

Hepatitis & Liver Cancer: a focus on the African community in NYC

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Outline

- 1) What is hepatitis?
- 2) What is liver cancer?
- 3) What causes liver cancer?
- 4) How does this affect the African community in NYC?

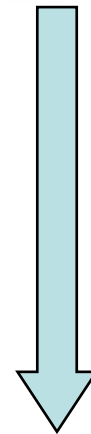
Hepatitis B and C

- Hepatitis B and C are viruses that damage the liver
- Transmitted through blood / body fluids
- Can cause chronic, long term infection leading to cirrhosis, scarring of the liver
- Usually no symptoms

Healthy liver



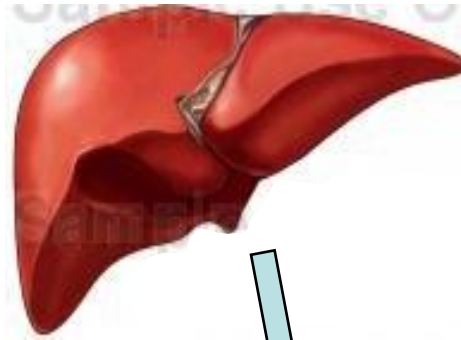
Liver damage:
hepatitis B
hepatitis C



Cirrhosis



Liver damage:
Hepatitis B or C,
alcohol
diabetes/obesity



Cirrhosis



Direct injury
by hepatitis B

Liver
cancer



Liver
cancer



Liver Cancer

- Liver cancer = hepatocellular carcinoma (HCC)
- HCC is a tumor that originates in the liver, and can then spread to other organs



HCC

- Worldwide, HCC is 2nd leading cause of cancer deaths
- 80% of cases of HCC occur in countries outside the US
- HCC usually occurs in individuals with some underlying liver disease: hepatitis B, hepatitis C
- There are striking differences in the global distribution of hepatitis and therefore in the rates of HCC

HCC

- Hepatitis B have different patterns of transmission:
- In the USA, most cases are related to the hepatitis C virus
- But worldwide, the vast majority of HCC cases are caused by the hepatitis B virus

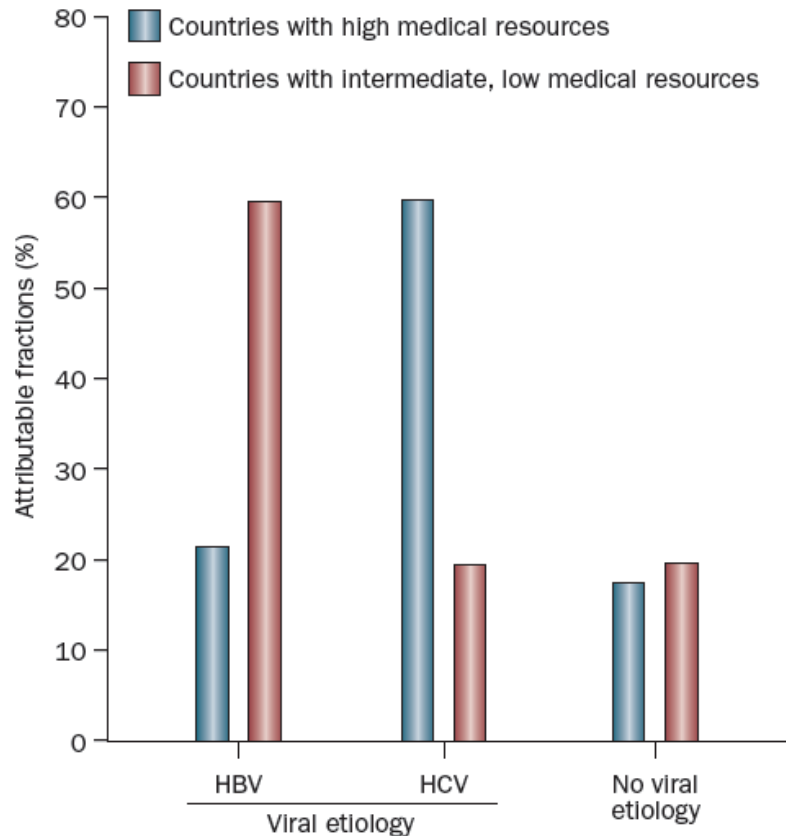
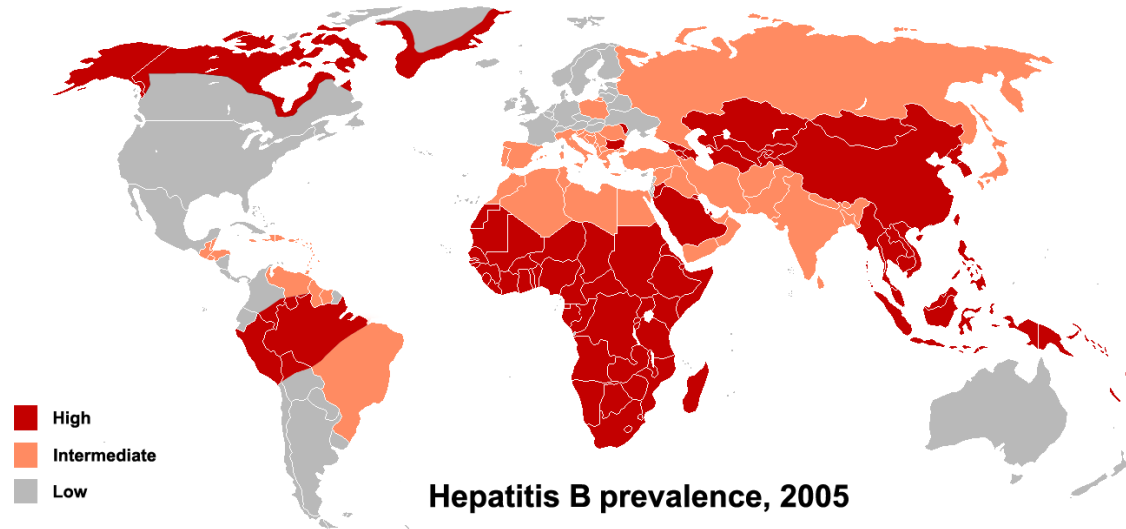


