

# Hepatitis B Birth Dose: Policies, Progress & Strategies

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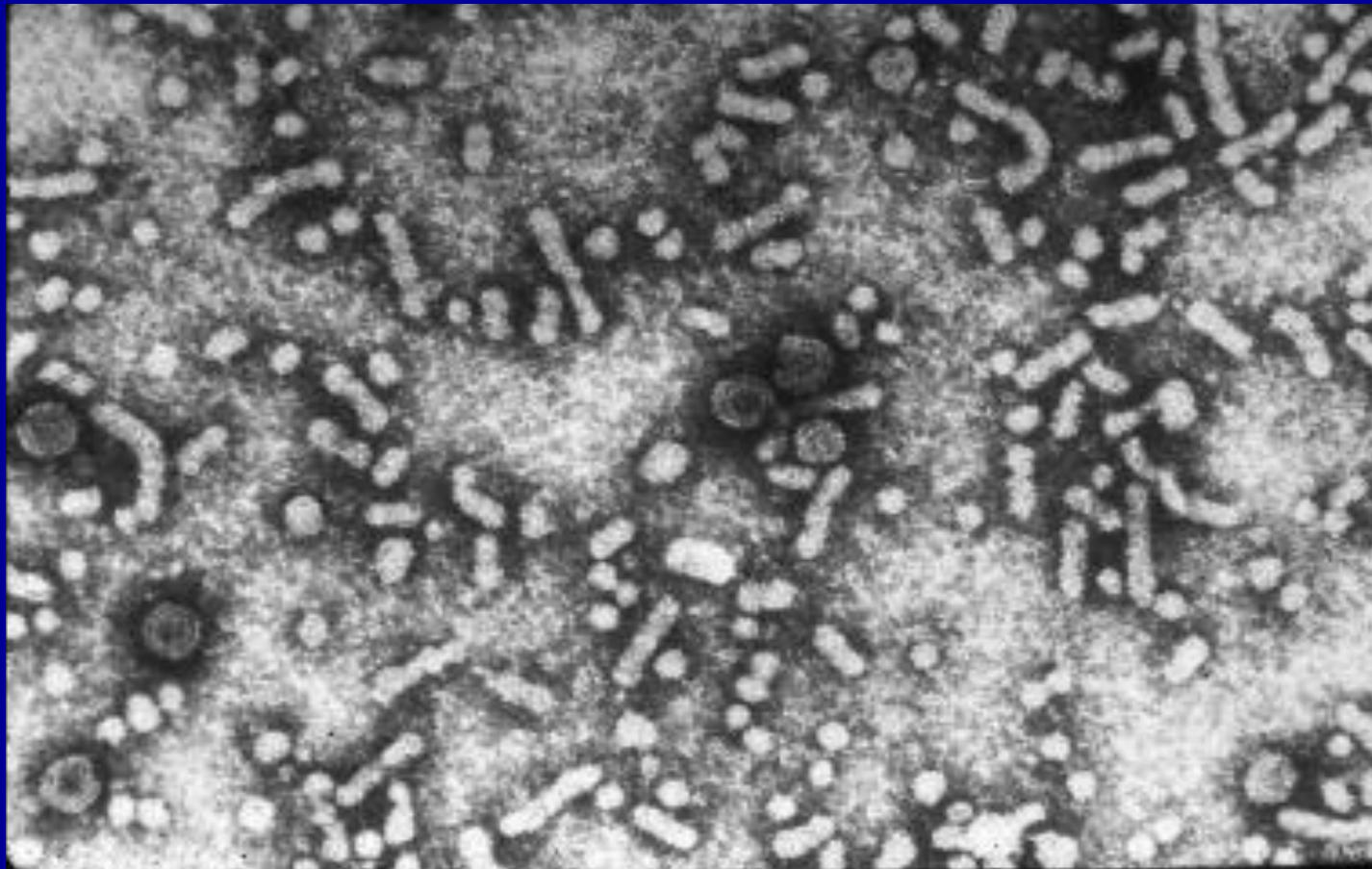


# Objectives

- Understand the epidemiology of hepatitis B in Colorado
- Identify who to screen for hepatitis B
- Understand the progress toward universal vaccination
- Identify 2-3 services provided by Perinatal Hepatitis B Prevention Case Management



# Hepatitis B Virus



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Viral Hepatitis Program  
<http://www.hepatitiscolorado.info>

ph: 303-692-2780  
fax: 303-759-5257

# Acute vs. Chronic

- Acute (new infection)
  - HBsAg+ (Hepatitis B Surface Antigen)
  - HBcIgm +
- Chronic (enduring infection)
  - HBsAg +
  - HBcIgm –
- Also HBeAg, HBcAb,
- anti-HBs



