

Viral Hepatitis & Liver Cancer Who has Hep?

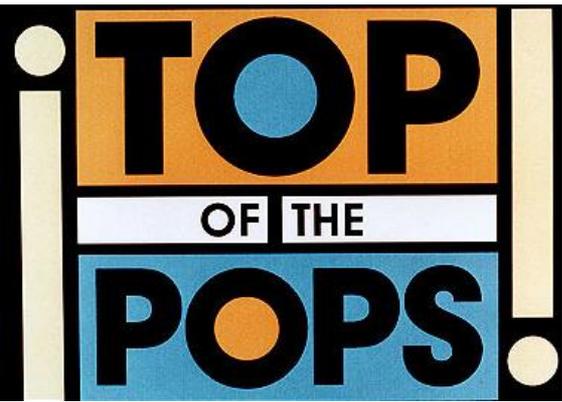
Tribal Collaborative, November 18, 2015

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Viral Hepatitis Prevention Coordinator/Senior Epidemiologist







Top Reported Infectious Diseases in AZ

Chlamydia

Influenza

Hepatitis C (HCV)

Valley fever

Gonorrhea

Invasive MRSA

Salmonella

Hepatitis B (HBV)

What is Hepatitis?

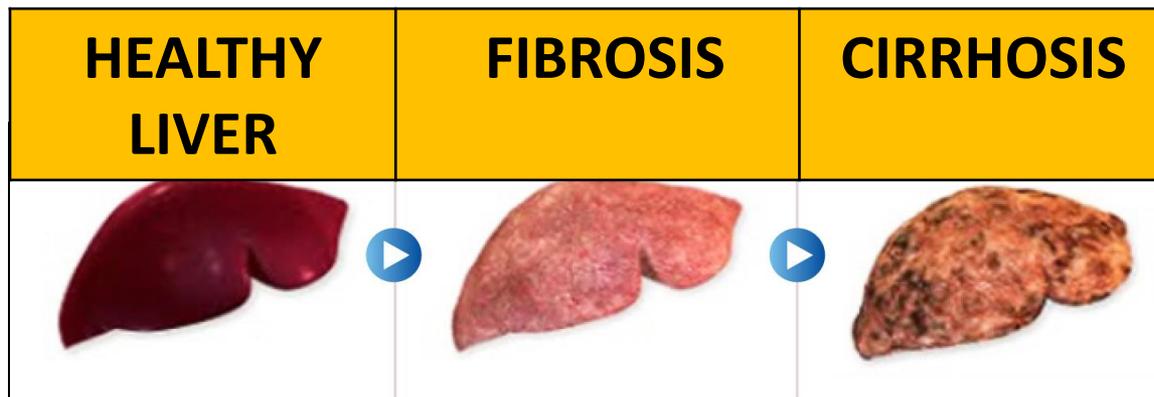
- *'Hepa'* means liver
- *'Itis'* means inflammation



Inflammation of the liver may be caused by alcohol, side effect of medications, toxins, bacteria or **VIRAL INFECTION**

Functions of the Liver

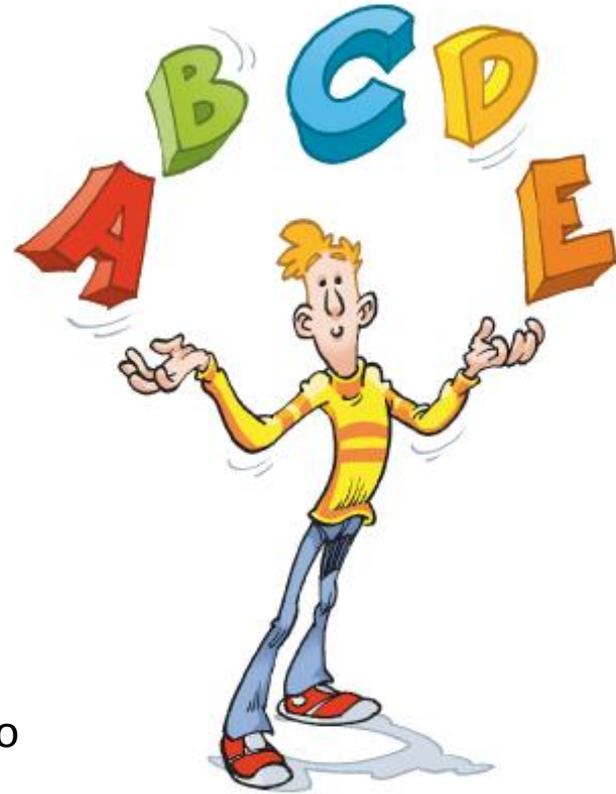
- Largest internal organ in the human body
- Breaks down food, chemicals, medications and drugs
- Converts nutrients into energy
- Helps manage levels of certain substances in the body
- Regulates fat storage
- Regulates blood-clotting factors



Viral Hepatitis

- Hepatitis A Virus (HAV)
- Hepatitis B Virus (HBV)
- Hepatitis C Virus (HCV)
- Hepatitis D Virus (HDV)
– coinfection with HBV
- Hepatitis E Virus (HEV)

* Infection with one hepatitis virus does not turn into another hepatitis virus

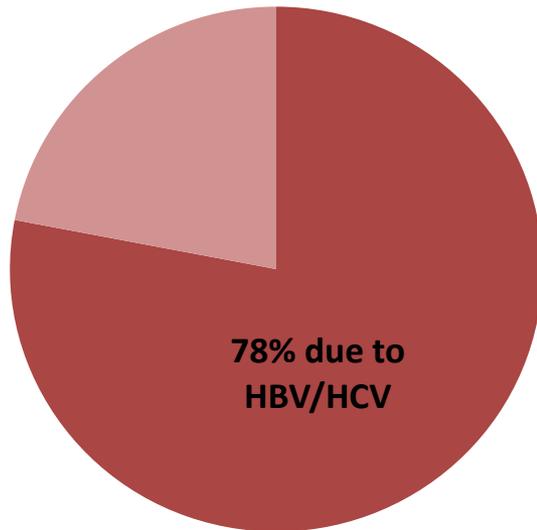


Hepatitis A	Hepatitis B	Hepatitis C
<p>US: ~3,500 new acute infections in 2013</p> <p>AZ: 73 reported/yr</p>	<p>US: ~19,800 new acute infections in 2013</p> <p>~1.2 million chronic</p> <p>AZ: 150 acute/yr</p> <p>893 chronic/yr</p>	<p>US: 29,700 new acute infections in 2013</p> <p>~3.2 million chronic</p> <p>AZ: ~ 10,000/yr</p>
<p>Oral-fecal contact</p> <p>Contaminated food</p>	<p>Bloodborne</p> <p>IDU, Sex</p> <p>Occupational exposure</p> <p>Perinatal</p>	<p>Bloodborne</p> <p>IDU</p> <p>Occupational exposure</p> <p>Less common:</p> <p>Sex, Perinatal</p>
<p>Acute</p>	<p>Acute and chronic</p> <ul style="list-style-type: none"> • 10% develop chronic infection but 25% of these serious complications 	<p>Acute and chronic</p> <ul style="list-style-type: none"> • 80% develop chronic infection; most have slow progressing disease
<p>Vaccine</p>	<p>Vaccine</p>	<p>No vaccine</p>

