



INSTITUTE OF HUMAN VIROLOGY



Liver Cancer and Viral Hepatitis: Maryland Overview

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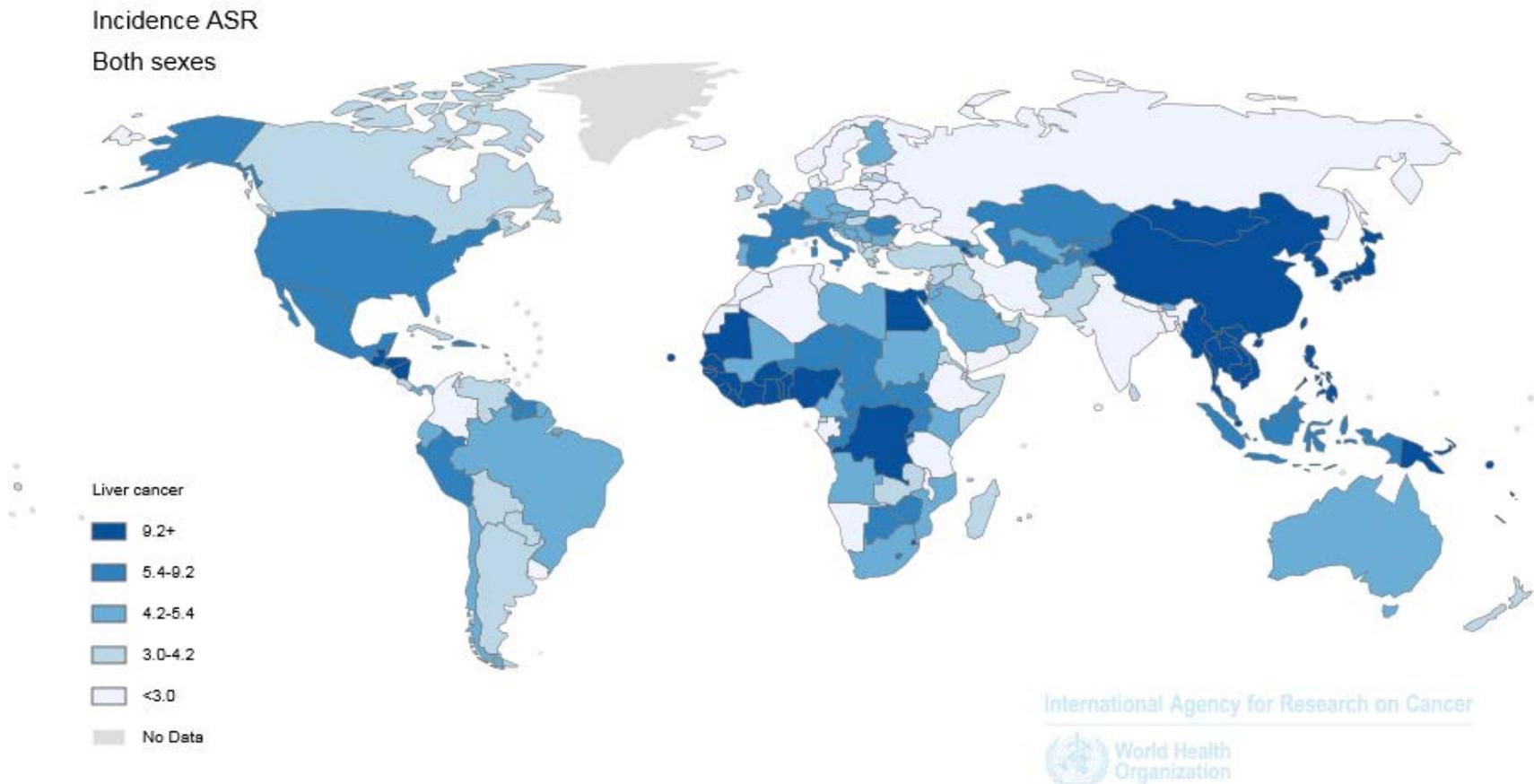
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BACKGROUND

