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Hanna Blaney, MD, MPH

All attendees will be muted and will remain in "Listen Only Mode"

Type your questions here so that the moderator can see them.
Not all questions will be answered but we will get to as many as possible.

A handout with the slides and room to take notes can be downloaded from your control panel.

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ACG Virtual Grand Rounds

Join us for upcoming Virtual Grand Rounds!

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GI Nutrition Care Series: Micronutrient Deficiencies and Malabsorption
Faculty: Kristen Roberts, PhD, RDN, CNSC, FASPEN, FAND
Moderator: Lindsey Russell, MD, MSc, CNSC
At Noon and 8pm Eastern

Week 35 – Thursday August 28, 2025
Short Bowel Syndrome/Intestinal Failure: Recognition, Complications, and Basic Management
Faculty: John K. DiBaise, MD, FACG
Moderator: Dejan Micic, MD, FACG
At Noon and 8pm Eastern

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Disclosures

Ashwani K. Singal, MD, MS, FACG:
ACG: Research Grant, Speakers Bureau; APF: Advisory Board, Consultant; CSL Behring: Advisory Board, Consultant; CLD Foundation: Speakers Bureau; Guidepoint: Advisory Board, Consultant; Gilead: Advisory Board, Consultant; Industry: Research Grant; Medscape Gastroenterology: Speakers Bureau; NIAAA: Research Grant; NIDDK: Research Grant; UAB: Research Grant; Up-To-Date: Royalties

Hanna Blaney, MD, MPH:
No relevant financial relationships with ineligible companies.

**All of the relevant financial relationships listed for these individuals have been mitigated*

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PREVENTION OF ALCOHOL ASSOCIATED LIVER DISEASE

Ashwani K. Singal MD, MS, FACG, FAASLD, AGAF
Professor of Medicine, University of Louisville School of Medicine
Transplant Hepatologist, Jewish Hospital and Trager Transplant Center
Health Research Scientist, VA Medical Center
Louisville, KY

ACG Virtual Grand Round
August 14, 2025

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Learning objectives

- Learn the alcohol attributable healthcare burden.
- Understand the role of national policies to reduce population level availability and use of alcohol.
- Recognize the role of healthcare providers in identifying high risk users and screen for underlying liver disease.
- Update on the current status and barriers in treatment of alcohol use disorder in patients with established liver disease.

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Alcohol associated healthcare burden

- 5.3% (3 million) deaths and 5.1% (132.6 million) of DALY, 75% in men
- Europe (10.1% of deaths and 10.8% of DALY), US (5.5% and 6.7%, respectively). Age standardized disease burden is highest in Africa
- In the US, alcohol attributable deaths/100,000 increased from 23.2 in 2016-2017 (N=137,927) to 29.4 in 2020-2021 (n=178,307).
- ALD mortality 9.7 per 100,000, increasing in young, females, and American Indians

World Health Organization ;2018; Mathurin and Singal JAMA 2021; 326: 165-76.

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Covid-19 pandemic and alcohol use

- Alcohol use increased during the COVID-19 for people already engaged in heavy or hazardously alcohol use.
- Alcohol support services access was disrupted, compounding the effects of social isolation on alcohol consumption.
- Morbidity related to ALD) and AUD accelerated during the COVID-19 pandemic with a) >50% increase in hospitalizations and b) acceleration of mortality
- After effects to continue with greater rates of liver disease to be seen for years to come.

Deutsch-Link S et al. Clin Gastroenterol Hepatol 2022; 20: 2142-44 and Aberg et al. Hepatology 2024; 80: 1307-22.

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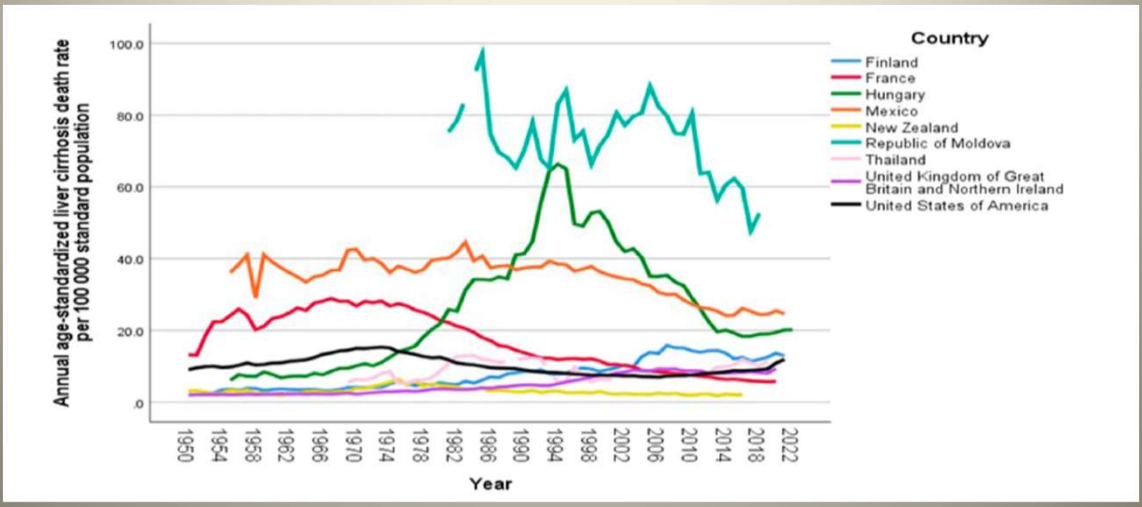
Worldwide trends on cirrhosis deaths



Burton R et al. Am J Gastroenterol 2025; Epub ahead of print

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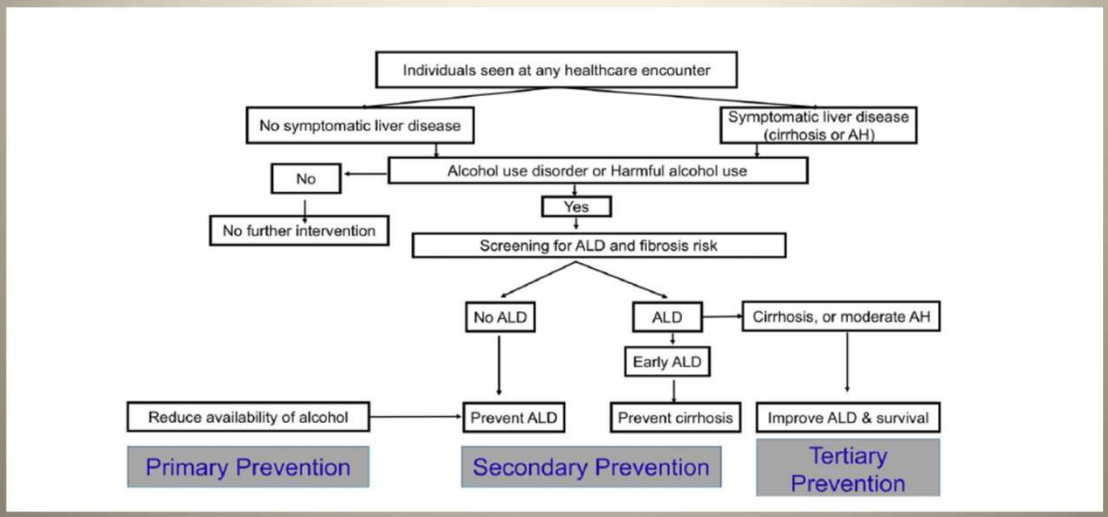
Three levels of prevention of any disease



