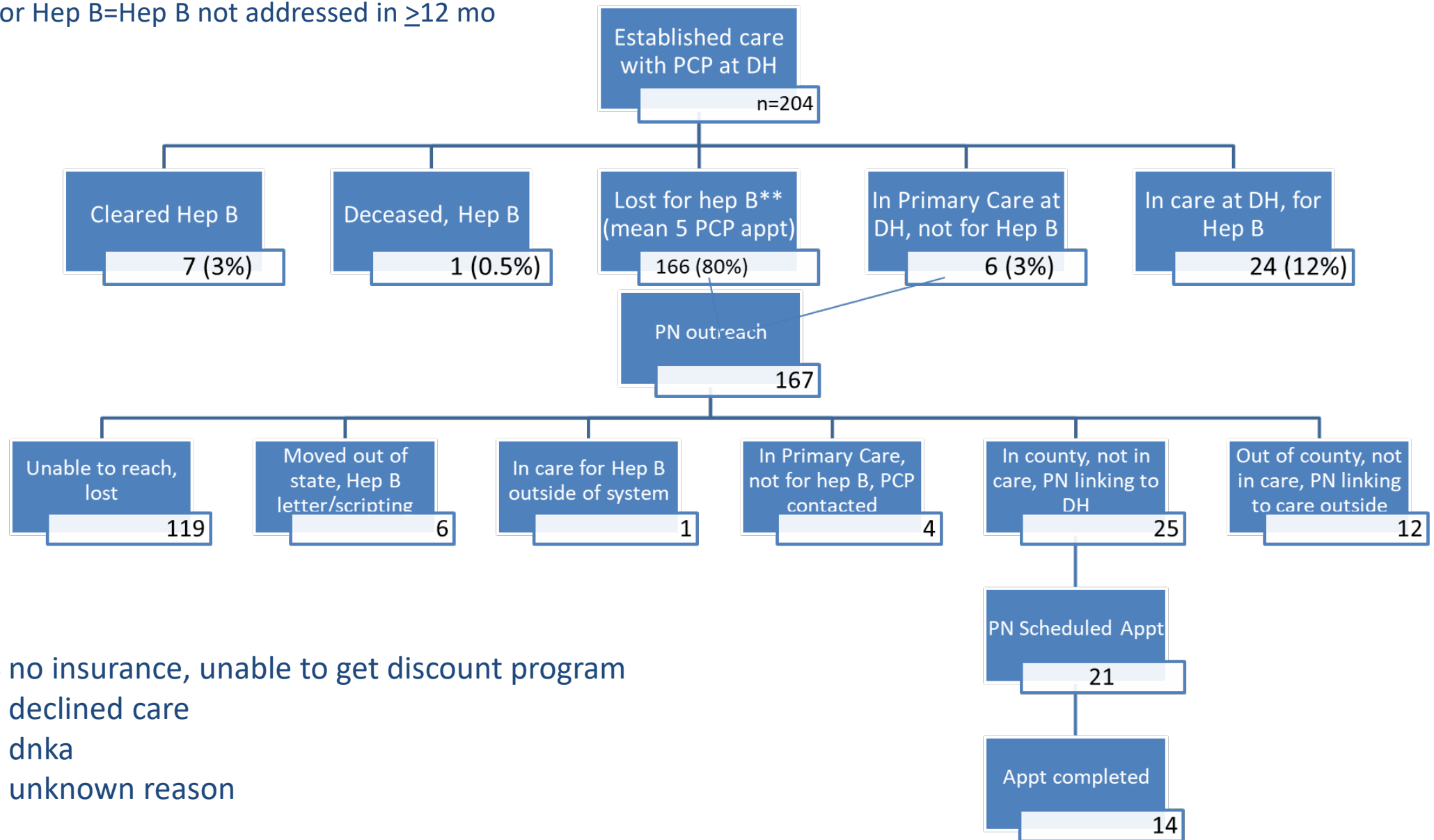
- > Refugee/Immigrant Child Labs
 - CBC auto differential
 - Expires-6/23/2017, Lab Collect, Blood, Blood
 - Hepatitis B surface antigen
 - Expires-6/23/2017, Lab Collect, Blood, Blood
 - Hepatitis B surface antibody
 - Expires-6/23/2017, Lab Collect, Blood, Blood
 - Hepatitis B core antibody, IgM
 - Expires-6/23/2017, Lab Collect, Blood, Blood
 - Hepatitis C antibody
 - Expires-6/23/2017, Lab Collect, Blood, Blood
 - 4th Generation HIV AB/IAO (Standard Test for Adults)
 - Expires-6/23/2017, Lab Collect, Blood, Blood
 - Lead, blood
 - Expires-6/23/2017, Lab Collect, Blood, Blood
 - Quantiferon
 - Expires-6/23/2017, Lab Collect, Blood, Blood
 - Treponema pallidum (syphilis) antibody ?
 - Expires-6/23/2017, Lab Collect, Blood, Blood
- > Refugee/Immigrant Child Medications
- > Refugee/Immigrant Teen/Child Referrals
 - Ambulatory referral to Dentistry
 - ? Internal Referral, Routine, OH PAV G DENTAL, Dentistry, Specialty Services Required
- > Refugee/Immigrant Child Level of Service
- > Refugee/Immigrant Child Diagnosis
- > Refugee/Immigrant Follow Up

(Type to search) Close

You can search for an order by typing in the header of this section.