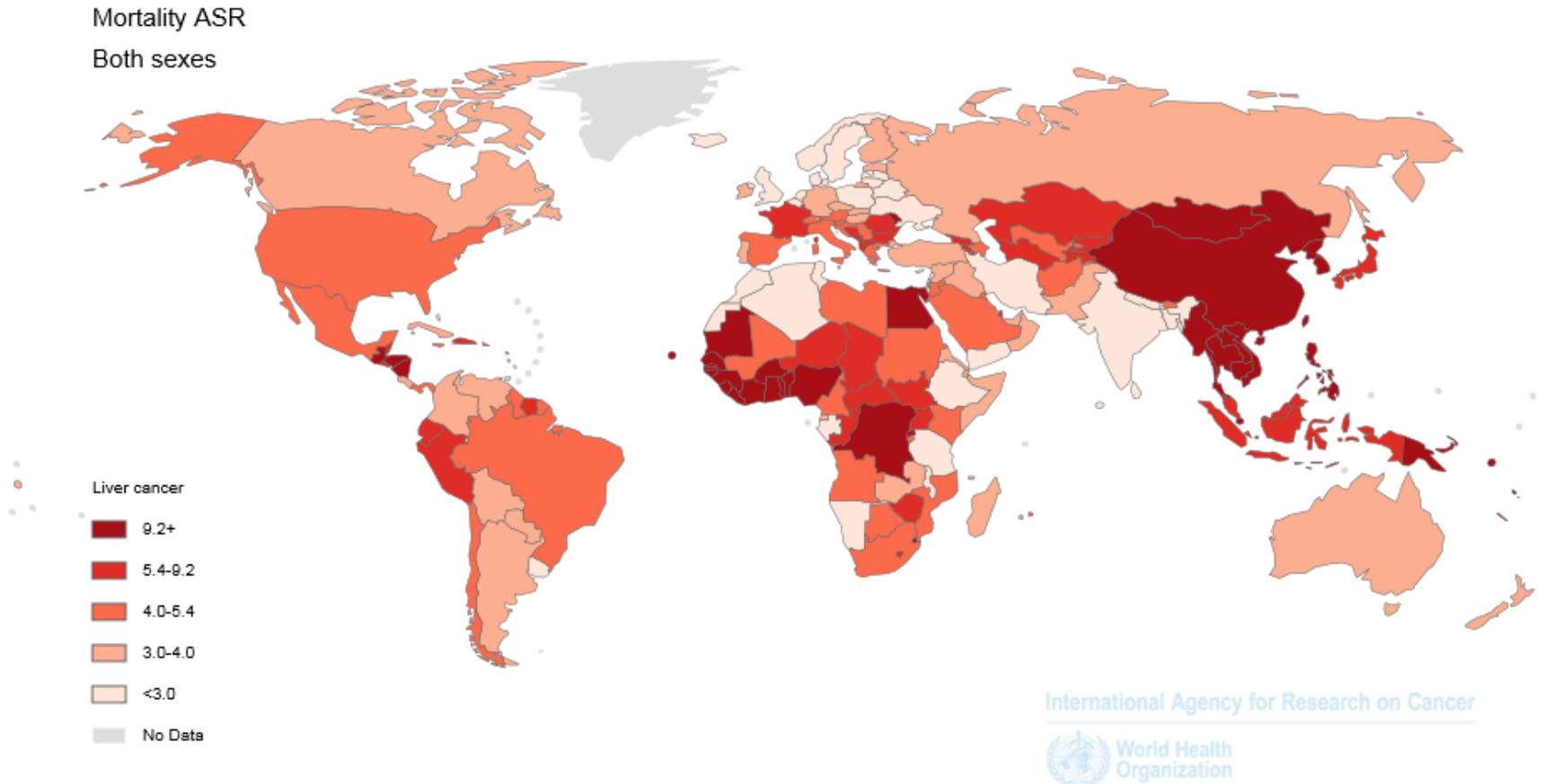
- ❑ Hepatocellular carcinoma is rising in incidence globally and tripled in the US over the last 3 decades.
- ❑ Hepatocellular carcinoma is the 5th most common cancer and 2nd most common cause of cancer mortality worldwide
- ❑ Viral hepatitis is a significant risk for developing HCC
- ❑ Hepatitis viruses may have direct and indirect effects of hepatic carcinogenesis

INCIDENCE OF LIVER CANCER



Source: GLOBOCAN 2012 (IARC)

MORTALITY OF LIVER CANCER



Source: GLOBOCAN 2012 (IARC)

LIVER CANCER IN MARYLAND

- ❑ MD Mortality Trend : Rising 4.1%/ year since 2004*
- ❑ MD Comparable to US Incidence Rate 7.9 versus 7.8/100,000 (2010-2014)*
- ❑ MD Comparable to US Mortality Rate 6.5 versus 6.3/100,000 (2014)*
- ❑ Stage distribution and **5 Year Survival**

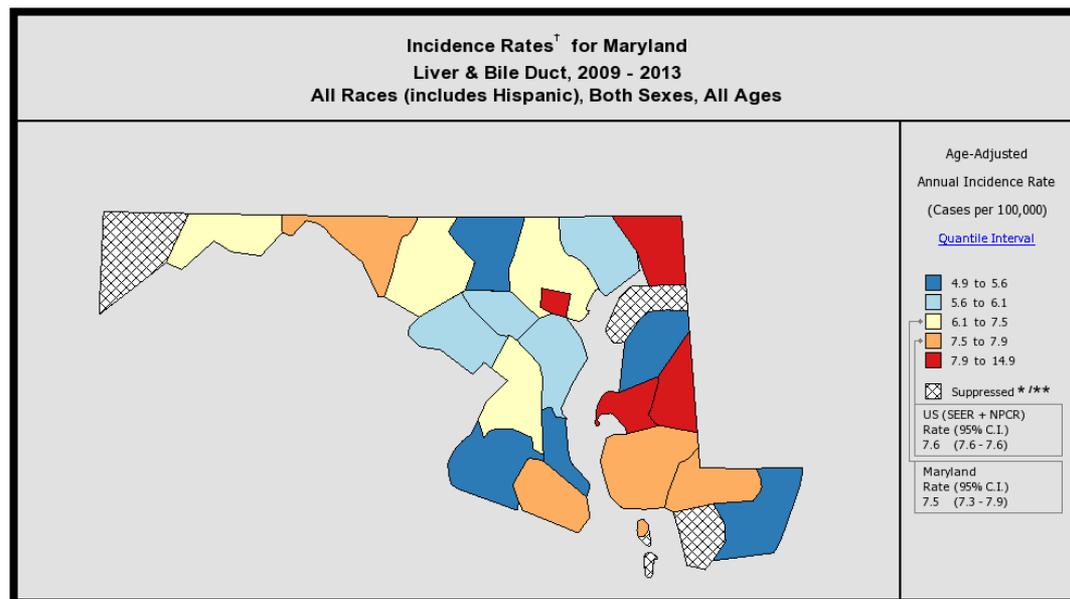
- 43%, **31%** local
- 27%, **11%** regional
- 18%, **3%** distant