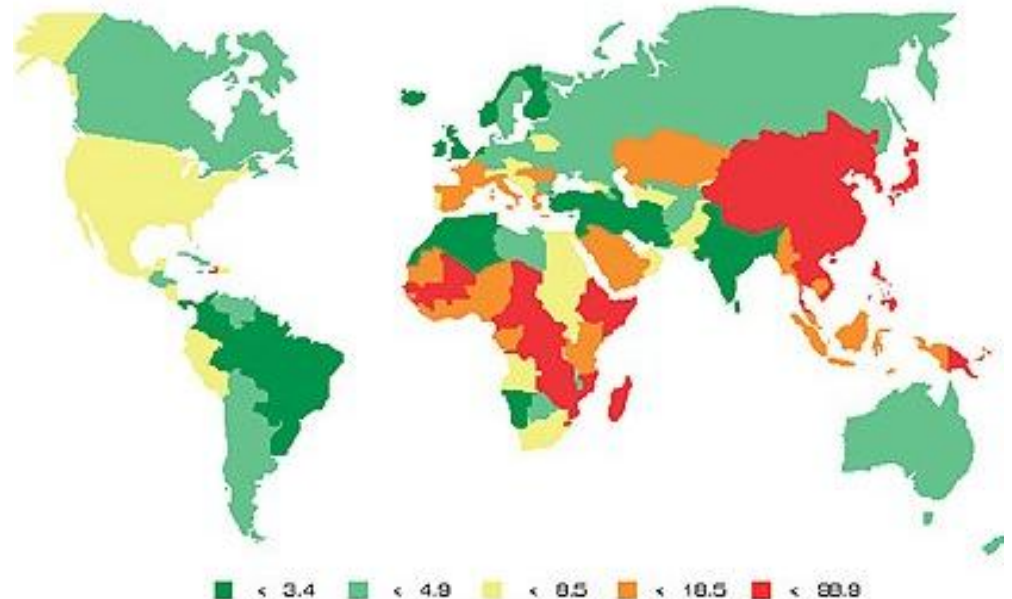
Figure 3 | Estimated attributable fractions of primary hepatocellular cancers with a viral etiology in countries with different levels of medical resources (data from Bosch *et al.* [2004]).¹³ US and European countries were classified as having high-resource levels and Asian and African countries (except for Japan) were classified as having intermediate- or low-resource levels.