2006-2012 Refugee cHBV Cohort

Lost for Hep B=Hep B not addressed in ≥ 12 mo



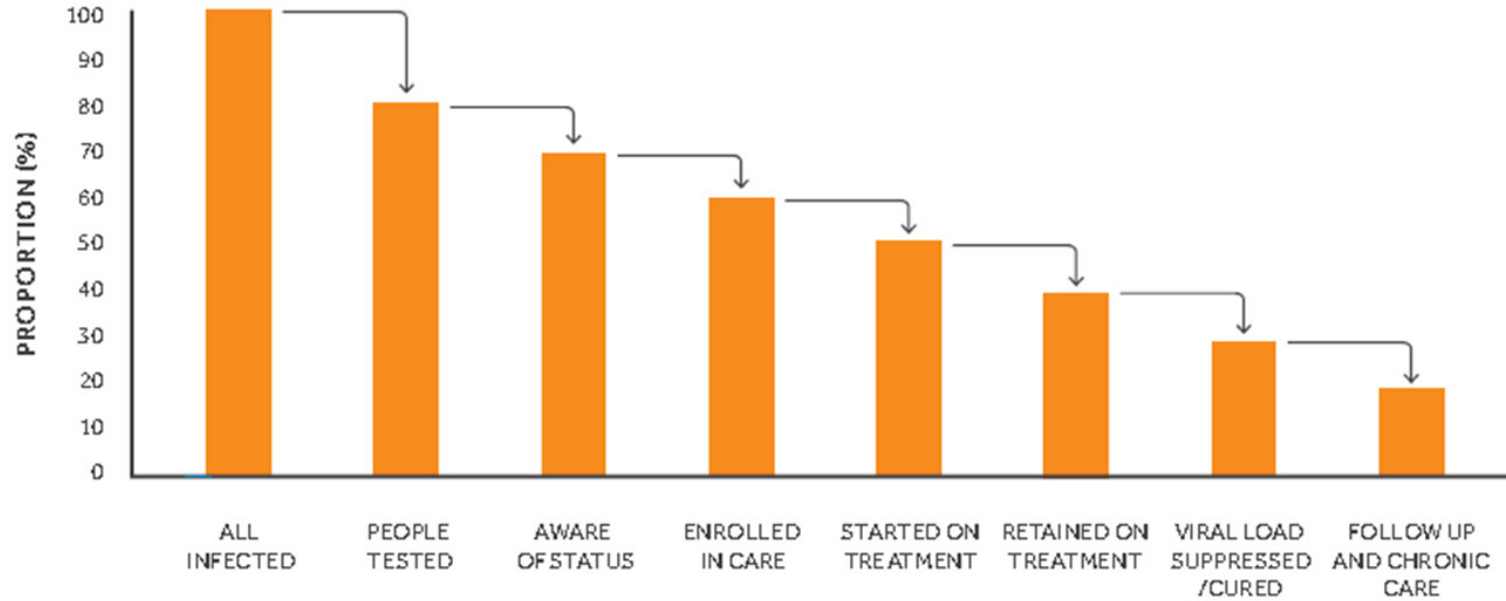
- 4 no insurance, unable to get discount program
- 3 declined care
- 2 dnka
- 2 unknown reason



Lessons Learned: Passive Linkage & Management Does Not Work

- ***Passive*** linkage does not work
- ***Retrospective*** linkage is difficult with diminishing returns
- **Registry group** with active PN management
 - PN active linkage to core group of trained hepatitis B PCPs (reminder calls, transportation, other barriers addressed)
 - PN chart review for next scheduled appointments
 - Active GI linkage (back lines to DH adult GI, Children's Hosp. GI)

Cascade of Care



CONTINUUM OF SERVICES – CASCADE OF CARE



Standard Scripting

- Newborn nursery—testing household contacts and non-US born children
- Assurance of linkage of HBV infected mother to ongoing care
- Education of HB infected patient/family
- Problem list updating
 - Family history of Hepatitis B infection
 - Negative Hep B s Ag, positive Hep B s Ab
 - Chronic Hepatitis B Infection







EPIC Standard Scripting

Information to provide about Hepatitis B:

Hepatitis B is a sickness that happens because of a germ that can hurt the liver. It can be a life-long infection with this germ. It can cause yellow eyes and yellow skin but people with the infection may not notice signs of infection for years before it causes many serious health problems. Do you know anyone who has had this type of infection? What do you call that infection in your language? In your community, how do you treat someone who has the infection?

The liver is a main body part that has many uses and keeps you healthy. If your liver becomes hurt, it won't be able to do its job and that can make you sick. Hepatitis B also can be passed to other people and make them sick, too. It may be passed to other people from blood or sexual contact, or from a pregnant mother with the sickness to her growing unborn baby. That's why it is so important to get medical care for hepatitis, with medical visits at least once every 6 months- 1 year for the rest of your life.

As relevant:

- 1. Do not share toothbrushes, razors, or tweezers*
 - 2. Always use condoms when having sex*
 - 3. If you have a cut, others should use gloves if you need help*
 - 4. If pregnant, let your doctor know immediately to help prevent infection of the baby*
 - 5. Do not drink alcohol or use IV drugs*
-
- 6. If female and has children, assure children have been tested (even if they are now adults)*
 - 7. Assure all sexual and household contacts are tested for hepatitis B and if negative, fully immunized and with confirmed immunity against hepatitis B.*



Tools to Improve Care for Patients with Chronic HBV: CareRef, Hepatitis B Wizard, & Hepatitis B Registry



Immigrant and Refugee Health

CDC > Immigrant and Refugee Health > Refugee Health Guidelines > Domestic Guidelines



Immigrant and Refugee Health

About Refugees

Medical Examination of Immigrants and Refugees +

Electronic Disease Notification System

Panel Physician Portal

International Adoption +

Refugee Health Guidelines -

Domestic Guidelines -

Checklist

FAQs: Refugee Health Program

Screening for Viral Hepatitis During the Domestic Medical Examination of Newly Arrived Refugees

[PDF version for printing](#)  [PDF - 22 pages]

Key Points

- Hepatitis B
 - All newly arriving refugees who were born in or have lived in [countries](#) with intermediate (2% to 7%) or high ($\geq 8\%$) prevalence of chronic HBV infection should be tested for HBV infection, including HBsAg, HBsAb, and HBcAb. Those who do not have hepatitis B infection should be offered hepatitis B vaccination series according to the [ACIP-recommended schedule](#).
 - Clinicians should consider further evaluation and management for people whose serologic testing indicates prior HBV infection. In this case, hepatitis B vaccination should not be given.

