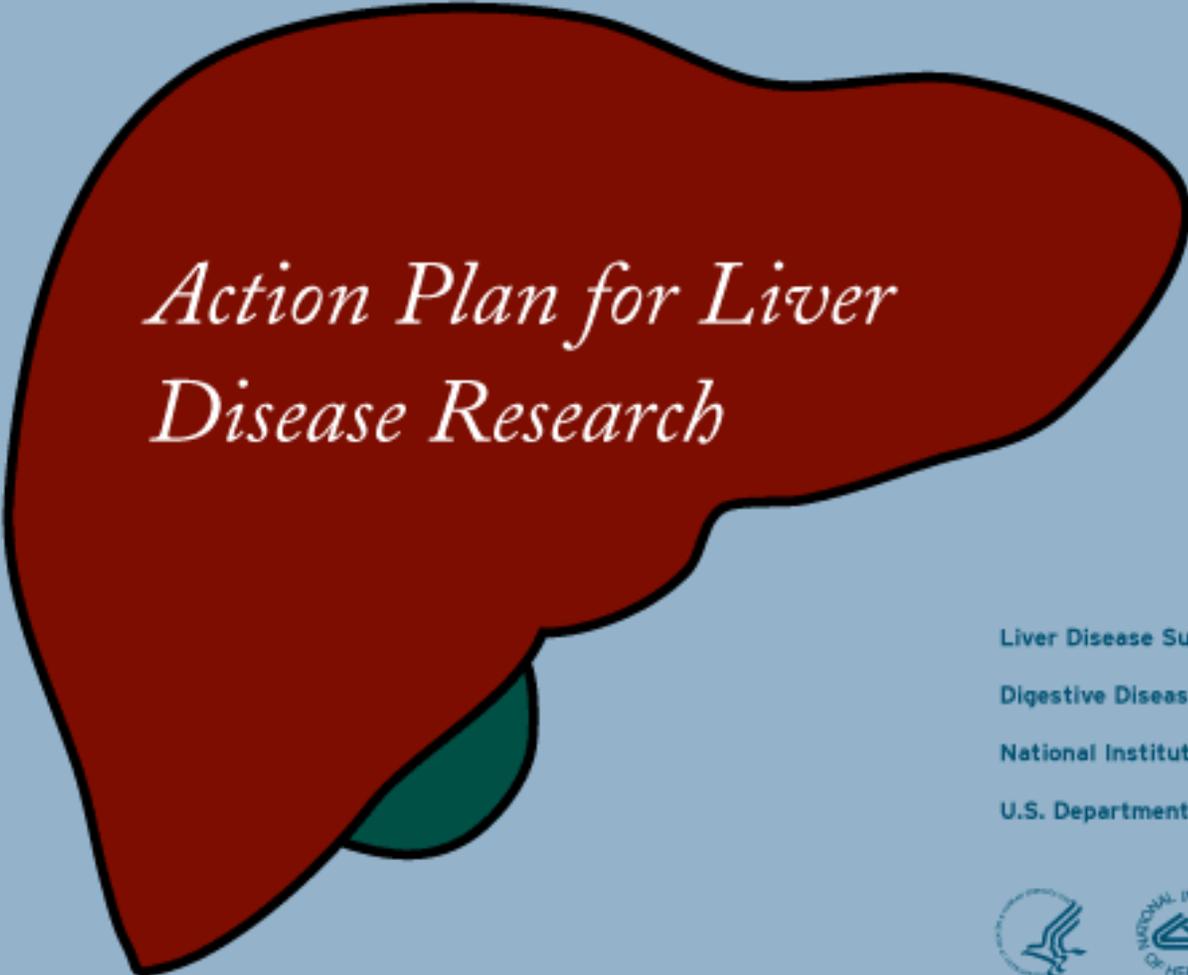


NATIONAL INSTITUTES OF HEALTH



*Action Plan for Liver
Disease Research*

Liver Disease Subcommittee

Digestive Diseases Interagency Coordinating Committee

National Institutes of Health

U.S. Department of Health and Human Services



Action Plan for Liver Disease Research

Jay H. Hoofnagle, M.D.

