

Liver Disease in Minorities

Richard K. Sterling, MD, FACP, FACG

Associate Professor of Medicine

Virginia Commonwealth University

Medical College of Virginia

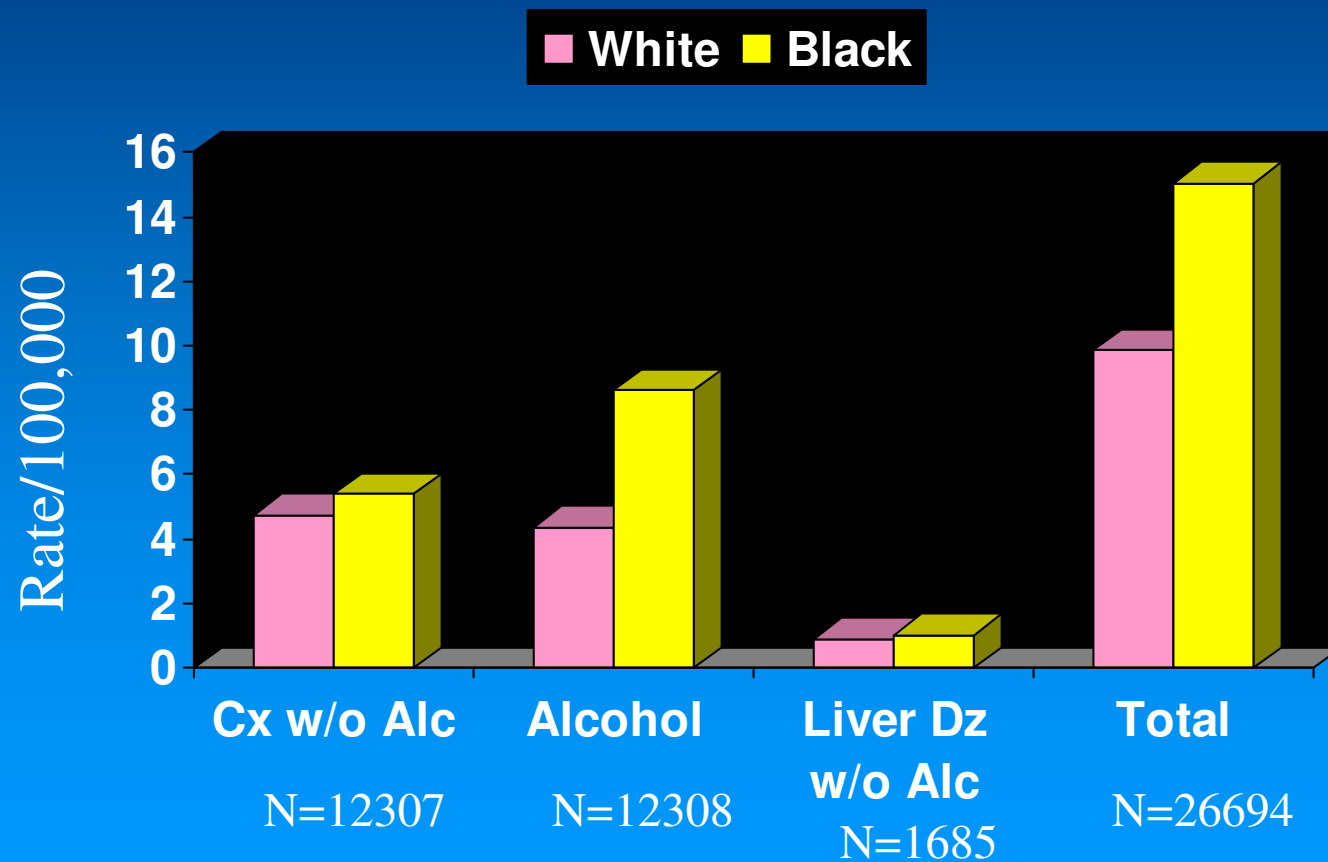
Definition of a Minority

- Minority (noun)
 - A part of the population differing from others in some characteristics and often subjected to differential treatment