On This Page

[Key Points](#)

[Background](#)

[Medical Screening](#)

[Clinical Presentations and Diagnostic Testing for Specific Viral Hepatitides](#)

[References](#)

[Screening for Viral Hepatitis During the Domestic Medical Examinations of Newly Arrived Refugees \(https://www.cdc.gov/immigrantrefugeehealth/guidelines/domestic/hepatitis-screening-guidelines.html\)](https://www.cdc.gov/immigrantrefugeehealth/guidelines/domestic/hepatitis-screening-guidelines.html)


CareRef Clinical Assessment for Refugees

Introduction & Background

CareRef is a tool that guides clinicians through conducting a routine post-arrival medical screening of a newly arrived refugee to the U.S. The output of this tool is based on the current CDC Domestic Refugee Screening Guidelines. CareRef recommends screening tests and other preventive care based on the demographic and geographic factors that contribute to risk. The data used to create this tool are specific to refugee populations coming to the U.S. If the tool is used for other populations, the clinician should be aware that the guidelines may not accurately reflect the needs of non-refugee populations.

Please consult the [CDC Domestic Refugee Screening Guidelines](#) for further detailed guidance and information.

Some states have additional state-specific screening recommendations for newly arrived refugees. If you do not know your state's refugee screening guidelines, please contact the [Refugee Health Coordinator](#) in your state.

 [Subscribe](#) to receive CareRef and screening guideline updates.

[Start CareRef Tool](#)

[CareRef: Clinical Assessment for Refugees \(https://careref.web.health.state.mn.us\)](https://careref.web.health.state.mn.us)

Refugee Patient Information

For the most accurate screening recommendations, please enter information from the refugee's overseas medical exam in section 2. If you do not have a copy of the pre-departure medical screening, please contact the [Refugee Health Coordinator in your state](#).

* indicates a required field

1. Demographics

Select the state where the refugee patient resides *

Select the refugee's departure or host country *

Select the refugee's country of birth *

Enter the refugee's date of birth *

Select the refugee's sex at birth *

Male Female Check here if refugee is pregnant

Do you have the records from the refugee's pre-departure medical exam? *

Yes No

Customized Clinical Recommendations

Based on the following information about the refugee, the following guidelines are outlined below. The refugee is a 21 year old female who was born in BURMA (MYANMAR) and departed out of BURMA (MYANMAR).

Please inquire about additional travel history, and [check for travel-associated diseases and health alerts](#).

*Recommended lab tests are denoted by checked boxes

[Refugee Patient Information](#) [Print](#)

Disease-Specific Laboratory Testing

Hepatitis B

Review overseas records (pre-departure testing for infection and vaccination are increasingly common).

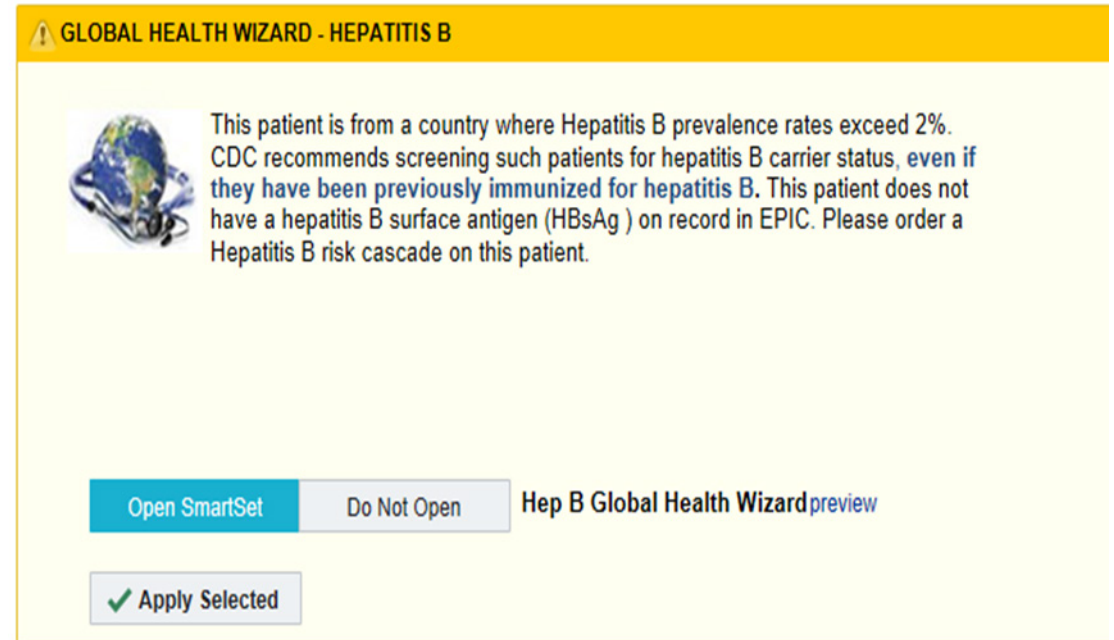
- Test for hepatitis B infection and immunity status using HBsAg, anti-HBc, and anti-HBs.
- Complete the vaccination series according to the [ACIP schedule](#) if the refugee is not infected and the series has been started and not yet completed, the refugee is susceptible and at increased risk for HBV infection, or the refugee is susceptible and from a country [endemic for hepatitis B](#).