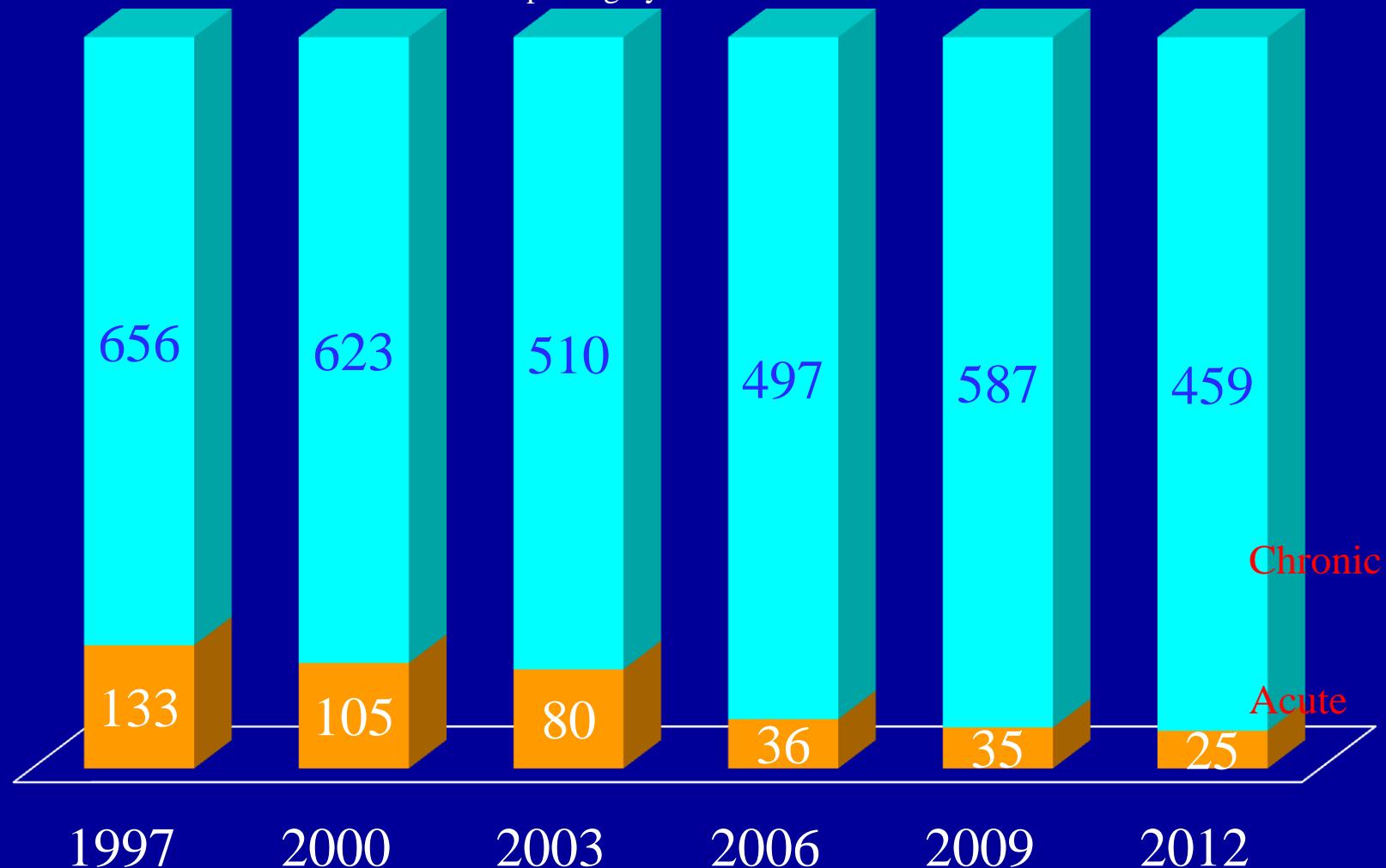
# About Hepatitis B Infection

- Spread by:
  - Sexual
  - Parenteral
  - Perinatal

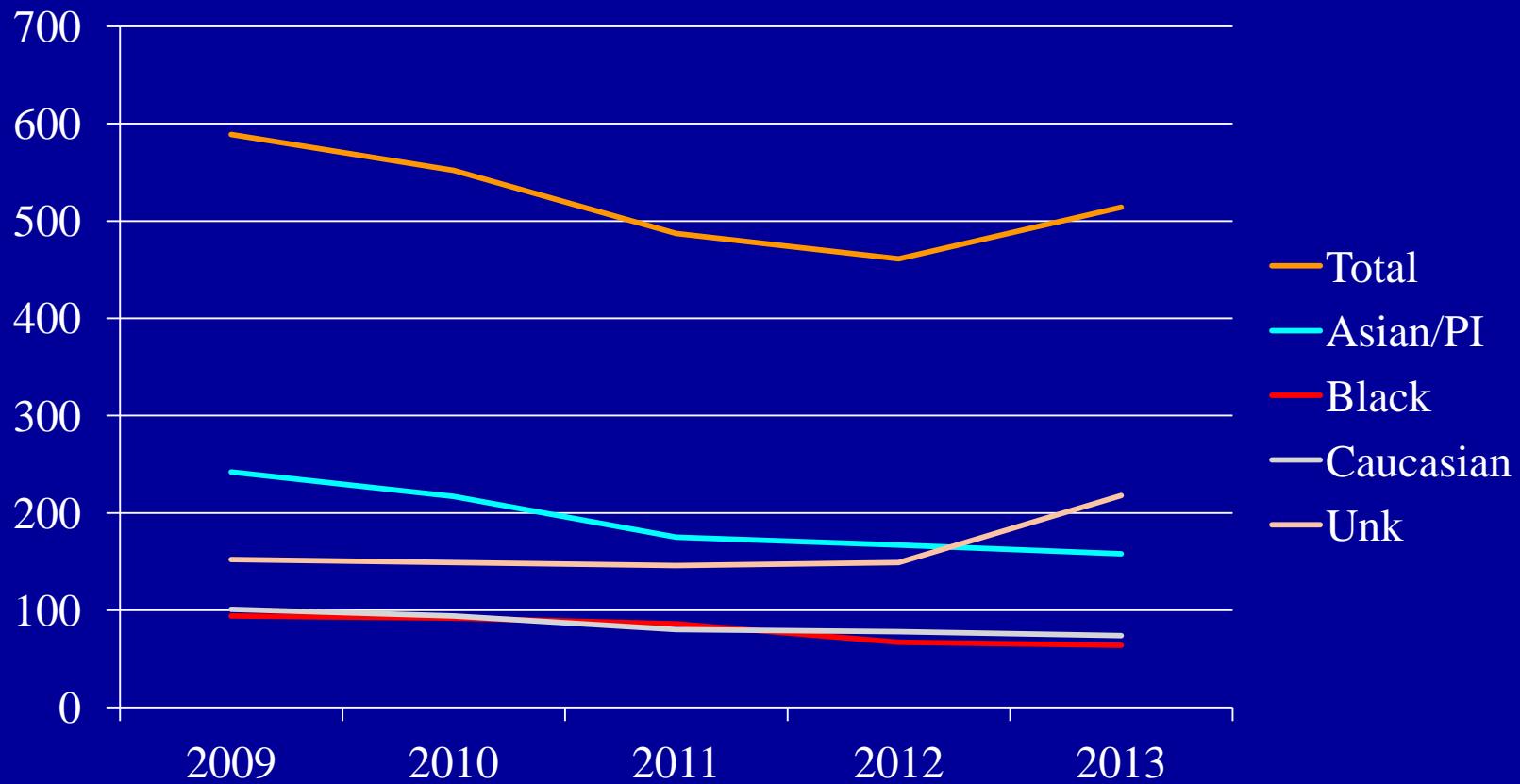


# Reported Cases of Hepatitis B, Colorado

Source: Colorado Electronic Disease Reporting System



# Reported Cases of Hepatitis B by Race, Colorado 2008-2012



# Hepatitis B Complications

- Fulminant hepatitis
- Hospitalization
- Cirrhosis
- Hepatocellular carcinoma
- Death