Webster's Dictionary 1993

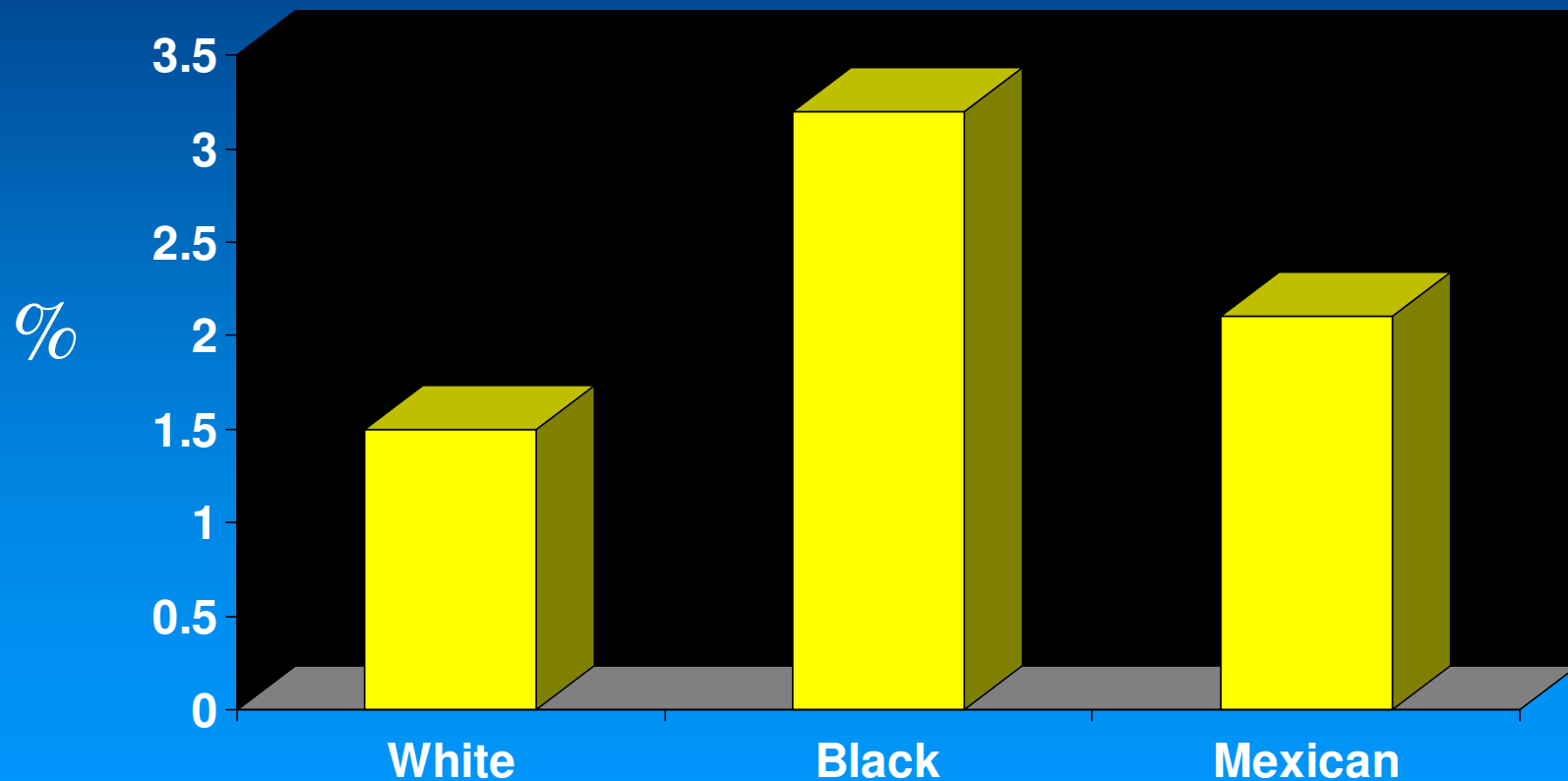
Chronic Liver Disease Mortality

US Data: 1989



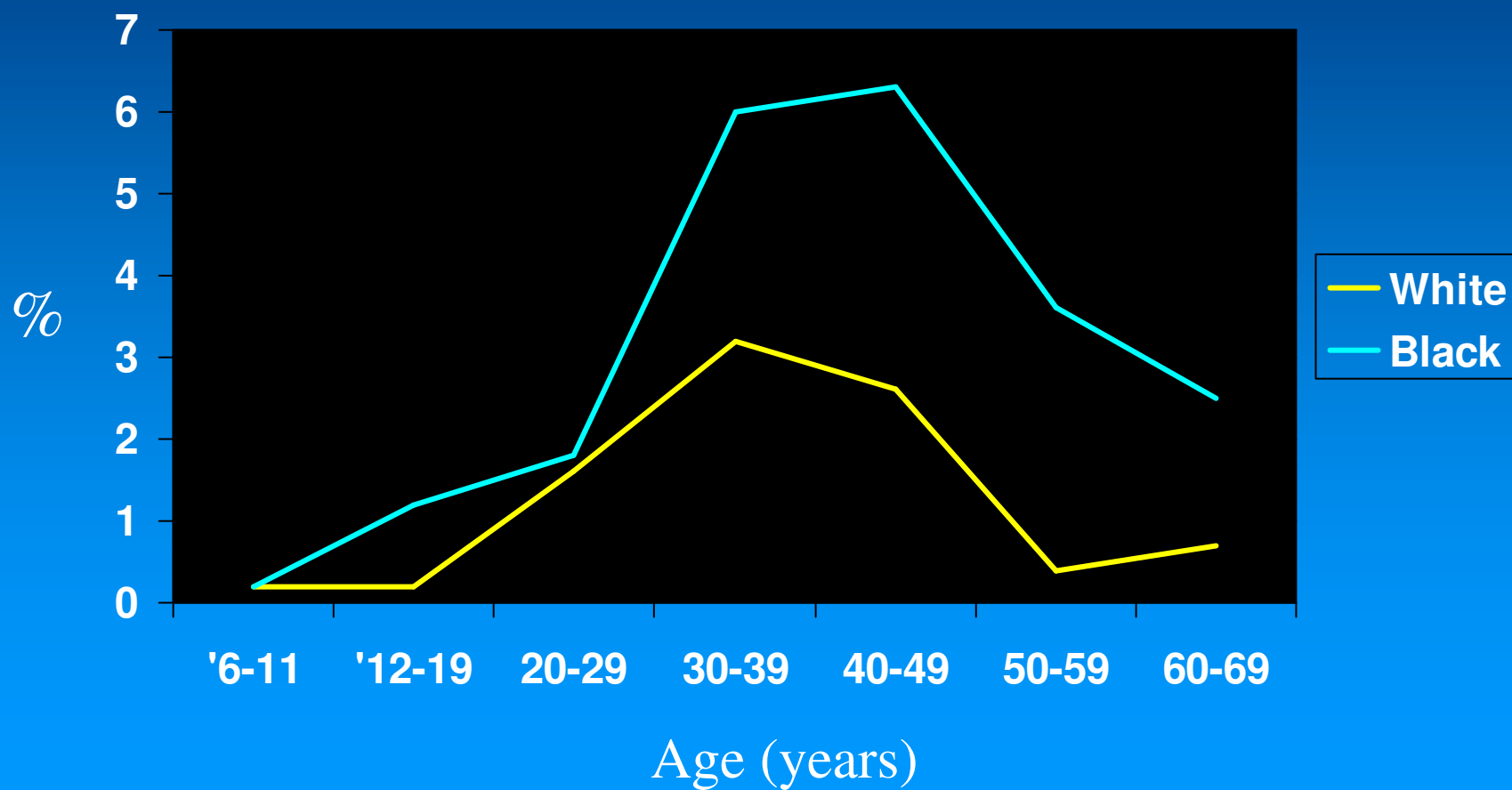
Am J Public Health 1995;85:1256-60

HCV in the United States



NHANES III NEJM 1999;341:556-62

HCV in the United States



HCV in the United States

	<u>White</u>	<u>Black</u>
Overall (%)	1.5	3.2
Age 30-50		
Male	3-4	9-10
Female	1-2	3-4
% HCV RNA +	68	86
M vs F		98 vs 70
% Genotype 1	67	91
1 b	18	36
3a	6	< 1

Spectrum of Liver Disease

	<u>Caucasians</u>	<u>African Americans</u>	<u>p</u>
N	149	150	
Age (yr)	36	43	<.001
Male (%)	89	92	ns
ALT (U/L)	106	79	.01
% nl ALT	49	57	.06
GT 1 (%)	67	94	<.001
Total HAI	7.59	6.99	.09
Fibrosis	1.40	1.12	.047
BF/Cx (%)	28	23	ns

Sterling et al Clin Gastro and Hep 2004;2:469-473

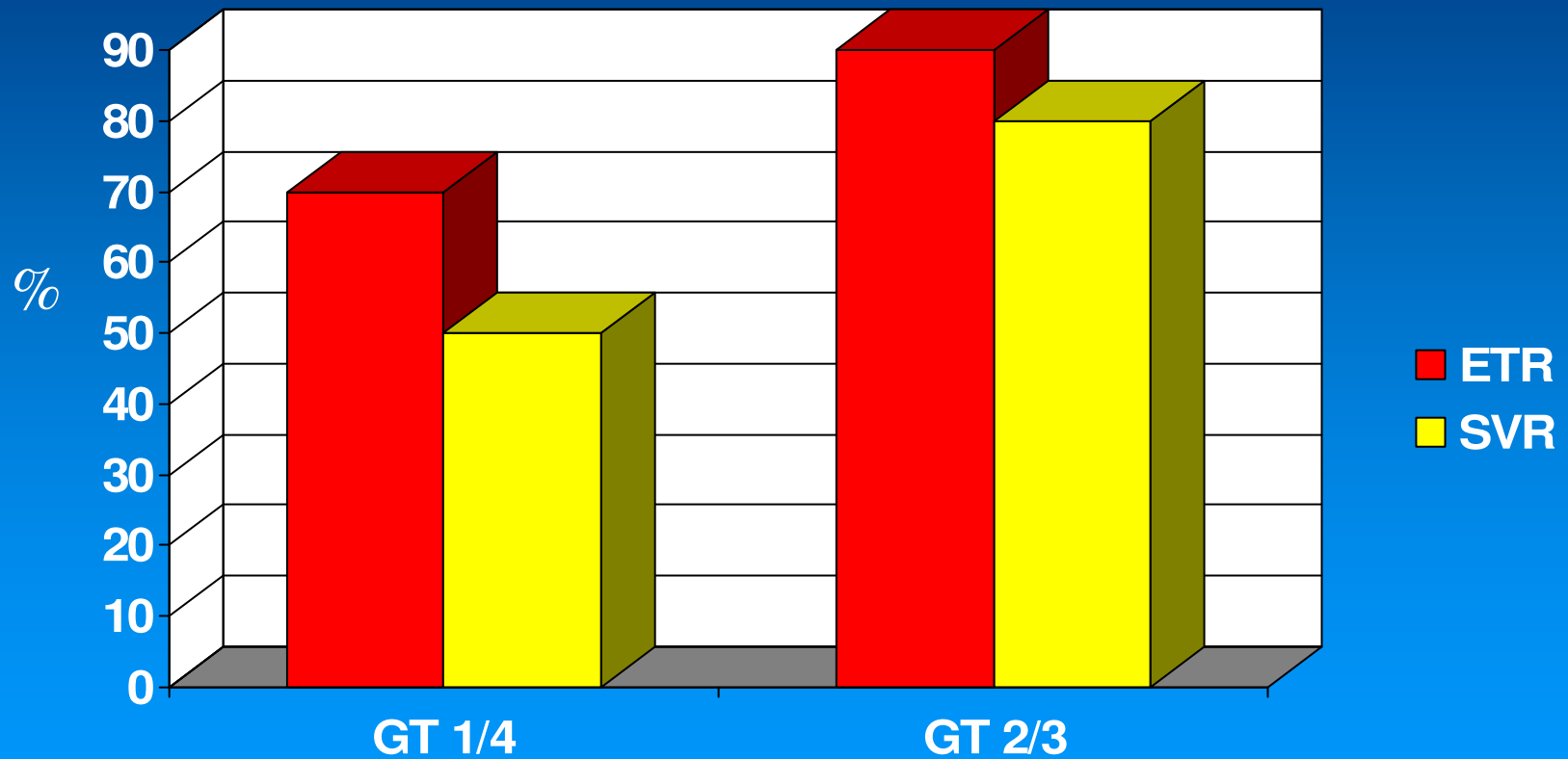
Goals of HCV Therapy

- **Primary Goal**
 - Eradicate HCV RNA (SVR)
- **Secondary Goals**
 - Slow disease progression
 - Improve histology
 - Reduce liver related morbidity/mortality
 - Reduce risk of liver cancer
 - Improve health-related quality of life
 - Improve extrahepatic manifestations of HCV

Treatment of HCV

- Who to treat
 - HCV RNA positive
 - Compliant
 - Necroinflammation and/or fibrosis
 - No contraindications
- What to treat with
 - Pegylated interferon + ribavirin
- How long to treat
 - Genotype 1/4: 48 weeks
 - Genotype 2/3: 24 weeks

HCV Response Rates

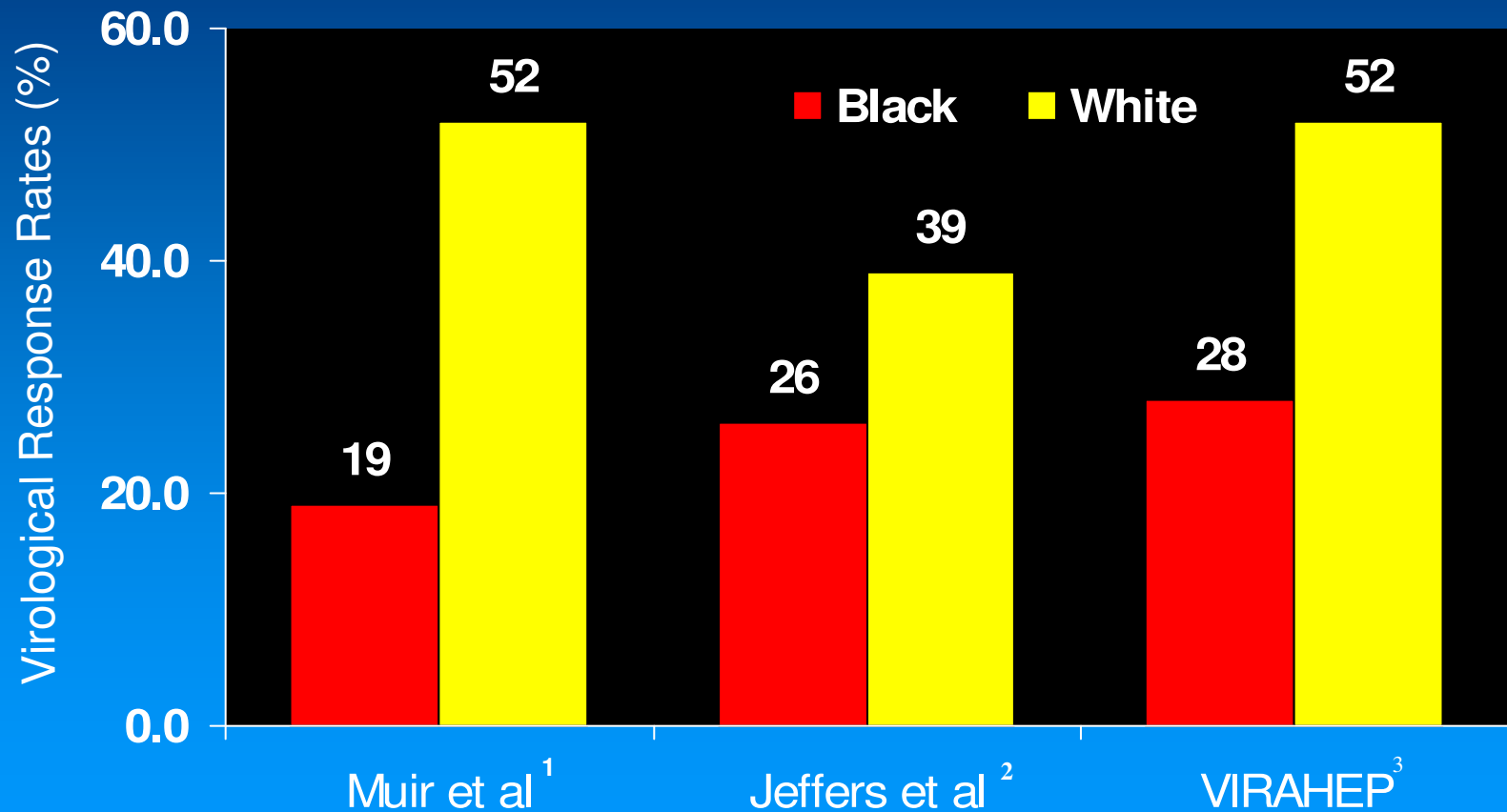


The Treatment of Hepatitis C in African Americans

Major Issues Relative to Black Patients with HCV

- High prevalence
- Genotype 1 virus responsible for 90% of HCV in black patients
- Host factors (BMI, immunologic)
- Under-representation in clinical trials
- Access to care