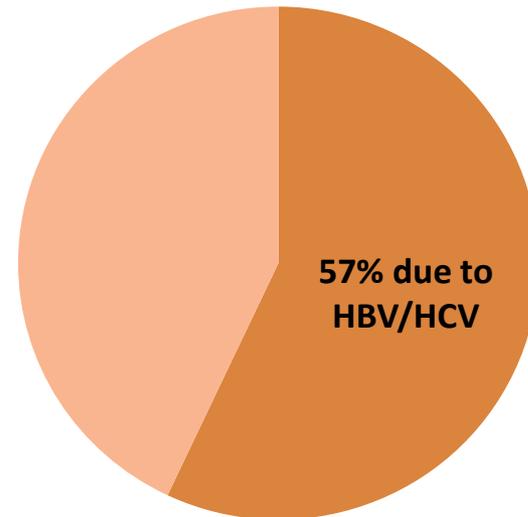
Symptoms: fever, fatigue, loss of appetite, nausea, vomiting, abdominal pain, gray-colored bowel movements, joint pain, jaundice

Viral Hepatitis & Liver Cancer

Hepatocellular Carcinoma (HCC)



Liver Cirrhosis



- 3,000 deaths/year from HCC or chronic liver disease caused by HBV/HCV in US*
- Incidence and mortality of many types of non-liver cancers were high, and age at diagnosis and death younger, in patients with chronic HCV infection compared to general population**

*Hepatitis and Liver Cancer: A National Strategy for Prevention and Control of Hepatitis B and C:

<http://www.nap.edu/catalog/12793/hepatitis-and-liver-cancer-a-national-strategy-for-prevention-and>

**Allison et al, Increased incidence of cancer and cancer-related mortality among persons with chronic hepatitis C infection, 2006-2010; 2015 *Journal of Hepatology*

Viral Hepatitis & Death

- ~19,000 deaths due to HCV in US in 2013
 - HCV deaths increased from 1999-2007; whereas HIV deaths decreased**
- Chronic HCV all-cause mortality is more than twice that of HCV-negative individuals***

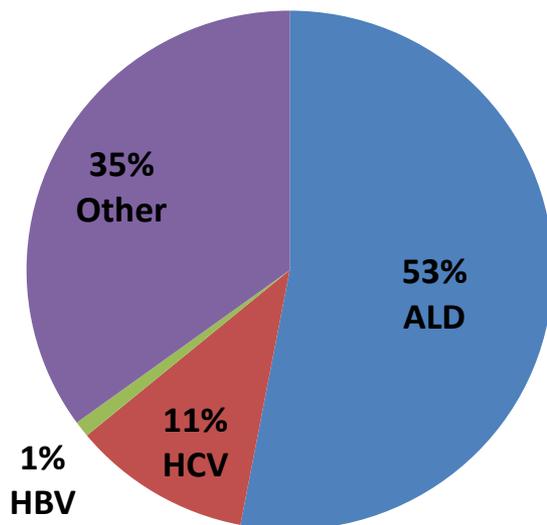


**Ly et al, The Increasing Burden of Mortality From Viral Hepatitis in the United States Between 1999 and 2007; 2012 *Annals of Internal Medicine*

***El-Kamary et al, All-Cause, Liver-Related, and Non-Liver-Related Mortality Among HCV-Infected Individuals in the General US Population; 2011 *Clinical Infectious Diseases*

AI/AN & Liver Disease

Cirrhosis-attributed deaths



- AI/AN have the highest rate of liver-related death in the US*
- HCV infection was most commonly identified chronic liver disease etiology associated with an HCC-related death (13%)**
- HCV infection has disparate effect on mortality among AI/AN*