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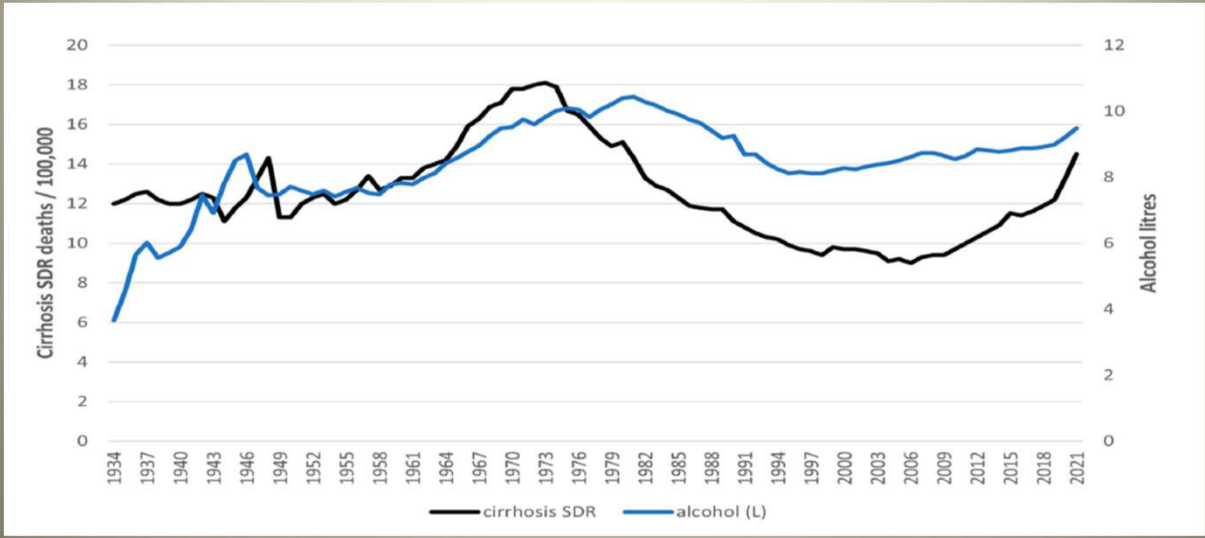
US trends on cirrhosis deaths and alcohol sales



Burton R et al. Am J Gastroenterol 2025; Epub ahead of print

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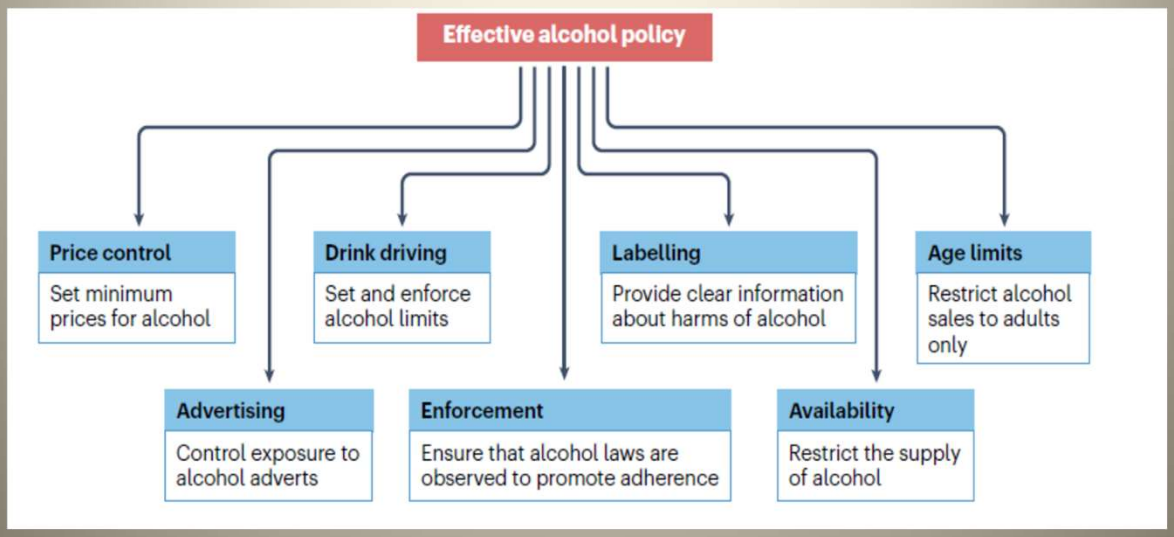
Primary prevention policies



Parker R et al. Nat Rev Gastroenterol Hepatol 2025; Epub ahead of print

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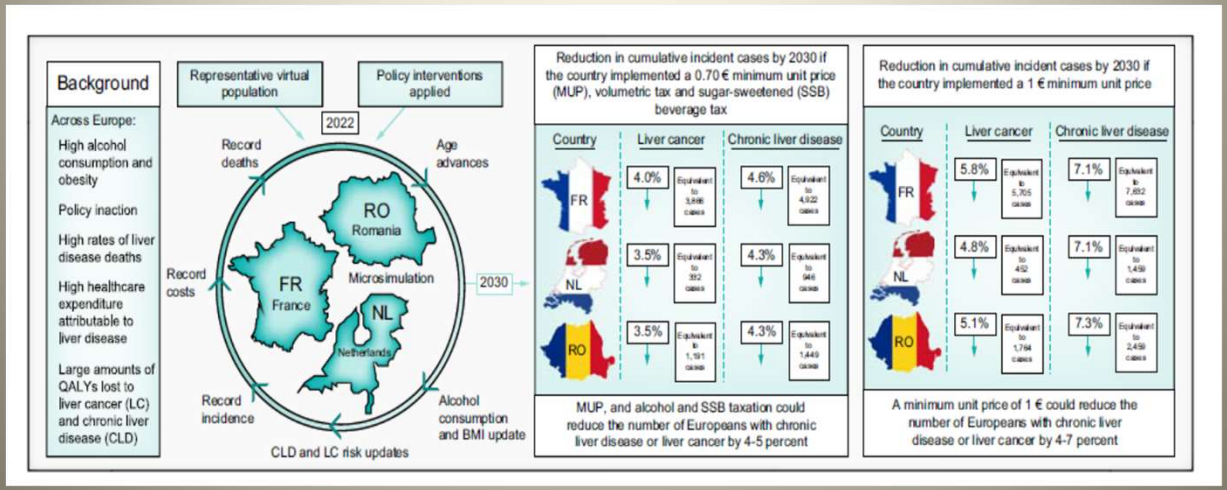
Minimum unit price (MUP) of alcohol reduces the alcohol sales and healthcare burden



Retat et al. J Hepatol 2024; 80: 543-52.

