

# Prevalence of hepatitis C and other chronic liver disease etiologies in primary care practices

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# Background

- Chronic liver disease is 10th leading cause of death in the US
  - 25,000 deaths per year/1% of total
- Hepatitis C represents 40% of all cases
  - 2.7 million infected in US
  - Overall yearly cost of disease > \$600 million
  - Leading indication for liver transplantation
- Need to accurately determine impact of CLD etiologies (HCV, ethanol, NASH)

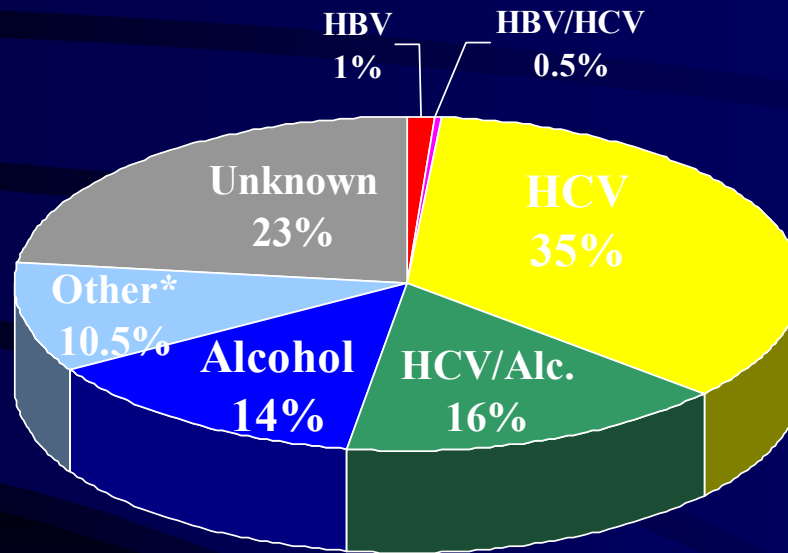
# Background

- New Haven County Liver Study (Jan 97-present)
  - CLD defined as abnormal liver tests of at least 6 months duration, biopsy or radiology consistent with CLD in those aged 18+ years
  - Incident cases identified through contact with 19 GI practices in New Haven County, CT
  - Incidence rate is 40/100,000

# Distribution of Etiologies

## Newly diagnosed CLD: NHCLS

Interviewed CLD subset (n=220)



\* other etiologies include fatty liver, PSC, autoimmune, hepatoma, drug induced, granulomatous, hemangioma, hemochromatosis, and cryptogenic

# CLD project, challenges

- Referral bias
- Lack of understanding of primary care referral patterns
- Lack of prevalence or incidence data from primary care practice

# Methods

- Waterbury, CT chosen as representative of US as a whole based on US census demographic information on gender, race, SES
- Waterbury residents have a high rate of primary care utilization

State of CT Office of Healthcare Access, 1995

# Demographic Comparison: U.S. vs New Haven Co. vs. Waterbury

	United States <sup>1</sup> (pop 2, 563,877)	New Haven County <sup>1</sup> (pop 598,872)	Waterbury <sup>1</sup> (pop 78,817)
<b>Gender (%)</b>			
Male	48	48	46
<b>Race (%)</b>			
White	72	80	65
Black	11	8	14
Hispanic	11	8	17
<b>Median income</b>	30,056 <sup>a</sup>	38,471 <sup>a</sup>	30,533 <sup>a</sup>
<b>Per capita income</b>	14,420 <sup>a</sup>	17,666 <sup>a</sup>	14,209 <sup>a</sup>

<sup>1</sup> Data source: U.S. Census Bureau, Decennial Census 2000 (unless otherwise indicated)

<sup>a</sup> Data source: U.S. Census Bureau, Decennial Census 1990

# Methods

## *continued*

- Informational and promotional dinner
  - Focus on HCV
  - recruitment of community-based primary care providers, faculty, housestaff
- Survey of willingness to participate