Treatment of Hepatitis C in African Americans: SVR

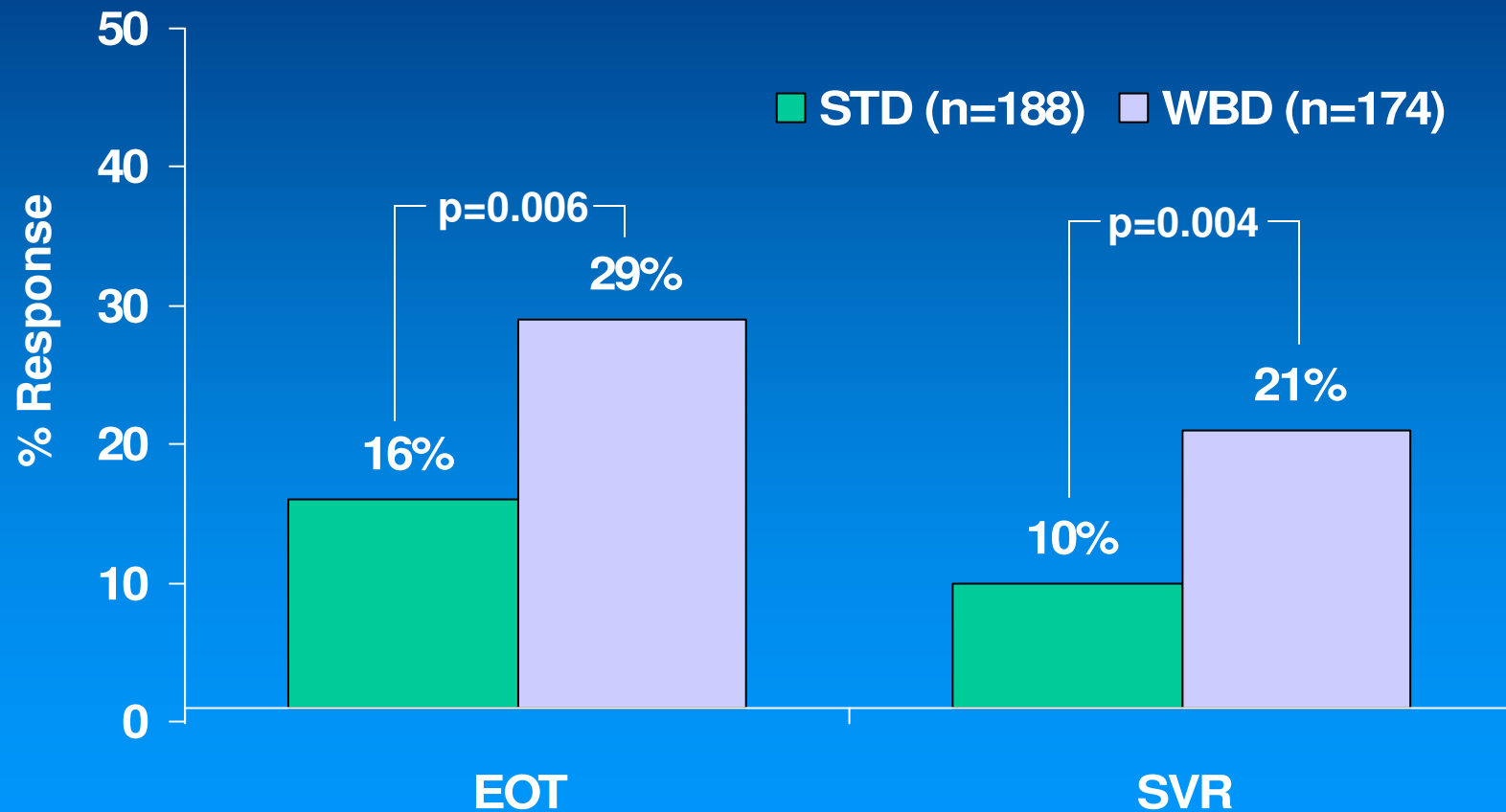


1. Muir AJ et al. N Engl J Med 2004;350:2265-2271.

2. Jeffers LJ et al. Hepatology 2004;39:1702-1708.

3. Presented AASLD 2005

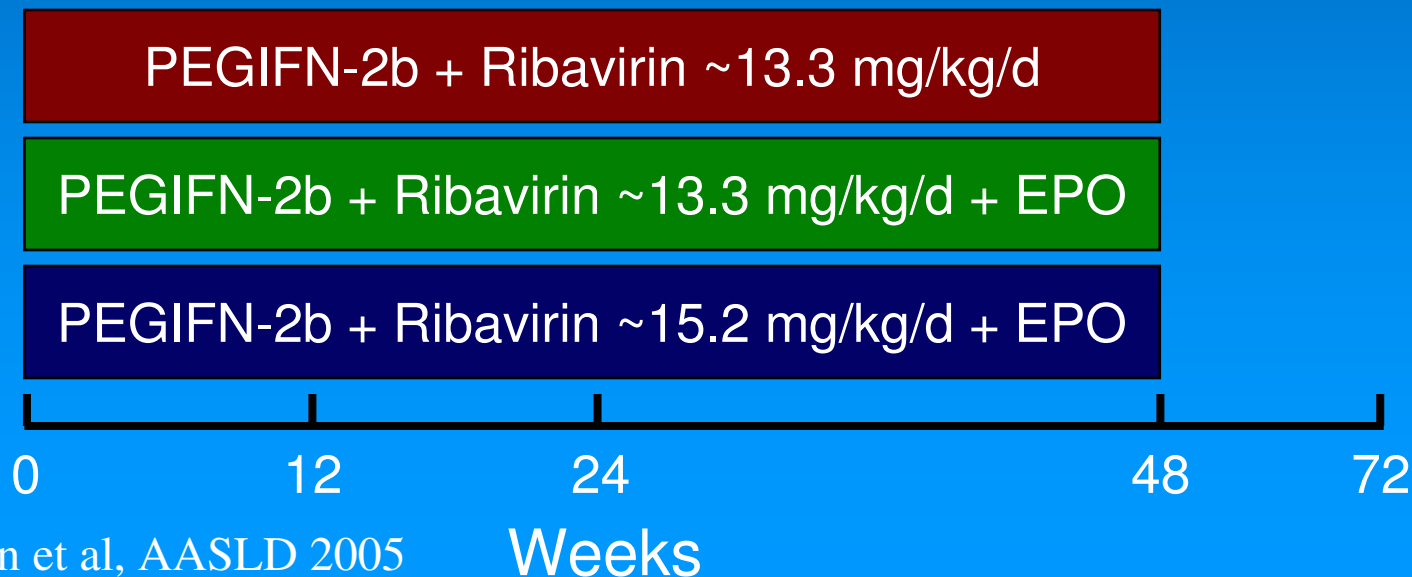
WIN-R Trial: PegIFN + Weight Based RBV vs PegIFN + Fixed Dose RBV in Genotype 1 African Americans ≥ 65 kg



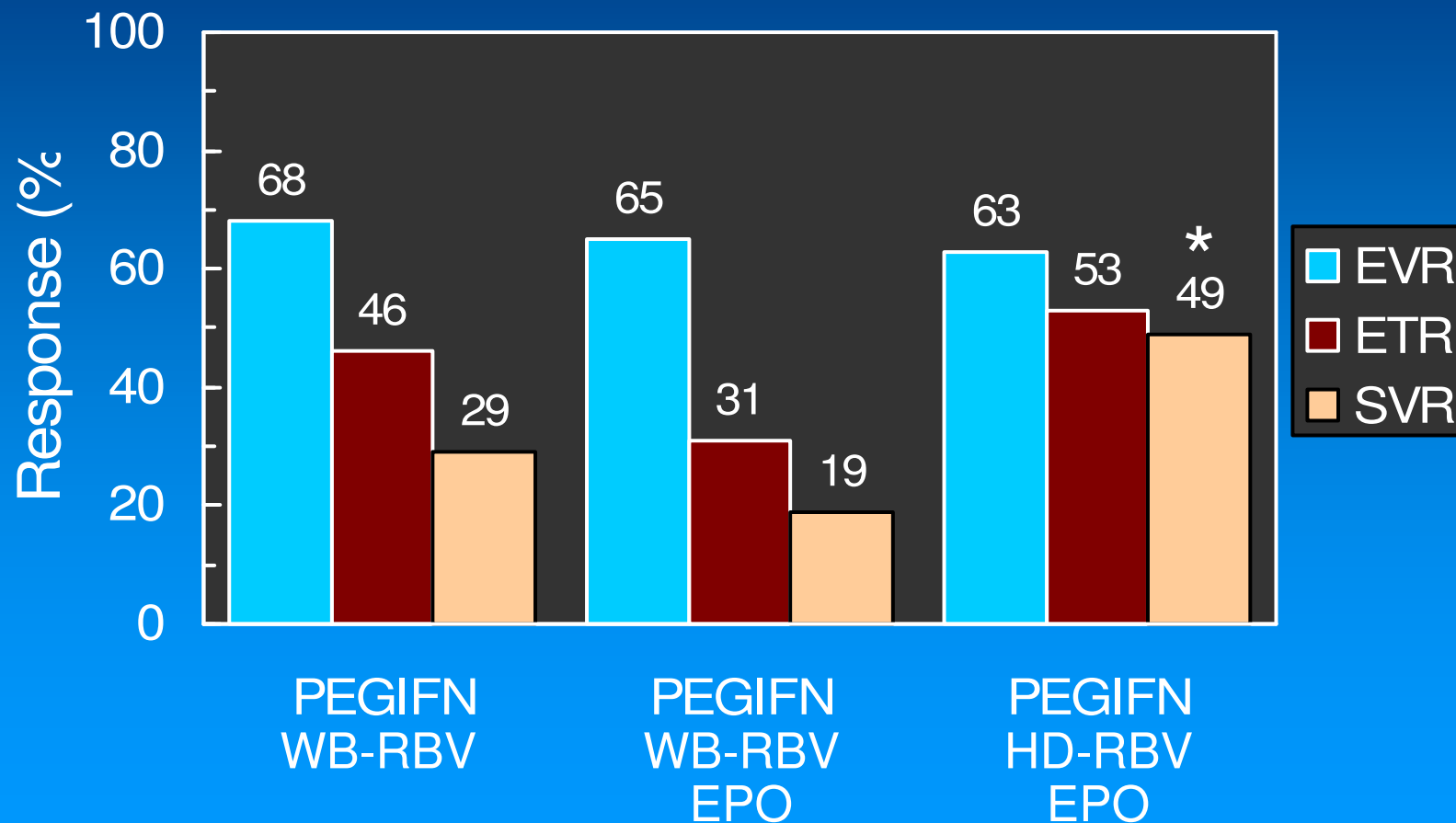
Jacobson I et al. AASLD 2004, abstract 125.