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Countries implementing the policy of MUP

Country	Year (Law)	MUP	Standard drink	Dollar conversion	Dollar/10g ethanol (international drink)
Australia	2018 (2019)	1.3 Aus $	10 g	1	1
Scotland	2018 (2012)	65 pence	8 g	0.83	0.67
Wales	2020 (2018)	50 pence	8 g	0.64	0.51

Several provinces and cities in Canada and Soviet Union also have MUP implemented.

Still under consideration in Ireland.

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Taxation on alcohol to set MUP

Country	Beer	Wine	Spirits	Country	Beer	Wine	Spirits	Country	Beer	Wine	Spirits
North America				Armenia	AV	AV	AV	Dominica	U	U	U
Canada	U	U	S	Azerbaijan	U	U	U	Dominican Republic	AV/S	AV/S	AV/S
The United States	U	U	S	Belarus	U	U	S	Grenada	S	U	S
EU Member States				Bosnia and Herzegovina	U	U	S	Guyana	U	U	U
Austria	S	—	S	Georgia	S	—	S	Haiti	AV	AV	AV
Belgium	S	U	S	Iceland	S	S	S	Jamaica	S	S	S
Bulgaria	S	—	S	Israel	U	—	S	Saint Kitts and Nevis	AV	AV	AV
Croatia	S	—	S	Kazakhstan	U	U	S	Saint Lucia	U	U	U
Cyprus	S	—	S	Kyrgyzstan	U	U	U	Saint Vincent and the Grenadines	U	U	U
Czech Republic	S	—	S	Lithuania	S	U	S	Suriname	U	S	U
Denmark	S	U	S	Moldova	U	—	S	Trinidad and Tobago	U	U	S
Estonia	S	U	S	Monaco	S	U	S	Latin America			
Finland	S	U	S	Montenegro	S	—	S	Argentina	AV	—	AV
France	S	U	S	North Macedonia	S	—	S	Bolivia	AV/U	U	AV/U
Germany	S	—	S	Norway	S/U	S/U	S	Brazil	AV	AV	AV
Greece	S	U	S	Russian Federation	U	U	S	Chile	AV	AV	AV
Hungary	S	—	S	San Marino	S	—	S	Colombia	AV	S/U	S/U
Ireland	S	U	S	Serbia	U	—	U	Costa Rica	AV/S	AV/S	AV/S
Italy	S	—	S	Switzerland	U	—	S	Ecuador	AV/S	AV/S	AV/S
Latvia	S/U	U	S	Tajikistan	U	U	S	El Salvador	AV/S	AV/S	AV/S
Luxembourg	S	—	S	Turkey	AV	U	S	Guatemala	AV	AV	AV
Malta	U	S	S	Turkmenistan	AV	AV	AV	Honduras	U	AV/U	AV/U
The Netherlands	S/U	U	S	The United Kingdom	S	S	S	Mexico	AV	AV	AV
Poland	S	U	S	Ukraine	U	U	S	Panama	S	S	S
Portugal	S/U	—	S	Uzbekistan	U	U	U	Paraguay	AV	AV	AV
Romania	S	—	S	Caribbean				Peru	U	AV/U	AV/U
Slovakia	S	—	S	Antigua and Barbuda	—	—	—	Nicaragua	AV/S	AV/S	AV/S
Spain	S/U	—	S	Bahamas	AV/U	AV	S	Uruguay	U	—	U
Non-EU European Countries				Barbados	U	U	U	Venezuela	AV	AV	AV
Albania	S	U	S	Belize	U	U	U				
Andorra	—	—	—	Cuba	—	—	—				

AV: Ad valorem tax on product value; S: Specific tax on volume of alcohol; U: Unitary tax on volume of product

Burton R et al. Am J Gastroenterol 2025; Epub ahead of print

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Restricting alcohol availability

- In a systematic review, 7 of 7 studies confirmed that restricting days and hours of alcohol sales reduced availability of alcohol.
- Increase in alcohol sale by 1 day can increase alcohol use by 3.4%.
- Three of 4 studies targeting density of outlets for alcohol sales confirmed that reducing the density of alcohol sale outlets can reduce alcohol availability and consumption.

Shrek et al. J Stud Alcohol Drugs 2018; 79: 58-67.

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Restricting alcohol advertising

- There is no or a weak evidence that restricting advertising reduces alcohol use.
- This may have more benefit and impact in younger and underage drinkers.
- Public support for restricting alcohol advertising is lower than for the other national policies.
- Public health messaging on the product reduced alcohol use by 6% in Canada.

Parker et al. Nat Rev Gastroenterol Hepatol 2025; Epub ahead of print.
Dekker et al. Int J Drug Policy 2020; 82: 102807.
Zhao et al. J Stud Alcohol Drugs 2020; 81: 225-37.

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Alcohol accounts for 5-9% of all cancer related deaths in the US (Alcohol warning labels)

Label 1 – Cancer Warning

Label 2 – Canada's National Drinking Guidelines

Label 3 – Standard Drink Information (example for wine)

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Alcohol policy and consumption in young

- Minimum age limit to purchase alcohol varies between countries and reduces alcohol sale and consequent harms.
- Educational programs like School Health Alcohol Harm Reduction Project (SHAHRP) in Australia
- Unplugged program delivered by trained teachers in Europe and several other countries.
- Driving related policy on legal blood alcohol concentration and age-related restriction reduces MVA by 23%.

Wagenaar et al. J Stud Alcohol Suppl 2002; 206-25.
McBride et al. Addiction 2004; 99: 278-91.
Virginia-Taglianti et al. 2014; 67-82.
Shults et al. Am J Prev Med 2001; 21: 66-88.