HCC

- Hepatitis B is endemic in China and sub-Saharan Africa
- As a result, the greatest number of HCC cases occur in these regions
- As a result, people who emigrate from high-risk areas, to low-risk areas may face a “disconnect” in health care



Age-Standardized incidence rate per 100,000



Aflatoxin

- Fungus that affects corn, peanuts, spices that are stored improperly
- Aflatoxin interacts with the hepatitis B virus to multiply the risk of HCC development
- Aflatoxin exposure is high in China and Africa, especially in rural areas

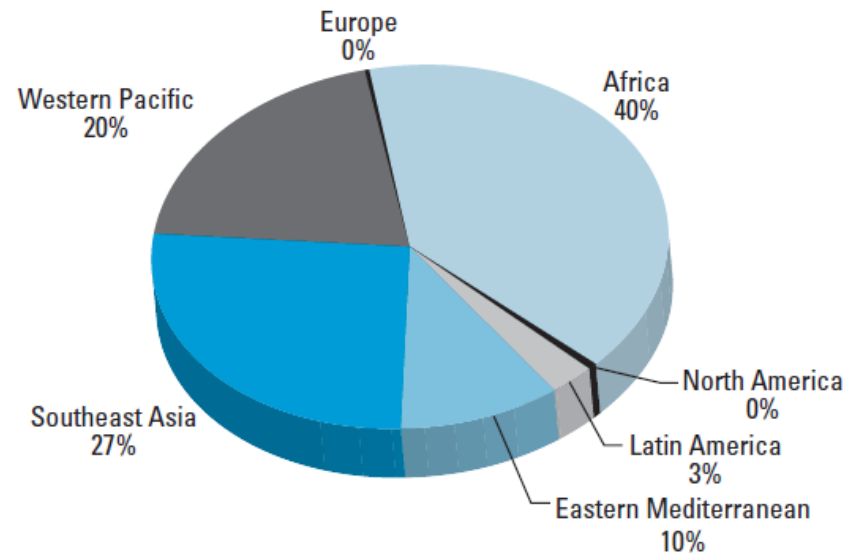
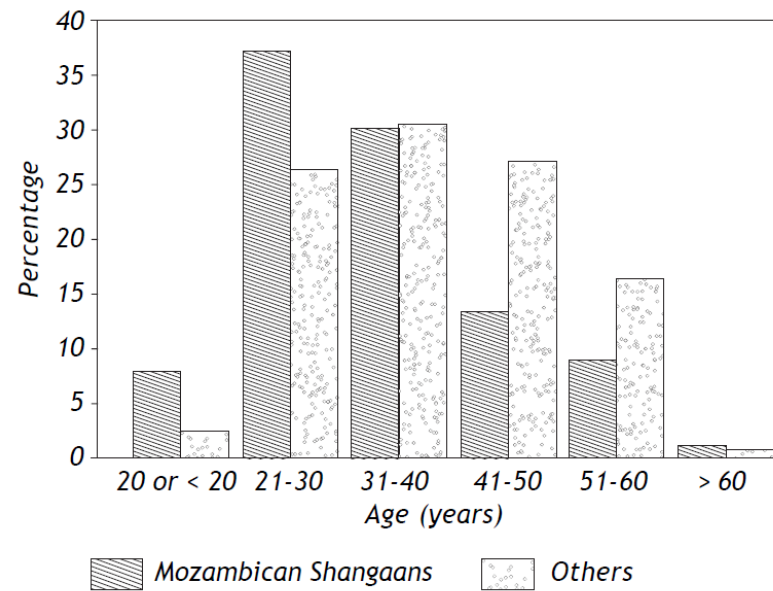


Figure 1. Distribution of HCC cases attributable to aflatoxin in different regions of the world.

HCC in Africa

- Rates of HCC are high in sub-Saharan Africa
- HCC tends to occur at strikingly younger ages (20 vs 50 years)
- Patients who immigrate away from high-risk areas continue to have higher risk in the future



HCC in the USA

- The number of HCC cases in the US is rising
- HCC is one of the few cancers whose incidence is rising
- Rates are rising across all races