HIGH DOSE RIBAVIRIN AND EPOETIN ALFA STUDY DESIGN

- ❖ Prospective, randomized trial
- ❖ N = 150 adults (50 per group)
- ❖ HCV RNA (+), genotype 1
- ❖ No prior HCV therapy
- ❖ Liver biopsy consistent with chronic HCV

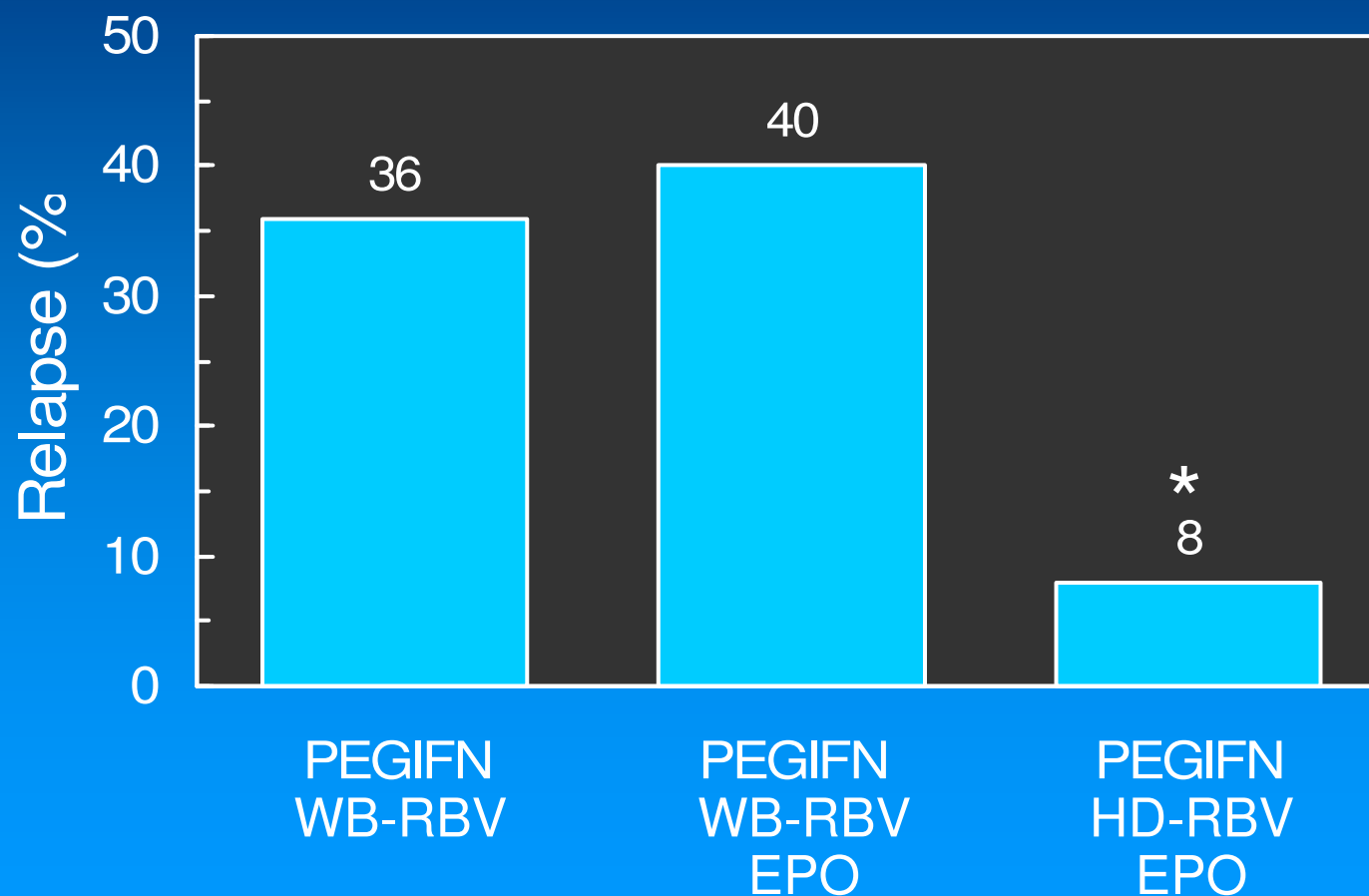


HIGH DOSE RIBAVIRIN AND EPOETIN ALFA VIROLOGIC RESPONSE



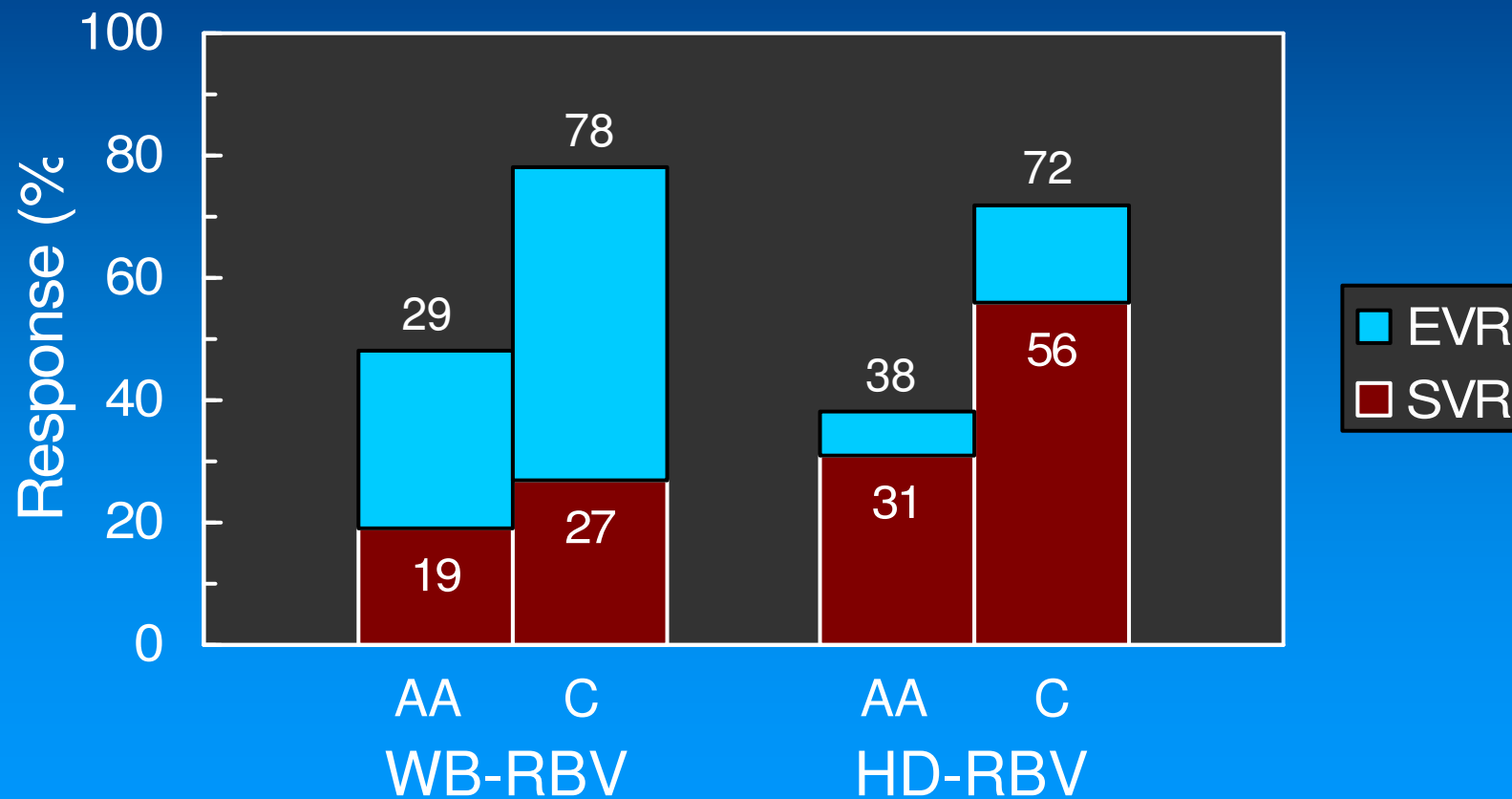
* p < 0.05 versus groups 1 and 2.

HIGH DOSE RIBAVIRIN AND EPOETIN ALFA RELAPSE RATE



* p < 0.05 versus groups 1 and 2.