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Education and awareness

- National: NIH in US, NICE in UK, AEEH in South America
- Professional: AASLD; EASL; ALEH
- Voluntary: SAMSHA; Sober livers
- Dry January (alcohol abstinence month)

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Worldwide rates of implementation of public policies targeting to reduce alcohol use

Intervention	Implementation rates (%)	Policy strengths	Policy weaknesses
National plan to fight the harmful consequences of alcohol	Europe: 76 Asia: 70 Oceania: 60 Africa: 40 Americas: 29	Countries with stronger alcohol policies have lower rates of alcohol-related liver disease	Requires coordination from many agencies and government departments to formulate a national plan
National licence for the control of production and selling of alcohol	Asia: 97 Americas: 89 Africa: 88 Europe: 80 Oceania: 80	Controls the supply of alcohol, where more stringent restrictions reduce overall consumption	Illicit or home-produced alcohol will not be affected by legal restrictions
Taxes control & pricing policies for alcohol products	Europe: 98 Asia: 97 Americas: 91 Africa: 90 Oceania: 80	Controlling the price of alcohol, through taxation or setting a minimum price, reduces alcohol-related harms including a reduction in liver disease	Financial strain in people dependent on alcohol
Limiting drinking age	Europe: 100 Americas: 89 Asia: 88 Africa: 86 Oceania: 80	Age controls show a positive effect on alcohol-attributable mortality in cohort studies	Limiting access in older teenagers may encourage illicit consumption
Restrictions to alcohol access	Europe: 91 Asia: 91 Americas: 86 Africa: 84 Oceania: 60	Increased access to alcohol increases harm; conversely, reduced access either through outlets or time-restricted selling can reduce harm including liver disease	Habitual or dependent drinkers may still be able to obtain alcohol
Driving-related alcohol policies	Asia: 100 Europe: 100 Africa: 96 Americas: 91 Oceania: 80	Enforcement of alcohol limits for driving reduces drink-driving and road traffic accidents	Limits must be enforced to be effective
Control over advertising and promotion of alcohol products	Asia: 94 Europe: 93 Africa: 66 Americas: 56 Oceania: 40	Restricting advertising may have an effect on consumption of alcohol by younger people	Limited evidence of overall effect on consumption

Parker R et al. Nat Rev Gastroenterol Hepatol 2025; Epub ahead of print

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Impact of Public Health Policies on Alcohol-Associated Liver Disease in Latin America: An Ecological Multinational Study

Luis Antonio Díaz [1], Francisco Idalsoaga [1], Eduardo Fuentes-López [2], Andrea Márquez-Lomas,[3] Carolina A. Ramírez [4], Juan Pablo Roblero [5], Roberta C. Araujo [6], Fátima Higuera-de-la-Tijera [7], Luis Guillermo Toro,[8] Galo Pazmiño,[9] Pedro Montes [10], Nelia Hernandez,[11] Manuel Mendizabal [12], Oscar Corsi [13], Catterina Ferreccio [14,15], Mariana Lazo [16-18], Mayur Brahmania [19], Ashwani K. Singal [20], Ramon Bataller [21], Marco Arrese [1], and Juan Pablo Arab [1]

Public policies	Deaths due to alcohol-associated cirrhosis* PR	95%CI	p-value	Alcohol use disorders** PR	95%CI	p-value	Alcohol-attributable deaths due to road traffic injuries** PR	95%CI	p-value
1. National plan to fight harmful consequences of alcohol consumption	0.13	0.05-0.32	<0.001	0.17	0.06-0.48	0.001	0.22	0.09-0.60	0.003
2. Taxes control & pricing policies	0.90	0.27-3.02	0.865	0.71	0.17-2.95	0.640	0.89	0.20-4.00	0.877
3. Drinking age and youth focus policies	0.28	0.09-0.81	0.019	0.63	0.22-1.96	0.424	0.42	0.15-1.19	0.101
4. Driving-related alcohol policies	0.31	0.12-0.83	0.020	0.35	0.15-0.83	0.016	0.33	0.12-0.89	0.029
5. Control over advertising and promotion	0.44	0.17-1.10	0.080	0.44	0.12-1.81	0.268	0.55	0.15-2.07	0.378
6. Government monitoring systems	0.49	0.18-1.38	0.177	0.48	0.20-1.19	0.113	0.39	0.16-0.96	0.040
7. Restrictions to alcohol access	0.25	0.09-0.67	0.006	0.34	0.13-0.91	0.032	0.90	0.26-3.01	0.850
8. National license, production, and selling control	2.24	0.51-9.95	0.288	1.46	0.35-6.01	0.604	1.73	0.45-6.71	0.428

Prevalence difference (PD): >20 | 10-20 | -X to 10 — PD with p<0.05

*Model adjusted by obesity and diabetes. **Model adjusted by the Gini index. **PR**: Prevalence ratio; **CI**: Confidence interval.

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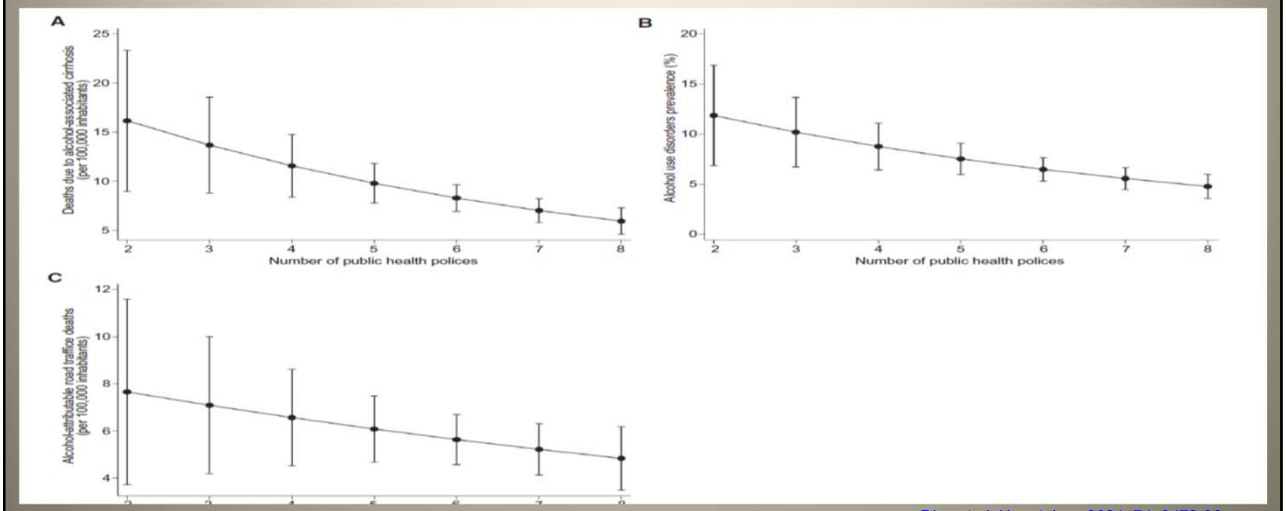
Number of public health policies is associated with reducing alcohol related morbidity and mortality



Díaz et al. Hepatology 2021; 74: 2478-90.

