Using the AUDIT, AUDIT-C and TLFB as outcome measures in intervention trials: A discussion of current challenges and benefits

Anne H Berman, PhD[1]
Gillian W Shorter, PhD[2]

[1] Karolinska Institutet, Dept of Clinical Neuroscience, Center for Psychiatry Research, anne.h.berman@ki.se

[2] Alcohol and Public Health Team, Teesside University
Psychotraumatology, Mental Health and Suicidal Behavior Group, Ulster University
Northern Ireland Association for Mental Health, Belfast
gillianwshorter@gmail.com

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Today's presentation

- Understanding the overlap (or not) of AUDIT, AUDIT-C, and TLFB in two samples
  1. A naturalistic study in Sweden of an online web intervention
     - What change has been measured?
     - What does that change mean, comparing AUDIT to AUDIT-C and public health thresholds for harmful use?
  2. A four-arm RCT in UK of two web interventions
     - What is the meaning of a one unit change in AUDIT score?
- Thoughts on a way forward

Sample 1:

Johansson M, Sinadinovic K, Hammarberg A, Sundström C, Hermansson U, Andreasson S, Berman AH. (2016). Web-based self-help for problematic alcohol use: A large naturalistic study. Submitted.

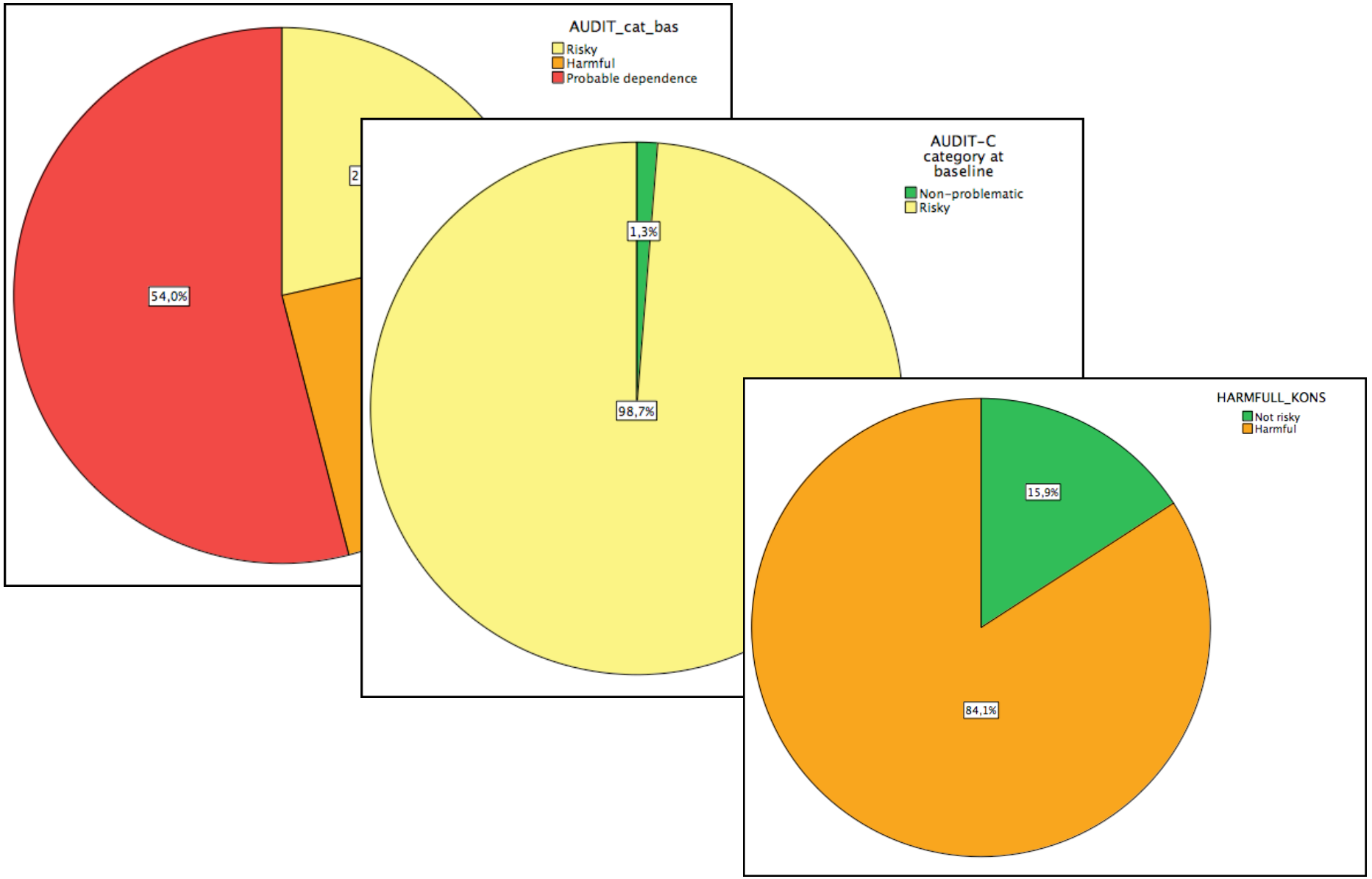
Trial registration: clinicaltrials.gov NCT02283593