*Vong and Bell, 2004

**Suryaprasad, 2014

HEPATITIS B



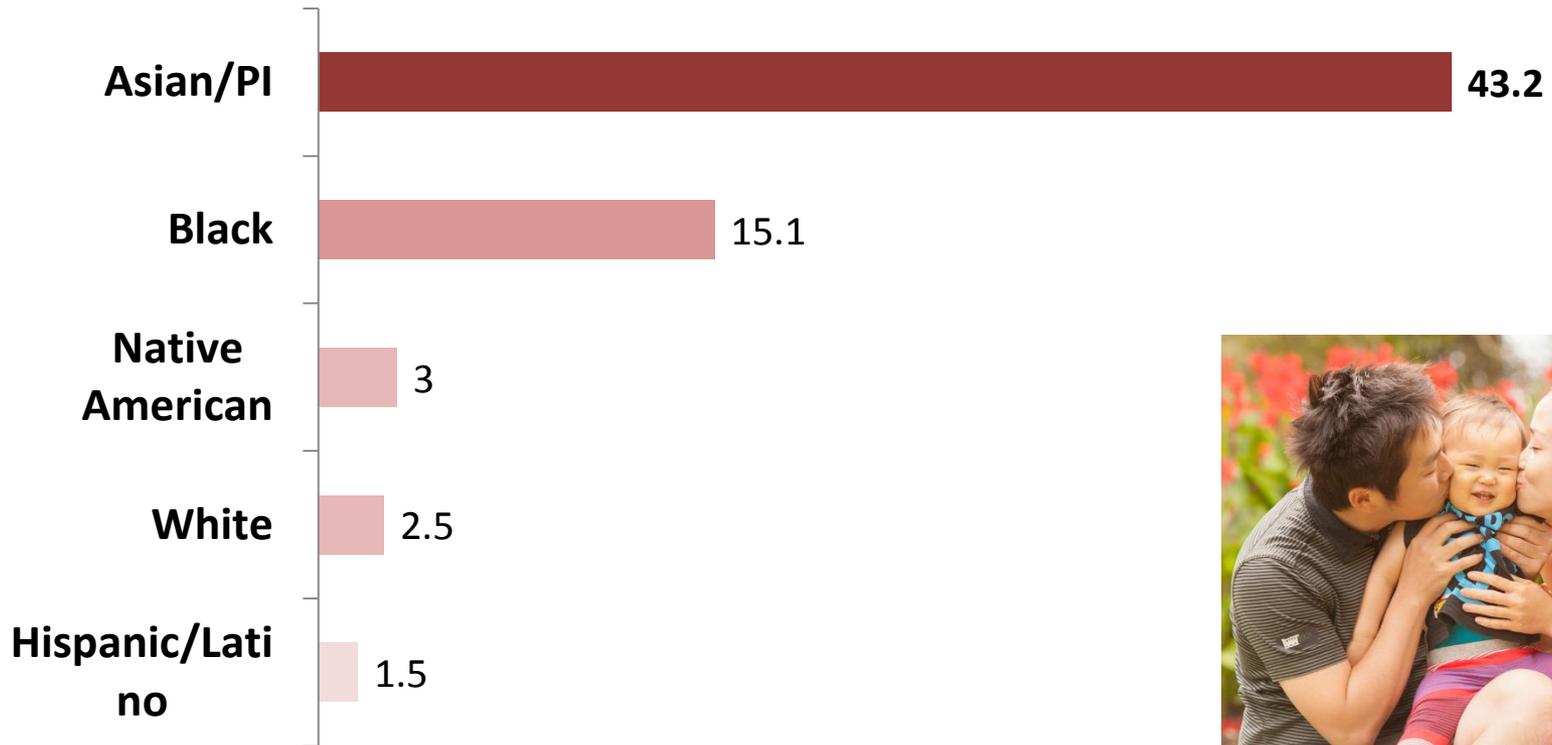
Hepatitis B in AZ

150 acute/year

893 chronic/year

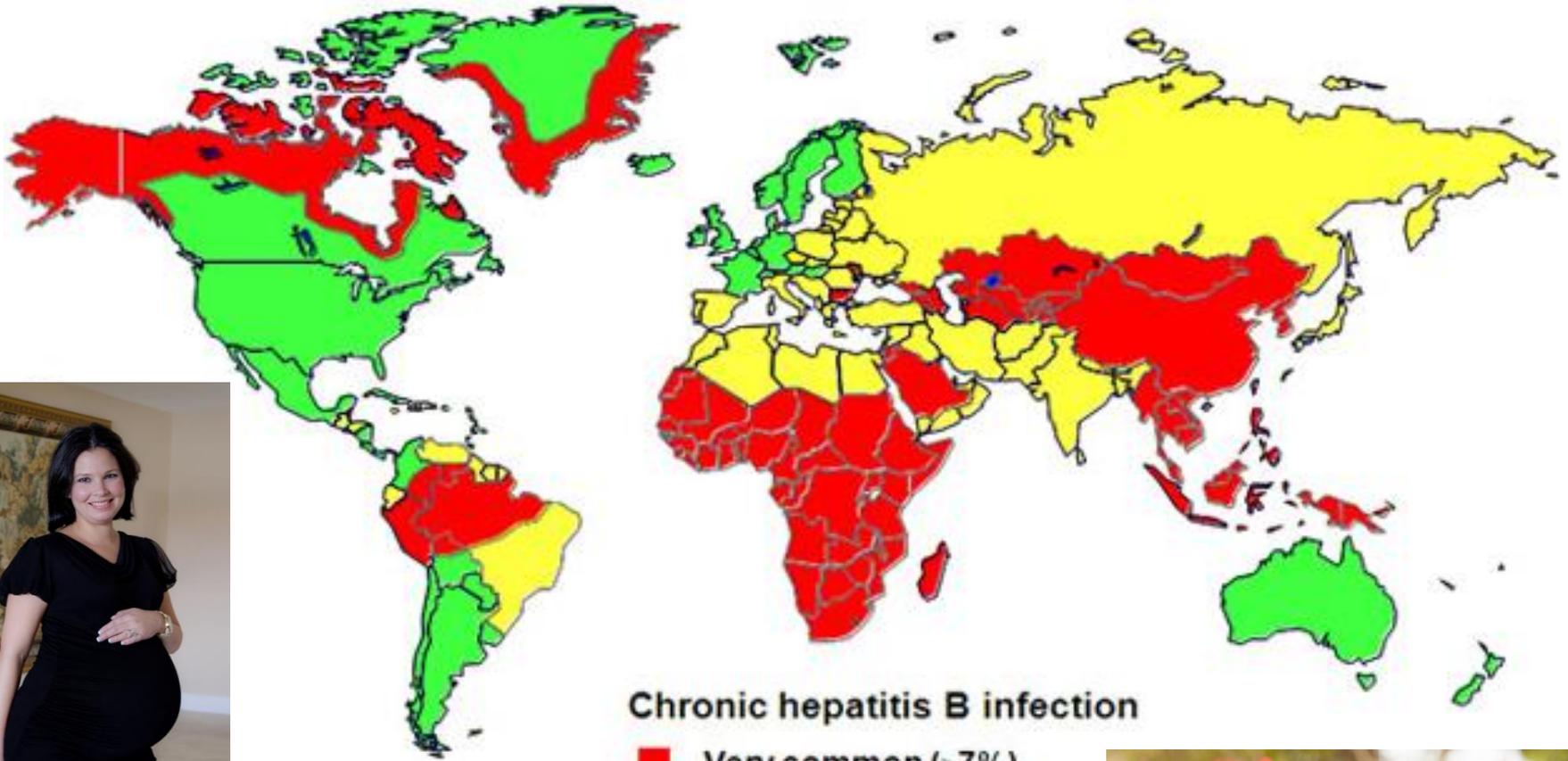


Chronic Hepatitis B in AZ



Average 5 Year Rate