❑ Risk factors:

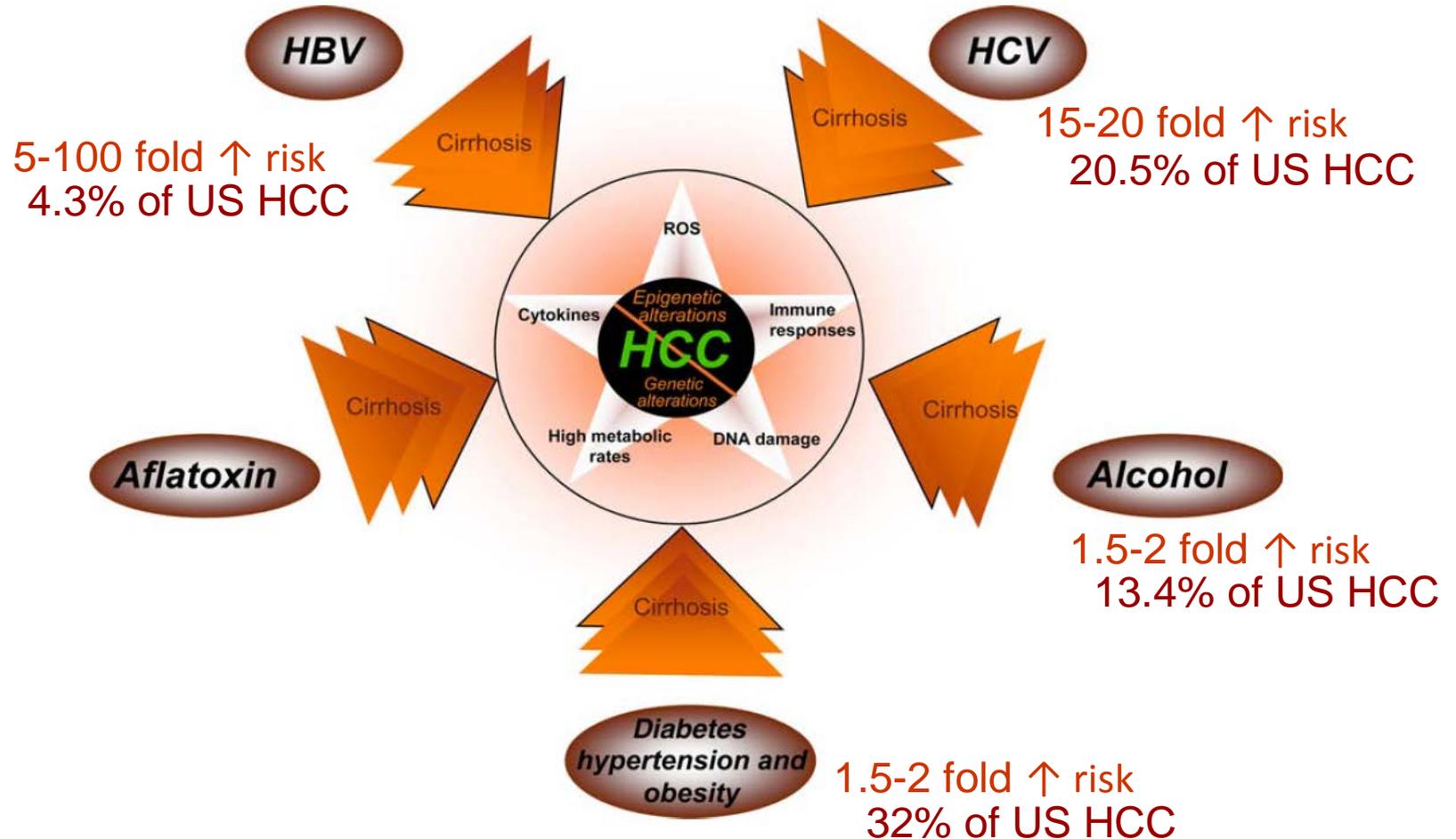
Chronic Hepatitis B and C,
Cirrhosis, EtOH, Obesity, Diabetes
Aflatoxin, Toxins, Anabolic steroids,
Tobacco use, Parasites ***

❑ Populations at risk:

- 45+ years, males
- Asian Americans, Pacific Islanders, Hispanics



RISK FACTORS FOR HCC



GLOBAL HEPATITIS C EPIDEMIOLOGY

Prevalence:

71 million people with chronic HCV infection

Incidence:

1.75 million people newly infected each year

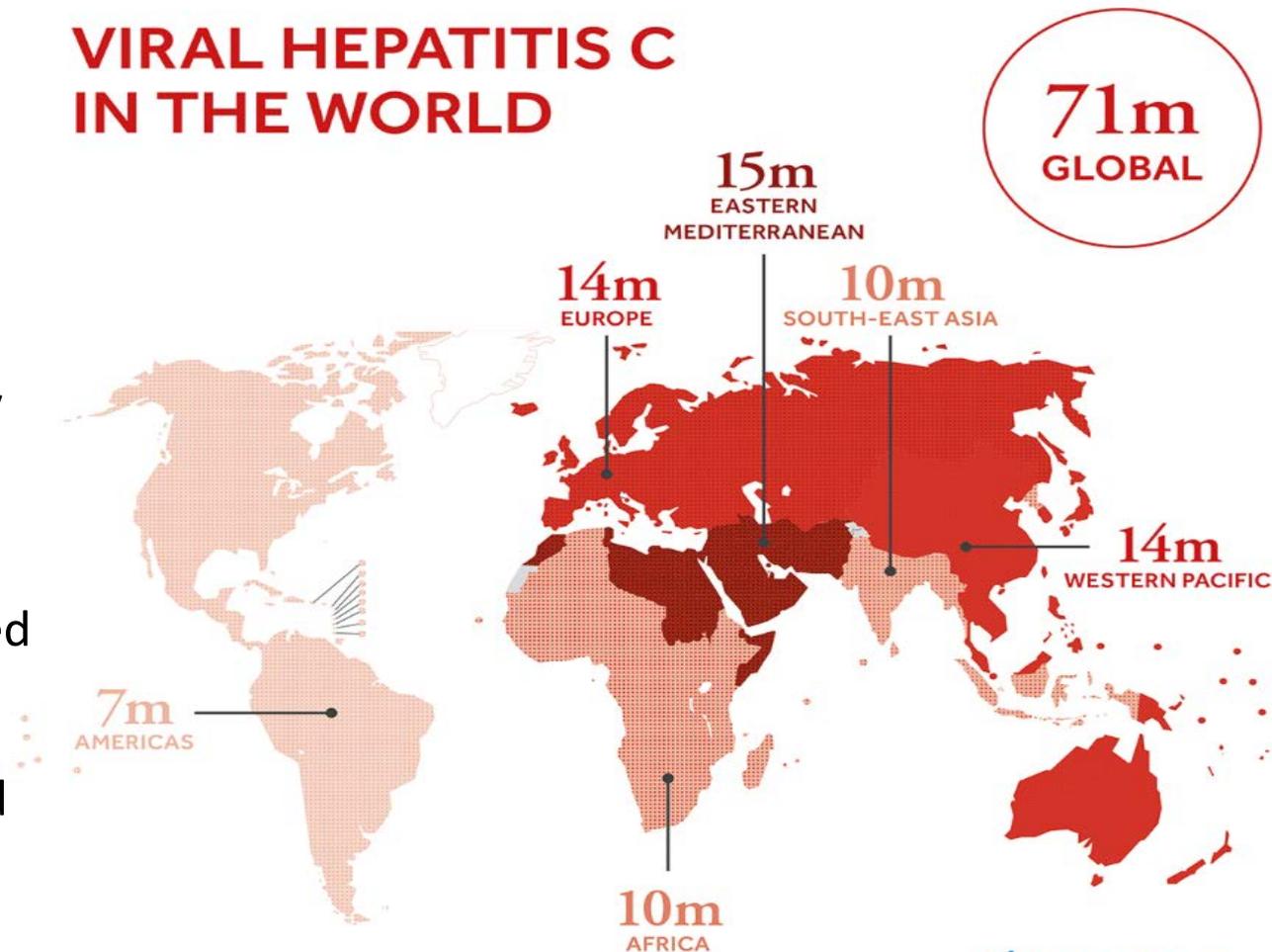
Aware:

14 million (20%) diagnosed

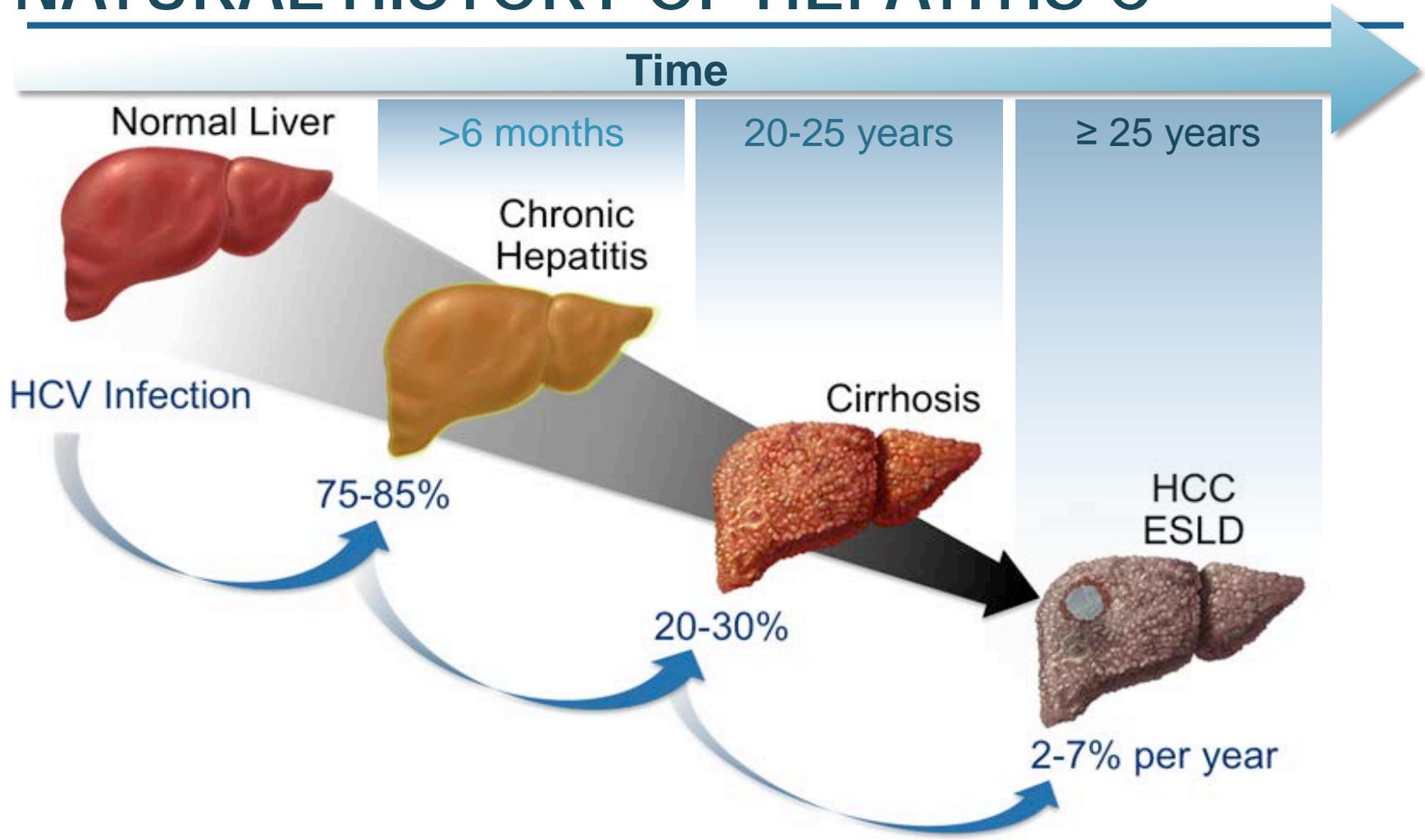
Treated:

2.76 million (<4%) treated

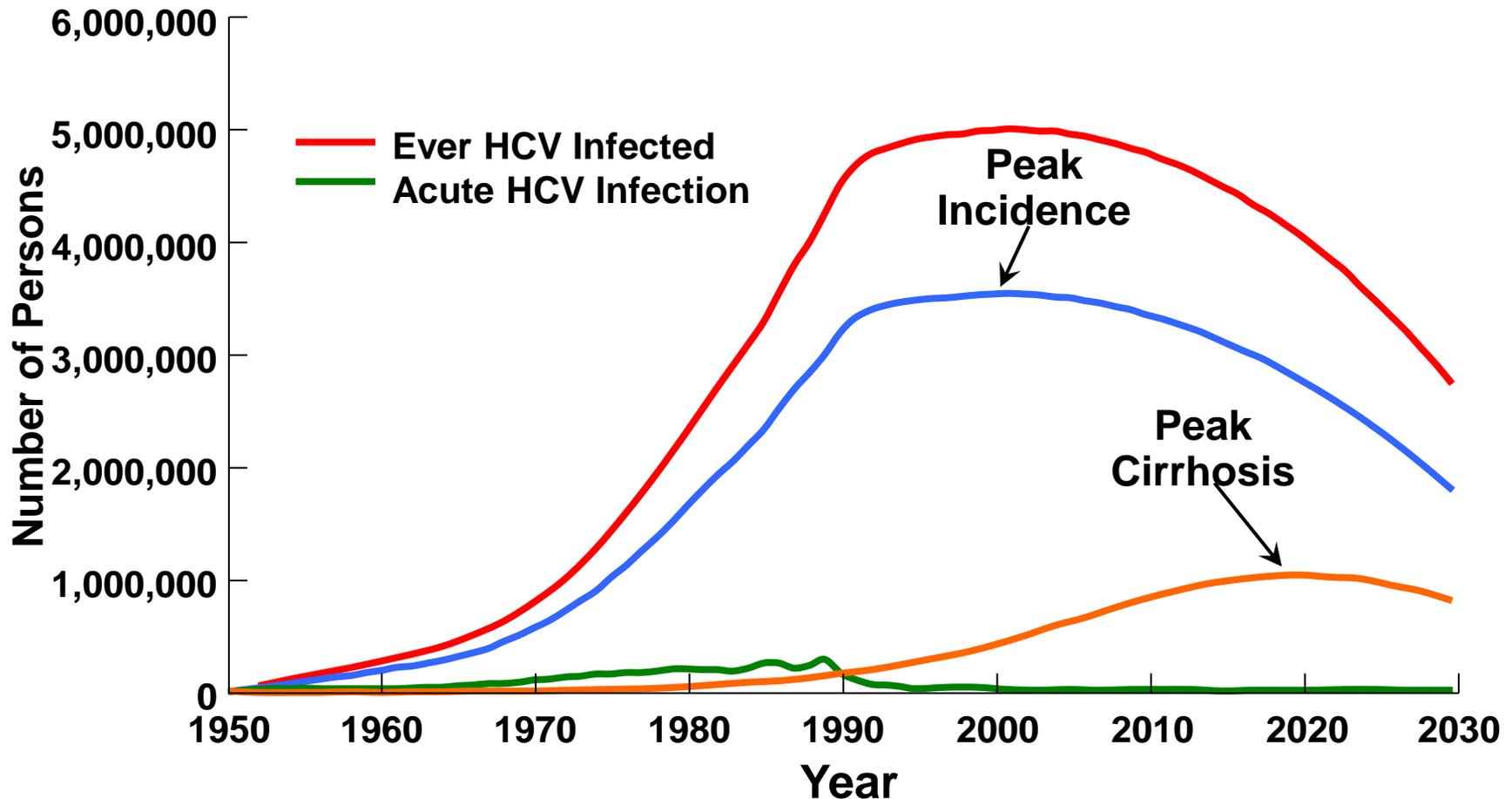
VIRAL HEPATITIS C IN THE WORLD



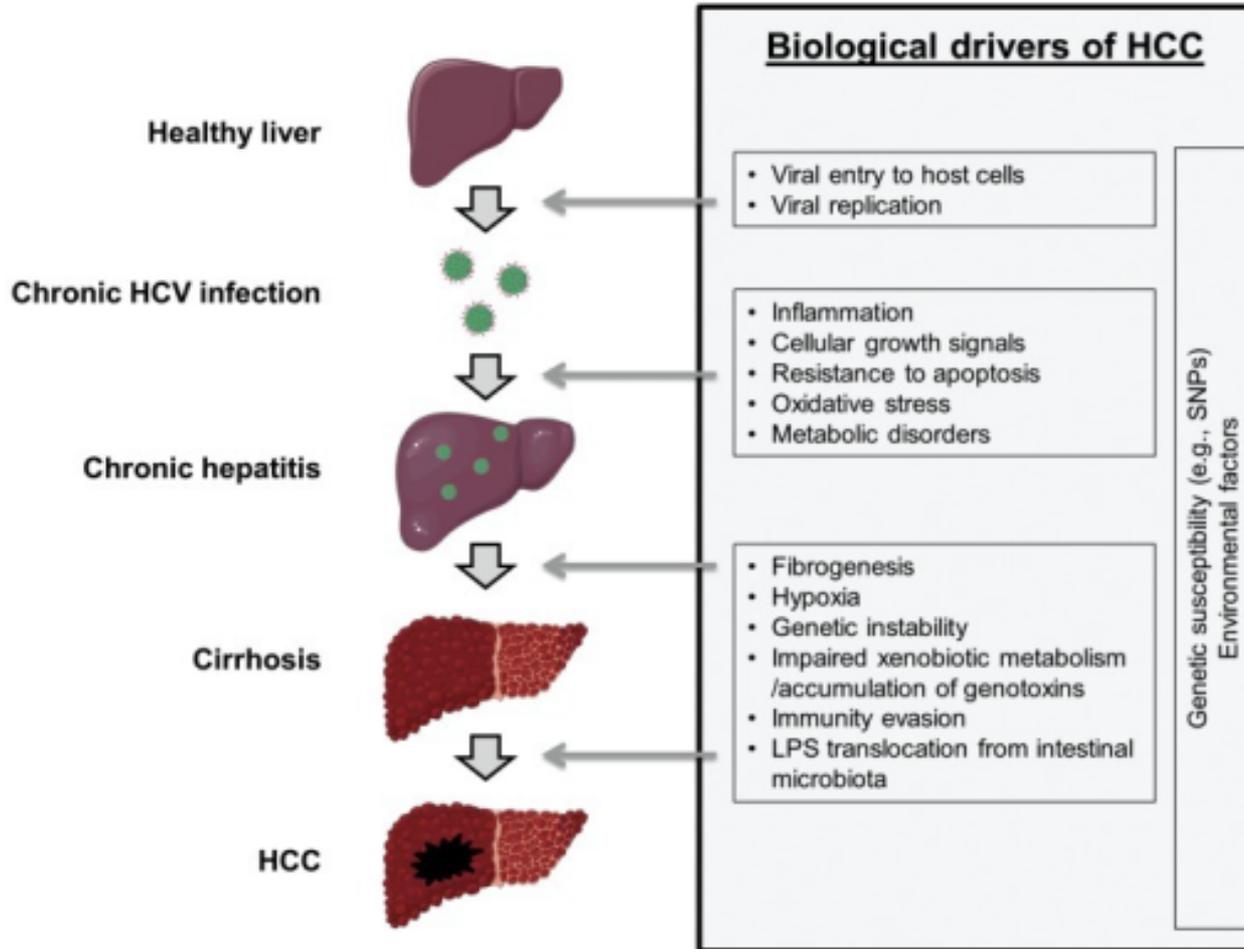
NATURAL HISTORY OF HEPATITIS C



THE CHANGING FACE OF HEPATITIS C



BIOLOGICAL DRIVERS OF HCC



HEPATITIS C IN MARYLAND