- Inclusion criteria: AUDIT score indicating at least hazardous use, i.e. ≥6 for women and ≥8 for men; ≥18 years of age
- Sample: n=3898 at baseline; n=1043 at 10-week follow-up
- Average age: 41.88
- Gender distribution: 48% women, 52% men
- Data presented here includes only those for whom 10-week follow-up data were available (n=1043)

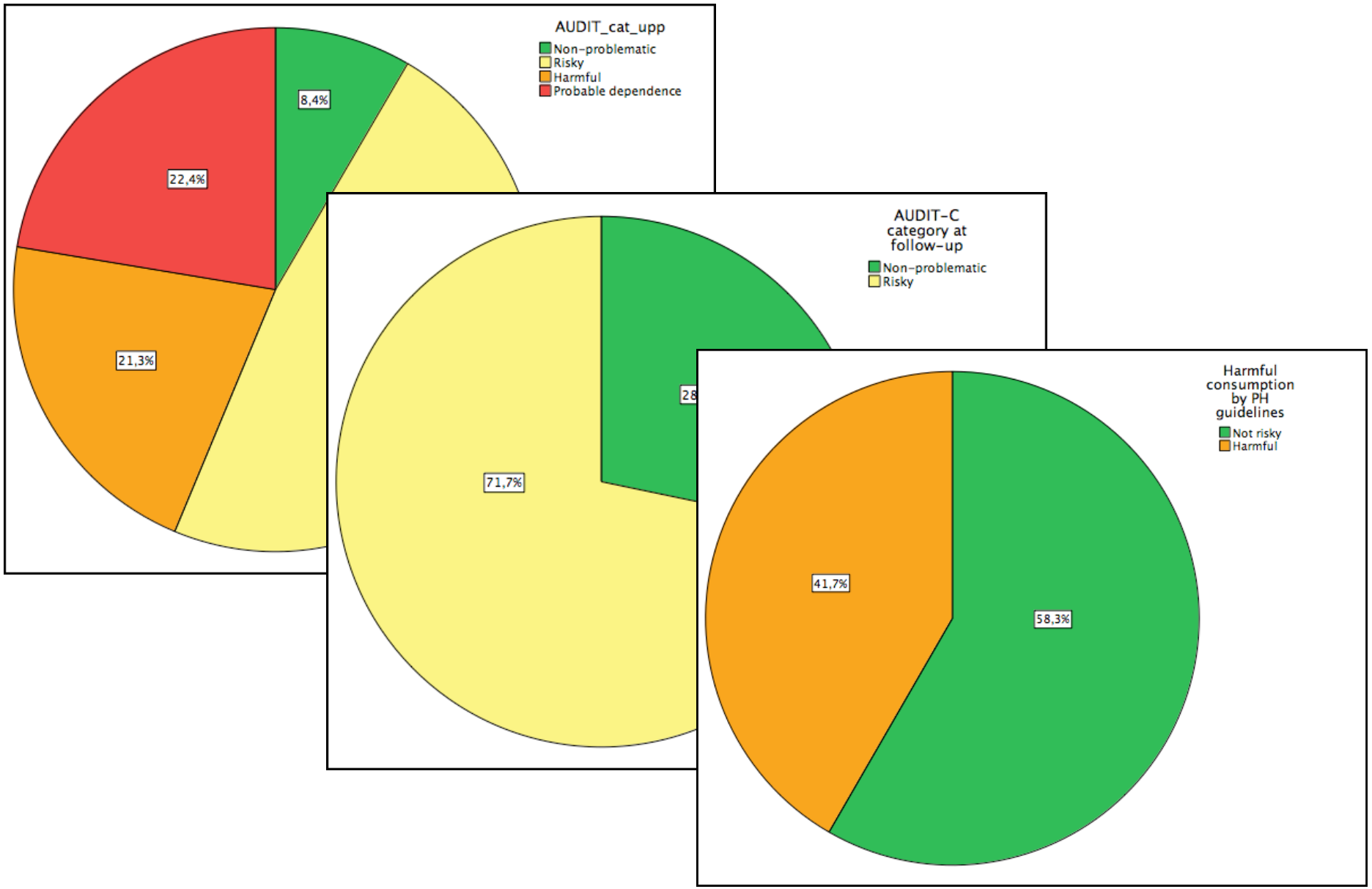
Changes observed from baseline to follow up in Sample 1