# deaths reported by year	
	Reported Deaths
2008	27
2009	31
2010	20
2011	26
2012	24

\*Colorado Death Certificate



# Who is at Risk?

## Behaviors

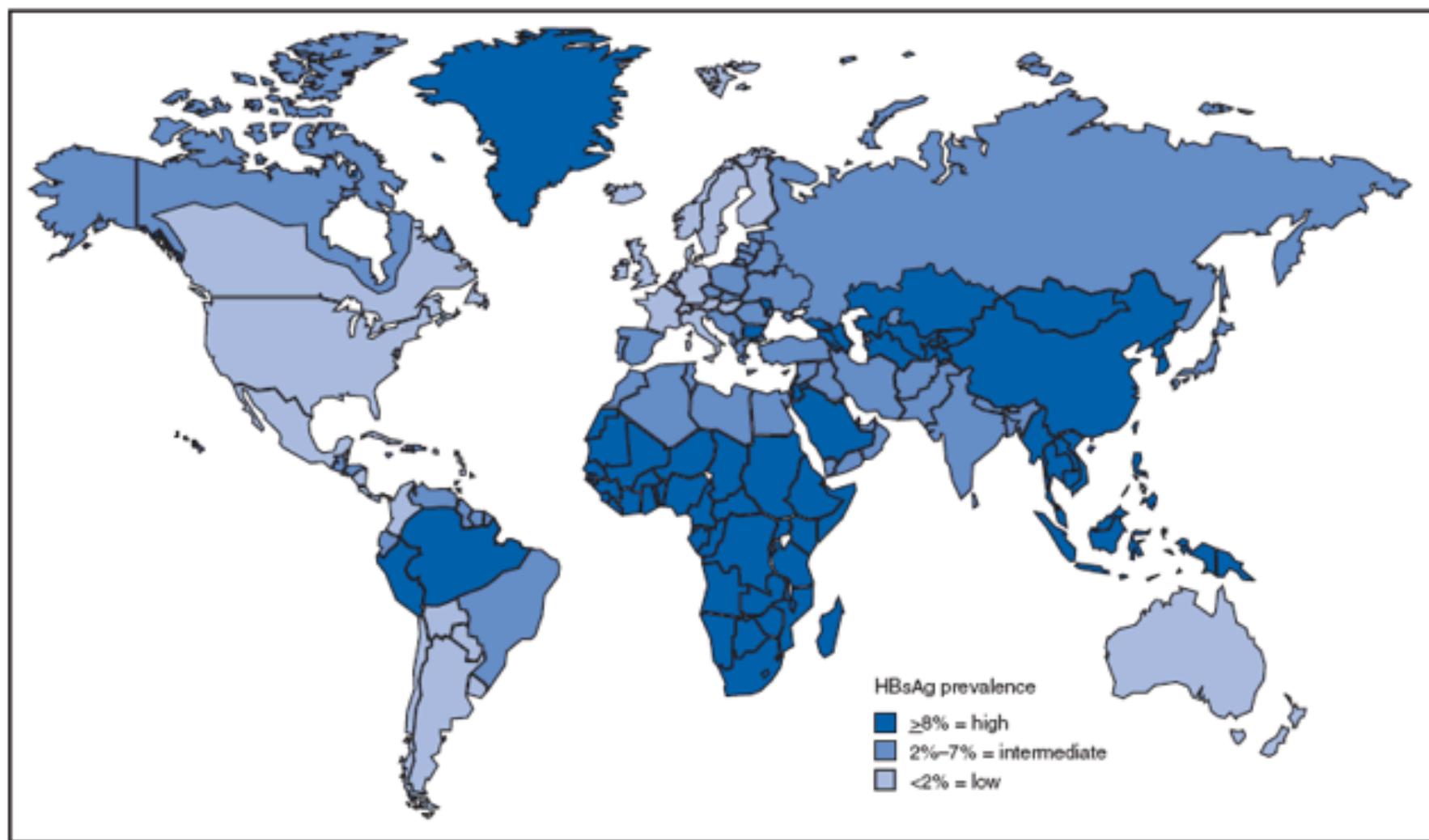
- Household contacts
- Sexual contacts
- Men who have sex with men
- Persons with >1 sex partner or with an STI

## Place or Condition

- People born in endemic countries
- Persons with HIV
- Children born to infected mothers



FIGURE 3. Geographic distribution of chronic hepatitis B virus (HBV) infection — worldwide, 2006\*



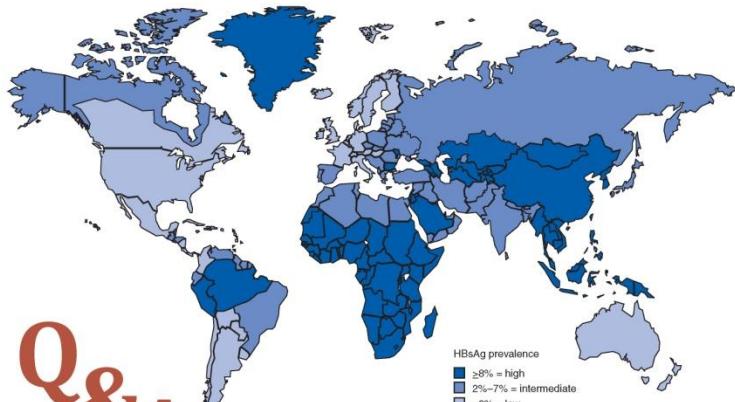
\* For multiple countries, estimates of prevalence of hepatitis B surface antigen (HBsAg), a marker of chronic HBV infection, are based on limited data and might not reflect current prevalence in countries that have implemented childhood hepatitis B vaccination. In addition, HBsAg prevalence might vary within countries by subpopulation and locality.

Source: CDC. Travelers' health; yellow book. Atlanta, GA: US Department of Health and Human Services, CDC; 2008. Available at <http://www.cdc.gov/travel/yellowbookch4-HepB.aspx>.



<http://healthteamworks-media.precis5.com/9246444d94f081e3549803b928260f56>

## Are you at risk?



## Q&A

**Q:** Were you born in a country shown in **dark or medium blue** on this map?

**Q:** Did you receive medical care in a country shown in **dark or medium blue** on this map?

**A:** If you answered yes, then you should talk to your doctor about being tested for hepatitis B even if you have already been vaccinated. Three doses of vaccine can prevent new infections, but only if you were not already infected. People with a hepatitis B infection can prevent liver diseases such as cirrhosis and liver cancer. They need to be carefully monitored by a doctor, and they need to make sure their loved ones are vaccinated. **Protect yourself and the ones you love from hepatitis B.** Talk to your doctor about getting tested and vaccinated.

### Areas of high or intermediate prevalence rates for hepatitis B:

- Asia: all countries
- Africa: all countries
- South Pacific Islands: all countries
- Middle East: all countries except Cyprus and Israel
- European Mediterranean: Malta and Spain
- The arctic: indigenous populations of Alaska, Canada, and Greenland
- South America: Ecuador, Guyana, Suriname, Venezuela, and Amazon regions of Bolivia, Brazil, Colombia, and Peru
- Eastern Europe: all countries except Hungary
- Caribbean: Antigua and Barbuda, Dominica, Granada, Haiti, Jamaica
- Central America: Guatemala and Honduras

Map source: CDC Travelers' health: yellow book, 2008.