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SAFER technical package from WHO

(*launched in 2018 for prevention of NCD's*)

The SAFER interventions

STRENGTHEN	ADVANCE	FACILITATE	ENFORCE	RAISE
restrictions on alcohol availability	and enforce drink-driving countermeasures	access to screening, brief interventions and treatment	bans or comprehensive restrictions on alcohol advertising, sponsorship and promotion	prices on alcohol through excise taxes and other pricing policies

Best buys: affordable, feasible & cost-effective policies recognized by WHO

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AUD Identification Test (AUDIT) and AUDIT-C

Questions	0	1	2	3	4
1. How often do you have a drink containing alcohol?	Never	Monthly or less	2 to 4 times a month	2 to 3 times a week	4 or more times a week
2. How many drinks containing alcohol do you have on a typical day when you are drinking?	1 or 2	3 or 4	5 or 6	7 to 9	10 or more
3. How often do you have 5 or more drinks on one occasion?	Never	Less than monthly	Monthly	Weekly	Daily or almost daily
4. How often during the last year you found that you were not able to stop drinking once you had started?	Never	Less than monthly	Monthly	Weekly	Daily or almost daily
5. How often during the last year have you failed to do what was normally expected of you because of drinking?	Never	Less than monthly	Monthly	Weekly	Daily or almost daily
6. How often during the last year have you needed a first drink in the morning to get yourself going after a heavy drinking session?	Never	Less than monthly	Monthly	Weekly	Daily or almost daily
7. How often during the last year have you had a feeling of guilt or remorse after drinking?	Never	Less than monthly	Monthly	Weekly	Daily or almost daily
8. How often during the last year have you been unable to remember what happened the night before because of your drinking?	Never	Less than monthly	Monthly	Weekly	Daily or almost daily
9. Have you or someone else been injured because of your drinking?	No		Yes, but not in the last year		Yes, during the last year
10. Has a relative, friend, doctor or other health care worker been concerned about your drinking or suggested you cut down?	No		Yes, but not in the last year		Yes, during the last year

AUDIT-C
3 or more in F
4 or more in M

AUDIT
>8 is AUD and >15 is moderate to severe AUD

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NIAAA definition of an alcohol drink

1 Unit=14 g of alcohol

300 ml
12 ounces

100 ml
5 ounces

45 ml
1.5 ounces

Standard drink across

Austria: 1 unit=20 g of alcohol

USA/NIAAA: 1 unit=14g of alcohol

Canada: 1 unit=13.6 g of alcohol

Germany/Italy: 1 unit=12 g of alcohol

India/China/France/WHO: 1 unit=10g of alcohol

UK/Iceland: 1 Unit=8g (10 ml) of alcohol

Formula to calculate the units consumed (considering 1 unit=8g):
Units= Strength (ABV or % of alcohol) x volume (ml) ÷ 1,000

ABV, alcohol by volume

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DSM-5 criteria for diagnosis of AUD

❖Alcohol consumption

- Amount
- Time spent in obtaining alcohol
- Unsuccessful attempts to cut down
- Craving
- Giving up activities of interest or important
- Putting at risk of physical, inter-personnel, social harms
- Failure to fulfill social, personnel, and professional duties
- Consumption in spite of physical, social, inter-personnel problems

❖Tolerance

- Increasing amount to achieve intoxication or desired effect

❖Withdrawal

- Presence of symptoms consistent with withdrawal
- Use of anti-anxiety drugs or alcohol to relieve withdrawal

AUD if
2 or more

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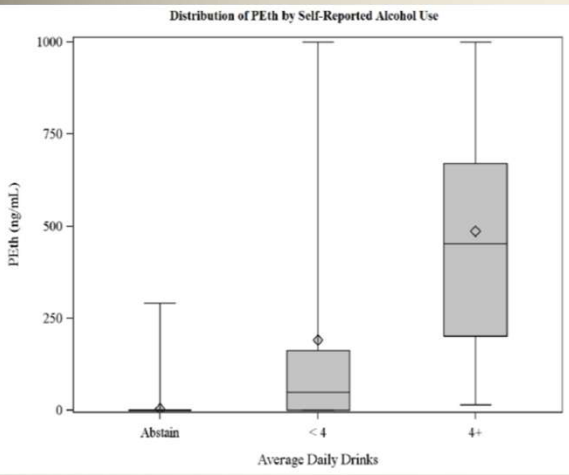
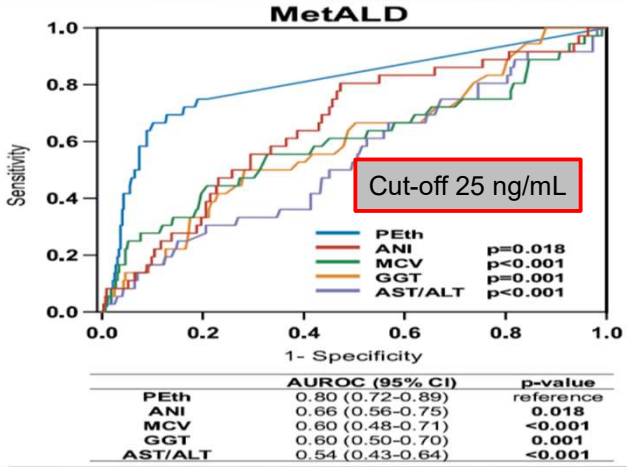
PeTH and alcohol use in liver disease





	AUROC (95% CI)	p-value
PEth	0.80 (0.72-0.89)	reference
ANI	0.66 (0.56-0.75)	0.018
MCV	0.60 (0.48-0.71)	<0.001
GGT	0.60 (0.50-0.70)	0.001
AST/ALT	0.54 (0.43-0.64)	<0.001

Stewart et al. ACER 2014; 38: 1706-11.

Tavaglione et al. APT 2025; Epub ahead of print.

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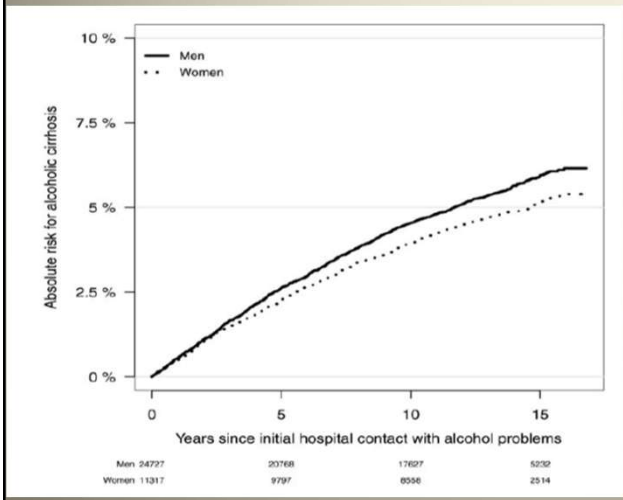
Missed opportunity during clinical encounters prior to development of cirrhosis in individuals at risk for ALD



- Danish registry of 36,054 individuals (188-2002) with alcohol use disorder
- At 15 years follow up, 5-6% developed liver cirrhosis

Askgaard et al. Hepatology 2017; 65: 929-37.