❑ Acute HCV infections – Stable over 2011-2015

- 35 in 2011, 38 in 2015
- 0.7/100,000 in 2012

❑ Chronic HCV infections are rising

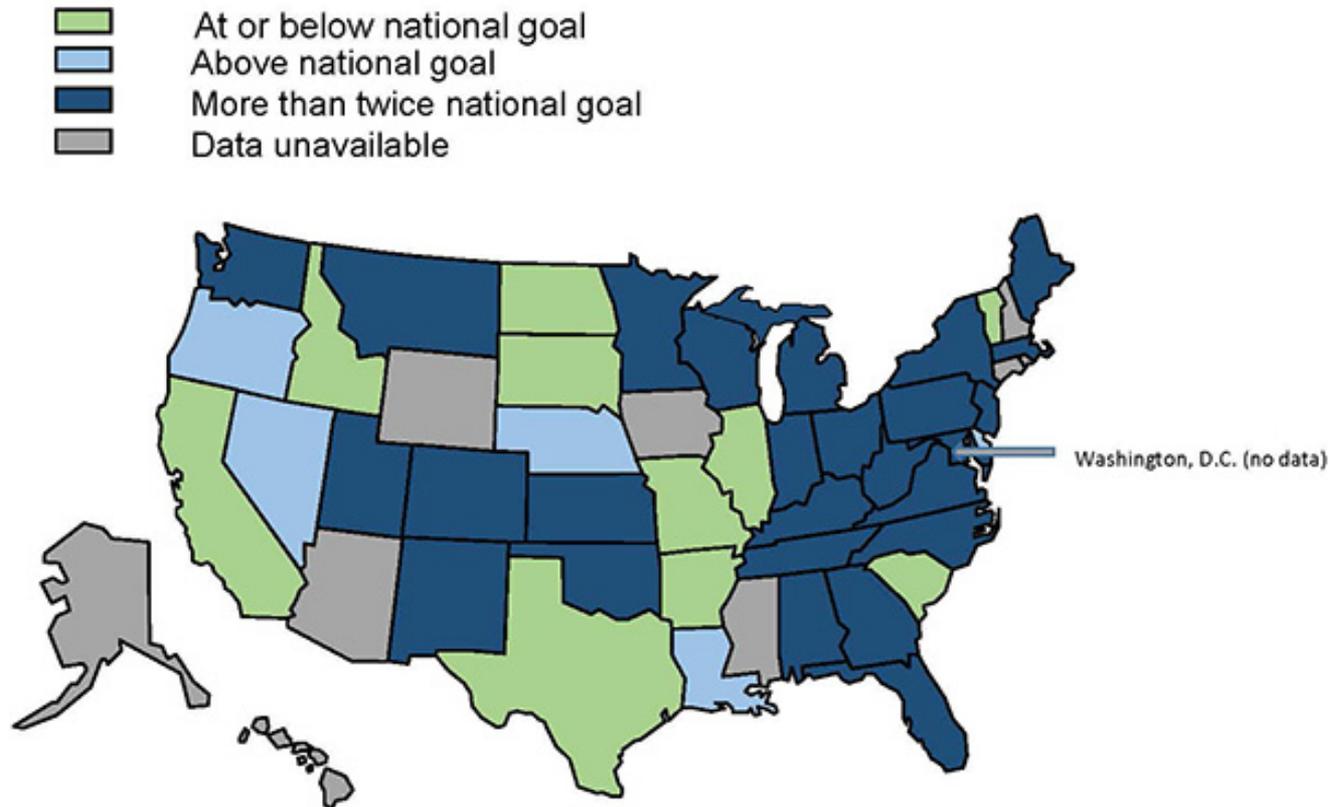
- 7,425 reports of past/present HCV infection 2015
- IVDU is the primary risk factor