# Methods

## *continued*

- Pilot of abstraction instrument with validation
- Sampling of charts based on mix that would approximate practice pattern in Waterbury
- Estimated 0.5% prevalence of liver disease
- Sample size of 1600 charts

# Case definition

## *Probable chronic liver disease*

- Abnormal LFTs for 6 months
- One abnormal LFT with
  - HBsAg
  - HCV antibody or PCR
- Abnormal liver biopsy
- Imaging tests consistent with CLD
- Clinical complication (PSE, varices, ascites, jaundice, SBP)

# Case definition

## *Possible chronic liver disease*

- Clinician documentation
- Positive HBsAg
- Positive HCV Ab or RNA
- One abnormal liver test
  - Imaging consistent with PLD or fatty liver
  - Splenomegaly
  - Elevated triglycerides

# Criteria for assignment of etiologies

## Etiology

Alcohol

Fatty liver

HCV

HBV

Hepatocellular CA

Autoimmune

## Criteria

No other etiology *and*  
Biopsy *or*  
MD documentation

No other etiology *and*  
Biopsy *or*  
Imaging with abnormal LFT  
ELISA, RIBA, PCR

HbsAg

Biopsy *or*  
Cirrhosis with mass

Biopsy *or*  
ANA > 1:80 *or*  
ASMA > 1:40

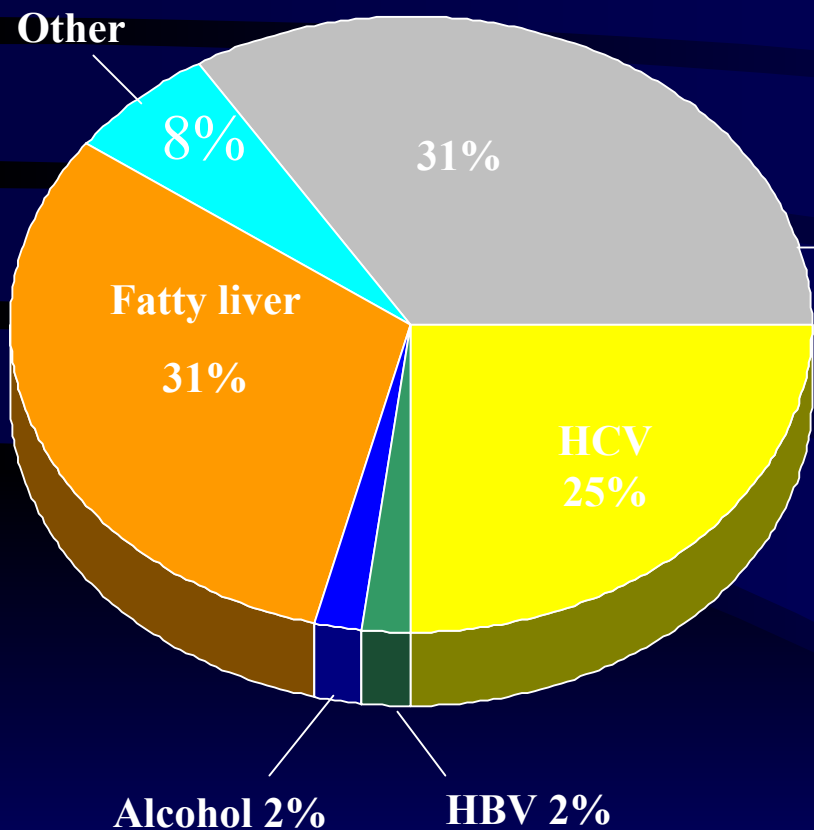
# Results

- 31/46 (67%) primary care providers
- Total charts screened 1610 (65-608 per practice)
- Total CLD cases =60
  - 44 (73% probable CLD)
- Median age=47
- Gender 54% female
- Overall prevalence 3.7% (95% CI 2.8-4.7%)
- Practice ranges=1.5%-8.8%