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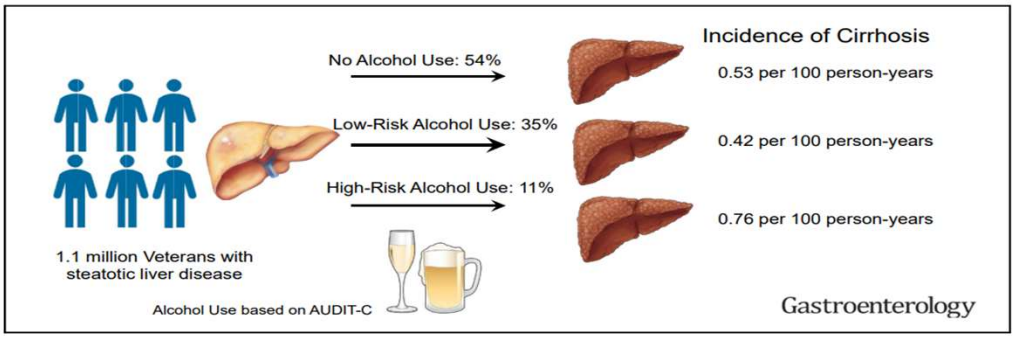
Gastroenterology 2024;■:1–10

Impact of Longitudinal Alcohol Use Patterns on Long-Term Risk of Cirrhosis Among US Veterans With Steatotic Liver Disease

Robert J. Wong,[1,2] Zeyuan Yang,[2] Ramsey Cheung,[1,2] Ashwani K. Singal,[3] Albert Do,[4] Aijaz Ahmed,[1] and Aaron Yeoh[1]

[1]Division of Gastroenterology and Hepatology, Stanford University School of Medicine, Palo Alto, California; [2]Gastroenterology Section, Veterans Affairs Palo Alto Healthcare System, Palo Alto, California; [3]University of Louisville School of Medicine; Jewish Transplant Hospital, Louisville, Kentucky; and [4]Division of Gastroenterology and Hepatology, University of California San Francisco School of Medicine, San Francisco, California



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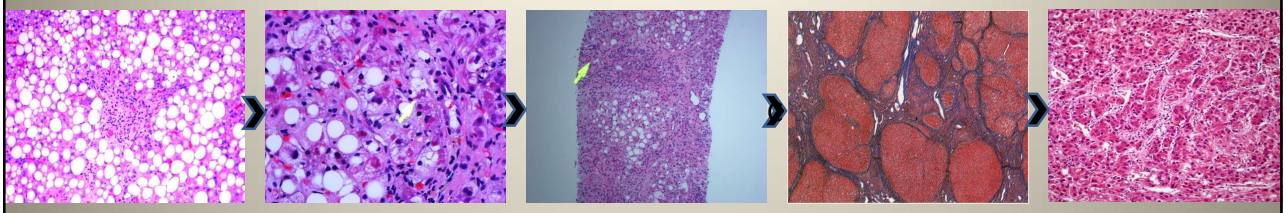
Histological Spectrum ALD



Singal and Mathurin JAMA 2021; 326: 165-76.

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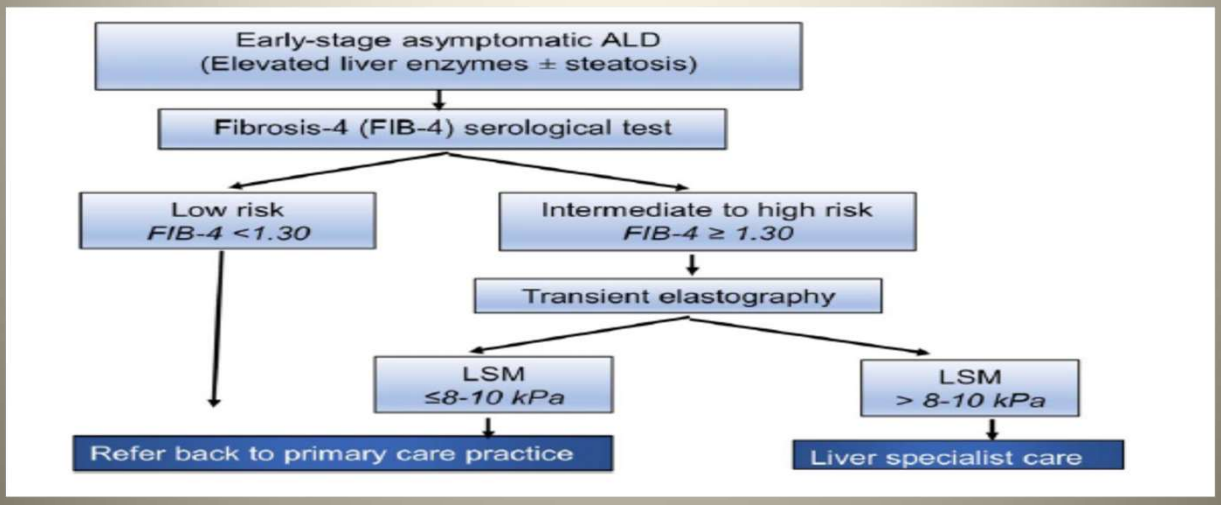
Screening for liver disease and severity in at risk individuals



Jophlin, Singal, and Shah. Am J Gastroenterol 2025; 120: 495-99.

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Noninvasive tests for advanced fibrosis or cirrhosis

Detection of advanced fibrosis

	Test	Cut point: Likely	Cut point: Unlikely	Comments
Serum	FIB-4	≥2.67	<1.3	• No added cost • Not accurate in age < 35 years and lower rule-out threshold among high-risk individuals with high pre-test probability
Serum	ELF	≥9.8	<7.7	• Blood test sent to a reference lab • Cost
Imaging	VCTE	≥12 kPa	< 8 kPa	• Point of care
Imaging	MRE	≥3.63 kPa	<2.55 kPa	• MRE LSM ≥3.63 kPa (associated with advanced fibrosis, AUROC 0.93)

Diagnosis of cirrhosis (rule in or rule out)

	Test	Rule-in	Rule-out	Comments
CPR	FIB-4	≥3.48	<1.67	90% specificity cut-point for ruling-in and 90% sensitivity for ruling-out cirrhosis, respectively
CPR	ELF	≥11.3	<7.7	ELF ≥11.3 associated with increased risk of hepatic decompensation among patients with cirrhosis
Imaging	VCTE	≥20 kPa	<8 kPa	LSM by VCTE ≥20 kPa is associated with cirrhosis but for ruling out cirrhosis optimal cut-point is <8 kPa
Imaging	MRE	≥5 kPa	<3 kPa	LSM by MRE ≥5 kPa has very good (near 95%) specificity for diagnosis of cirrhosis and is associated with increased risk of incident hepatic decompensation

Rinella ME et al. Hepatology. 2023;77:1797-1835.