Parameter	Baseline (n=1043)	Follow-up (n=1043)	Cohen's d/ p-value
AUDIT mean	**20.2 (5.8)**	**14.8 (6.5)**	***d*=0.98**
Non-problematic use	0%	9%	
Hazardous use	22%	48%	
Harmful use	24%	21%	**p<0.001**
Probable dependence	54%	22%	
AUDIT-C mean	**7.80**	**5.5**	***d*=1.11**
TLFB – mean drinks/week	**25.0 (15.5)**	**13.0 (13.8)**	***d*=0.74**
No of drinking days/week	4.4	2.9	***d*=0.66**
No of binge drinking days/week	2.8	1.4	***d*=0.74**
Low-risk drinking (≤9/14 drinks/week; wo/men)	15.9%	58.3%	**p<0.001**
Drug use (% DUDIT >0)	**10%**	**8%**	**p<0.001**

The meaning of change 1:
Baseline distribution of risky drinking (n=1043)



The meaning of change 2:
Follow-up distribution of risky drinking (n=1043)



Public health guidelines vs AUDIT categories

- Based on public health guidelines:

  An impressive change from from 15.9% non-risky alcohol users at baseline, to 58.3% non-risky users at 10-week follow-up

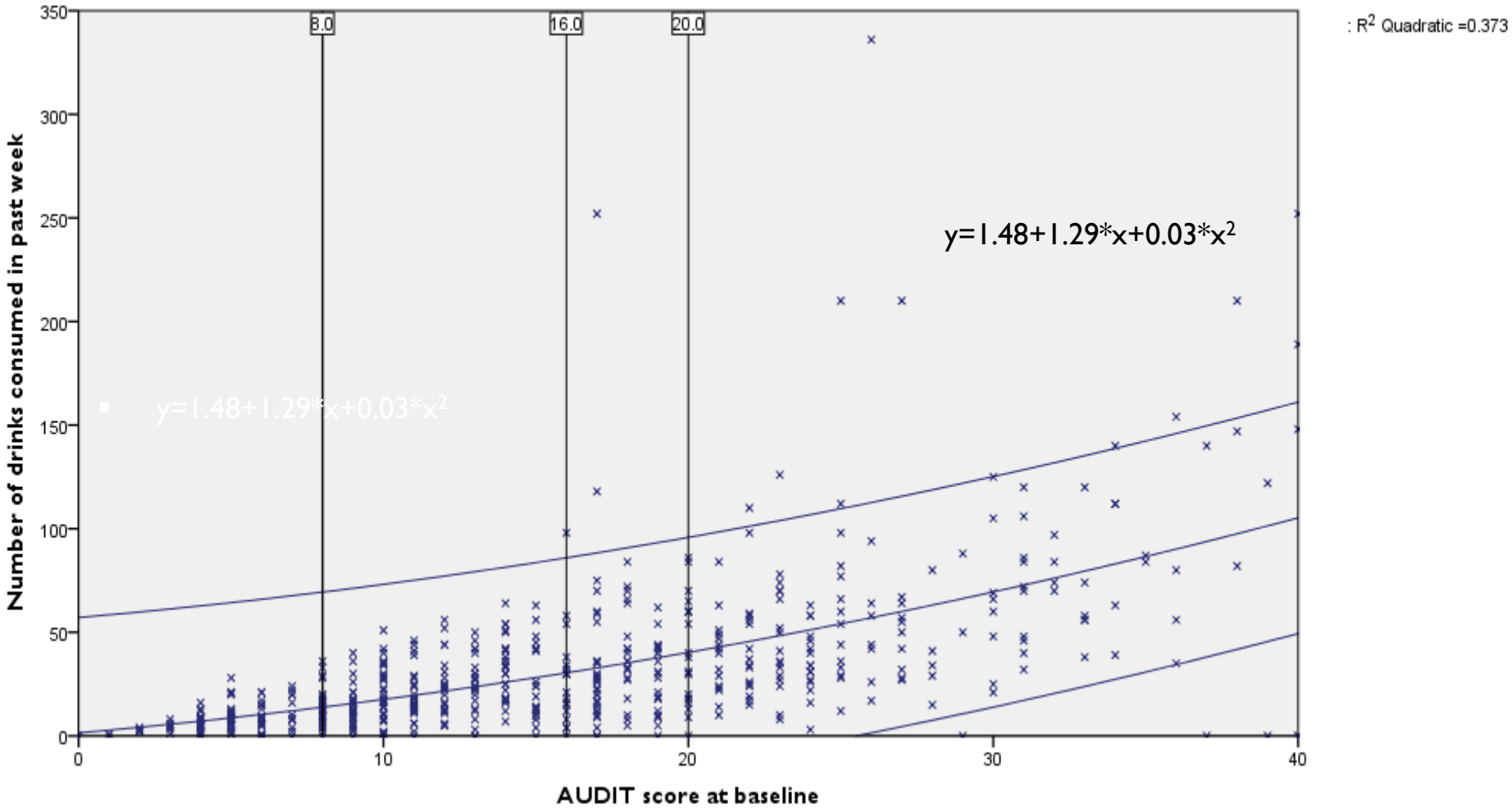
- But among the non-risky users, only 8.4% had non-problematic use at the 10-week follow-up according to the AUDIT.
- The results looked much better using public health guidelines rather than AUDIT categories.
- AUDIT was adjusted for 3-month follow-up

Sample 2:

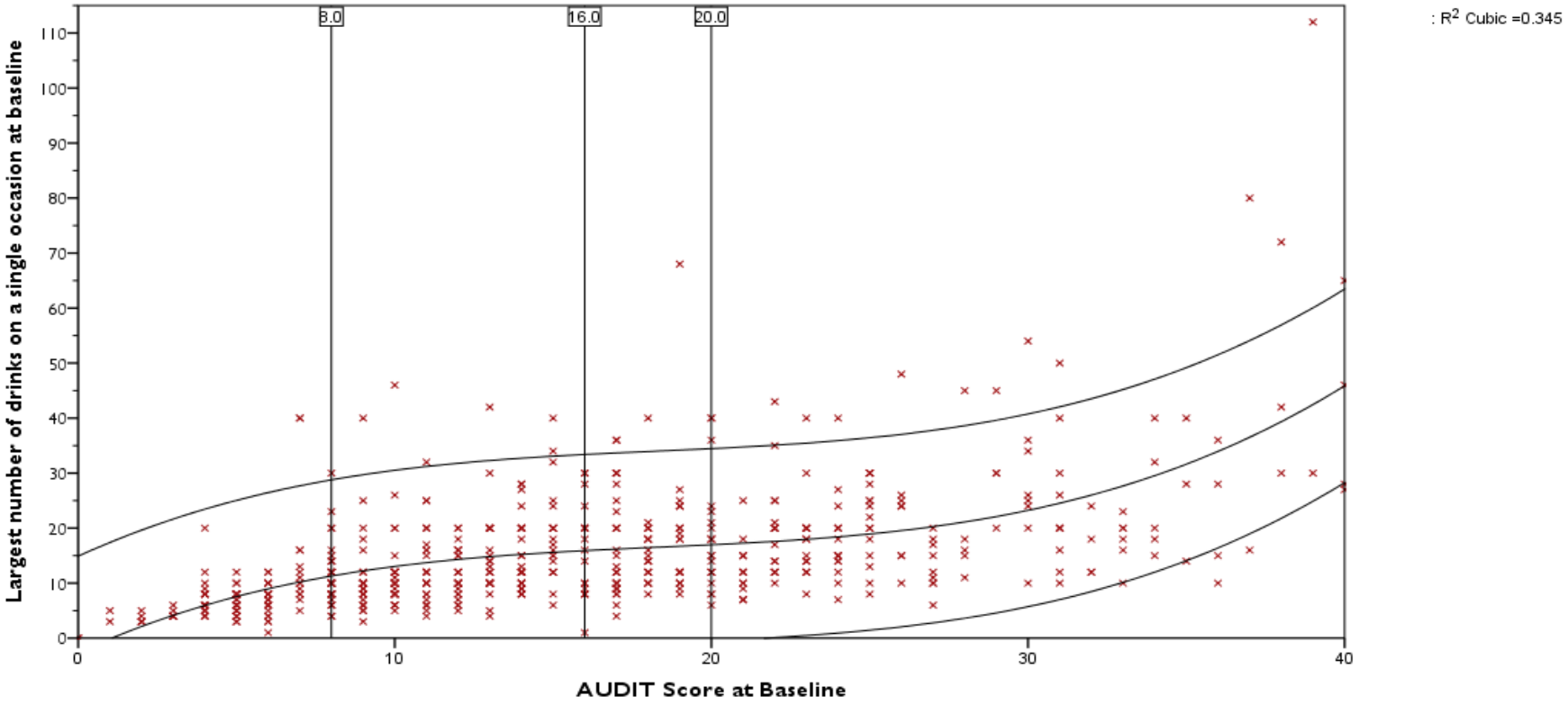
Shorter GW, Bowe M, Bunting BP, Cunningham JA (2016). *Self-Help Interventions to Reduce Alcohol Consumption (SHIRAC) A Feasibility Randomized Control Trial: Final Report.* Belfast: Research and Development Office of the Public Health Agency.

- Trial participants were UK resident adult hazardous drinkers (8+ AUDIT)
  - → 484 randomised, 346 retained at 6m follow up (72%)
  - → Average age: 49 years, 58% female
  - → England 77%, Scotland 12%, Wales 7%, N. Ireland 4%
  - → Trial registration ISRCTN92071123
- Data presented here includes those screened (n=593) who were not eligible for the trial

What is the relationship between AUDIT and number of drinks in the past week?



What is the relationship between AUDIT and largest number of drinks on occasion in the past year?



$y=2.62*x-0.13*x^2+2.34E-3*x^3-2.62$

Alcohol related change around the AUDIT thresholds

Change from - to	AUDIT Score	Largest number of drinks on occasion (past year)		TLFB Drinks in past week	
		Mean/Median/Range	Best fit	Mean/Median/Range	Best fit
Hazardous to non-risky	8	12 / 10 / 4-30	11	14 / 12 / 0-36	14
	7	15 / 11 / 5-40	10	11 / 8 / 0-24	12
Harmful to hazardous	16	16 / 17 / 1-30	16	28 / 26 / 0-98	30
	15	19 / 18 / 6-40	15	26 / 22 / 0-63	28
Probable Dependence to Harmful	20	19 / 17 / 6-40	17	40 / 35 / 0-86	39
	19	19 / 18 / 8-68	16	28 / 29 / 0-62	37

Conclusions

- Sample 1: The clinical significance of the results varies widely depending on the outcome measure chosen
- Sample 2: Outcomes should capture change, and the change should be meaningful
- With some measures we may have found a change, with others not
  - → Is the answer more measures?
  - → Is the answer better measures?
  - → Or a more informed choice of measures?

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Thank you!

Email: anne.h.berman@ki.se