HIGH DOSE RIBAVIRIN AND EPOETIN ALFA EFFECT OF RACE



Treatment of Hepatitis C in African Americans: Conclusions

- Lower SVR in blacks than whites
- Similar types and severities of adverse events
- Similar numbers of episodes of anemia and neutropenia
- Similar rates of dose reduction and D/C rates
- Lack of early virologic response (EVR) is a predictor of non-response in black patients
- Positive predictive value of EVR at week 12 is lower in black patients
- Reasons for differences in response remain unclear

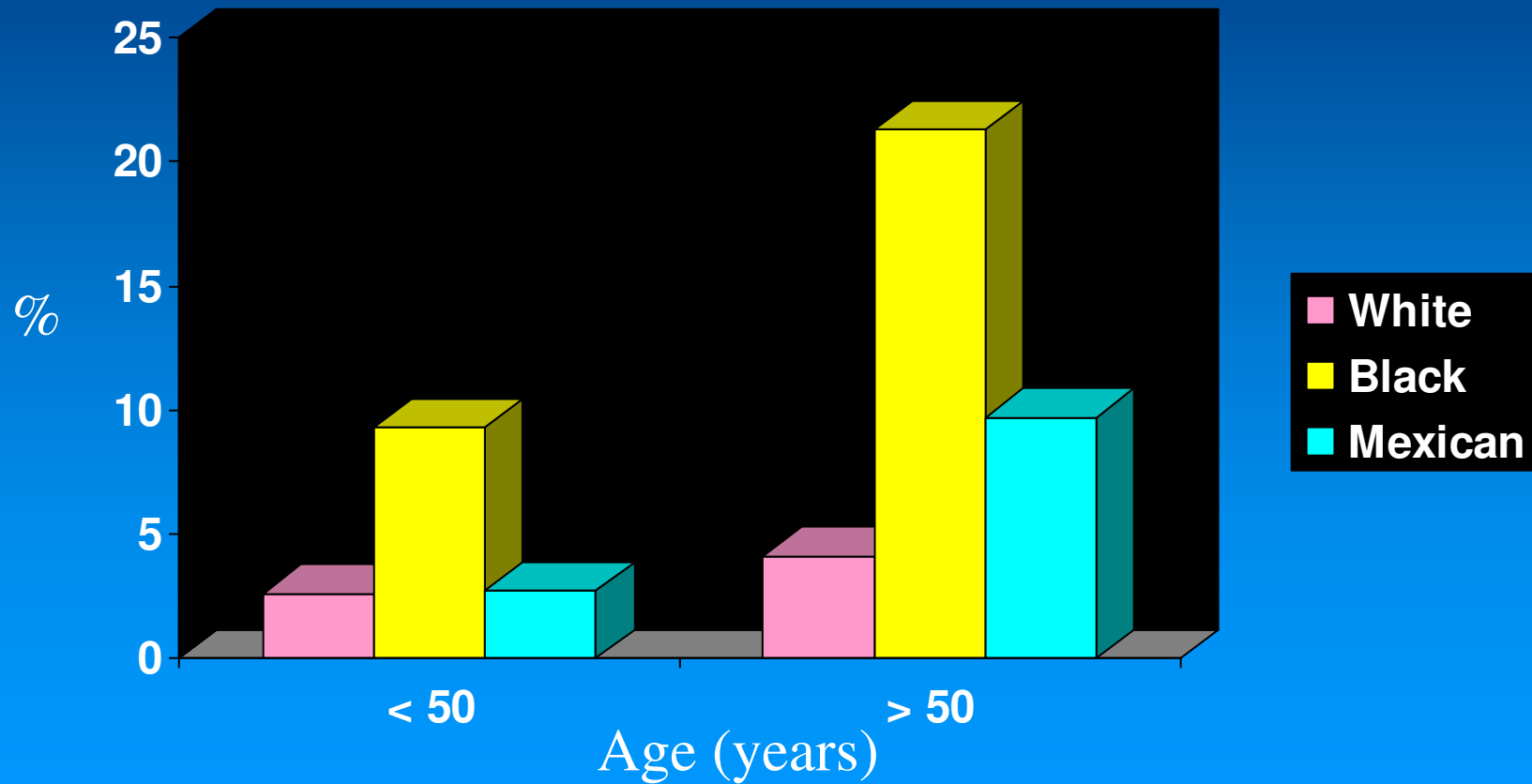
Muir AJ et al. N Engl J Med 2004;350:2265-2271.
Jeffers LJ et al. Hepatology 2004;39:1702-1708.
ViraHep AASLD 2005

Summary of Key Differences HCV

<u>Feature</u>	<u>AA (%)</u>	<u>Non-AA (%)</u>
Seroprevalence	1.8-3.2	0.1-1.5
Genotype 1	87-96	65-75
Acute clearance	9.3-33	36.4-67
Progression to Cx	5-29	8-30
HCC (OR)	2-2.4	1
Mortality from HCC (per 100,000 cases)	6.0	3.4
PPV of EVR (wk 12)	43-48	58-75
SVR	2-26	10-52