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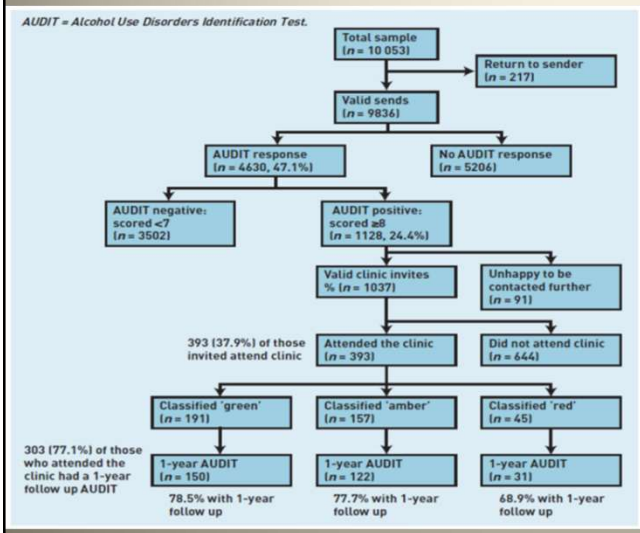
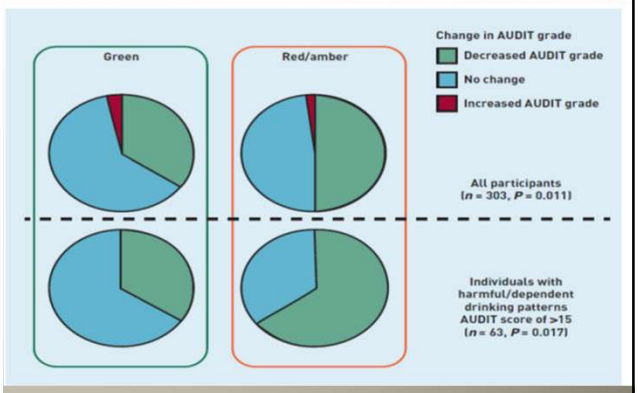
Screening for liver disease in at risk individuals is a cost-effective strategy





ICER / QALY for ELF followed by TE:
$5387-8430 in PCP setting
$490-1037 in high prevalence setting

Sheron et al. Br J Gen Pract 2013; 63: 698-705 and Asphaug et al. Hepatology 2020; 71: 2093-104.

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SBIRT Pathway
Screening: *AUDIT and AUDIT-C*

Questions	0	1	2	3	4
1. How often do you have a drink containing alcohol?	Never	Monthly or less	2 to 4 times a month	2 to 3 times a week	4 or more times a week
2. How many drinks containing alcohol do you have on a typical day when you are drinking?	1 or 2	3 or 4	5 or 6	7 to 9	10 or more
3. How often do you have 5 or more drinks on one occasion?	Never	Less than monthly	Monthly	Weekly	Daily or almost daily
4. How often during the last year you found that you were not able to stop drinking once you had started?	Never	Less than monthly	Monthly	Weekly	Daily or almost daily
5. How often during the last year have you failed to do what was normally expected of you because of drinking?	Never	Less than monthly	Monthly	Weekly	Daily or almost daily
6. How often during the last year have you needed a first drink in the morning to get yourself going after a heavy drinking session?	Never	Less than monthly	Monthly	Weekly	Daily or almost daily
7. How often during the last year have you had a feeling of guilt or remorse after drinking?	Never	Less than monthly	Monthly	Weekly	Daily or almost daily
8. How often during the last year have you been unable to remember what happened the night before because of your drinking?	Never	Less than monthly	Monthly	Weekly	Daily or almost daily
9. Have you or someone else been injured because of your drinking?	No		Yes, but not in the last year		Yes, during the last year
10. Has a relative, friend, doctor or other health care worker been concerned about your drinking or suggested you cut down?	No		Yes, but not in the last year		Yes, during the last year

8-15 score
Moderate AUD

>15 score
Severe AUD

Brief Intervention

Referral for Treatment

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AUD treatment in ALD patients: real world data

- ❖ Systematic review of 25 studies on 93,899 (33,834 AUD intervention)
- ❖ Only seven RCT, reduced relapse by 73% (0.27: 0.15-0.46)
- ❖ Of 5 RCT (n=322) using MAUD relapse reduced by 77% (0.23: 0.14-0.39)

- ❖ Reduced readmission (five observational studies) by 48%
- ❖ Reduced decompensation (two observational studies) by 52%
- ❖ No benefit on mortality on pooling data from three observational studies.

- Eight observational studies on LT recipients, reduced alcohol relapse by 59%, with 58% and 60% using integrated and non-integrated models.
- Reduced patient mortality by 56% in three observational studies, but not in two RCTs (0.82: 0.38-1.79).

Singal et al. Hepatol Comm 2025; Epub ahead of print.

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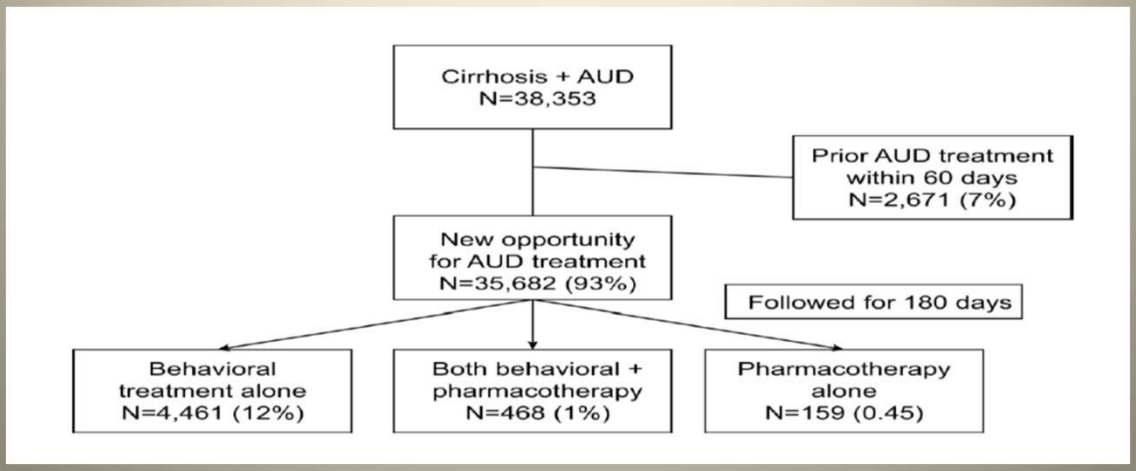
Treatment for alcohol use disorder is used rarely in cirrhosis patients