Director

Liver Disease Research Branch

Division of Digestive Diseases and Nutrition

National Institute of Diabetes and Digestive and
Kidney Diseases

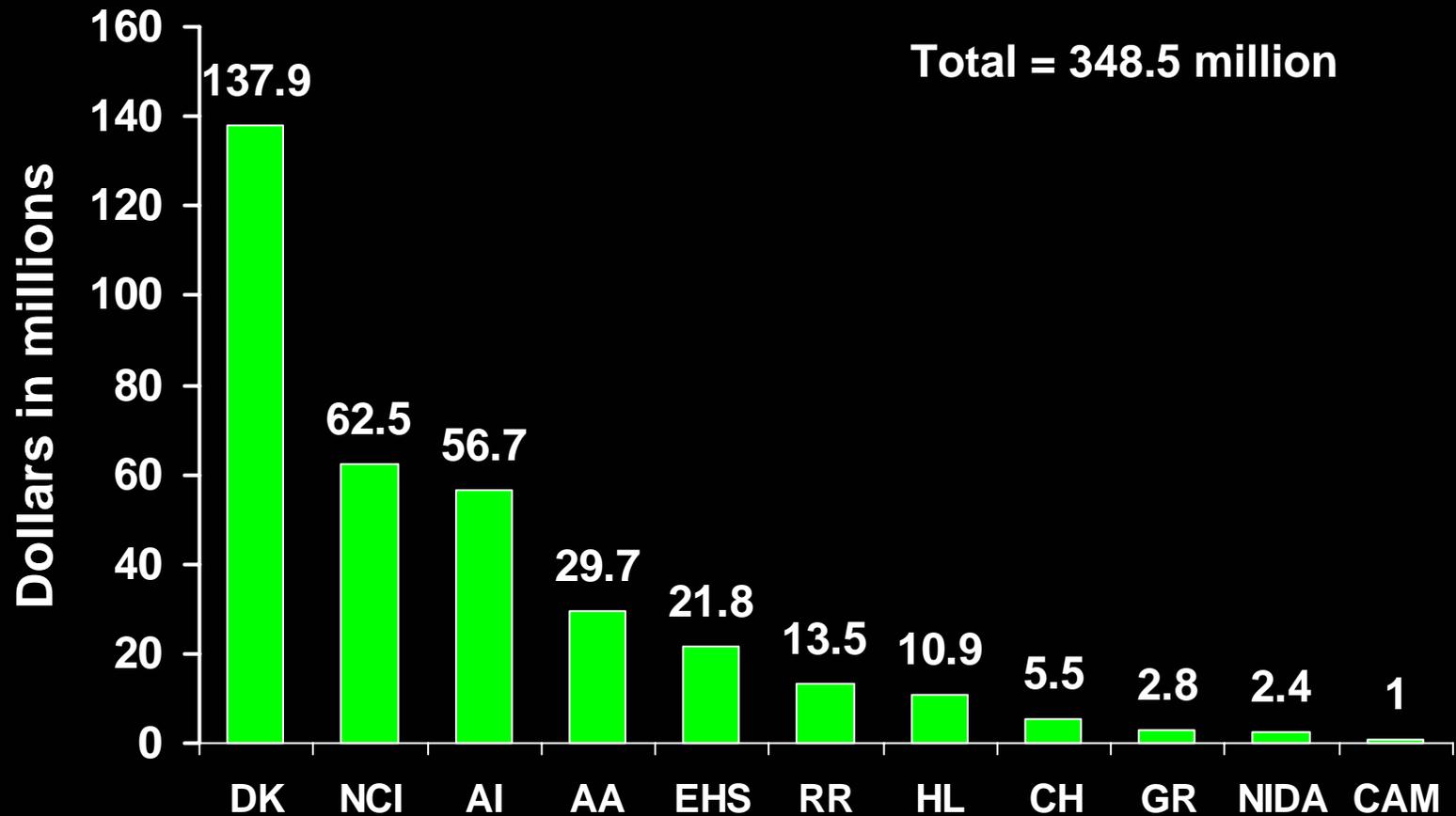
National Institutes of Health



Liver Disease Subcommittee

- Subcommittee of the Digestive Diseases Interagency Coordinating Committee.
- Purpose is to promote coordination of activities of different NIH Institutes as well as other Federal Agencies in liver disease related research.
- Develop an Action Plan for Liver Disease Research.
- Monitor implementation of the Plan.

Liver Disease Funding FY2002



Liver Disease Coordinating Subcommittee: Roster - 1

- **NIDDK: Leonard Seeff, Jose Serrano, Pat Robuck, Jay Everhart, Judy Podskalny, Stephen James, Jay Hoofnagle**
 - **NCI: Jaye Viner**
 - **NIAID: Leslye Johnson**
 - **NIAAA: Sam Zakhari**
 - **NIEHS: Carol Shreffler**
 - **NHLBI: Luiz Barbosa**
 - **NIDA: Thomas Kresina**
-

Liver Disease Coordinating Subcommittee: Roster-2

- **NCCR: David Wilde**
- **NHGRI: Alan Guttmacher**
- **NICHD: Gilman Grave, Tonse Raju**
- **NINR: Nell Armstong**
- **NCCAM: Marguerite Klein**
- **NIBIB: Alan McLaughlin**
- **FIC: Aron Primack**
- **CSR: Patricia Greenwel**
- **NLM: Donald King**

Action Plan for Liver Disease Research

- Establish a strategic & tactical action plan to address needs in liver & biliary disease research
 - In the form of a Report, due April 2004
 - Organizing Group
 - Liver Disease Research Branch
 - Liver Disease Subcommittee of DDICC
 - Intramural scientists (CC, NIDDK, NIAID, NCI)
 - Extramural Research Community (~6 members)
-