By Eduardo Merille, Doug, UNICEF Ethiopia, Katsuhito Nojiri/ CC BY-SA 2.0

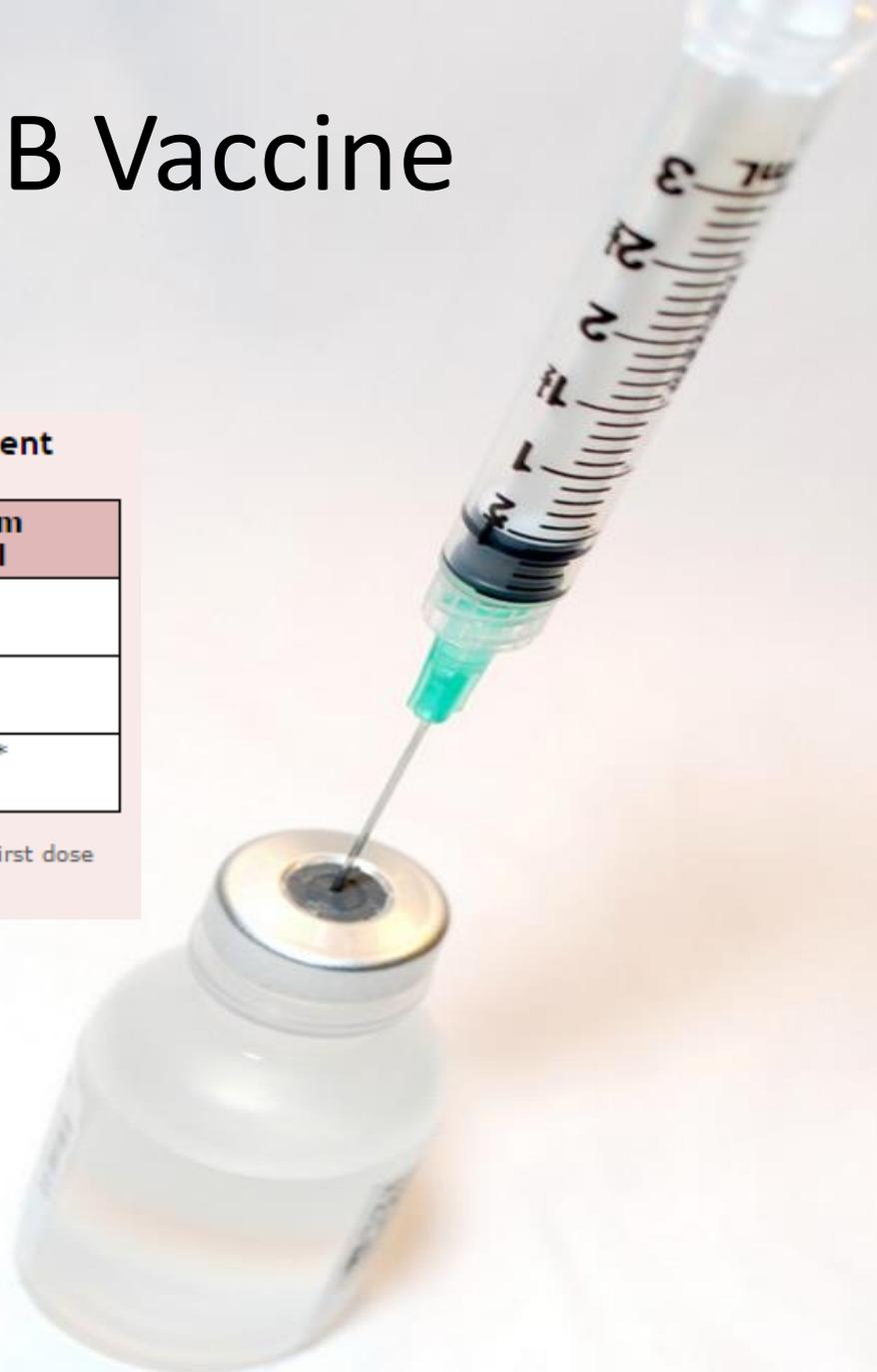
Hepatitis B Vaccine

3 dose series

Hepatitis B Vaccine Adolescent and Adult Schedule

Dose	Usual Interval	Minimum Interval
Primary 1	---	---
Primary 2	1 month	4 weeks
Primary 3	5 months	8 weeks*