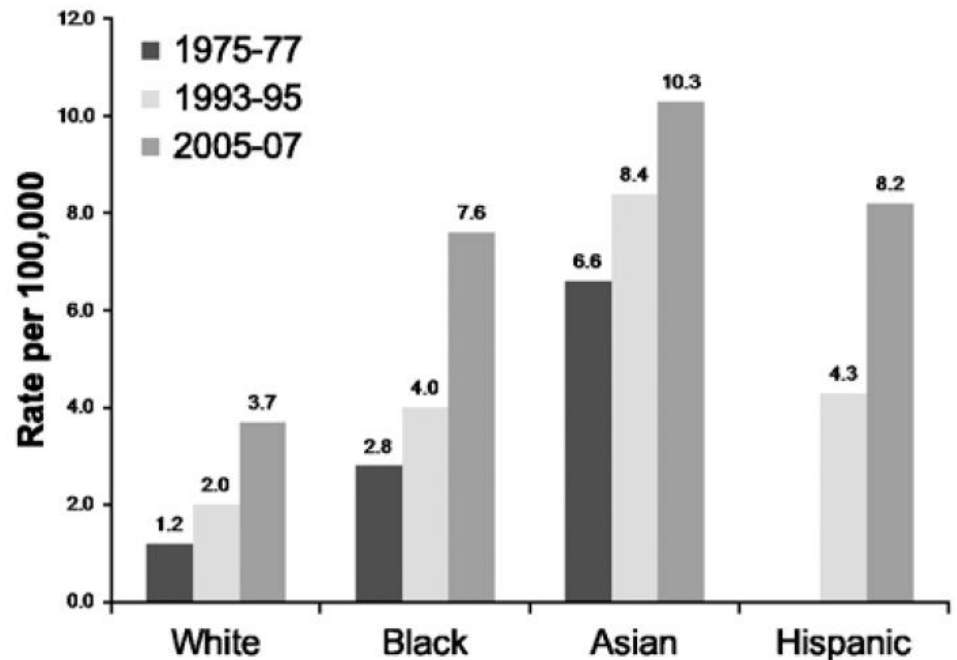


FIGURE 2. Age-adjusted incidence rate of hepatocellular carcinoma by race based on SEER registry data from 1975 to 2007.

HCC in the African Community in NYC

- Multifactorial reasons for greater risk in this community
- Immigrants from high-risk areas:
 - Are at higher risk to carry hepatitis B
 - May have had exposure to aflatoxin
- Some healthcare providers may not be used to thinking of HCC as a common cancer, may not be familiar with screening/testing practices
- Minority immigrants access healthcare and preventative cancer services less frequently

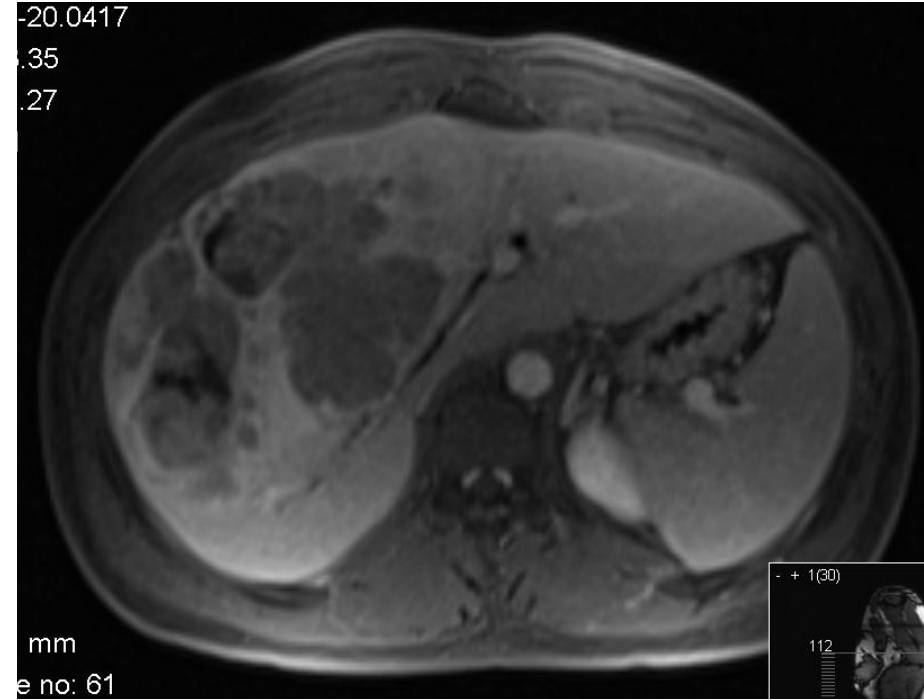
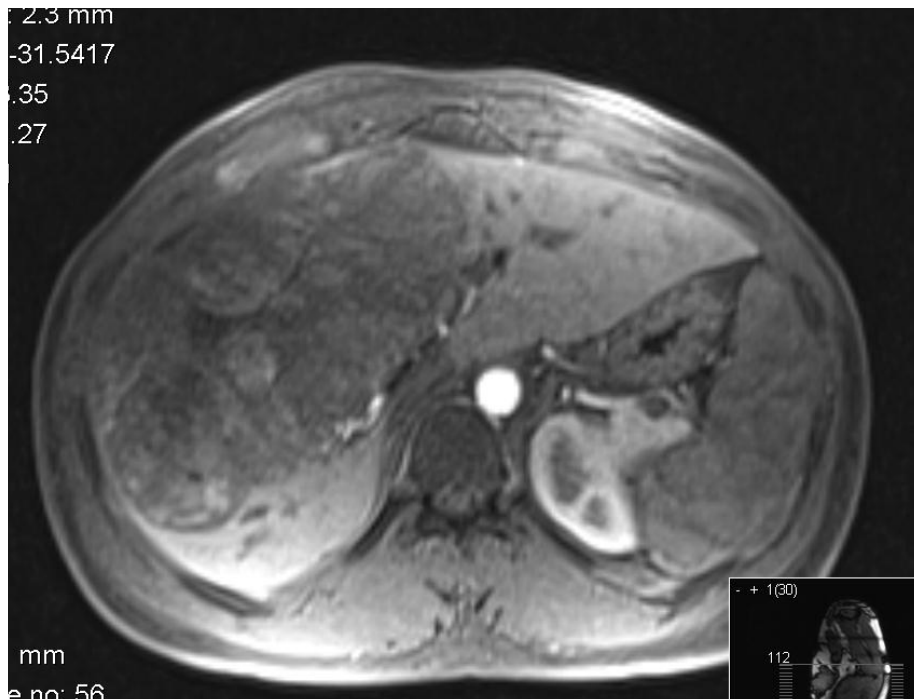
HCC case