Nov 25, 2003

Action Plan for Liver Disease Research

- 1. Create outline and structure for the Action Plan**
 - 2. Divide into 12-15 focus areas of liver research**
 - 3. Select 5-6 members for working groups for each of the focus areas**
 - 4. Define specifics for report from each group**
 - 5. Establish means to invite input from the general research (and lay) community**
 - 6. Suggest criteria for prospective assessment of the Action Plan**
 - 7. Create time-line for producing the Action Plan**
-

Liver Disease Research Action Plan

Twelve Areas (1)

- **Cell & molecular biology of liver**
 - **Viral hepatitis**
 - **Fatty liver disease**
 - **Drug and toxicant induced liver injury**
 - **Autoimmune liver disease**
 - **Pediatric liver disease**
-

Liver Disease Research Action Plan

Twelve Areas (2)

- **Genetic liver disease**
 - **Liver transplantation**
 - **Complications of chronic liver disease**
 - **Liver cancer**
 - **Gallbladder function & disease**
 - **Bioengineering and biotechnology**
-

Meeting Agenda

- **Burden of Liver Disease in the United States**
 - Jay Hoofnagle, NIH. Overview of burden of liver disease
 - Beth Bell, CDC. Chronic liver disease in the U.S.
 - Michael Lucey, U Wisconsin. Liver Transplantation
 - David Thomas, Johns Hopkins. Liver disease & AIDS
 - **Current NIH Portfolio in Liver Disease**
 - Jay Hoofnagle, Overview
 - Jose Serrano, NIDDK
 - Leslye Johnson, NIAID
 - Jaye Viner, NCI
 - Sam Zakhari, NIAAA
 - Carol Shfeffler, NIEHS
 - Thomas Kresina, NIDA (handout)
-

Meeting Agenda: Afternoon

- **Overview of Action Plan**
 - Structure
 - Chapters
 - Axiomatic principals
 - **Reaching the entire community**
 - Public Comment
 - Web site
 - **Twelve areas**
 - Definition
 - Membership
 - Charge to groups
 - **Means of prospective evaluation**
-

The Burden of Liver Disease in the United States

- Data on mortality from liver disease derives largely from death certificates records and analyses by the National Center for Health Statistics, CDC (National Vital Statistics Reports). Causes of death are classified by the International Classification of Diseases, 10th Revision (ICD-10).
-

Deaths from Liver Disease in the United States: 2001

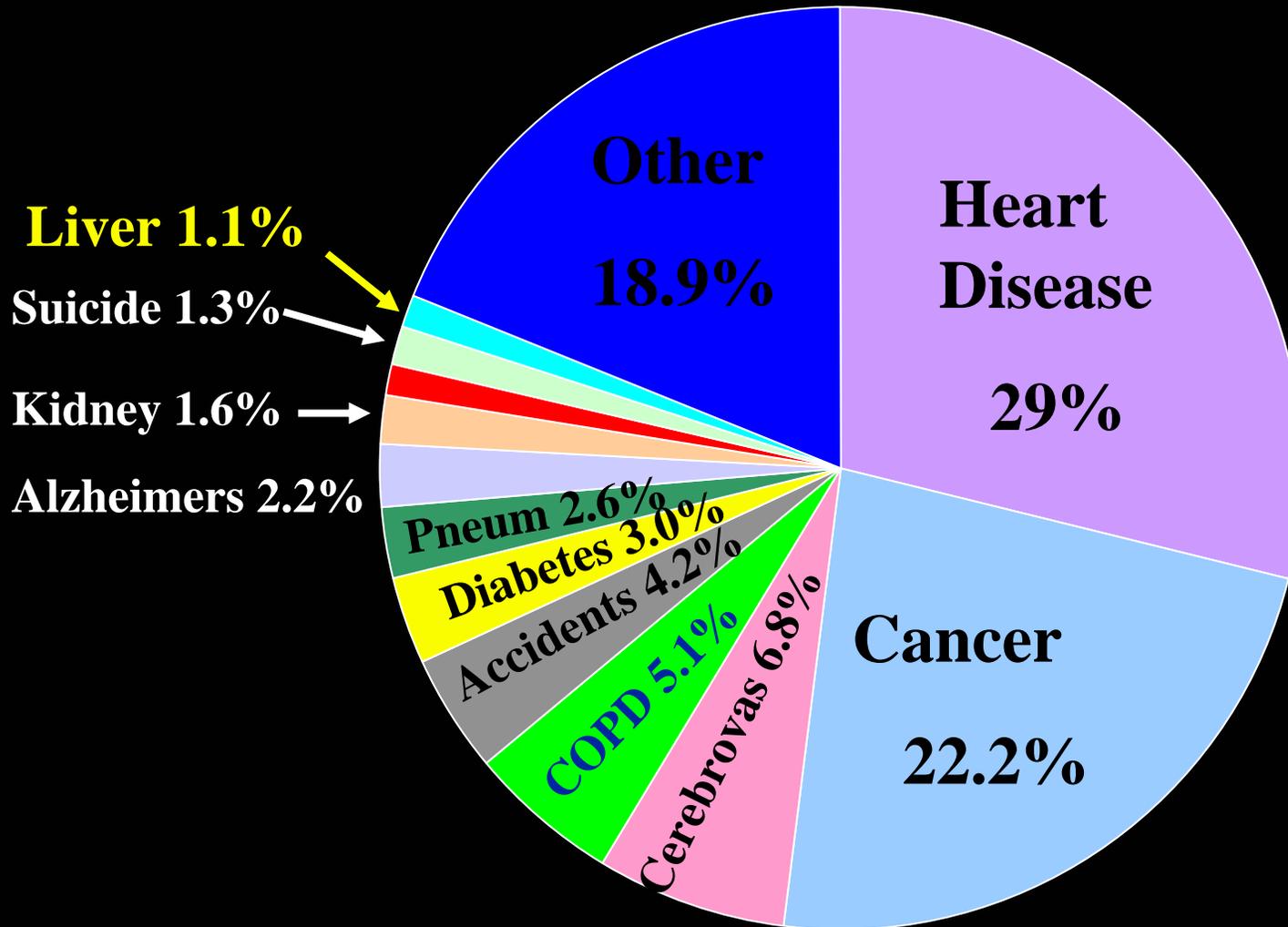
- Total number of deaths: 2,416,425
- Deaths from cirrhosis: 27,305 (1.1%)
- Absolute numbers of death yearly from cirrhosis in the U.S. have been stable for past 10 years with a resultant gradual decline in the age-specific death rates from chronic liver disease and cirrhosis
- Currently, death rates from cirrhosis are the lowest in the past 50 years.
- Cirrhosis is no longer in the top 10 causes of death in the United States