*third dose must be separated from first dose by at least 16 weeks



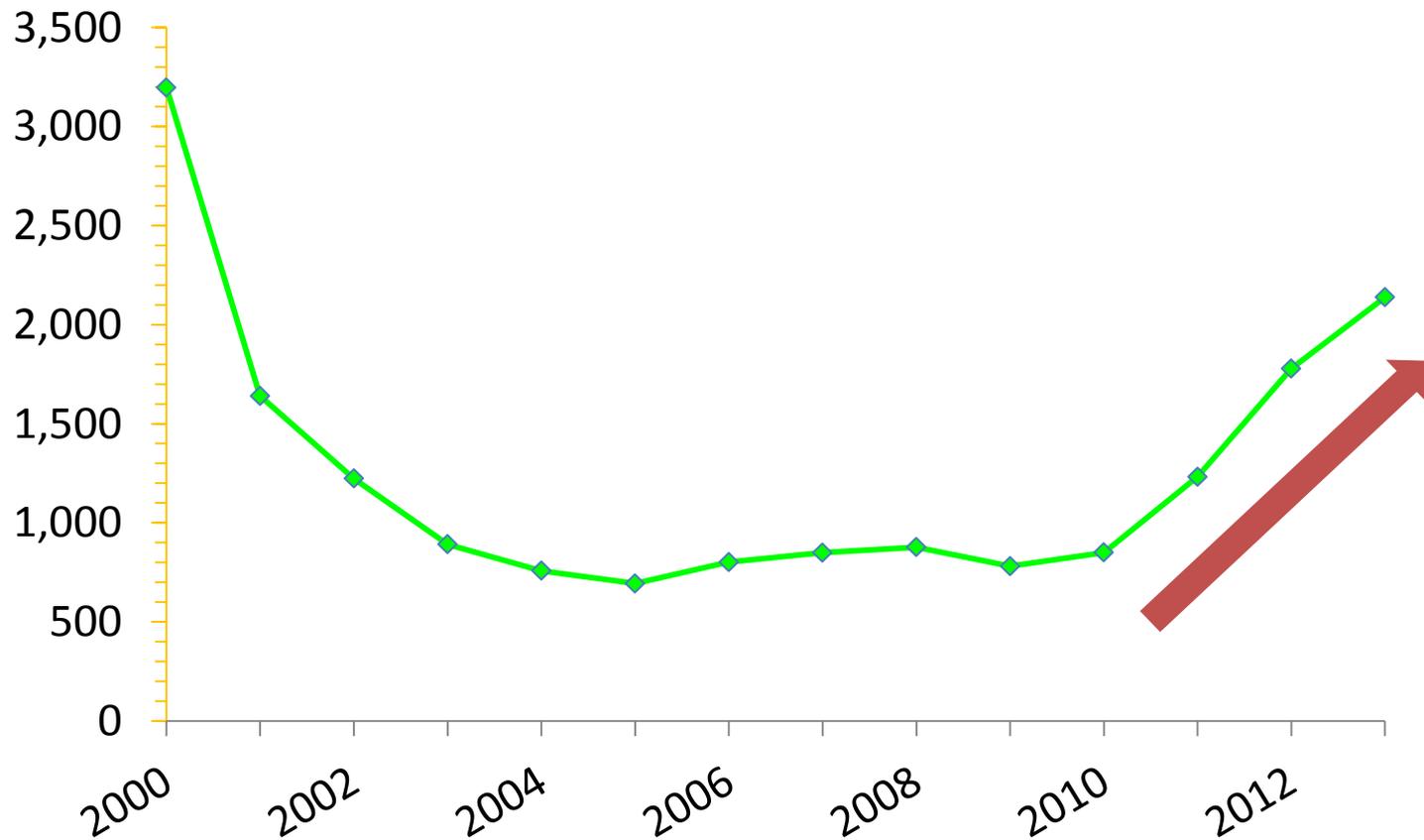
HEPATITIS C



Rising Numbers



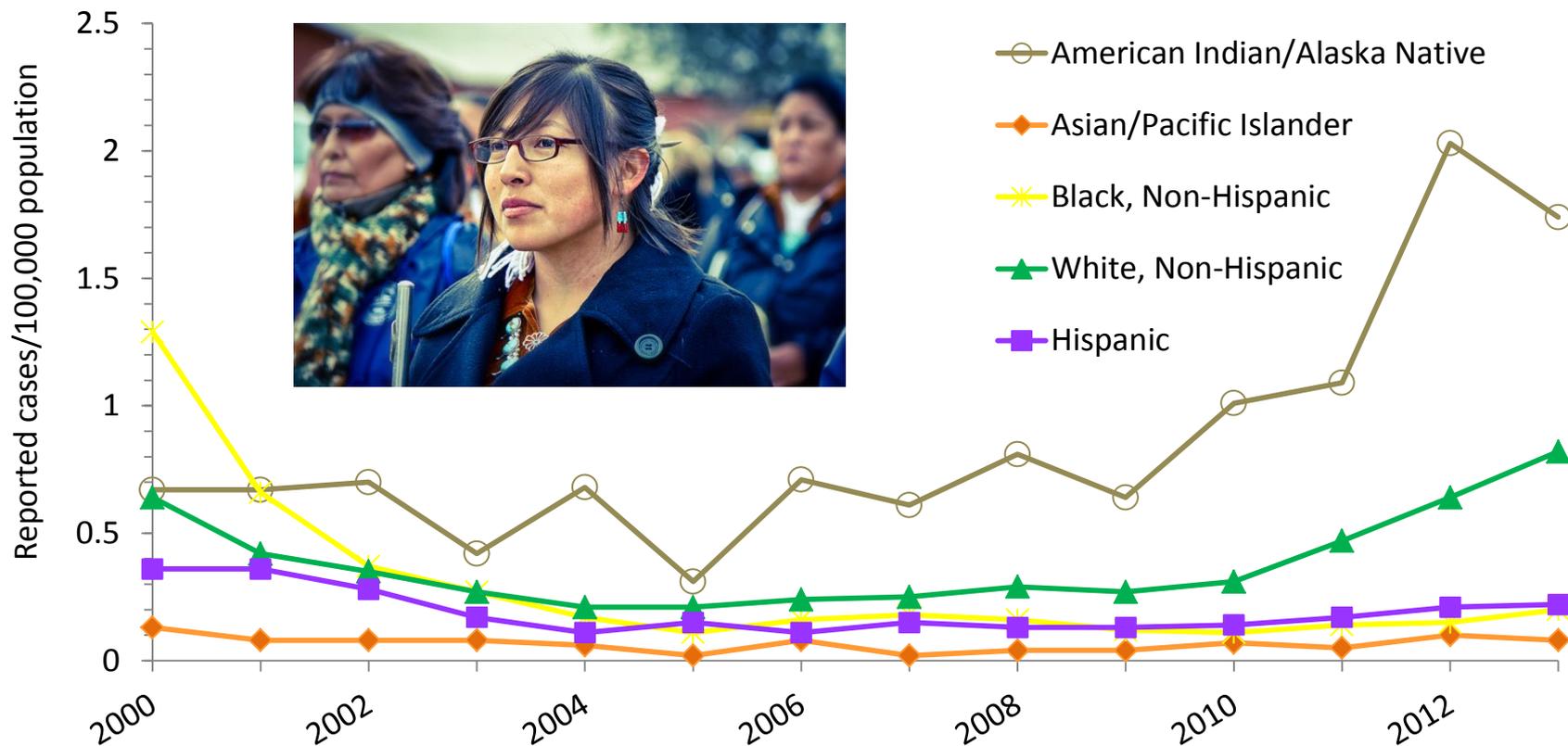
Acute Hepatitis C in U.S.*



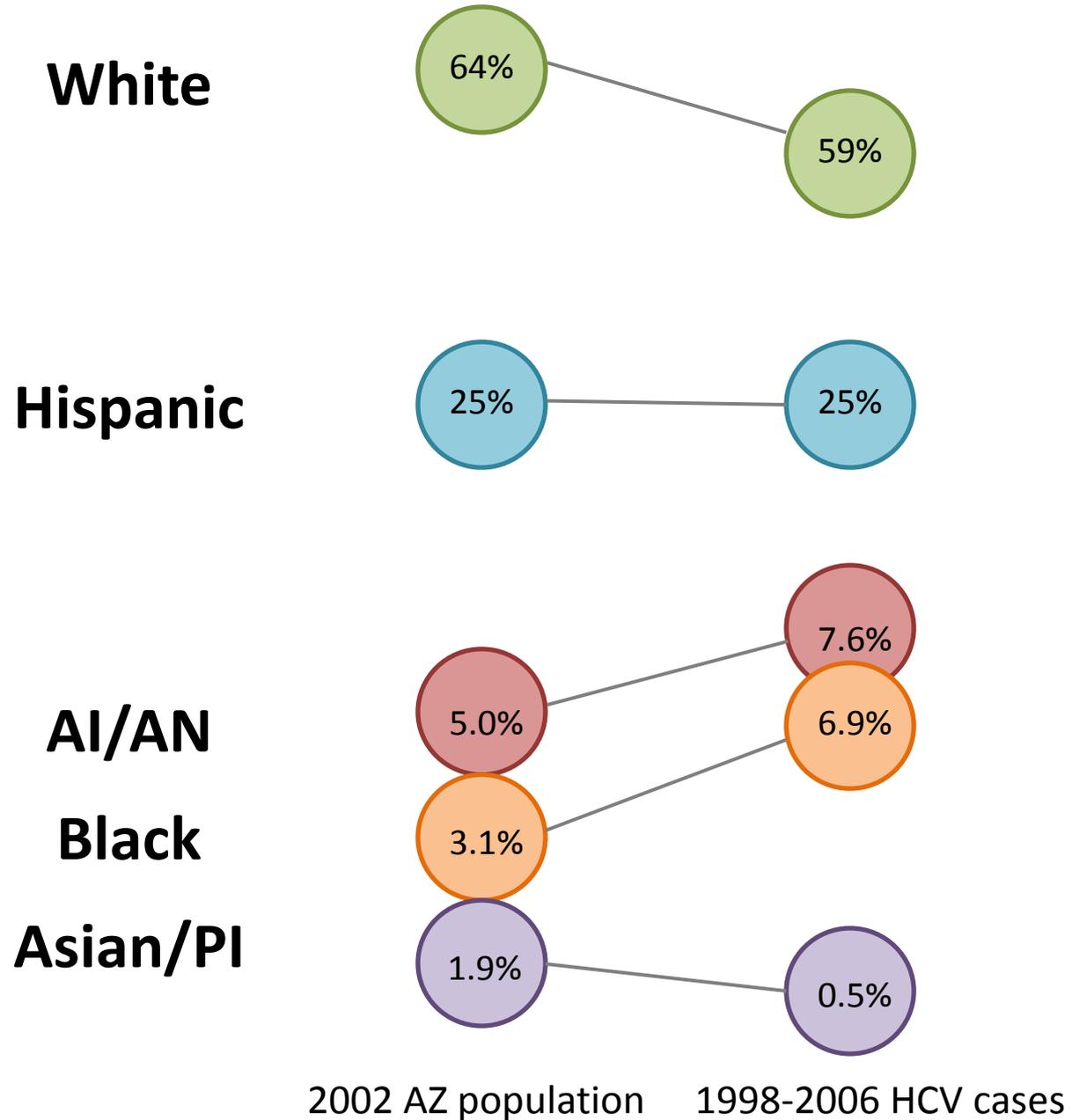
*Not all states report HCV to CDC

By FutUndBeidl/ CC BY-SA 2.0, Mar Willard CC BY-SA 2.0, CDC

Acute Hepatitis C by Race/Ethnicity in U.S.