- ▶ 20F, immigrant from Nigeria
- ▶ Imaging revealed 4cm mass – “likely benign”
- ▶ f/u in 6 mo recommended



HCC case

- ▶ F/u imaging done at 11 months
- ▶ Found to have hepatitis B with high viral loads



HCC case

- Underwent right trisegmentectomy (2/3rds of liver)
- Regeneration of left lateral lobe
- Started on anti-viral therapy to treat hepatitis B
- Currently cancer-free



HCC screening

- At-risk patients should have screening every 6 months
- Ultrasound (occasionally CT/MRI)
- Life-long

Table 3. Surveillance Is Recommended for the Follow Groups of Patients (Level III)

Hepatitis B carriers

Asian males \geq 40 years

Asian females \geq 50 years

All cirrhotic hepatitis B carriers

Family history of HCC

Africans over age 20

For non-cirrhotic hepatitis B carriers not listed above the risk of HCC varies depending on the severity of the underlying liver disease, and current and past hepatic inflammatory activity. Patients with high HBV DNA concentrations and those with ongoing hepatic inflammatory activity remain at risk for HCC.

Non-hepatitis B cirrhosis

Hepatitis C

Alcoholic cirrhosis

Genetic hemochromatosis

Primary biliary cirrhosis

Although the following groups have an increased risk of HCC no recommendations for or against surveillance can be made because a lack of data precludes an assessment of whether surveillance would be beneficial.

Alpha1-antitrypsin deficiency

Non-alcoholic steatohepatitis

Autoimmune hepatitis

Projects

- NCI-funded study of disparities in the surgical care of HCC in minorities
- Survey study: targeting doctors who practice in areas of NYC with the highest population of immigrants from Africa
- Snap-shot of screening practices

Neighborhood Tabulation Areas	Individuals
MN03 Central Harlem North-Polo Grounds	3,505
BX14 East Concourse-Concourse Village	3,332
BX41 Mount Hope	3,077
BX26 Highbridge	2,488
BX36 University Hghts-Morris Heights	2,384
BK31 Bay Ridge	2,305
BX28 Van Cortlandt Village	2,186
BX63 West Concourse	2,161
BK42 Flatbush	2,117
BX44 Williamsbridge-Olinville	1,992
MN11 Central Harlem South	1,951
SI08 Grymes Hill-Clifton-Fox Hills	1,858
QN72 Steinway	1,767
BK82 East New York	1,754
BX01 Claremont-Bathgate	1,623
SI12 Mariner's Harbor-Arlington-Port Ivory-Graniteville	1,593
BX17 East Tremont	1,542
BK63 Crown Heights South	1,519
BX35 Morrisania-Melrose	1,460
MN12 Upper West Side	1,446
BX05 Bedford Park-Fordham North	1,444
BX09 Soundview-Castle Hill-Clason Point-Harding Park	1,390
BK61 Crown Heights North	1,343
BK50 Canarsie	1,334
BK60 Prospct Lefferts Grdns-Wingate	1,308

HCC in the African Community in NYC

- Questions?
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