Major Causes of Death: U.S. 2001

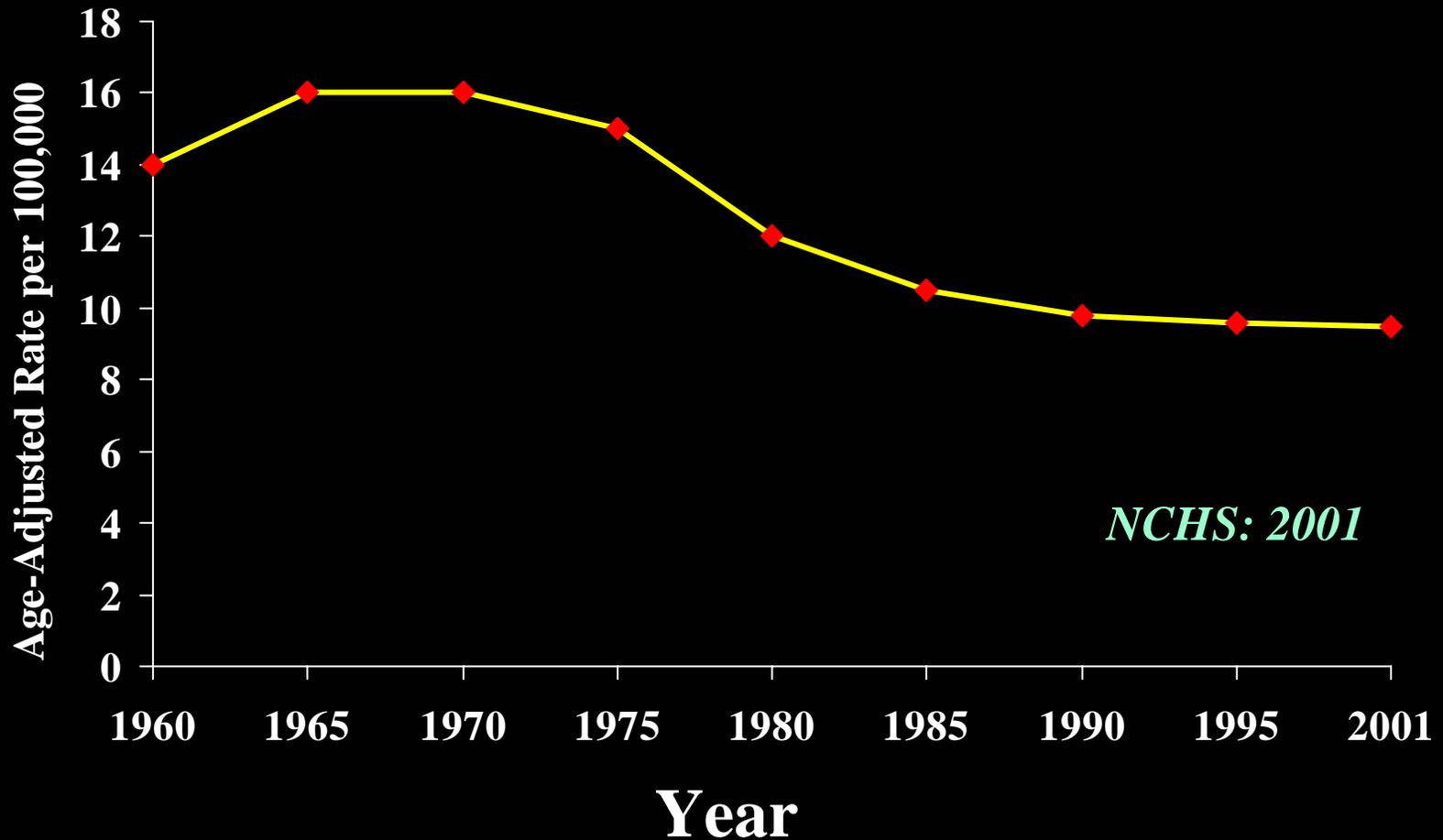
1. Heart Disease
2. Cancer
3. Cerebrovascular disease
4. Chronic lung disease
5. Accidents
6. Diabetes
7. Influenza & pneumonia
8. Alzheimer's disease
9. Chronic renal disease
10. Septicemia
11. Suicide
12. Chronic liver disease and cirrhosis