Prevalence of Hepatitis B

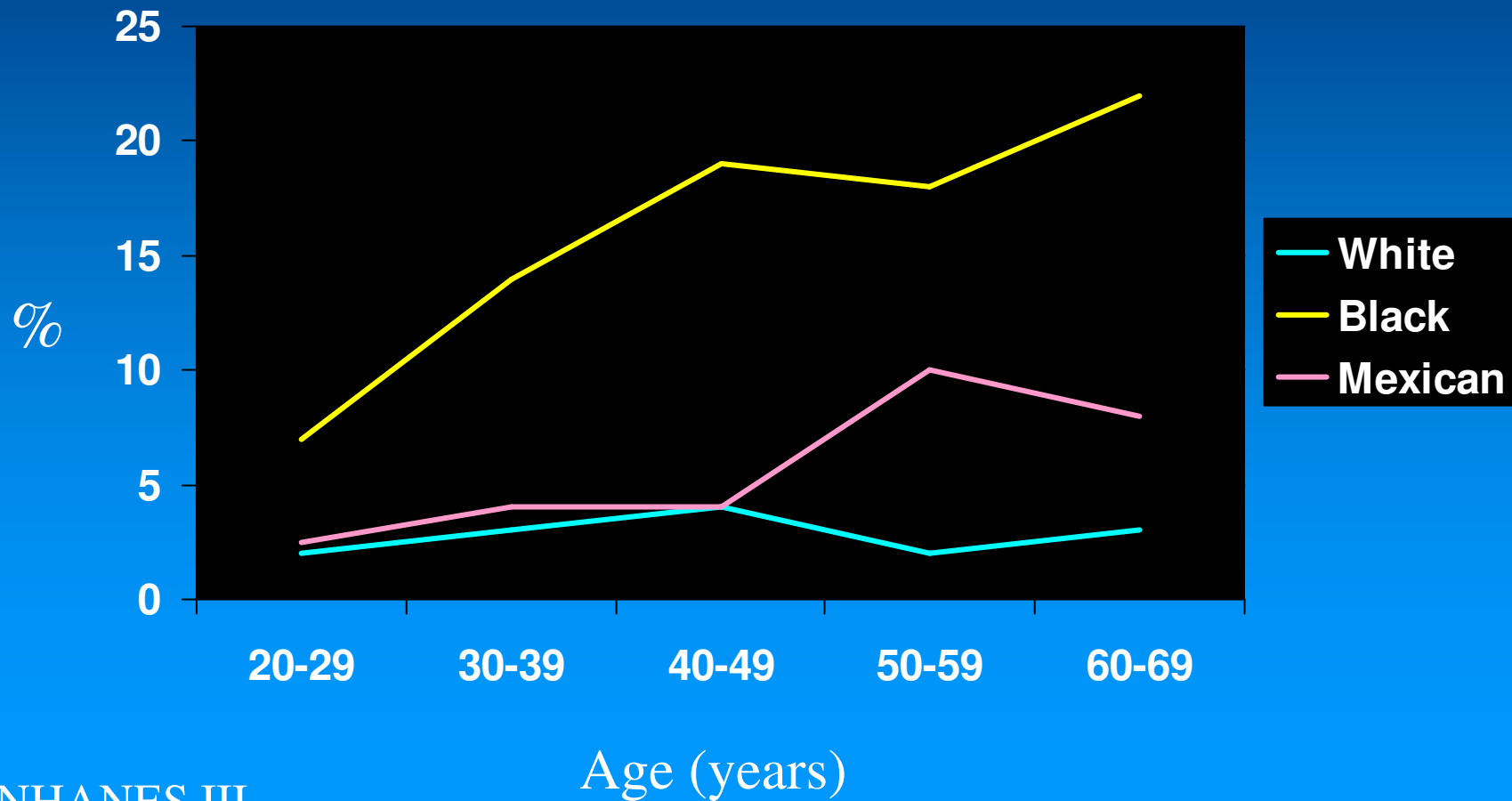
Surface Antigen or Antibody



NHANES III: Am J Public Health 1999

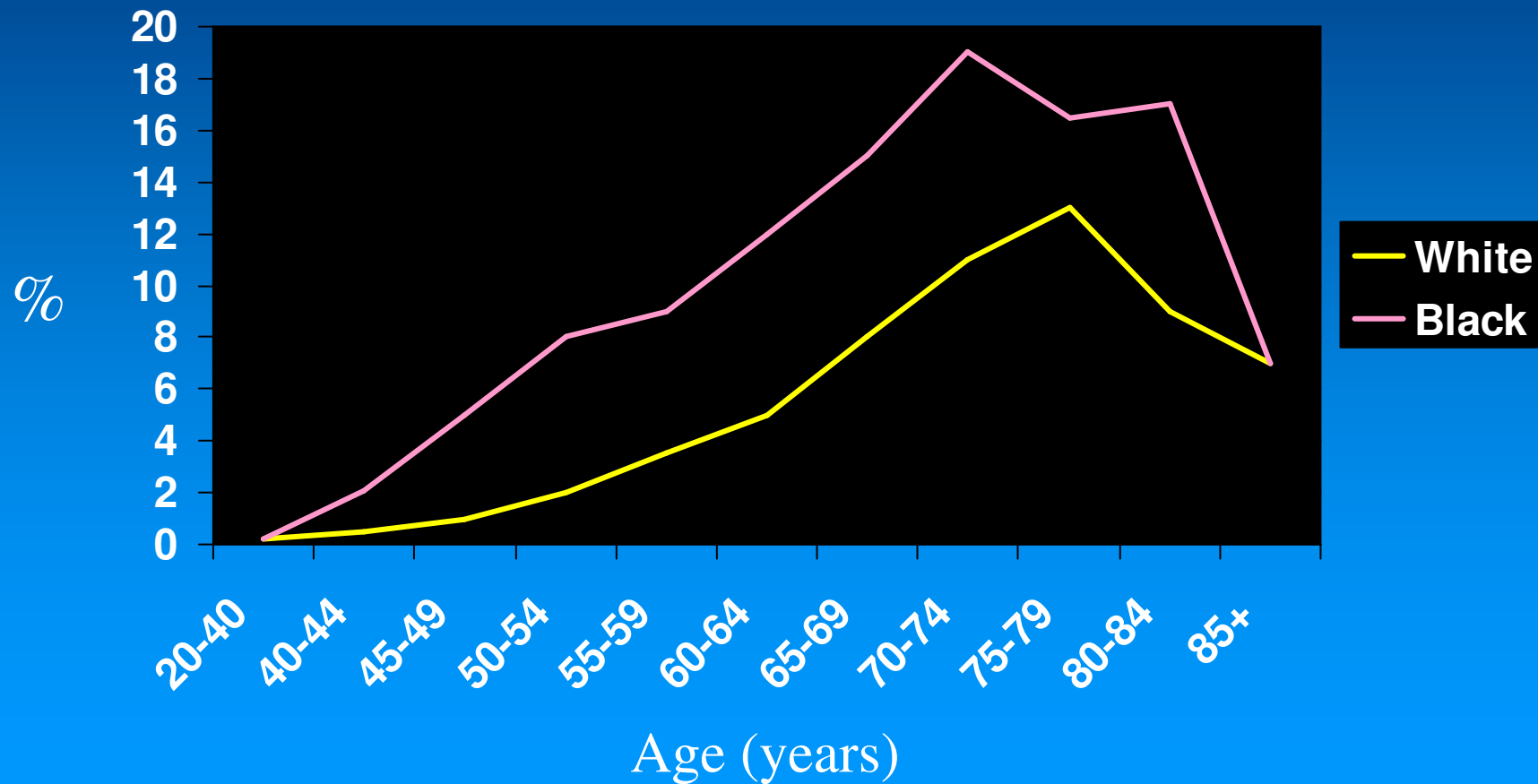
Prevalence of Hepatitis B

Surface Antigen or Antibody



NHANES III

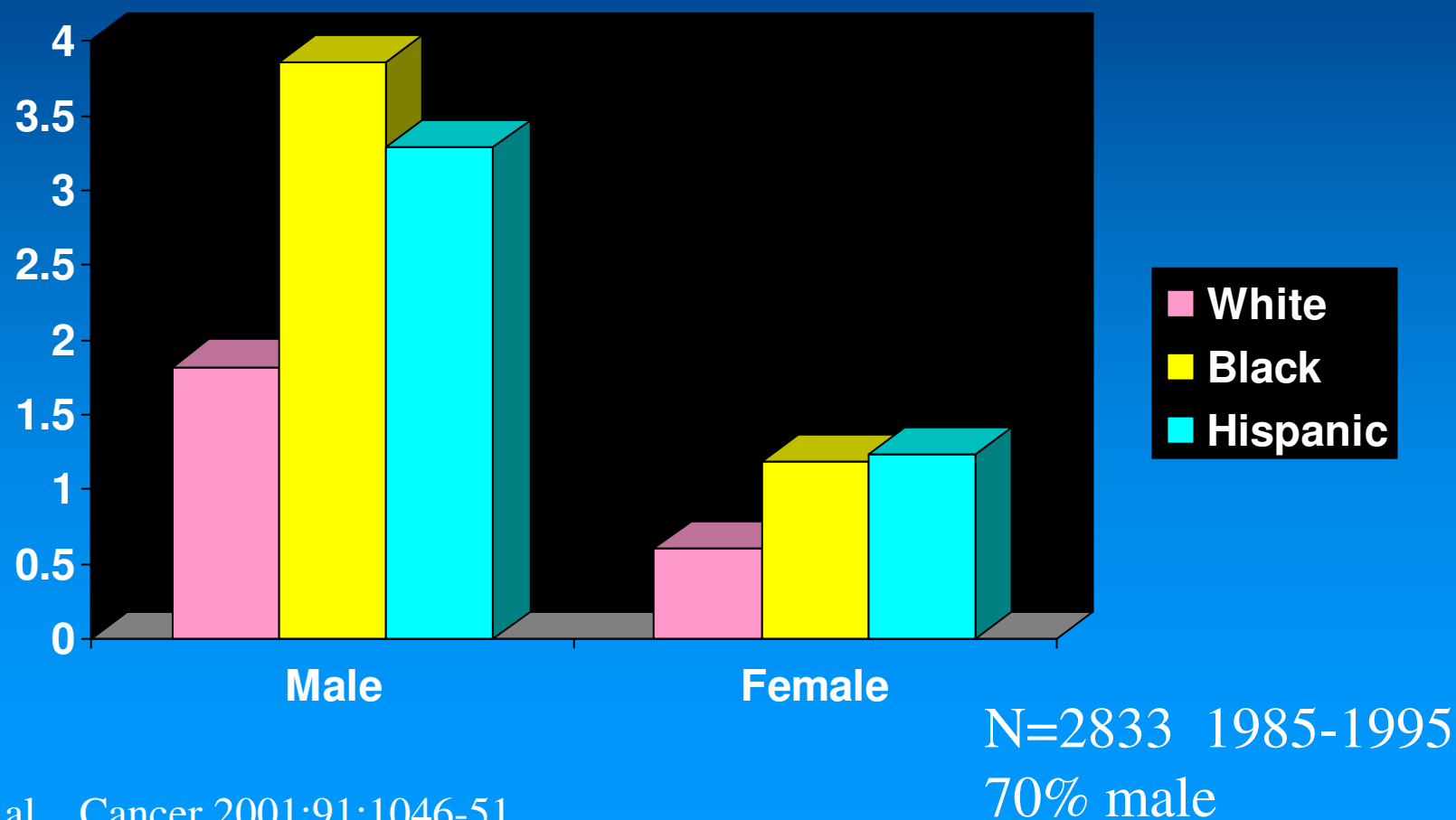
Hepatocellular Carcinoma in the US



El Serag NEJM 1999;340:745-750

Incidence of HCC in Florida

Age-Adjusted rate/100,000



Shea et al. Cancer 2001;91:1046-51

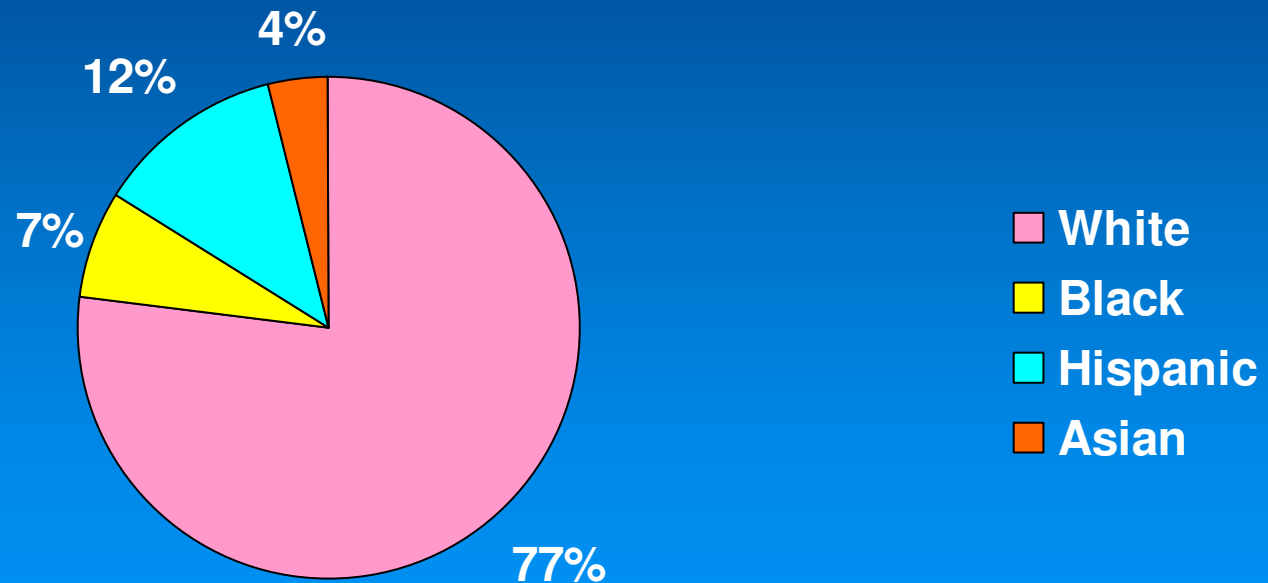
Hemochromatosis

Prevalence of HFE Genotypes

<u>HFE Genotype</u>	<u>White</u>	<u>Black</u>	<u>Mexican</u>
Wild type/wild type	62.10	91.69	76.25
C282Y/wild type	9.54	2.33	2.75
H63D/wild type	23.55	5.55	19.70
C282Y/C282Y	0.30	0.06	0.03
H63D/H63D	2.15	0.32	1.08
C282Y/H63D	2.35	0.06	0.19
<hr/>			
C282Y	6.2	1.3	1.5
H63D	15.1	3.1	11