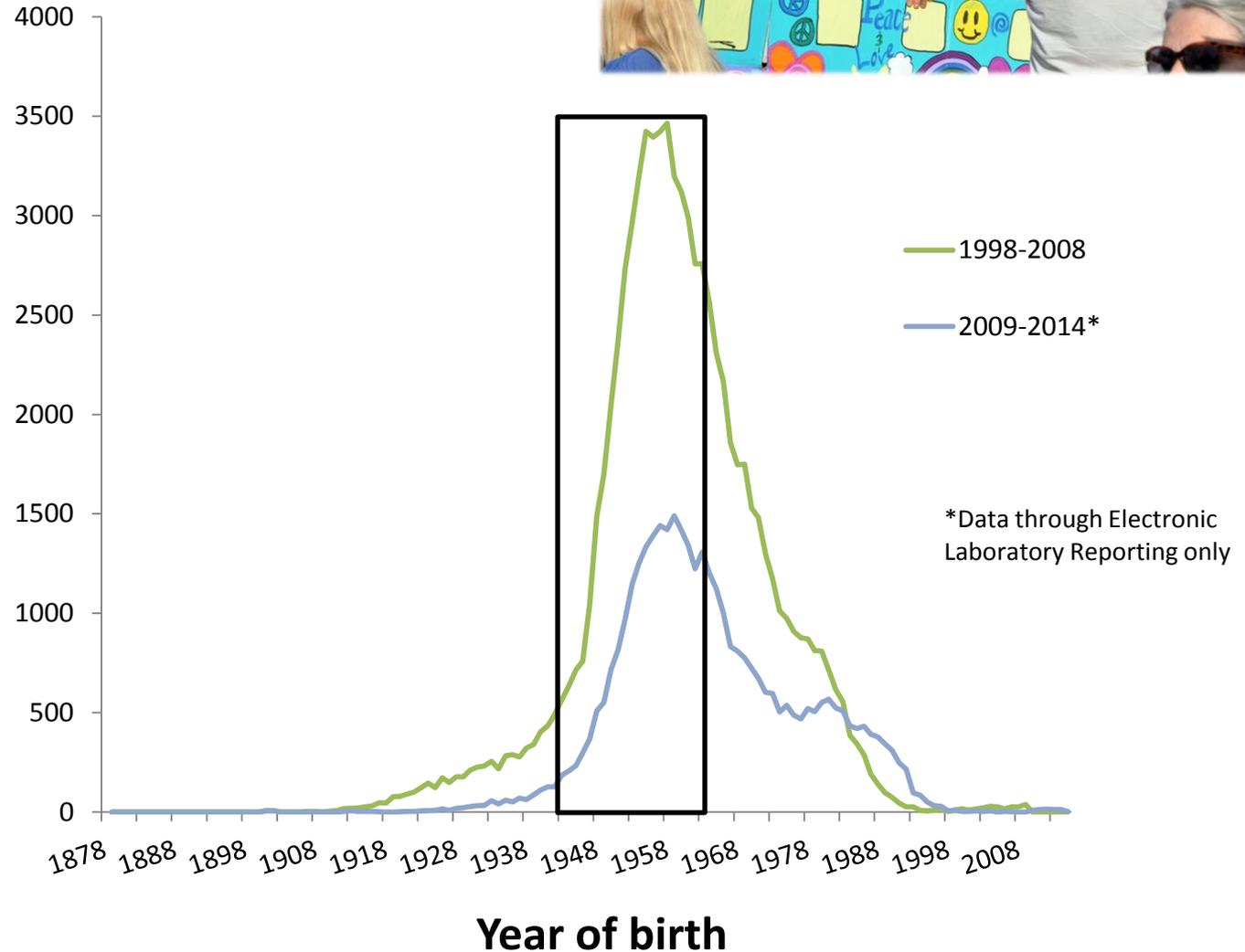


Hepatitis C by Race/Ethnicity in AZ

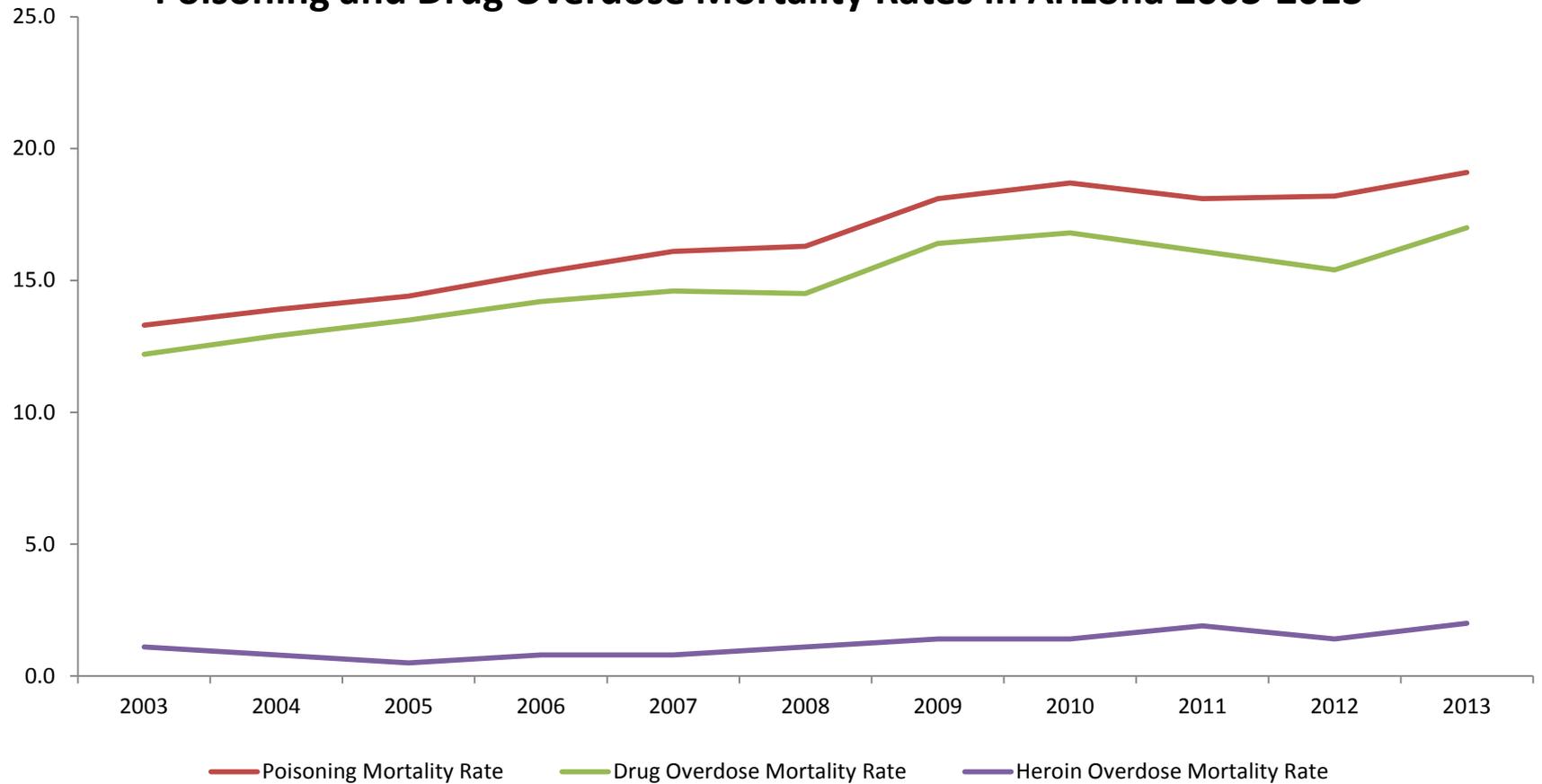


Hepatitis C in AZ

~10,000/year
66% male



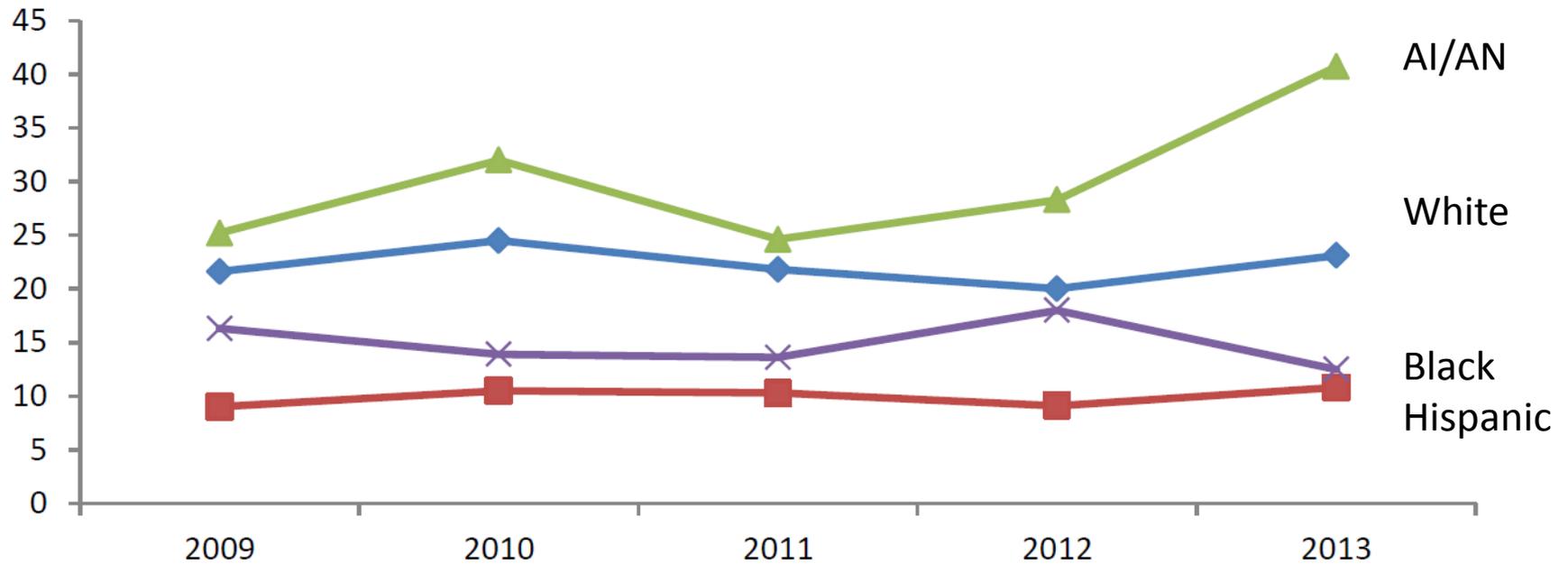
Poisoning and Drug Overdose Mortality Rates in Arizona 2003-2013