NCHS: CDC

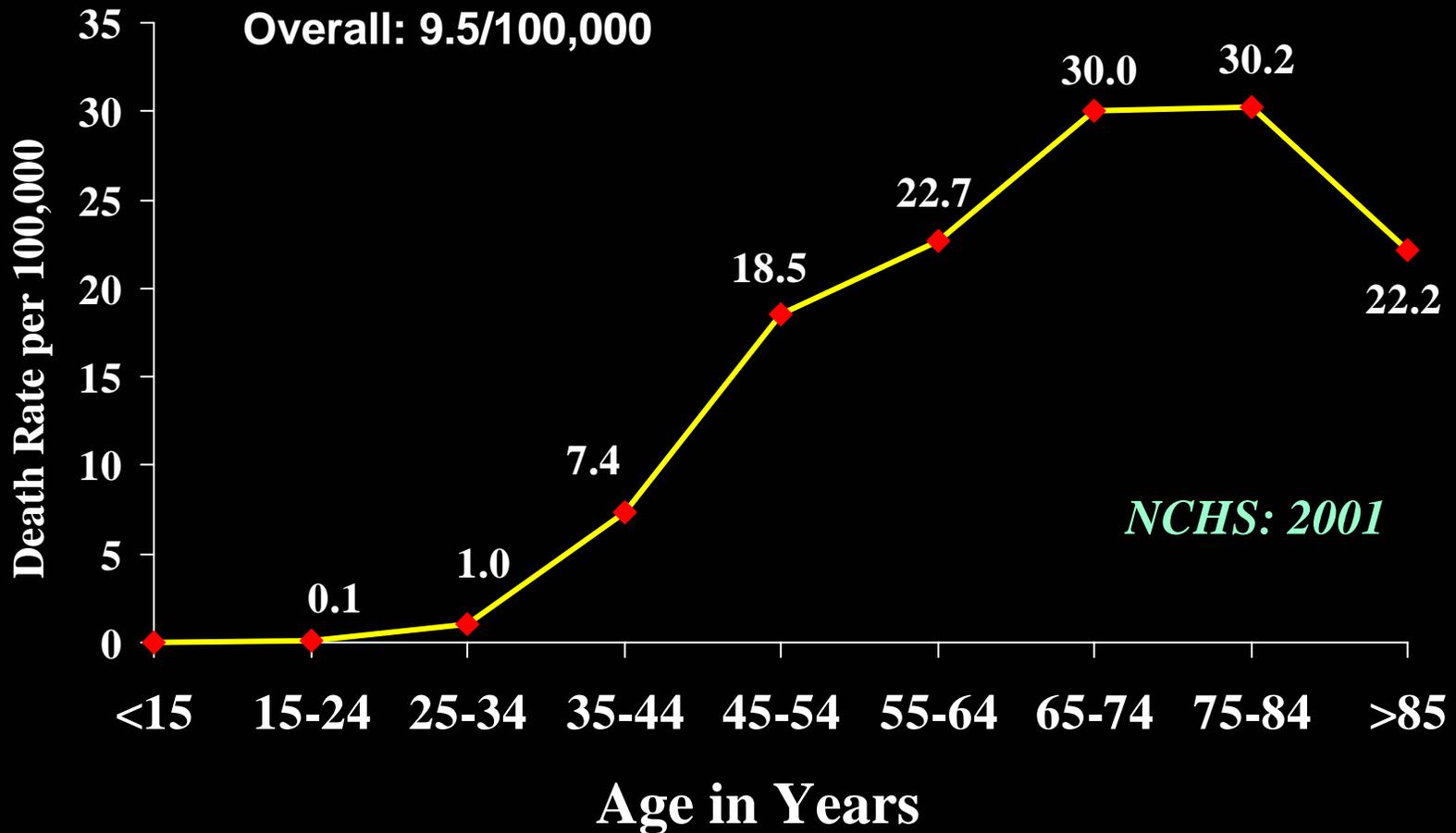
Major Causes of Death in the U.S. 2001