Rogal et al. Hepatology 2020

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Table 6 US Food and Drug Administration (FDA)-Approved Medications and Others Tested in Alcohol Use Disorder Patients

Medication	Dosage	Pharmacologic Target	Possible Use in Alcohol Use Disorder Patients with Alcoholic Liver Disease?
FDA-Approved Medications for Alcohol Use Disorder			
Acamprosate	666 mg TID	Possibly NMDA receptor agonist	Yes (no hepatic metabolism)
Disulfiram	250-500 mg QD	Inhibition of acetaldehyde dehydrogenase	No (hepatic metabolism; cases of liver toxicity have been reported)
Naltrexone* PO or IM	PO: 50 mg QD IM: 380 mg monthly	Mu opiate receptor antagonist	With caution (perceptions of liver toxicity limit use in advanced alcoholic liver disease)
Not FDA-Approved Medications Tested for Alcohol Use Disorder			
Baclofen	10 mg TID; 80 mg QD max	$GABA_B$ receptor agonist	Yes (minimal hepatic metabolism) Baclofen has been formally tested in clinical studies with alcohol use disorder patients with liver cirrhosis
Gabapentin	900-1800 mg QD	Unclear: modulates GABA transmission	Yes (no hepatic metabolism)
Ondansetron	1-16 μg/kg BID	$5HT_3$ antagonist	Yes, but with caution because liver toxicity has been reported, albeit relationship to ondansetron administration is not determined
Topiramate	300 mg QD	Anticonvulsant multiple targets: −glutamate/+GABA	Yes (partial hepatic metabolism mostly by glucoronidation) In patients with hepatic encephalopathy, use with caution: topiramate-related cognitive side-effects may confound the clinical course and treatment of hepatic encephalopathy
Varenicline	2 mg QD	Nicotinic acetylcholine receptor partial agonist	Yes (minimal hepatic metabolism)

Leggio and Lee, Am J Med 2017; 130: 124-34.

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Patient level barriers in implementing integrated care model in practice

- Stigma associated with the disease
- Lack of awareness and education
- Lack of willingness to undergo treatment
- Too sick to be treated
- Transportation issues

DiMartini, Lorenzo, and Singal. Lancet Gastroenterol Hepatol 2022; 7: 186-95.

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Lack of hepatology training on addiction medicine is a significant barrier for AUD treatment in ALD patients

Provider Survey on Alcohol Use Treatment from the AASLD ALD SIG

How do Hepatology & Gastroenterology Providers Treat Alcohol Use Disorder (AUD) in Patients with Alcohol-Associated Liver Disease (ALD)?

2020 Nationally Representative Survey

- N = 408 responses from 33 states
- 91% physicians and physician trainees
- 50% practicing ≤ 5 years
- 80% practicing in tertiary care hospital with liver transplant center

SURVEY SAYS:

- <50% use alcohol biomarkers & validated screening tools
- 40% believe safe alcohol use exists in patients with liver disease
- 61% routinely refer AUD + ALD patients for behavioral therapy
- Baclofen is #1 preferred AUD pharmacotherapy, but 71% have *never* prescribed any
- ~50% providers lack knowledge about FDA-approved AUD pharmacotherapy & 90% desire more formal training

= Low Adherence to 2019 AASLD ALD Practice Guidance → **Need for ↑ education & research**

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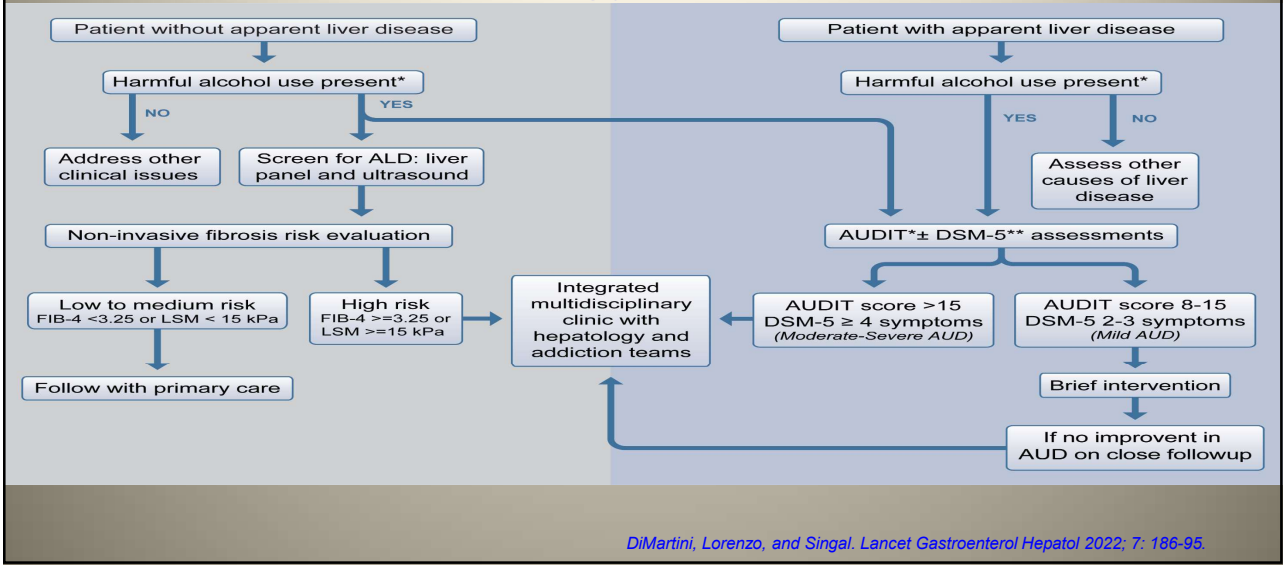
Integrated multidisciplinary care model to manage dual pathology in ALD patients



DiMartini, Lorenzo, and Singal. Lancet Gastroenterol Hepatol 2022; 7: 186-95.

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System level barriers in implementing integrated care model in practice

- Siloed practices and lack of time for AUD care
- Difficulty in billing two providers on same patient
- Limited time to address AUD and complex liver disease
- Lack of will power and investment in the multidisciplinary care model approach

DiMartini, Lorenzo, and Singal. Lancet Gastroenterol Hepatol 2022; 7: 186-95.

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Key Takeaways

- Alcohol associated liver disease is a preventable disease.
- Reducing availability of alcohol with national policies is the most effective way to improve population health.
- Early identification of at-risk individuals and of liver disease reduces development of advanced disease like cirrhosis and alcohol-associated hepatitis.
- Treatment to control alcohol use in ALD patients improves long-term outcomes and patient survival.
- Studies are needed to examine integrated care model with hepatology and addiction teams to manage dual pathology of ALD and of AUD in clinical practice and research trials.

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Questions

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Hanna Blaney, MD, MPH

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