Poisons most commonly specified on death certificates in 2013 were pharmaceutical opioids, alcohol, and methamphetamines and other stimulants.



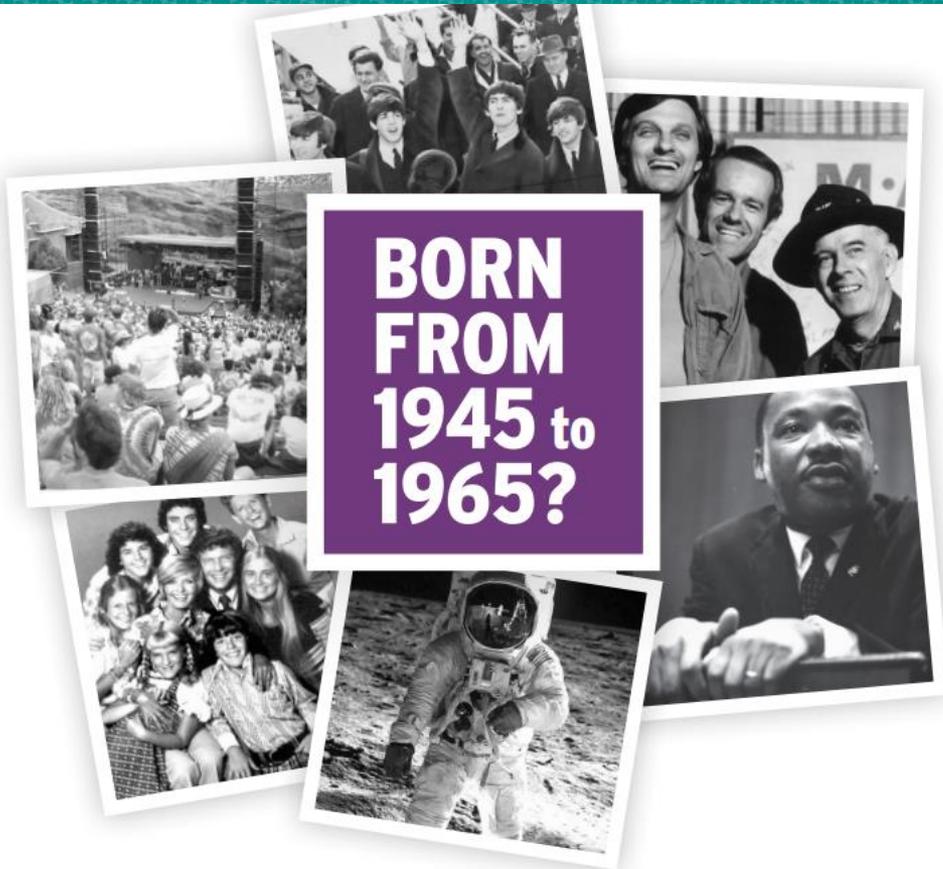
Age-Adjusted Poison Mortality Rates* by Race/Ethnicity in AZ



*per 100,000 population

ADHS Office of Injury Prevention: Poisonings among Arizona Residents 2013: <http://www.azdhs.gov/phs/owch/ipcfr/index.htm>





**BORN
FROM
1945 to
1965?**

BABY BOOMERS HAVE THE HIGHEST RATES OF HEPATITIS C.

Talk to your doctor about getting tested.
Early detection can save lives.



U.S. Department of
Health and Human Services
Centers for Disease
Control and Prevention