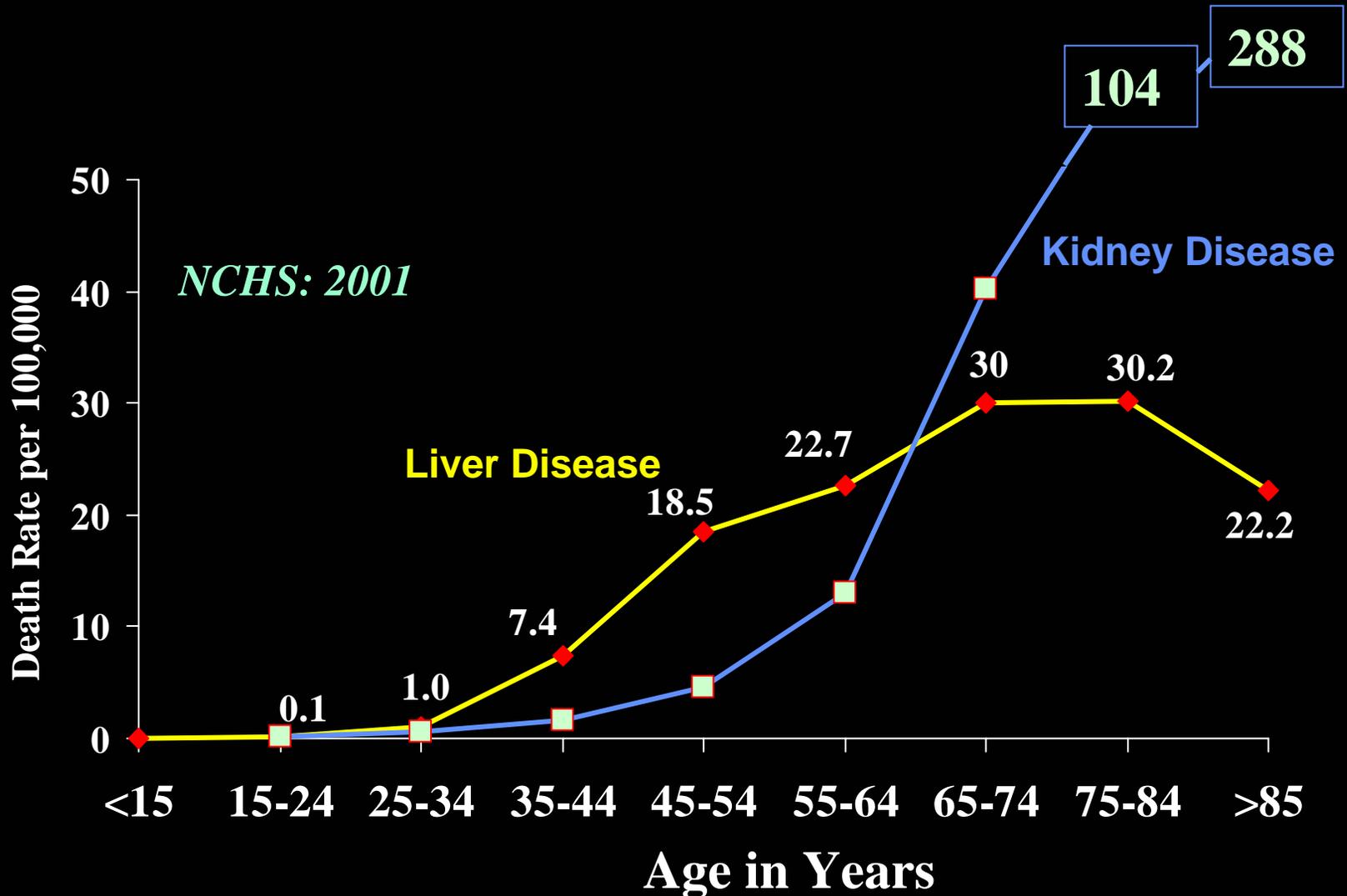
Death Rates from Chronic Liver Disease United States: 1960 to 2001