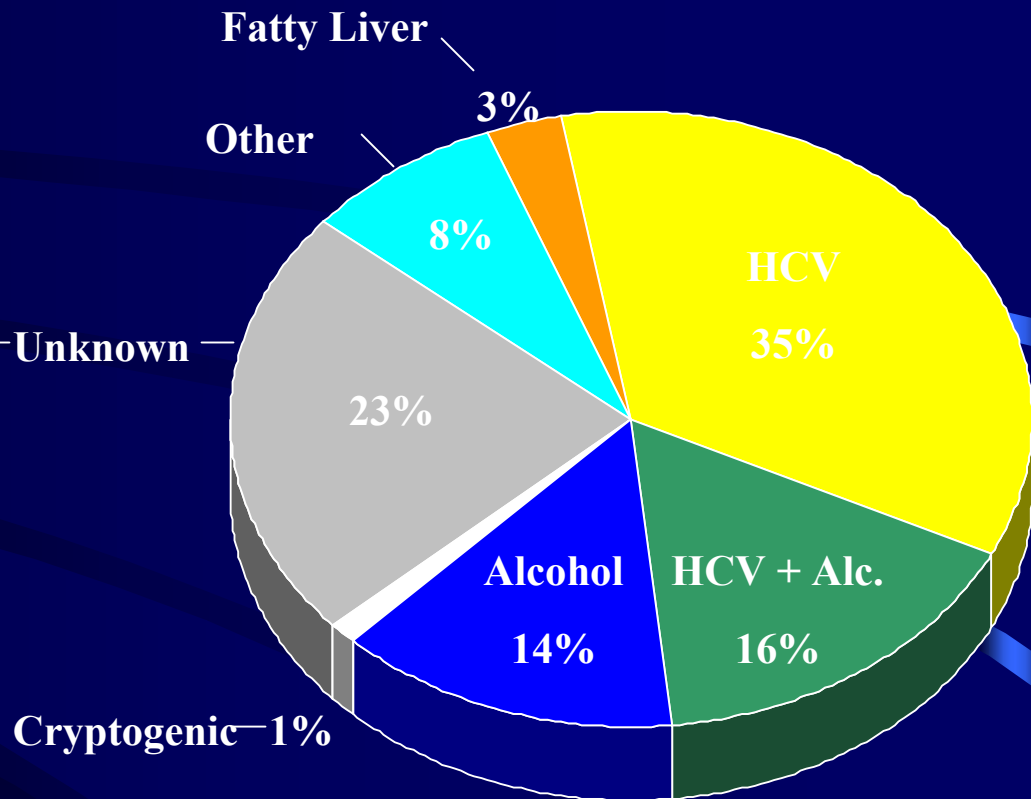
# Distribution of CLD Etiologies

Primary care vs. hepatologists' cases

Primary Care Cases (n=60)



Hepatologists' cases (n=220)



## Results (cont'd)

- 5/60 (8%) of patients underwent liver biopsy
- 7/60 (11%) patients had a clinical event
  - 5 patients had documented jaundice
  - 2 patients had a variceal bleed

# Physician recognition and referral of patients with CLD

Etiology	Recognized by PCPs	Referred by PCPs <sup>1</sup>
HCV	67%	60%
Fatty liver	28%	20%
HBV	100%	100%
Alcohol	100%	0%
Autoimmune	100%	0%
Hemochromatosis	100%	100%
Hepatocellular CA	100%	0%
<b>All etiologies</b>	<b>47%</b>	<b>43%</b>

<sup>1</sup>0% of PCP-recognized cases subsequently referred for subspecialty care



# Conclusions

- CLD is prevalent in primary care practices
- Hepatitis C and fatty liver account for the majority of cases
- The etiologies of CLD in primary care practices appear to differ from that in referral practices
- A minority of patients are referred to gastroenterologists
- Referral appears to be etiology-dependent

# Limitations of study

- Chart review study
- Limited primary care practice participation