www.cdc.gov/knowmorehepatitis

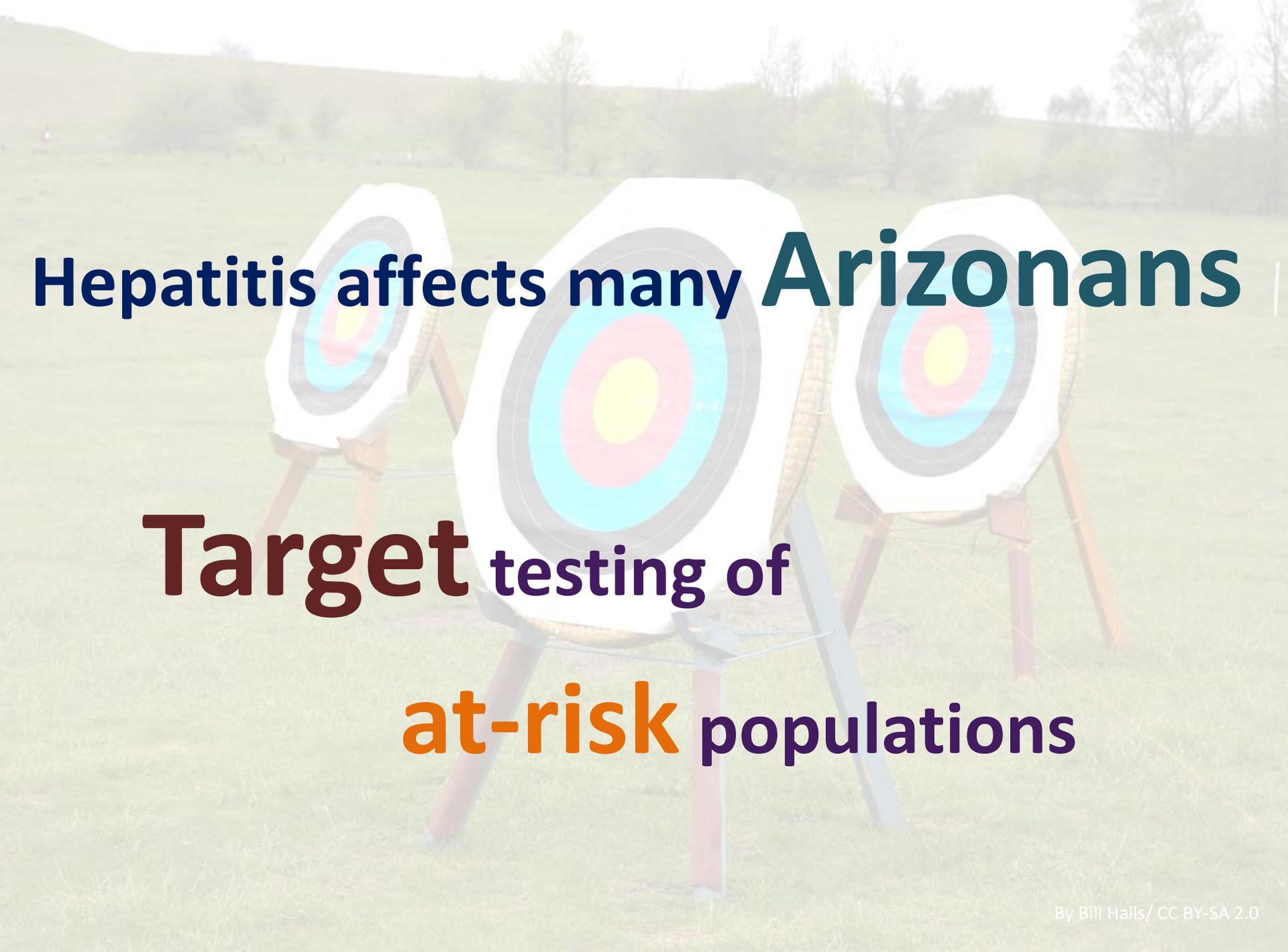


CDC Know More Hepatitis Campaign

<http://www.cdc.gov/knowmorehepatitis/>





The background of the slide is a photograph of three archery targets on a grassy field. The targets are white with concentric rings of yellow, red, blue, and black. They are mounted on wooden tripods. The field is green and there are some trees in the distance under a clear sky.

Hepatitis affects many **Arizonans**

Target testing of
at-risk populations

Hepatitis – AI/AN Collaborations, North Dakota

Enhanced screening among one Tribal Area

	No. Tests Positive	No. Tests Ordered	Percent Positivity
Chlamydia	218	2,041	10.7%
Gonorrhea	71	2,041	3.5%
Syphilis (RPR)	59	1,933	3.1%
HIV	0	1,916	0.0%
Hepatitis C	126	1,108	11.4%

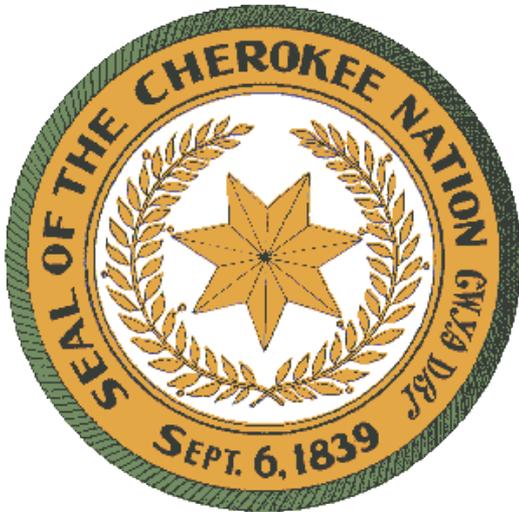
Hepatitis – AI/AN Collaborations, Alaska



Rapid Testing Project:

- 1,078 tested; 236 (22%) reactive
 - 213 AI/AN tested; 40 (19%) reactive
 - Referred to Alaska Native Tribal Health Consortium for follow-up

Hepatitis – AI/AN Collaborations, Oklahoma



In 2013, 4,312 persons 18-65 years old screened

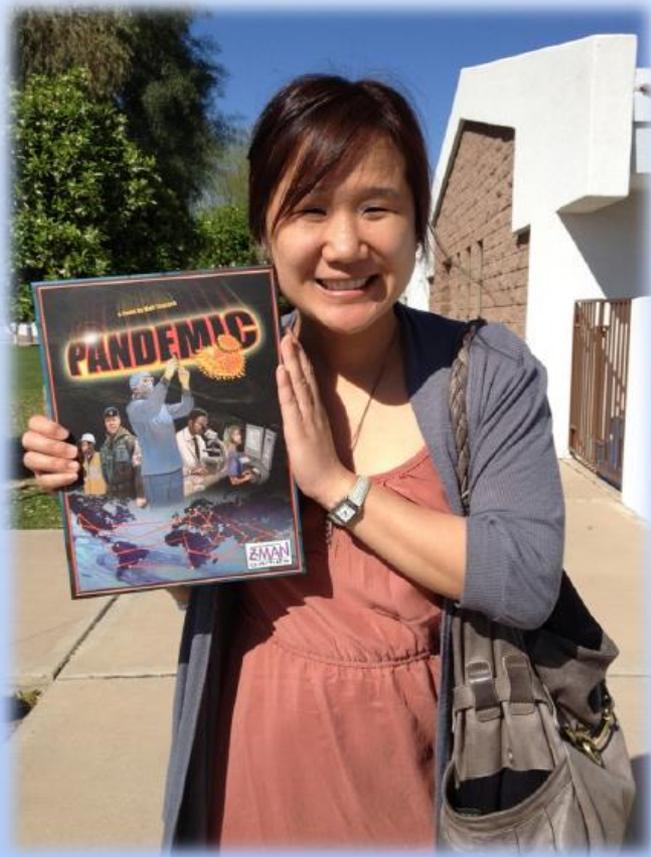
- 6% were seropositive for HCV

Launch of new CDC funded initiative

Goal: To improve health by eliminating HCV among AI/AN in the Cherokee Nation Health System by developing a community-based program to test, treat and cure HCV coupled with public awareness efforts to reduce new infections.

Clarisse Tsang

Viral Hepatitis Prevention Coordinator



- Manage the ADHS rapid HCV antibody testing program
- Educate about CDC/USPSTF recommendations to test at-risk populations for HBV and HCV and link people to care
 - Clinician honor roll
 - HCV resource directory
- Conduct epidemiological analysis to assess burden of HAV, HBV, and HCV in AZ
- Integrate hepatitis activities across ADHS
- **Website:** HepatitisAZ.org

**Where do we go
from here?**



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602-364-3817

Viral Hepatitis Program



1912

Home

About Viral Hepatitis

Hepatitis A >

Hepatitis B >

Hepatitis C >

Other Types of Virus Hepatitis

Hepatitis Awareness Month

Hepatitis Program - Home



May is Hepatitis Awareness Month! Find out where to get tested. Also read CDC's MMWR on the ongoing outbreak of HIV associated with injection drug use in which 84.4% are co-infected with hepatitis C!



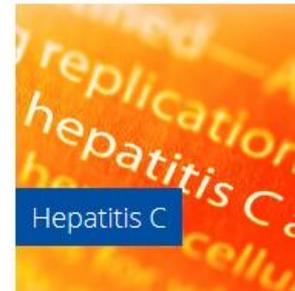
Hepatitis A

Learn more about this foodborne disease that affects the liver.



Hepatitis B

Find out more about this bloodborne pathogen that affects the liver.



Hepatitis C

Information about this common disease that is the leading cause of liver cancer.



Other Types

Info about lesser-known forms of viral hepatitis that also affect the health of the liver.



www.HepatitisAZ.org

The Viral Hepatitis Program is located within the Office of Infectious Disease Services, under the Bureau of Epidemiology and Disease Control. The goal of the Viral Hepatitis Program is to increase awareness amongst those at risk for viral hepatitis about the disease, to detect hepatitis cases and link them to care, to improve education amongst healthcare providers to test at-risk populations, to investigate potential hepatitis exposures and implement control measures, to improve surveillance and understanding of viral hepatitis in Arizona. The Viral Hepatitis Program works with local, state, and federal partners in implementing the goals of the national action plan to combat the silent epidemic of viral hepatitis.