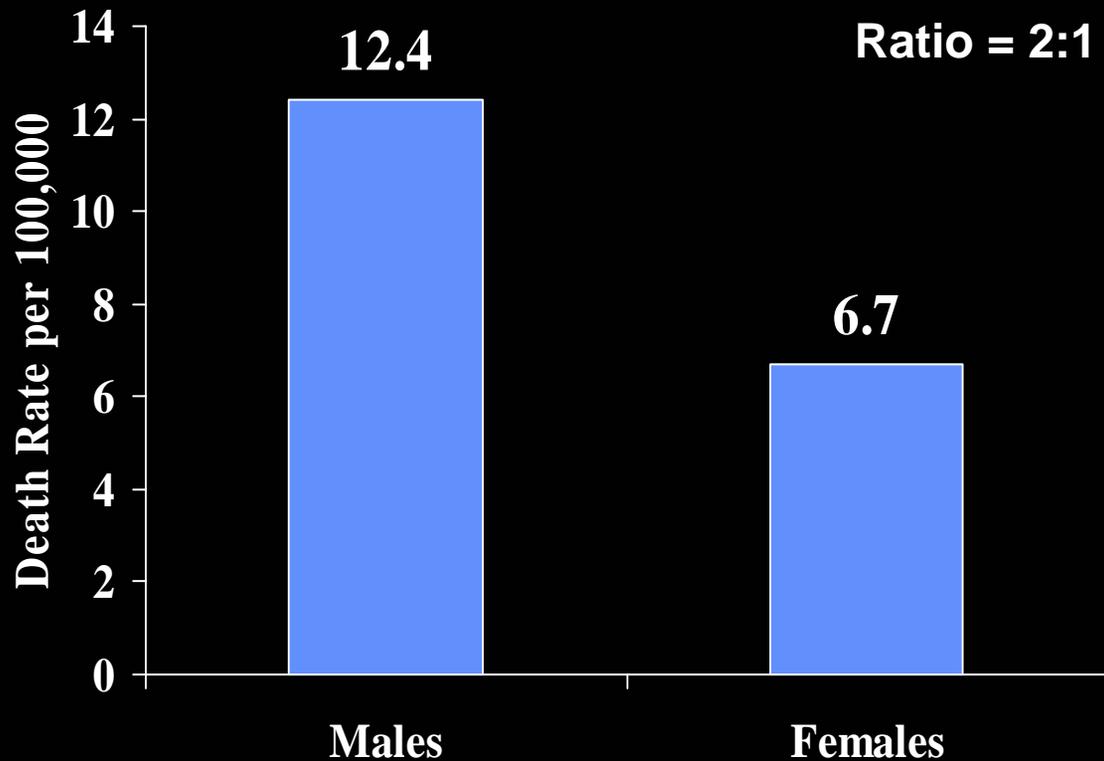
Death Rates in U.S. from Cirrhosis & Chronic Liver Disease by age: 2001



Death Rates in U.S. from Liver and Kidney Disease by age: 2001

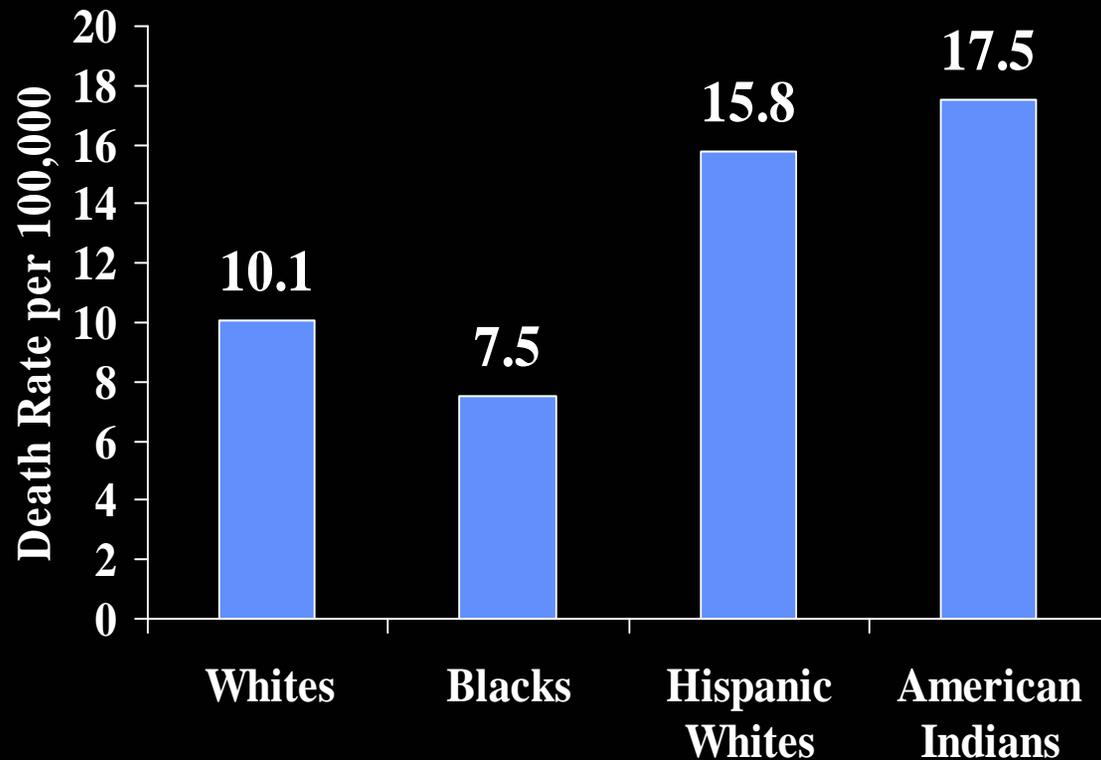


Age-Adjusted Death Rates for Chronic Liver Disease and Cirrhosis by Sex: 2001



NCHS: 2001

Age-Adjusted Death Rates for Chronic Liver Disease and Cirrhosis by Race & Ethnicity: 2001