[Show more](#)



The Global Health Wizard

- **Best practice alert (BPA) to identify patients at risk for hepatitis B**
- **Triggers based on following:**
 - Country of origin with $\geq 2\%$ HBV prevalence
 - No HBsAg in HP lab results
 - No positive HBsAb in HP lab results
- **Pilot study in 9 clinics during 2012 supported through University of Minnesota Center for Health Disparities grant**



GLOBAL HEALTH WIZARD - HEPATITIS B


This patient is from a country where Hepatitis B prevalence rates exceed 2%. CDC recommends screening such patients for hepatitis B carrier status, even if they have been previously immunized for hepatitis B. This patient does not have a hepatitis B surface antigen (HBsAg) on record in EPIC. Please order a Hepatitis B risk cascade on this patient.

Open SmartSet Do Not Open Hep B Global Health Wizard preview

✓ Apply Selected

Global Health Wizard Screening Smart Set

GLOBAL HEALTH WIZARD - HEPATITIS B



This patient is from a country where Hepatitis B prevalence rates exceed 2%. CDC recommends screening such patients for hepatitis B carrier status, **even if they have been previously immunized for hepatitis B**. This patient does not have a hepatitis B surface antigen (HBsAg) on record in EPIC. Please order a Hepatitis B risk cascade on this patient.

Progress Notes

- ▼ Hep B Global Health Wizard

Orders

- ▼ Hep B Global Health Wizard - Orders
 - HEPATITIS B RISK CASCADE

Patient Instructions

- ▼ Hep B Global Health Wizard - Patient Instructions

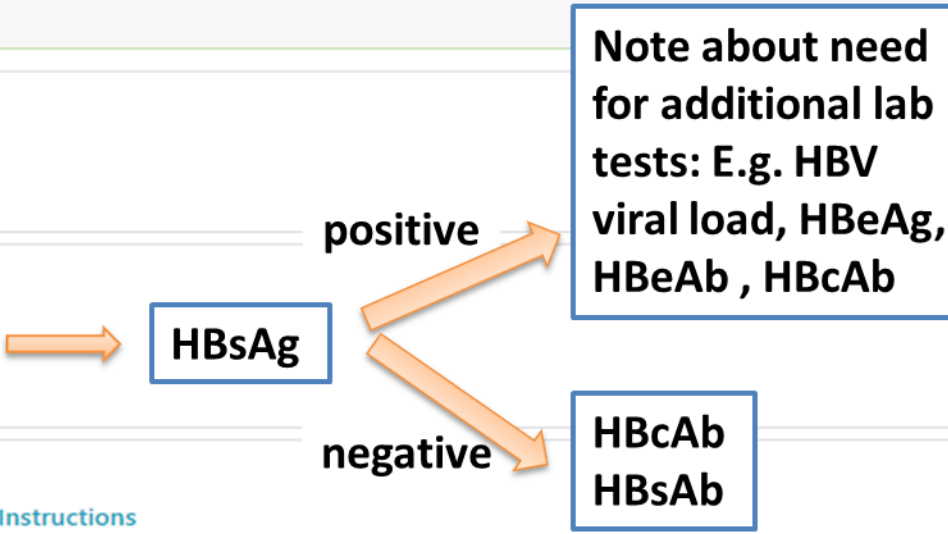
positive

negative

HBsAg

HBcAb
HBsAb

Note about need for additional lab tests: E.g. HBV viral load, HBeAg, HBeAb, HBcAb



```
graph LR; A[HEPATITIS B RISK CASCADE] --> B[HBsAg]; B -- positive --> C[HBcAb, HBsAb]; B -- negative --> D[HBcAb, HBsAb]; E[Note about need for additional lab tests: E.g. HBV viral load, HBeAg, HBeAb, HBcAb];
```



Use of Hepatitis B Global Health Wizard, 2012–2018

Year	Reporting Period	Eligible patients, N	Opened		Ordered		Resulted		Positive	
			n	%	n	%	n	%	n	%
All years	07/01/2012 - 12/31/2018	13,707	919	6.7%	742	5.4%	716	5.2%	35	0.26%
2012	07/01/2012 - 12/31/2012	2,906	184	6.3%	136	4.7%	134	4.6%	3	0.10%
2013	01/01/2013 - 12/31/2013	4,313	230	5.3%	178	4.1%	174	4.0%	9	0.21%
2014	01/01/2014 - 12/31/2014	3,440	179	5.2%	136	4.0%	136	4.0%	5	0.15%
2015	01/01/2015 - 12/31/2015	2,142	231	10.8%	99	4.6%	98	4.6%	7	0.33%
2016	01/01/2016 - 12/31/2016	2,104	68	3.2%	58	2.8%	55	2.6%	4	0.19%
2017	01/01/2017 - 12/31/2017	2,148	40	1.9%	30	1.4%	29	1.4%	1	0.05%
2018	01/01/2018 - 12/31/2018	5,301	123	2.3%	105	2.0%	90	1.7%	6	0.11%