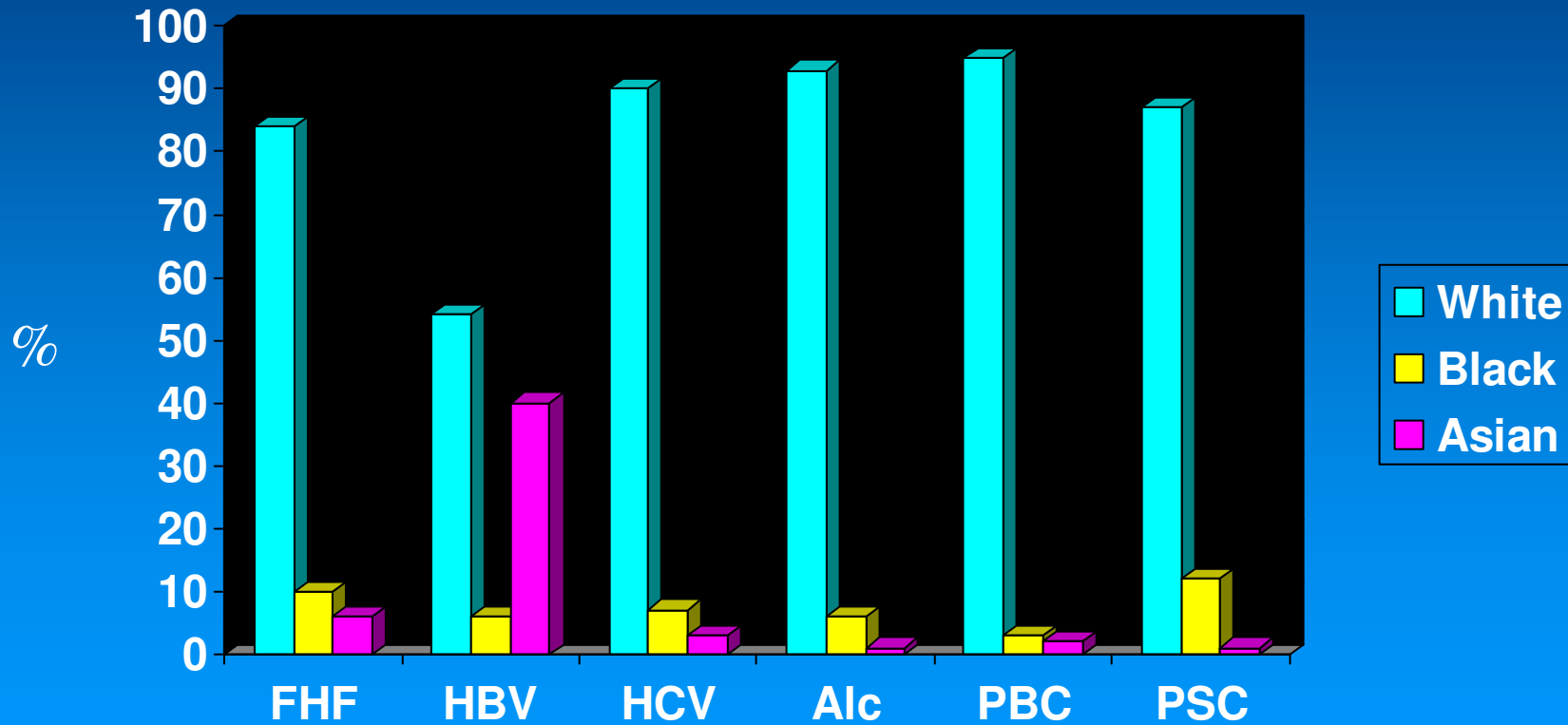
Patients Awaiting Transplant

N = 15,693



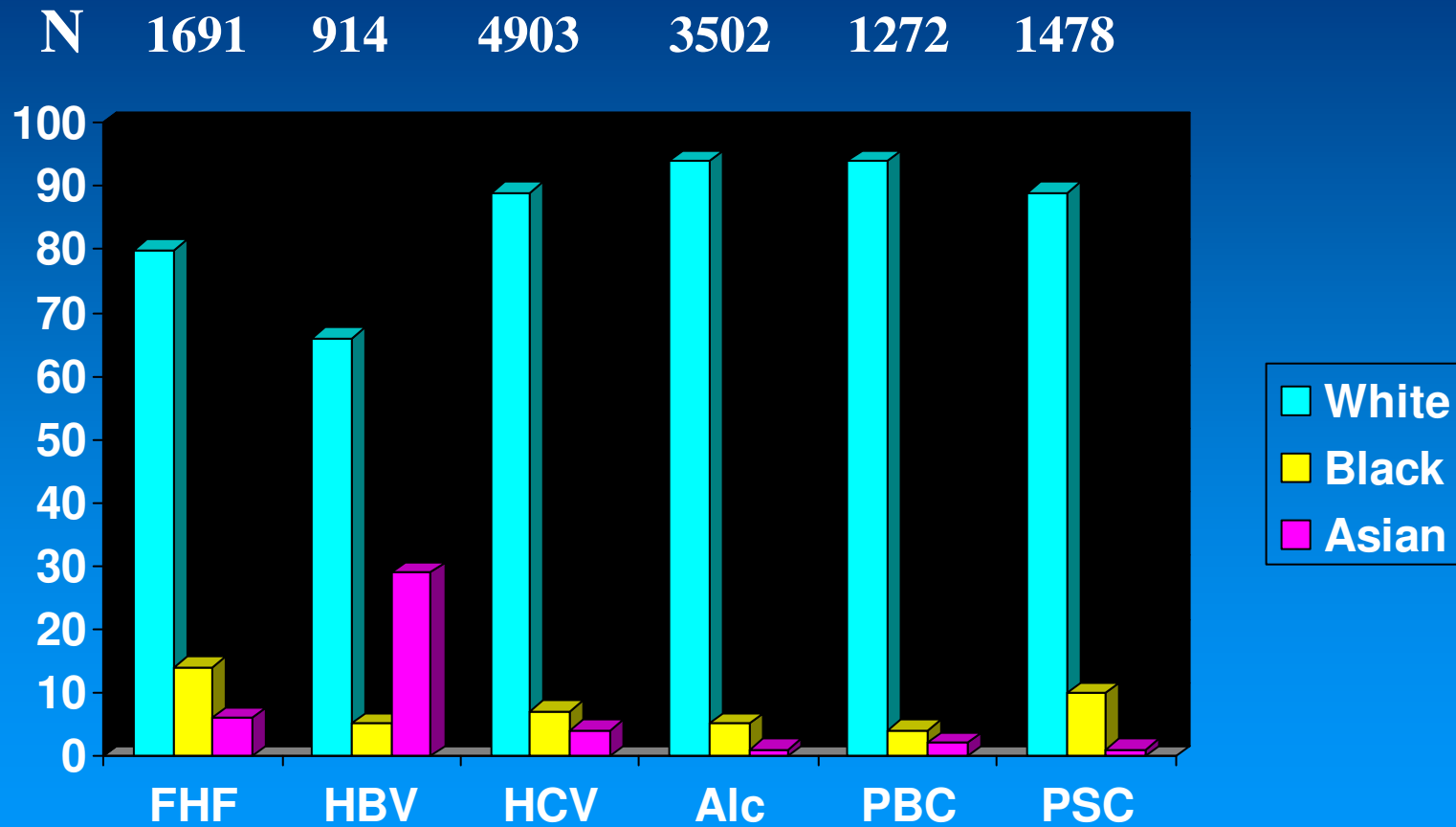
Wait List By Disease

N 773 561 4165 2397 731 902

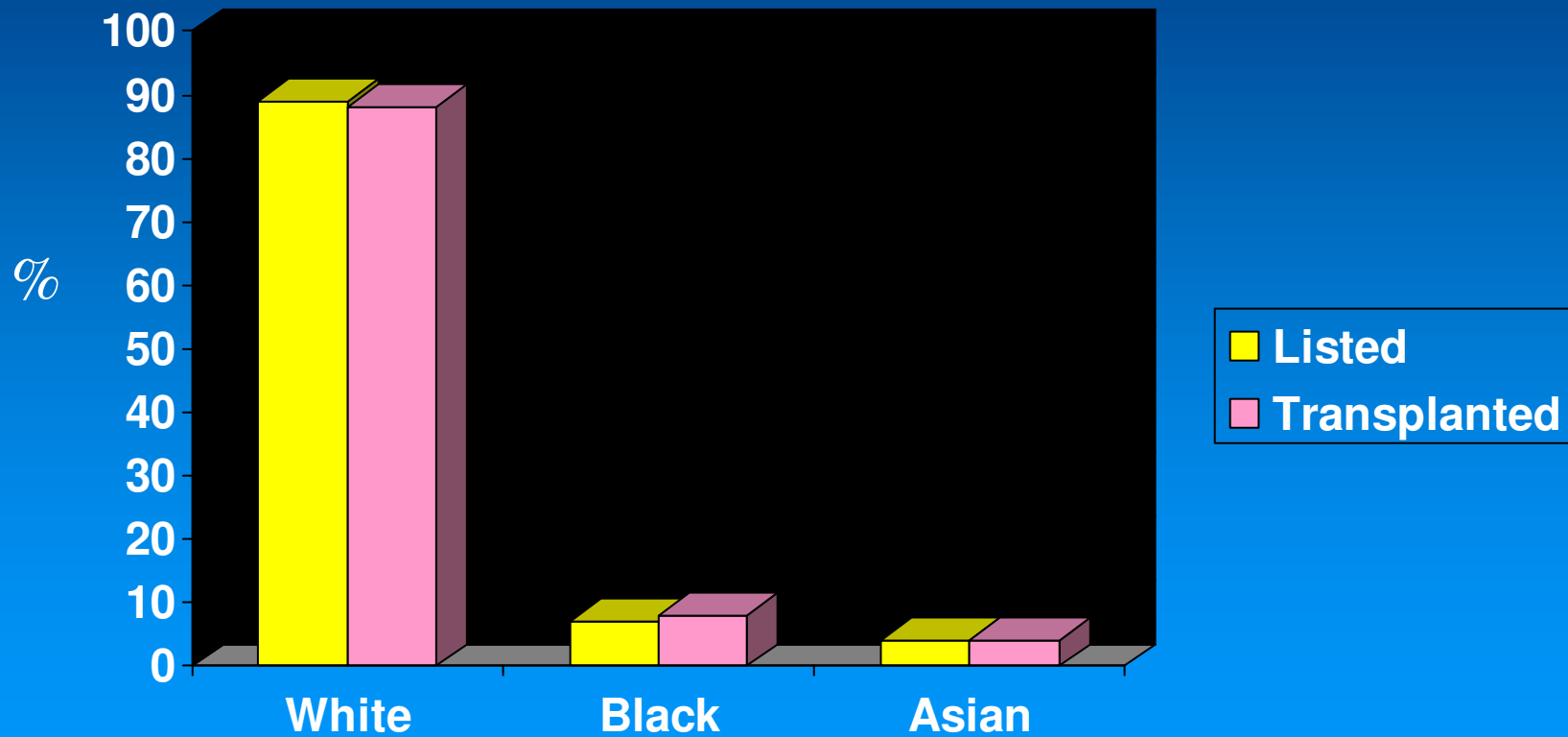


Transplant by Disease

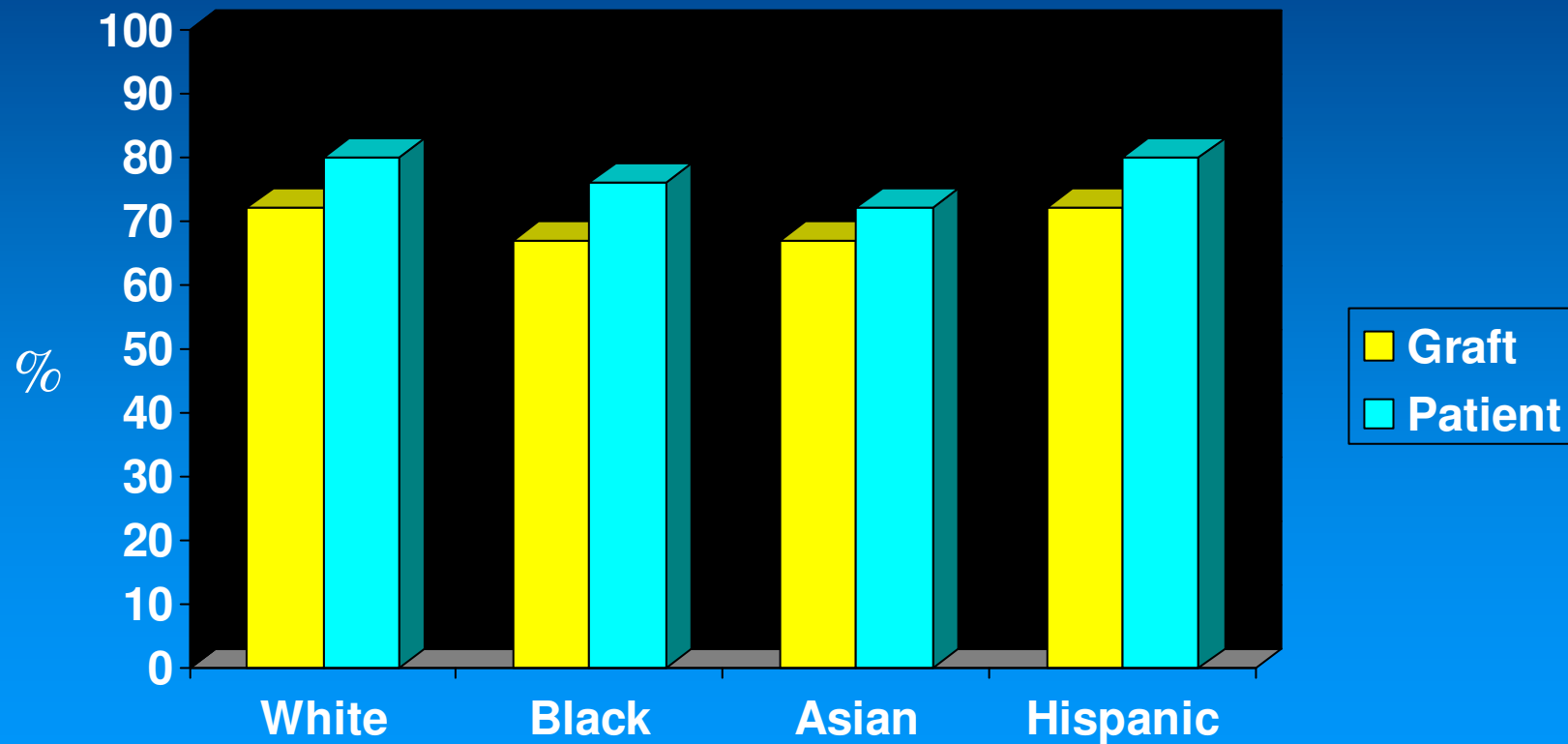
1995-1997



Listed : Transplanted

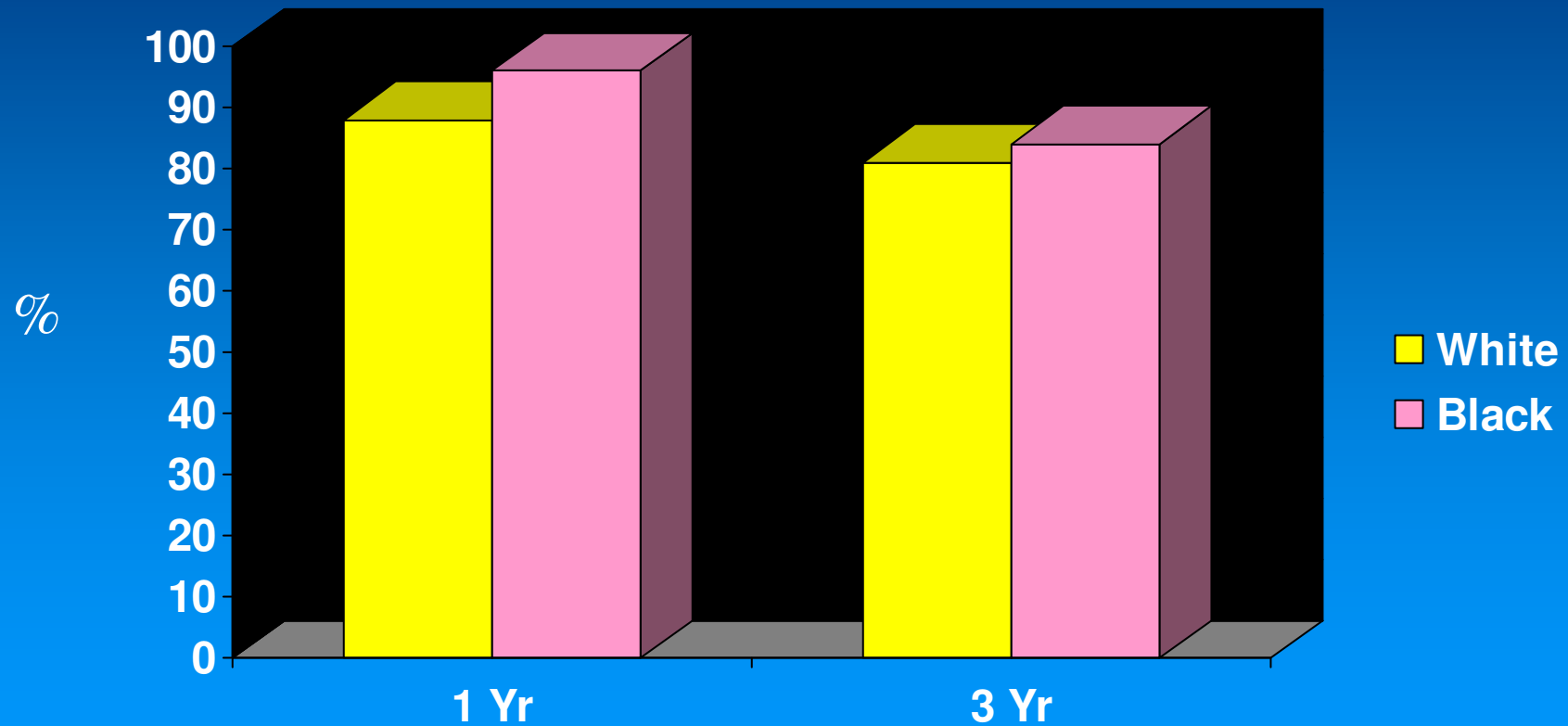


Post-Transplant 3 Yr Survival



Post-Transplant Survival

UAB 1989-1996



Eckhoff et al. Liver Transplantation and Surgery 1998;4(6):499-505