NCHS: 2001

Liver Disease Codes in ICD-10

- **Chronic liver disease and cirrhosis (K70, K73-K74)**
 - **Viral hepatitis (B15-B19)**
 - **Cancer of the liver and intrahepatic bile ducts (C22)**
 - **When these codes are combined, the number of death for 2001 was 45,971 (1.9% of deaths: 9th major cause of death)**
 - **Difficulties with accuracy of death records**
 - **Age, racial and gender differences in rates**
-

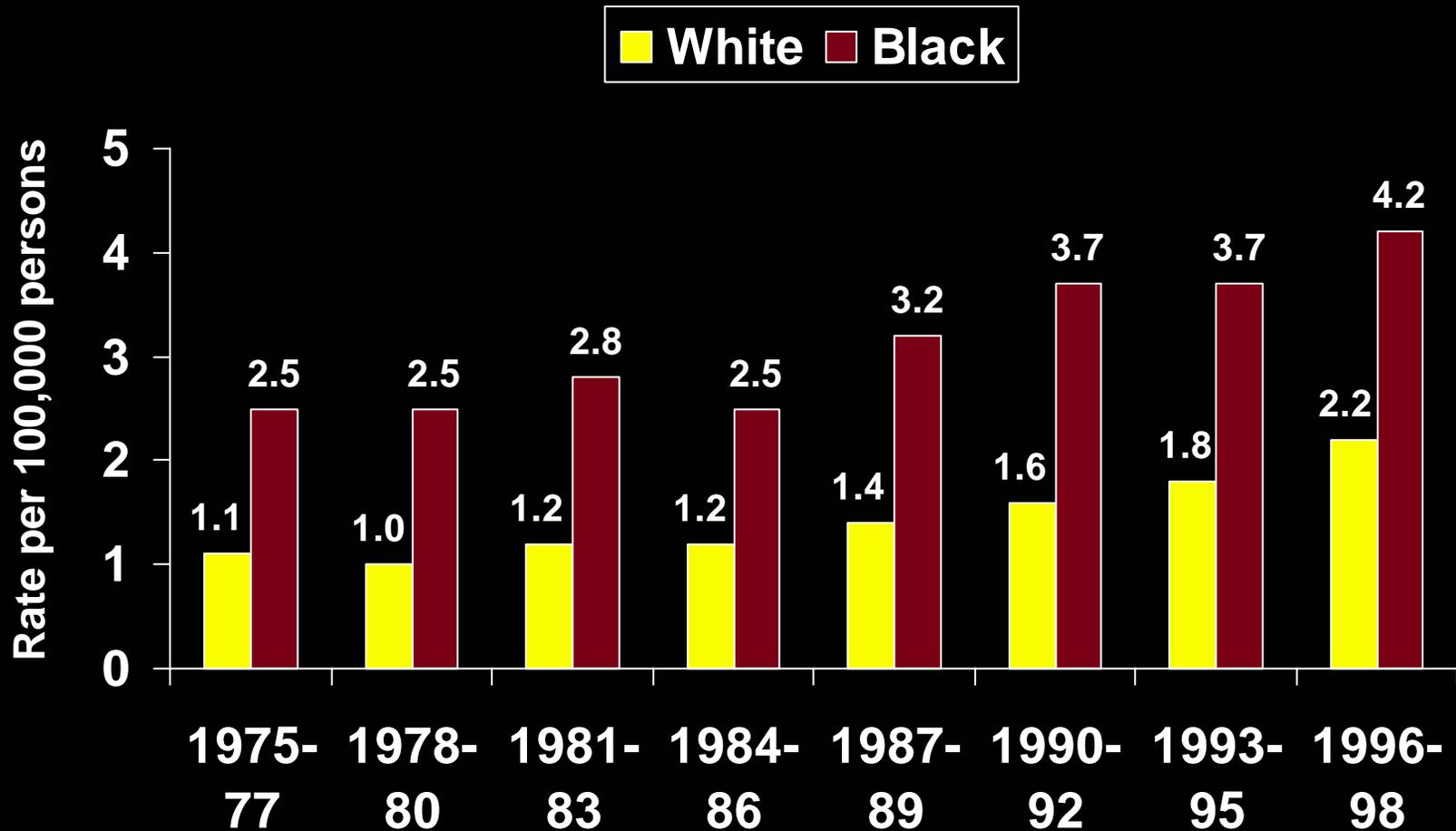
Leading Causes of Death: 2001

- Overall in the U.S. population, chronic liver disease and cirrhosis ranks 12th (1.1% of deaths)
- Ages 35-44, ranks 7th (3.6%)
- Ages 45-54, ranks 4th (4.3%)
- Ages 55-64, ranks 7th (2.4%)
- Among Hispanic whites, ranks 7th (2.9%)
- Among Native American Indians, ranks 6th (4.5%)
- Among American Indians, ages 35-44, cirrhosis is the second most common cause of death (12%)

Rising Incidence of HCC

- HCC has increased in incidence from 1.4/100,000 in 1975 to 3.0/100,000 more recently.
 - Major cause for this increase appears to be hepatitis C.
 - Now accounts for almost 1/4th of liver transplants done in adults
-

Incidence of Hepatocellular Carcinoma in the U.S. 1975-1998



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