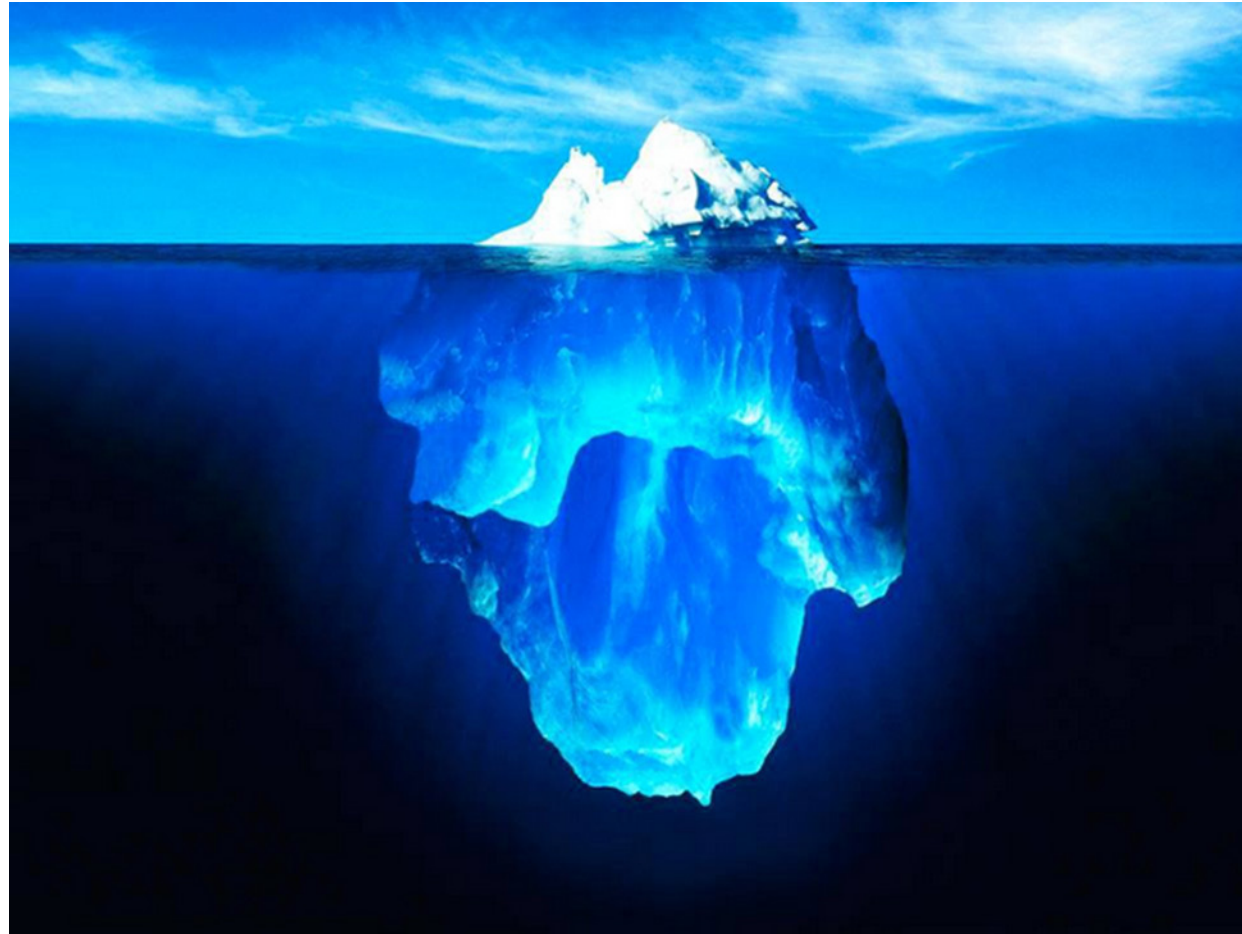


Global Health Wizard Updated 1/1/19

19 Specialty Departments and 40 Primary Care departments

<i>6/05/2019 – 12/31/19 All Specialties with BPA Active</i>	#1 Eligible		#2 Fired			#3 Opened		#4 Ordered		#5 Resulted		#6 Positive	
	Pt	%	N	Pt	%	N	%	Pt	%	Pt	%	Pt	%
Total	7,108	NA	12,493	7,108	100%	25	0.4%	0	0.0%	0	0.0%	0	0.0%

Hepatitis B Management





Hepatitis B Virus Infection Follow-up Study

- **137 refugee patients with HBV infection**
 - Refugee screening March 2008–March 2017
 - positive HBsAg
 - HP visit in 3 years prior to March 2017
- **21% receiving optimal care**
 - Labs (ALT and viral load) every 6 months
 - Liver imaging every 6 months
 - PCP visit every 12 months
 - GI appointment with dx for Hep B at least once



Hepatitis B Registry Pilot

Started at HealthPartners / Center for International Health (HP CIH),
September 2019

Purpose: To standardize care and improve long-term follow-up for patients with chronic hepatitis B

Hepatitis B Registry Report - All [15126612] as of Thu 5/9/2019 7:56 AM

Patient	Language	HBV Overdue	Next PCP Appt	PCP	MRN
	Somali	●			
	Somali	●			
	Arabic	●			
	Somali	●			
	Oromo	●			
	Oromo	●			
	English	●			
	English	●			
	English	●			
	Burmese	●			
	Karen	●			
	Karen	●			
	Karen	●			
	Oromo	●			
	Karen	●			
	English	●			

● Patient is past due for lab work
● Patient is past due for imaging
● Patient is past due for a PCP Appt

Patient Information



Hepatitis B Registry Pilot Inclusion Logic

- **Not deceased**
- **Ages 18 and above (no upper age limit)**
- **Primary care provider at HPCIH**
- **EHR lab data with most recent**
 - HBsAg positiveOR
 - HBV viral load Detectable









“Optimal Hepatitis B Care” for Registry

- Labs (ALT and viral load) every 6 months
- Imaging every 6 months
- PCP visit every 12 months
- GI appointment with dx for Hepatitis B at least once (ever)

Hepatitis B Registry Report (sample)

Hepatitis B Registry Report - All [15126612] as of Thu 5/9/2019 7:56 AM

Patient	Language	HBV Overdue	Next PCP Appt	PCP	MRN
	Somali	Green			
	Somali	Red			
	Arabic	Red			
	Somali	Blue			
	Oromo	Red			
	Oromo	Red			
	English	Green			
	English	Green			
	English	Red			
	Burmese	Red			
	Karen	Red			
	Karen	Green			
	Karen	Red			
	Oromo	Red			
	Karen	Yellow			
	English	Red			