This poster was developed by Colorado Clinical Guidelines Collaborative and printed with funds from The Colorado Department of Public Health and Environment. For more information on hepatitis, go to <http://www.hepatitiscolorado.info> or call: 303-692-2780.



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# An Immigrant Story of Hepatitis B

- <http://www.youtube.com/watch?v=xiS4GH2ntyQ&list=PLXIvWapxrktK84PPBTalp412nVUqkaQry&index=8>



# Goal: Eliminate the spread of hepatitis B

- Universal birth dose of hepatitis B vaccine
- School entry requirements for hepatitis B
- Catch-up vaccination for adolescents and adults
- Investigate acute cases and immunize contacts
- Link chronic cases to care (including pregnant women)



# Hepatitis B Vaccine Birth Dose

- Protects infants born to mothers that aren't identified perinatally
- Protects infants at risk for infection after the perinatal period
- Associated with higher rates of on-time completion of hepatitis B vaccine series.
- Some studies show an association with improved completion rates for all other infant vaccines.

MMWR 2005:54:8-9



# Universal Birth Dose in Colorado

Review birthing hospital hepatitis B policies and procedures



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# Policies on Hepatitis B: 56 Colorado Delivery Hospitals

	Yes	No
Did the hospital have a policy?	53	3
Did the policy ensure maternal HBsAg testing prenatally or at the time of admission	42	14
Did the hospital test all moms with unknown HBsAg status?	47	9
Did the hospital test moms with a known risk during pregnancy?	11	45
Was patient education about the transmission of Hepatitis B done with mom?	24	32



# Policies on Hepatitis B: 56 Colorado Delivery Hospitals

	Yes	No
Did the hospital offer hepatitis B vaccine to all newborns before leaving the hospital	22	34
Was HBIG administered to infant if mom is HBsAg positive?	51	5
Was Hepatitis B vaccine administered to infant if mom is HBsAg positive?	51	5
Was Hepatitis B vaccine administered to infant if mom's HBsAg status is unknown?	51	5
Was Hepatitis HBIG administered to infant if mom's HBsAg status is unknown?	20	36



# Universal Birth Dose in Colorado

## How to implement it?

- 13 Colorado hospitals had 90% birth dose rate and birth dose policy
- 11 agreed to answer a 16 question assessment of strategies employed to achieve a high HBV birth dose rate



# Universal Birth Dose in Colorado

Standing orders were used by all of the hospitals with 90% or better HBV birth dose rates.

A structured workflow enhanced the success of a universal hepatitis B vaccine initiative



# Universal Birth Dose in Colorado

- CDPHE efforts to help hospitals achieve 90% Hepatitis B vaccination rate
  - Staff education
    - MD champions presentations ; presentations to RN groups
  - Networking
    - Exhibiting at conferences, abstracts , posters & presence at meetings
    - Repeat the message over and over
  - Provide resources
    - Perinatal CD education, print and web materials



# Perinatal Hepatitis B Prevention Training



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Introduction



Section 1



Section 2



Section 3



Resources



Exam

## Welcome!

This program has been designed to educate hospital labor and delivery staff and nursery staff on perinatal hepatitis B prevention. It is a short (about 20 minute) program designed to cover the following topics related to perinatal hepatitis B prevention:

- The liver and hepatitis
- Risk factors and mode of transmission for hepatitis B
- Symptoms of hepatitis B infection
- Hepatitis B burden in the US and in Colorado
- Testing for hepatitis B in pregnant women
- Vaccination of newborns to prevent hepatitis B infection
- Post vaccination testing
- Hepatitis B and the healthcare worker
- Helpful resources