Summary

Liver Disease in Minorities

- Chronic liver disease is common in minorities
 - Especially viral hepatitis B and C
 - Lower response to therapy (HCV)
- Associated increased mortality
 - Liver failure and HCC
- Less likely to be referred for transplant
 - Once listed, similar chance of getting OLT
 - Similar survival



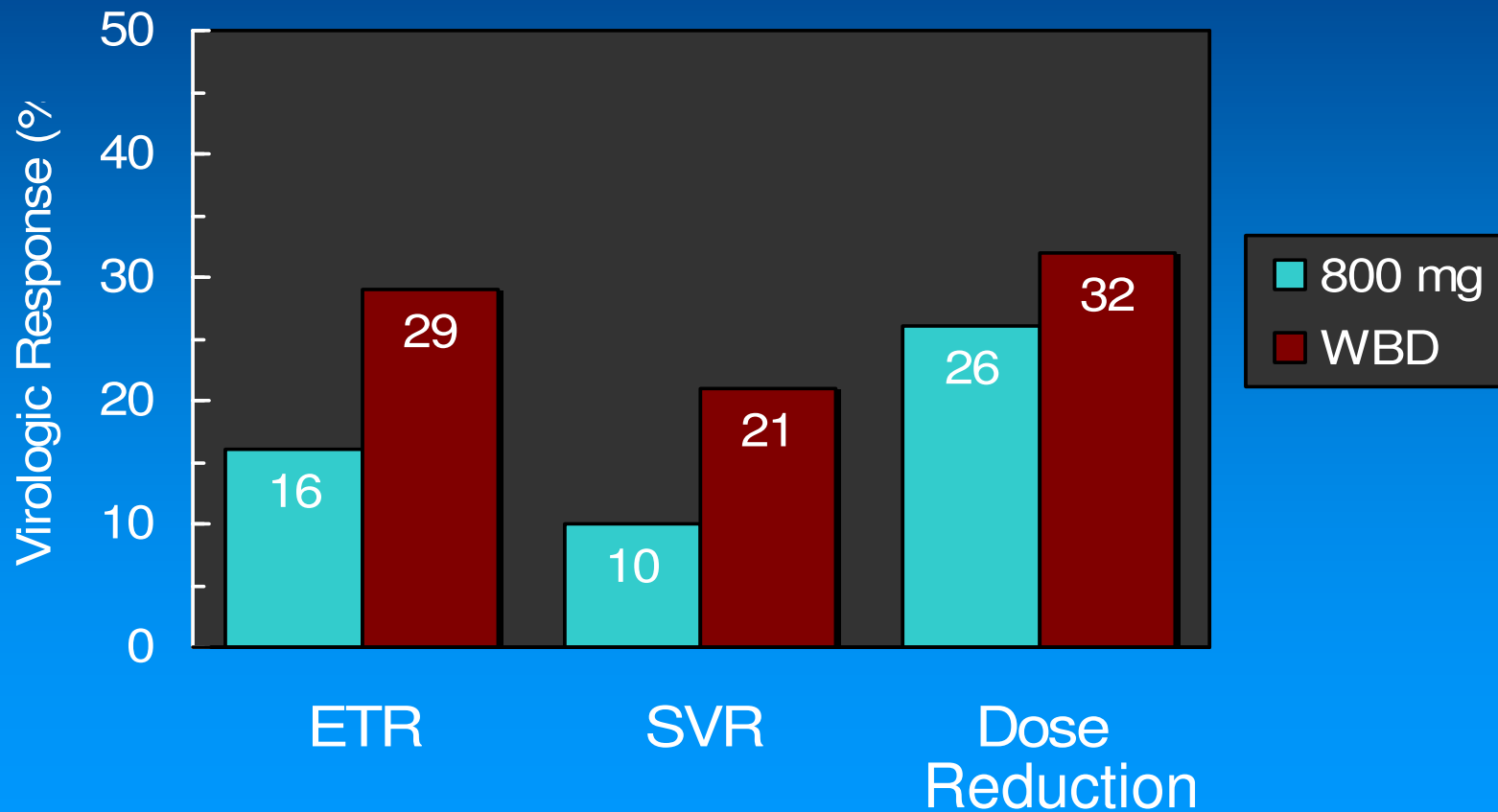
VCU

Health System



Hospitals and Physicians

CHRONIC HCV GENOTYPE 1 AFRICAN AMERICANS



IM Jacobson et al.
AASLD 2004.