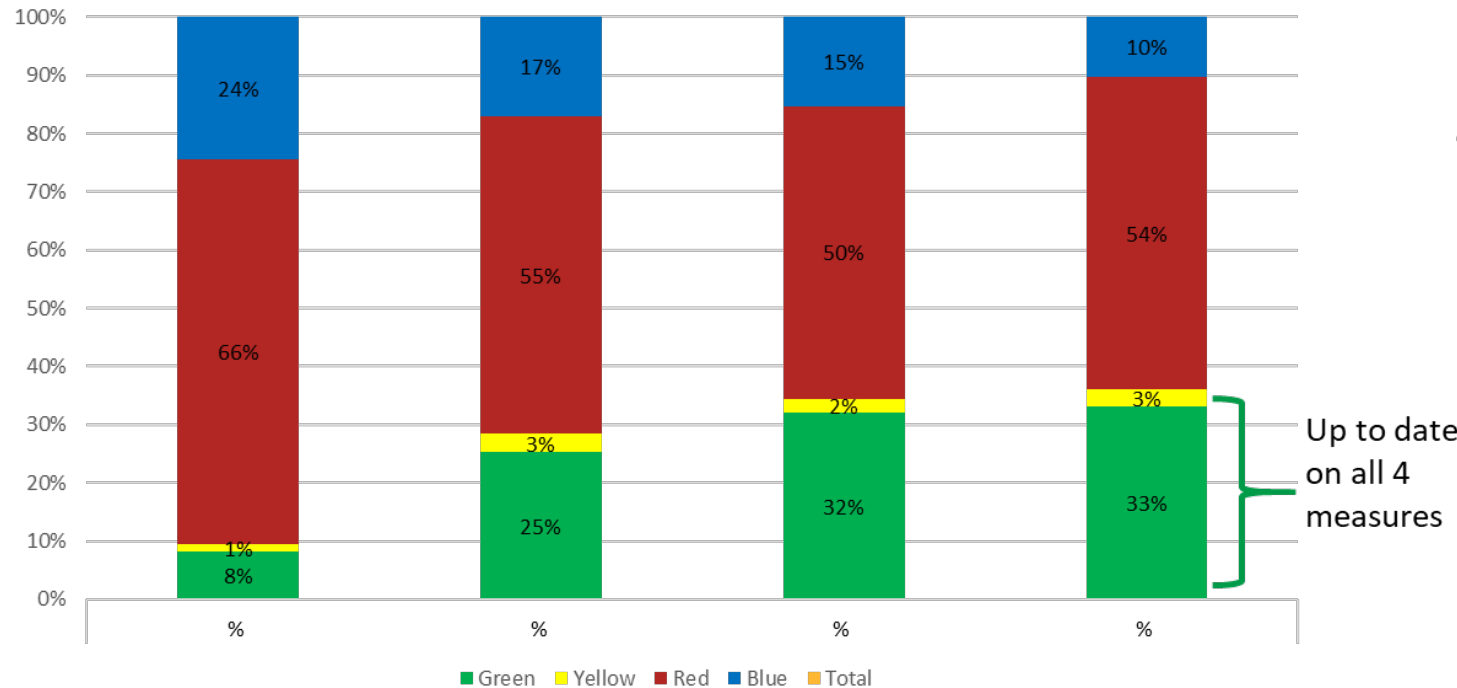
	Green 	Yellow 	Red 	Blue 
Hepatitis B (ages 18+)	No action needed, patient up to date	Action needed within 31 days to keep patient at goal	Action needed, patient is overdue for 1 or more goals	Action needed, patient is overdue for 1 or more goals AND has an <u>appt</u> scheduled at CIH within 90 days

-  Patient is past due for lab work
-  Patient is past due for imaging
-  Patient is past due for a PCP Appt

Patient Information

Change in “Optimal Care” Over Time

Percent of patients getting optimal care for Hep B at CIH



1. Labs (ALT and viral load) every 6 months
2. Imaging every 6 months
3. PCP visit every 12 months
4. GI appointment with dx for Hep B at least once (ever)

	Green ●	Yellow ●	Red ●	Blue ●
Hepatitis B (ages 18+)	No action needed, patient up to date	Action needed within 31 days to keep patient at goal	Action needed, patient is overdue for 1 or more goals	Action needed, patient is overdue for 1 or more goals AND has an <u>appt</u> scheduled at CIH within 90 days



Goal: Centralized HBV registry

- Not all primary care providers are familiar with best practices for chronic HBV care
- Standardizing care will likely improve outcomes for patients



Conclusions

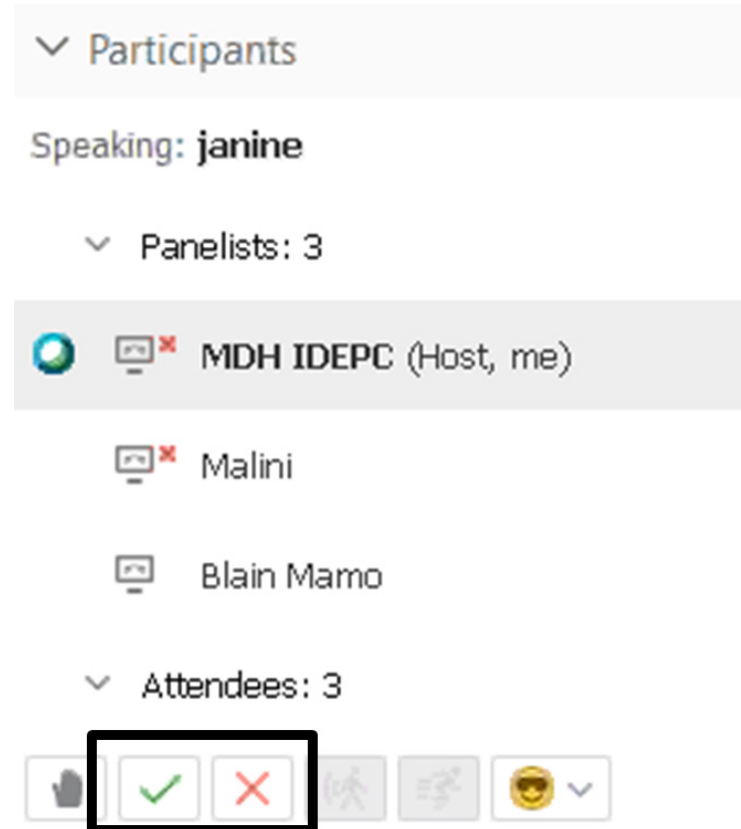
- Screen immigrants from countries with Hepatitis B prevalence $\geq 2\%$, irrespective of Hepatitis B vaccine
- Attempt to test & vaccinate all household contacts of hepatitis B infected patients, especially non-U.S. born children with hepatitis B infected mother
- Developing standard Hepatitis B education scripting
- Utilize social workers, nurses, patient navigators, and medical assistants to promote linkage to care
- Clinical decision support tools available to help with hepatitis B screening and long term management