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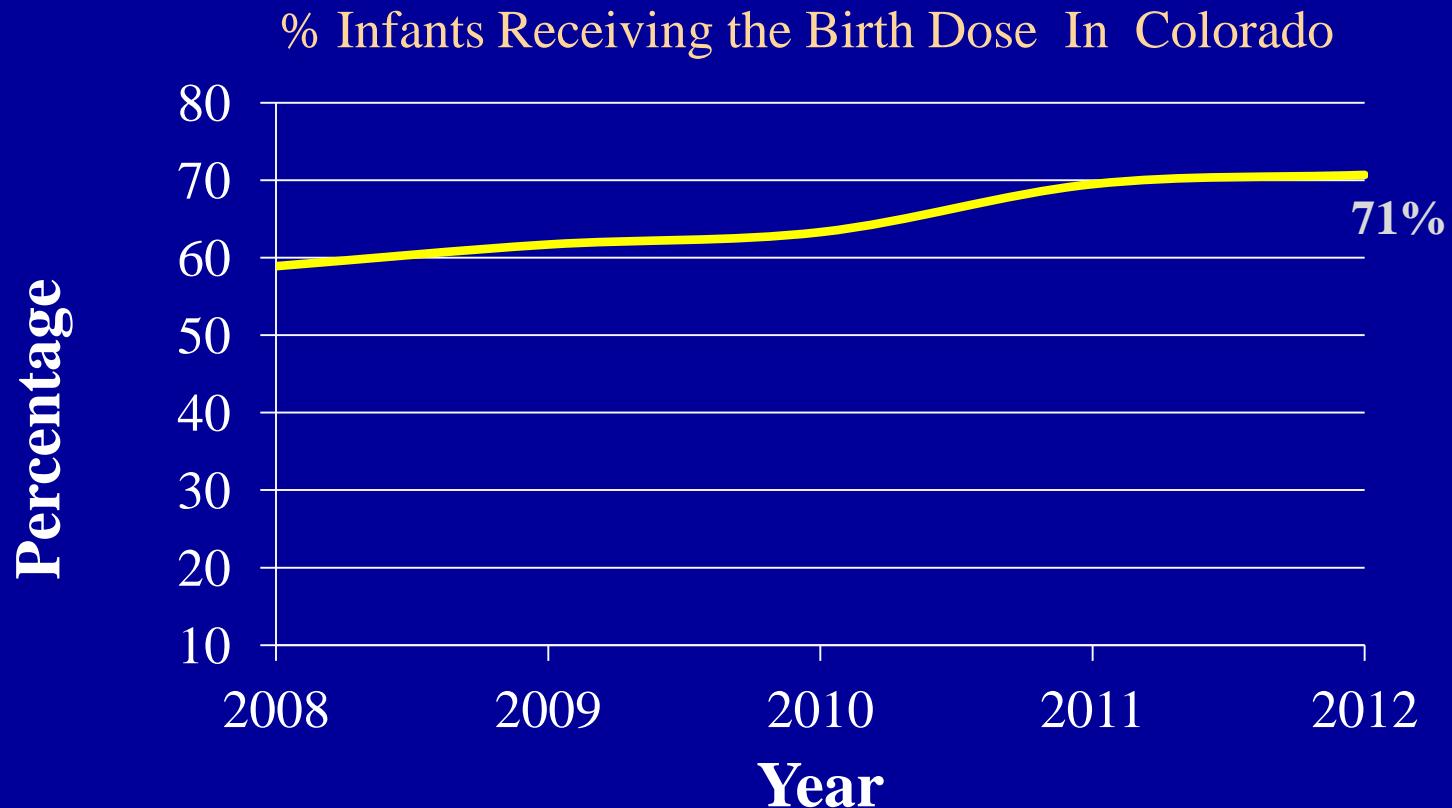


# Hospitals that are succeeding

- <http://www.immunize.org/honor-roll/birthdose/honorees.asp>
- Hepatitis B: What hospitals need to do to protect newborns
- Assisted and encouraged Colorado hospitals with application to honor roll
- Two hospital applications in process



