A drink now and then might be allright for old men

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STAP Congres 'Alcohol en Gezondheid'
23 september 2010, Amsterdam

Agenda

1. Why am I here?
2. Alcohol, heart disease and longevity
3. Alcohol and breast cancer
4. How much should we drink?

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Scientific research is wonderful, but tough

- Wrestling the truth from Mother Nature is hard. Bias and errors creep in, no matter how hard scientists try to keep them out
- I find it disturbing when bias seems to be introduced on purpose

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What the alcohol industry claims

"Scientific research shows that moderate drinking reduces heart disease and promotes health and longevity"

How science can be used to promote beer, wine and spirits

- Fund only research that will show benefits of alcohol (heart disease research – *yes*, cancer research – *no*)
- Develop warm relationships with influential scientists
- Feed the media with selective information that emphasizes benefits of alcohol

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Alcohol and heart disease

- Observational ("epidemiologic") studies find:
  - Moderate drinkers get less heart disease
  - They live longer

However:

- Only part of this effect may be caused by drinking

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Alcohol in the news

TIME

Why Do Heavy Drinkers Outlive Nondrinkers?

ALCOHOLISM
CLINICAL & EXPERIMENTAL RESEARCH

ALCOHOLISM: CLINICAL AND EXPERIMENTAL RESEARCH

Vol. 34, No. 11
November 2010

**Late-Life Alcohol Consumption and 20-Year Mortality**

Charles J. Holahan, Kathleen K. Schutte, Penny L. Brennan, Carole K. Holahan, Bernice S. Moos, and Rudolf H. Moos

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The Holohan study

- 1800 Americans, mean age 61 years in 1987
- Lifelong abstainers excluded; "abstainers" in this study were former drinkers
- Deaths recorded over next 20 years
- Conclusion in the media: "Heavy Drinkers Outlive Nondrinkers"
- But what other differences were there between drinkers and nondrinkers?

Brennan & Moos, Psychol Aging 1990

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### Socio-economic status and current alcohol intake

Holahan, Alc Clin Expt Res 2010

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Former alcohol problems and current alcohol intake

Holahan, Alc Clin Expt Res 2010

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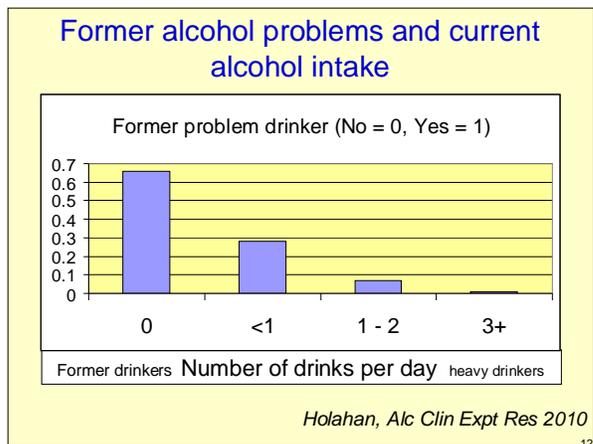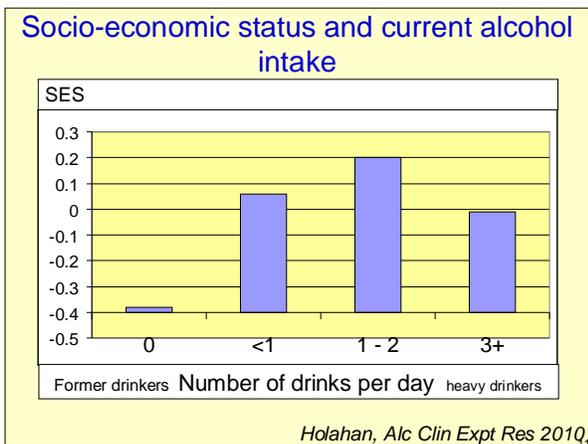
Health problems and current alcohol intake
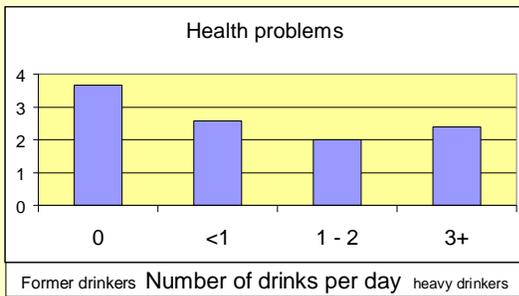
Health problems

Number of drinks per day	0	<1	1 - 2	3+
(value)	~3.7	~2.6	~2.0	~2.4

Former drinks · Number of drinks per day · heavy drinkers

Holahan, Alc Clin Expt Res 2010

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Obesity and current alcohol intake

Obesity (No = 0, Yes = 1)