Question 1

True/false:

Pregnant women in developing countries standardly are tested for hepatitis B during pregnancy.



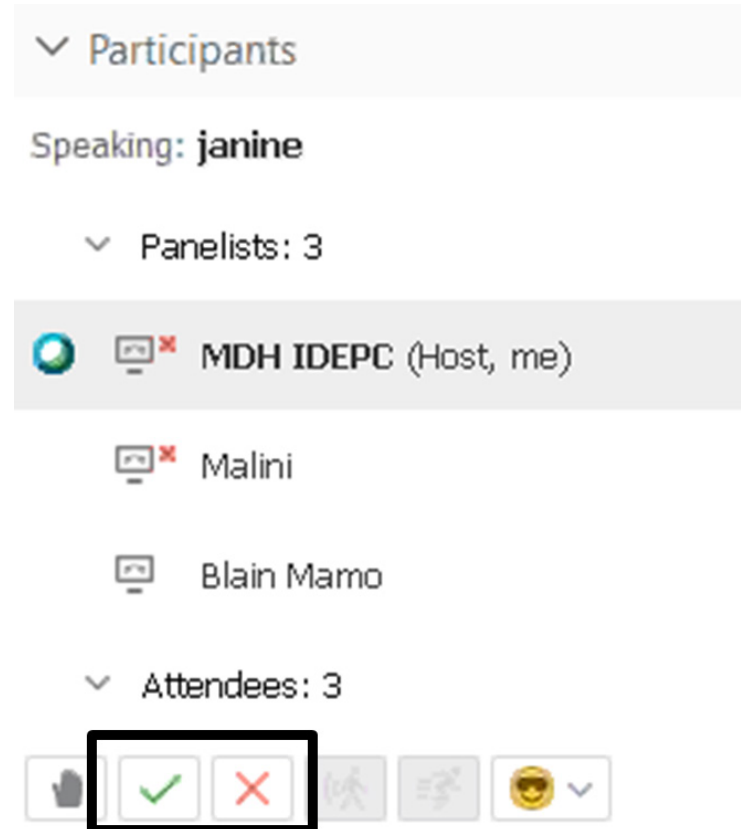
The screenshot shows a Zoom meeting interface. At the top, there is a 'Participants' section with a dropdown arrow. Below it, it says 'Speaking: janine'. Underneath, there is a 'Panelists: 3' section with a dropdown arrow. The main area shows a list of participants: 'MDH IDEPC (Host, me)' with a green circle icon and a red 'x' icon, 'Malini' with a red 'x' icon, and 'Blain Mamo' with a red 'x' icon. Below the list, there is an 'Attendees: 3' section with a dropdown arrow. At the bottom, there is a poll question interface with a hand icon, a green checkmark icon, a red 'X' icon, a person icon, a speech bubble icon, and a smiley face icon. The green checkmark and red 'X' icons are highlighted with a black box.

Click the green checkmark for TRUE
and the red X for FALSE

Question 2

True/false:

Most newly infected patients have signs and symptoms of hepatitis B.



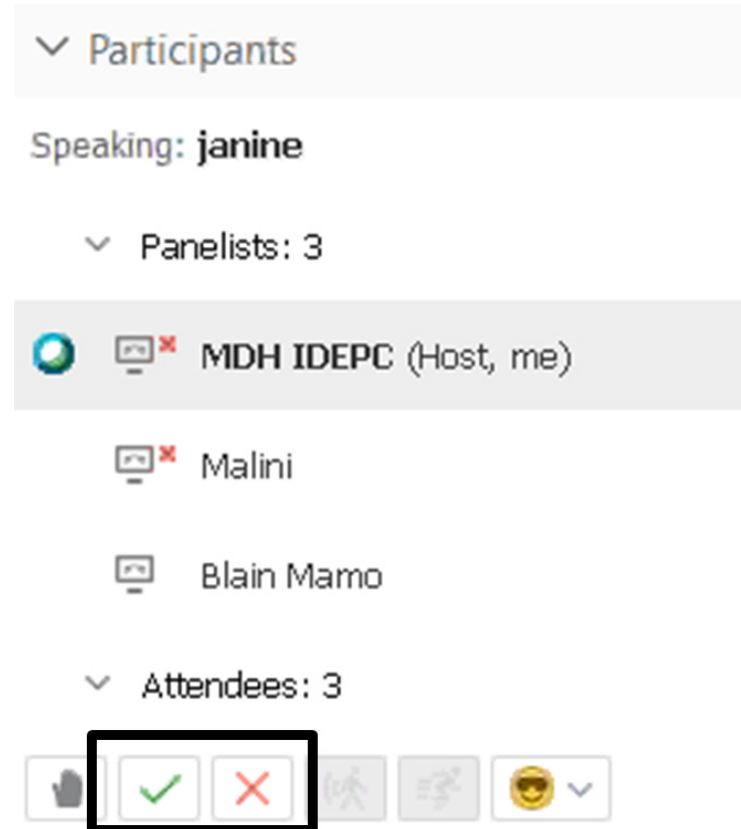
The screenshot shows a Zoom meeting interface. At the top, there is a 'Participants' section with a dropdown arrow. Below it, it says 'Speaking: janine'. Underneath, there is a 'Panelists: 3' section with a dropdown arrow. The main part of the interface shows a poll question: 'Most newly infected patients have signs and symptoms of hepatitis B.' The poll options are 'True' (with a green checkmark icon) and 'False' (with a red X icon). The 'True' option is currently selected, and the 'False' option is currently unselected. The poll is being conducted by 'MDH IDEPC (Host, me)'. Other participants listed are 'Malini' and 'Blain Mamo'. At the bottom, there is a toolbar with icons for mute, video, chat, and poll. The poll icon is highlighted with a black box.