# Colorado's Progress toward universal vaccination

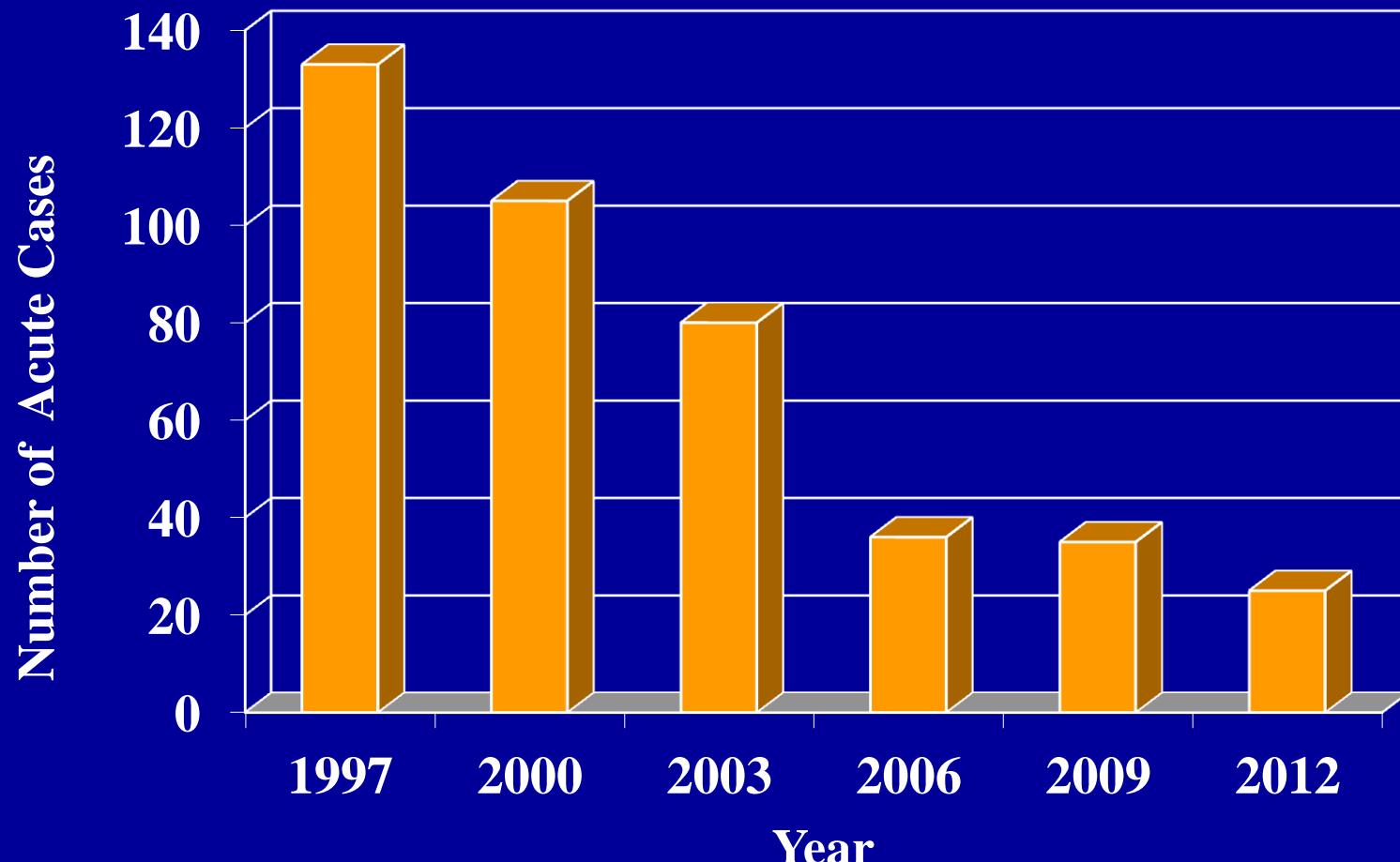


# Routine Vaccination in Colorado

- School Entry
  - Routine vaccination of previously unvaccinated children & teens
  - Kindergarten/school entry
    - 2012-2013 94.3 (CI 91.3-96.5)
- Teens
  - Vaccinate in settings that provide health-care services to teens
    - HBV 96.4% total (CI +/-2.1) (Colorado)



# Number of Acute Cases Reported Since School Entry Requirement Implemented 1997-2012



# Routine Adult Vaccination

- At risk for sexual exposure
- Injection drug users
- Household contacts of persons with chronic HBV infection
- Developmentally disabled persons in long-term care facilities
- Persons at risk for occupational exposure to HBV infection
- Hemodialysis patients
- Persons with chronic liver disease
- Travelers to HBV-endemic regions
- HIV-positive persons



# Goal: limit the progression of liver disease caused by HBV

- What are the counseling messages?
- Who needs medical follow-up?



# Counseling Messages for the Chronically Infected

- Vaccinate sexual contacts
- Don't share toothbrushes or razors
- Cover open cuts, scratches
- Clean blood spills with detergent or bleach
- DO NOT DONATE BLOOD,  
ORGANS,SPERM



# Counseling Messages for the Chronically Infected

- Can participate in all activities including contact sports
- Should not be excluded from daycare, school, or work
- Should not be isolated from other children
- Can share food, utensils or a kiss
- Breastfeeding?



# Medical Follow-up

- Initial evaluation including thorough history and physical
  - Risk factors (coinfection? Alcohol use? Family history?)
  - Laboratory tests to assess liver disease and coinfections with HCV, HDV or HIV
  - Vaccination for hepatitis A
- Begin treatment or continue monitoring at 3-12 month intervals



# Medical Follow-up: Pregnant Women

- Capitalize on period of insurance
- Minimize risk to infant:
  - Treatment is available during pregnancy for women with a specific clinical profile.
- Link women to ongoing care



# Perinatal Case Management Overview

- Prevent the spread of hepatitis B
- Provide hepatitis B education in a variety of languages
- Provide screening
- Assist susceptible contacts get vaccinated
- Provide case management for infants
- Provide clinical staff training around hepatitis B



# Identification of Perinatal Cases

- HBsAg screening as part of a pregnant woman's prenatal panel
- Hospital screening of a woman at time of delivery if status is unknown



# Prenatal Testing

- All pregnant women should be tested routinely for hepatitis B surface antigen during an early prenatal visit (e.g. first trimester) in each pregnancy, even if they have been previously vaccinated or tested.