Number of drinks per day	0	<1	1 - 2	3+
(value)	~0.15	~0.11	~0.07	~0.10

Former drinks · Number of drinks per day · heavy drinkers

Holahan, Alc Clin Expt Res 2010

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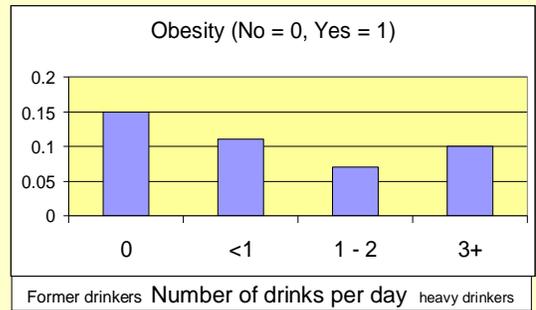
Smoking and current alcohol intake

Smoking status (No = 0, Yes = 1)

Number of drinks per day	0	<1	1 - 2	3+
(value)	~0.32	~0.19	~0.20	~0.38

Former drinkers · Number of drinks per day · heavy drinkers

Holahan, Alc Clin Expt Res 2010

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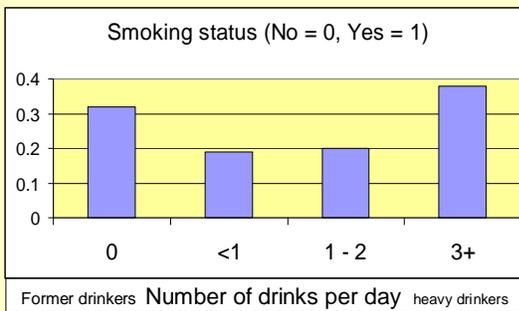
Physical activity and current alcohol intake

Physical activity

Number of drinks per day	0	<1	1 - 2	3+
(value)	~0.7	~1.2	~1.3	~1.05

Former drinkers · Number of drinks per day · heavy drinkers

Holahan, Alc Clin Expt Res 2010

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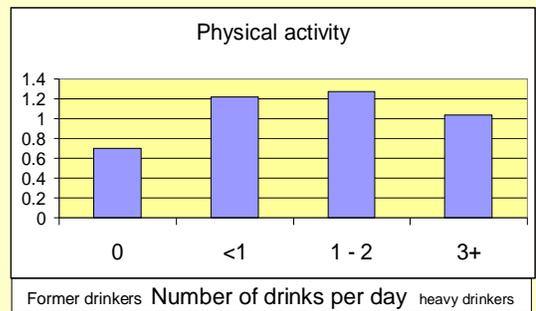
The problem with the epidemiology of alcohol and health

- Former drinkers are poor, uneducated, overweight, ill, they smoke, do not exercise, and do not drink.
- Same for true abstainers in other studies!
- "Controlling" for these factors cannot completely remove their effects because of <u>Residual Confounding</u>

    Epidemiologic studies systematically overestimate the benefits of alcohol

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The problem with epidemiologic studies of alcohol, heart disease and death

- People who avoid alcohol differ from moderate drinkers in many other factors

- Statistical techniques cannot completely separate out the effects of these factors

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Is it at all likely that alcohol reduces heart disease?

- Alcohol raises the "good" HDL cholesterol in blood
- Men with the gene for slow breakdown of alcohol have less risk of heart disease than men with the "fast alcohol removal" gene

(*Hines, N Engl J Med 2001*)

*A favorable effect of alcohol on heart disease is plausible though not proven*

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How important is cardiovascular disease by now?

- Moderate drinking might reduce death from heart attacks and stroke
- Mortality from these causes is much decreased in the last 30 years
- How important are these causes of death by now?

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Causes of death in Dutch men, 2009

Men, deaths NL 2009
Cancer
CVD
Heart disease
accidents
Age

CBS, doodsoorzaken, 12 juli 2010

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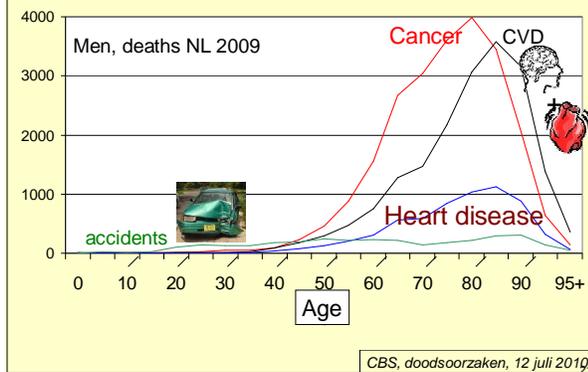
Causes of death in Dutch women, 2009

Women, deaths NL 2009
CVD
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heart
Age

CBS, doodsoorzaken, 12 juli 2010

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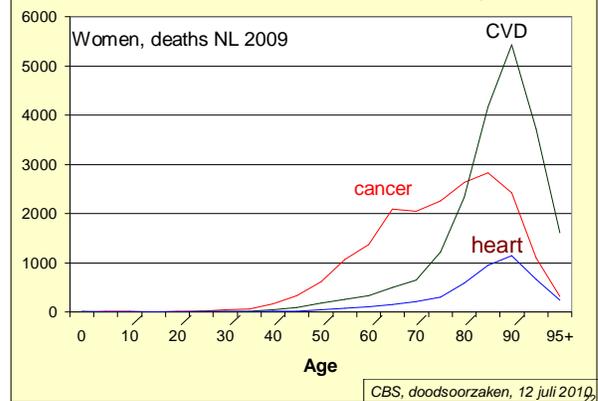
How important is cardiovascular disease these days?