Click the green checkmark for TRUE and the red X for FALSE

Question 3

True/false:

The risk for developing chronic hepatitis B infection is highest if infection is acquired at as an adult.



Participants

Speaking: janine

Panelists: 3

MDH IDEPC (Host, me)

Malini

Blain Mamo

Attendees: 3

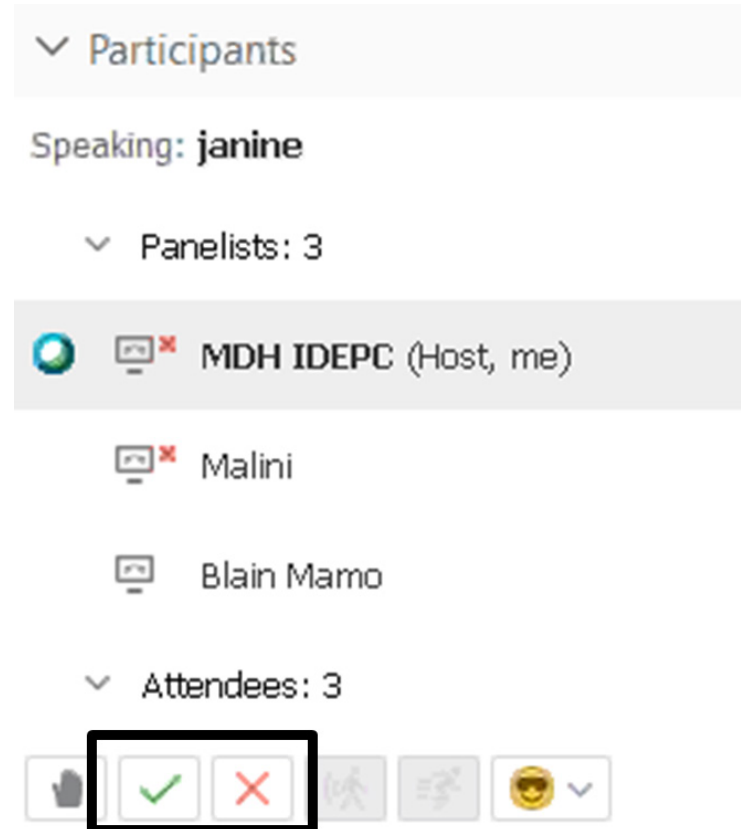
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Click the green checkmark for TRUE
and the red X for FALSE

Question 4

True/false:

Most immigrants and refugees currently living in the United States have been tested for hepatitis B and if infected have been linked to ongoing care.



The screenshot shows a Zoom meeting interface. At the top, there is a 'Participants' section with a dropdown arrow. Below it, it says 'Speaking: janine'. Underneath, there is a 'Panelists: 3' section with a dropdown arrow. The main area shows a poll question with three options: 'MDH IDEPC (Host, me)', 'Malini', and 'Blain Mamo'. At the bottom, there is a toolbar with several icons. A black box highlights the 'Green Checkmark' and 'Red X' icons, which are used for voting on the poll.

Click the green checkmark for TRUE and the red X for FALSE

Resources

- **[CDC: Guidelines for the U.S. Domestic Medical Examination for Newly Arriving Refugees](https://www.cdc.gov/immigrantrefugeehealth/guidelines/domestic/domestic-guidelines.html)**
(<https://www.cdc.gov/immigrantrefugeehealth/guidelines/domestic/domestic-guidelines.html>)
- **[CareRef](https://careref.web.health.state.mn.us/)** (<https://careref.web.health.state.mn.us/>)
- **[Society of Refugee Health Providers](https://refugeesociety.org/)** (<https://refugeesociety.org/>)
- **[WHO: Global Hepatitis Report, 2017 \(PDF\)](https://apps.who.int/iris/bitstream/handle/10665/255016/9789241565455-eng.pdf;jsessionid=CEDE3D43AF3008ABE10164D4279ED7CE?sequence=1)**
(<https://apps.who.int/iris/bitstream/handle/10665/255016/9789241565455-eng.pdf;jsessionid=CEDE3D43AF3008ABE10164D4279ED7CE?sequence=1>)
- Haber B, Block J, Jonas M et al. Recommendations for Screening , Monitoring, and Referral of Pediatric Chronic Hepatitis B, *Pediatrics*, 2009 5(214)
- Pending publication: Payton C, DeSilva M, Young J et al. Hepatitis B evaluation and linkage to care for newly arrived refugees: A multisite quality improvement initiative. *J Imm and Min Health*, 2020
- Pending publication: Young J, Payton C, Walker P et al. Evaluation of a program to improve linkage to and retention in care among refugees with hepatitis B virus infection—Denver, CO, St Paul, MN and Philadelphia, PA, 2006-2018. *MMWR*, 5/2020





Questions and Comments?