MMWR 2005:54:13

*Who: Prenatal and obstetrical care providers,  
hospitals*



# Perinatal Hepatitis B Transmission

## In the absence of post exposure prophylaxis\*

- If mother is positive for HBsAg and HBeAg
  - 70-90% of infants become infected
  - 90% of infected infants become chronic carriers
- If mother is positive for HBsAg only
  - <10% of infants infected
  - 90% of infected infants become chronic carriers

\*MMWR 2005:54:5



# Ensuring Baby get Prophylaxis at Birth

- Mother's prenatal labs transmitted to the delivery hospital
- Case Manager confirms pregnancy
- Case Manager faxes letters to the delivery hospital



# Perinatal Case Management goes on...

- Anticipated Pediatrician
- Recommended hepatitis B vaccine schedule
- Post vaccination testing



# Post Vaccine Testing for the Baby

Should be completed between 9-18 months of age and the recommended tests to order are:

- Hepatitis B surface antigen (HBsAg) – this test will tell us if the baby became infected despite immunoprophylaxis
- Hepatitis B surface antibody (HBsAb or anti-HBs) – this test will tell us if the baby developed immunity from hepatitis B vaccination



# Why is Post-vaccination Testing Important?

- Identifies those infants who are not protected
- Identifies the infants that have became chronically infected



# Case Outcomes

## Infants born in 2012

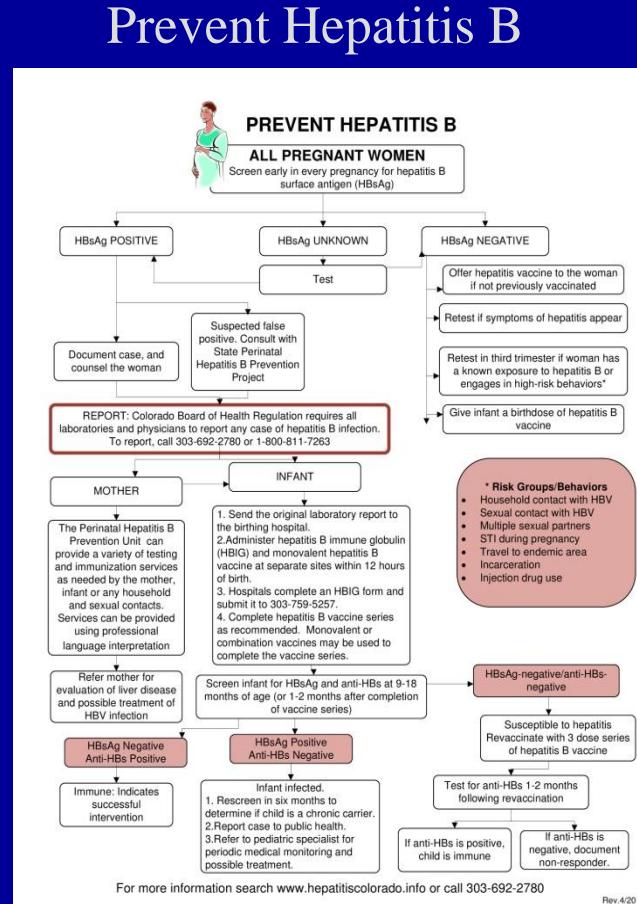
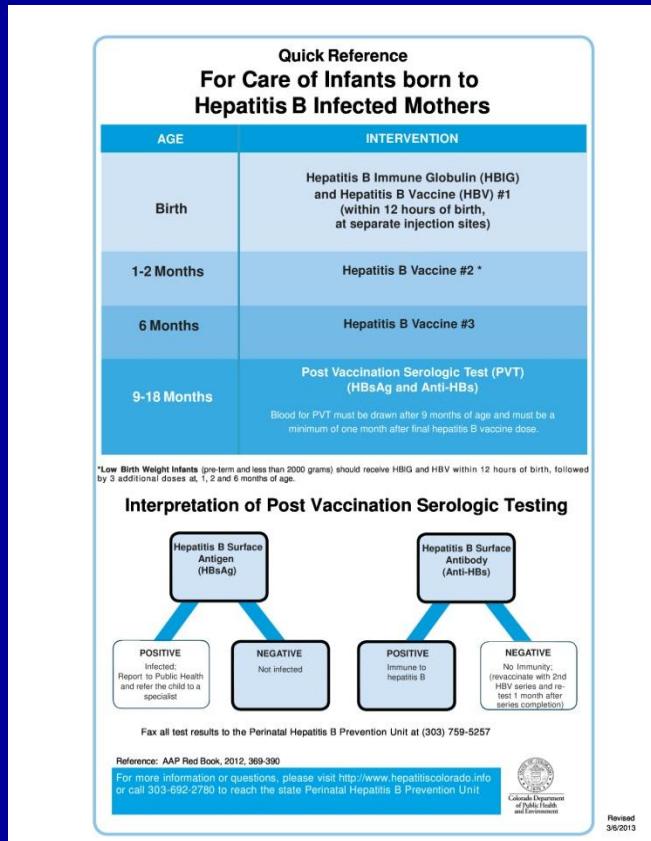
- 170 infants case managed/year
- 98% of infants received HBIG and dose 1 within 12 hours of birth
- 88% correctly vaccinated by 12 months of age (90% by 15 months)
- 85% receive post-vaccination testing by 18 months of age



# Resources for Providers

## Quick Reference

### For Care of Infants born to Hepatitis B Infected Mothers



# QUESTIONS???

Thank you!

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