- More people die from cancer than from cardiovascular disease. Cardiovascular disease becomes the main cause of death only after 80.
- What does alcohol do to cancer risk?

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## Alcohol, benign breast disease and cancer

- Benign breast disease can occur in young women
- Benign breast disease predicts increased risk of breast cancer
- Nowadays girls drink a lot
- What does that do to risk of benign breast disease?

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Alcohol and benign breast disease: the Growing Up Today Study

- 6899 US girls
- Surveyed from childhood until college age
- Benign breast disease at 18-27 years related to alcohol intake at 16-23 years

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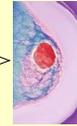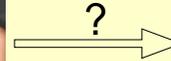
Berkey, Pediatrics 2010

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Drinking frequency in girls in 2002 and risk of benign breast disease by 2005/2007

Odds ratio

Berkey, Pediatrics 2010

Frequency of drinking (days per week)
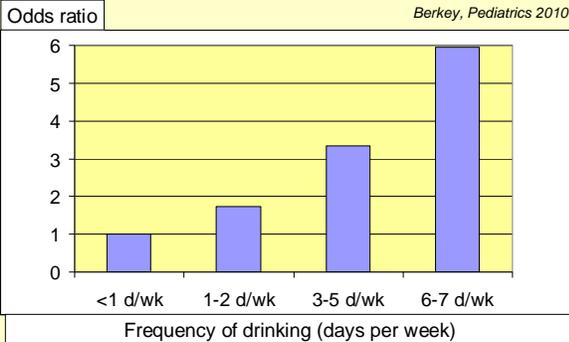
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Alcohol, benign breast disease and cancer: conclusion

- Girls who drank daily had a sixfold increased risk of benign breast disease
- One study proves little, but sixfold risks are usually not due to chance or confounding

Drinking teenagers may have higher breast cancer risk than drinking adults

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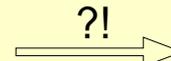
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Pictures from recent industry brochures
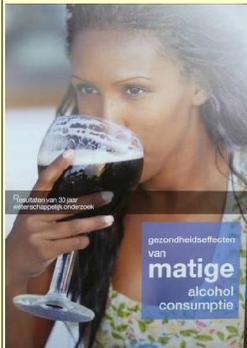
Gezondheidseffecten van matige alcoholconsumptie. Stichting Alcohol Research. 2010

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Brochures typically show women drinking

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Effecten van matige bierconsumptie. The Brewers of Europe. Brussels,2008

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…although men are not excluded
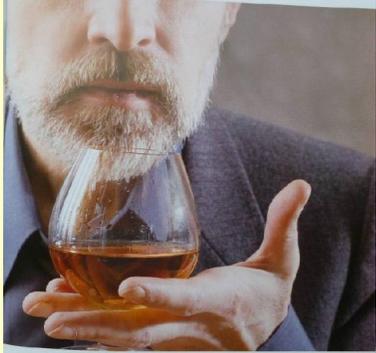
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How much do we drink?
How much should we drink?

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How much do Dutch drinkers drink?

- We drink twice as much as we admit
- Alcohol "disappearance" in 2008 according to taxes ("accijns"):
  6194 gram per caput (n = 16.5 mln)
- 80.8% of people over 11 years = 11.4 mln people drink
  - So drinkers use up 6194 / (11.4/16.5) g per year = 24 gram of alcohol per day
- Subtract waste; add illegal production and import:
  - Dutch drinkers drink on average at least 20 g = 2 drinks per day

    Dutch drinkers drink more than enough

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Should abstainers be encouraged to drink moderately?

- *Yes*, because it may reduce their risk of heart disease
- *No*, because it may increase their risk of cancer and accidents
- *No*, because they are at risk of becoming heavy drinkers

Abstainers may have good reasons not to drink

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Can abstainers reduce their risk of heart disease without drinking alcohol?

- Eat less saturated fat and more polyunsaturated fat
- Eat less salt; use low-sodium salt
- Walk or cycle instead of driving a car
- Watch your weight
- Use drugs to lower your blood pressure and cholesterol if necessary

Reducing heart disease risk has become easy. That is what caused the pension crisis!

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Conclusion: is moderate drinking good for you?

- Drinking to reduce heart disease risk is ill-advised; other ways are more effective and safer
- Women and doctors need to know that moderate drinking can cause breast cancer
- Old men may get some benefit from alcohol; they have old hearts, and no breasts
- There is more to life than just living safely, but we must be honest about the risks

Moderate drinking is not healthy. It can be fun, but it has its risks — like most fun things

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Thank you!

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