❑ MD PHPA estimates 47,000-73,000 Marylanders with HCV

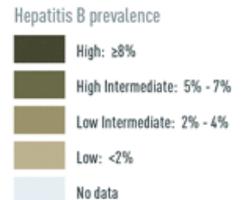
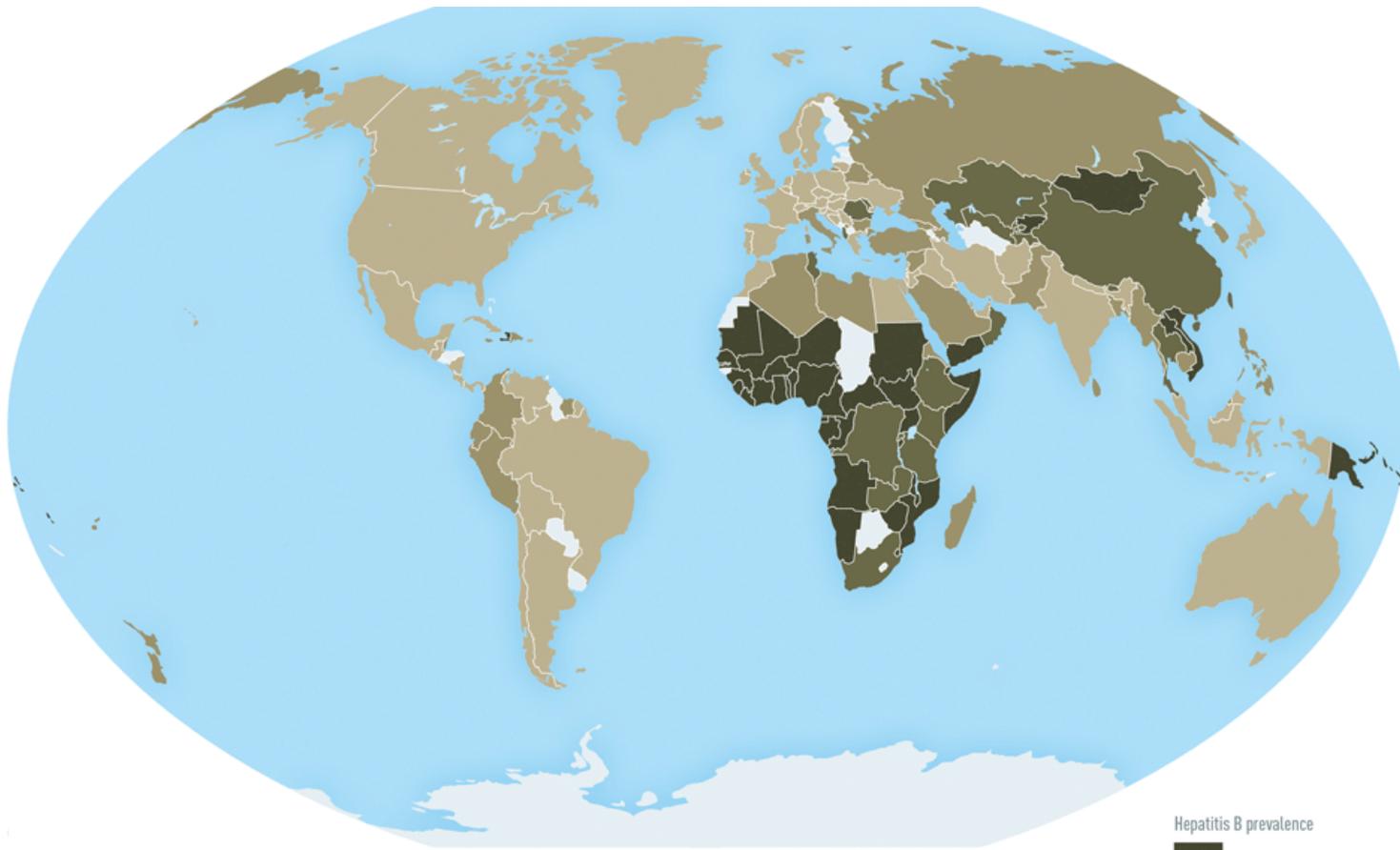
- Highest rates (55%) in Baltimore City and Baltimore County: 26,000-40,000 estimated

HEPATITIS C IN MARYLAND

Map 4.1. 2015 State Acute Hepatitis C Incidence Compared to Healthy People 2020 National Goal*



ESTIMATED 248 MILLION PEOPLE WITH HBVSAG+



HEPATITIS B IN THE UNITED STATES

Figure 3.1. Reported number of acute hepatitis B cases— United States, 2000–2015



Source: National Notifiable Diseases Surveillance System (NNDSS)



Figure 3.2. Incidence of acute hepatitis B, by age group — United States, 2000–2015



Source: National Notifiable Diseases Surveillance System (NNDSS)



HEPATITIS B IN MARYLAND

❑ Acute HBV infections – Down 36% from 2011 to 2015

- 62 in 2011, 40 in 2015
- 0.6-0.9/100,000 in 2011/2012
- IVDU and Sexual transmission two largest risk factors

❑ Chronic HBV infections – 566 reported in 2015

- US prevalence is approximately 0.4%
- Prevalence within immigrant populations more closely resembles the HBVsAg + prevalence of the country of origin

HEPATITIS B IN MARYLAND/DC: TIGER STUDY

- ❑ The TIGER Study examined HBV prevalence among the African and Asian immigrant population in DC/Maryland
- ❑ Screening took place at community health fairs from Jan 2016 – Feb 2017 and involved HIV/HBV/HCV testing and linkage to care

- ❑ HBV – 2845 screened, 119 positives (4.18%)
 - all but 3 were new diagnoses
 - 32 (27%) were African, 87 (73%) were Asian
 - Median Age 52 (43-63), 50.4% were Male, 29.5% had insurance

- ❑ HCV – 2907 screened, 48 Ab+, 27 RNA+ (0.929%)

- ❑ HIV – 2746 screened, 5 Reactive (0.018%)

CHALLENGES TO ADDRESSING LIVER CANCER IN MARYLAND

- Screening for and diagnosis of predisposing factors, including viral hepatitis, alcohol use, and fatty liver disease
- Linkage and Access to care
- Treatment and Prevention of Viral Hepatitis
- Screening for Hepatocellular Carcinoma