WHO BENEFITS FROM BRIEF MOTIVATIONAL INTERVENTION AMONG ALCOHOL-INTOXICATED YOUNG ADULTS ADMITTED TO THE EMERGENCY DEPARTMENT: A MODERATION ANALYSIS USING LATENT CLASSES

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BACKGROUND

- Heavy drinking among young adults is a major public health concern

- Young adults admitted in the Emergency Department (ED) while intoxicated have high risk of poorer health outcomes (e.g. ED readmission, AUD, other SUD, mental health, unemployement)

- Brief motivational interviewing (MI) in the ED have shown promising but inconsistent results
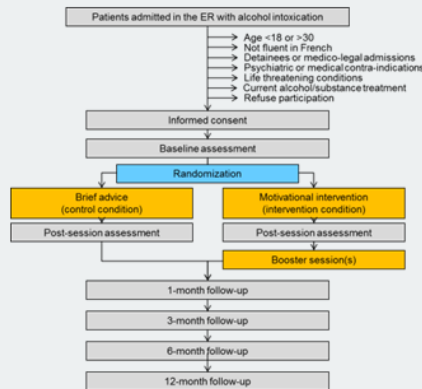
PROJECT DESIGN

Phase 1
Development
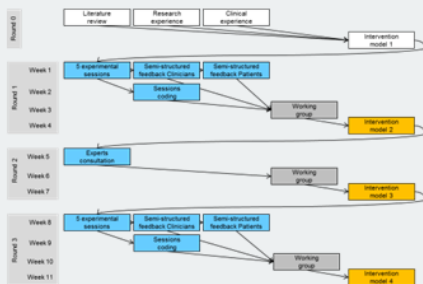
Iterative development
and pre-test process

Phase 2
Efficacy

Randomized controlled
trial

Phase 3
Mechanisms

Psycholinguistic coding
and qualitative analyses

Phase 4
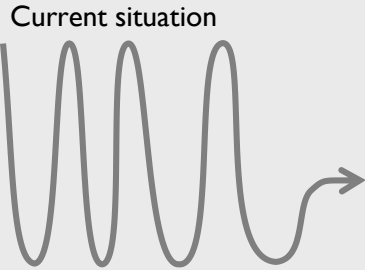
Model
finalization
and
dissemination

(Gaume et al., 2021,
PlosONE)

(Gaume et al., in press
JAMA Network Open)

BRIEF MI MODEL

3 HORIZONTAL STRATEGIES

- ❑ **Taking time to build a significant relationship (relational factors)**
  - ➢ Empathy / Reflective listening / Curiosity
  - ➢ Acceptance / Avoid confrontation / Unconditional positive regard
  - ➢ Collaboration / Alliance
- ❑ **Change talk**
  - ➢ Elicit change talk
  - ➢ Soften sustain talk over the session (accepting ST when it appears but using MI techniques to lower it)
  - ➢ Reinforce Ability and Commitment talk
- ❑ **Give information and advice**
  - ➢ Causal attribution of ER admission to alcohol use
  - ➢ Adjust distorted perceptions, banalization, and misbelieves
  - ➢ Suggest change options if necessary
  - ✓ Motivational method: Elicit– Ask permission – Provide – Elicit

3 STEPS (length will depend on participant's readiness to change and willingness to talk)

	I Exploration	Summarize (ambivalence/discrepancy)	II Evoke change (look to the future)	Summarize (discrepancy + potential change)	III Planning	
Introduce oneself Ask permission to talk	Current situation Important things in life, Values, Meaning		Discrepancy Current situation vs. Important things/values		Next steps? Make it concrete → Commitment → Ability / Self-efficacy	Summarize Thank - Affirm Propose to call back - Announce feedback letter

STANDARDIZED BRIEF ADVICE

AUDIT ≥ 8 → Feedback hazardous use
AUDIT > 16 → Referral to treatment

Effets de l'alcool sur la santé

Comportement agressif, irrationnel. Violence. Accidents.

Dépendance. Pertes de mémoire.

Dépression, anxiété, nervosité.

Vieillissement avancé. Rougeurs.

Cancer de la gorge et de la bouche.

Faiblesses cardiaques. Attaques cardiaques. Anémie. Mauvaise coagulation.

Résistance réduite aux infections, risque augmenté de refroidissement et de pneumonie.

Femmes: cancer du sein.

Inflammation de l'estomac. Vomissements. Diarrhées. Malnutrition. Carence en vitamines.

Dommages au foie.

Inflammation du pancréas.

Ulcères.

Homme: performances sexuelles perturbées.
Femmes enceintes : risques de malformation foetales, de retard à la naissance et de faible poids à la naissance .

Tremblements des mains, engourdissements, douleurs nerveuses.

Sensations perturbés conduisant à des chutes.

Tremblements, engourdissements, douleurs nerveuses.

Conséquences sur la vie sociale, familiale, professionnelle

Adapté de Babor et Higgins-Biddle, OMS, 2001

Consommation à bas risque

- Pas plus de 14 boissons standards par semaine (~2-3 par jour)
- Pas plus de 5 boissons standards par occasion
- S'abstenir
  - quand on conduit ou qu'on utilise des machines
  - quand on consomme certains médicaments

*Boissons alcoolisées standards (unités)
1 verre de vin
1 bière
1 alcopop
1 alcool fort
1 long drink avec alcool fort
1 apéritif

1 dl de vin rouge, blanc, rosé = 2.5 dl de bière = 1 dl de champagne = 2.5 dl de whisky ou autre alcool à 45% = 1 alcopop = 1 boisson alcoolisée standard soit 10g d'alcool pur.

- Pas plus de 7 boissons standards par semaine (~1-2 par jour)
- Pas plus de 4 boissons standards par occasion
- S'abstenir
  - quand on conduit ou qu'on utilise des machines
  - quand on consomme certains médicaments
  - quand on est enceinte ou qu'on allaite

Questions? Informations?
Contacter le Service d'alcoologie du CHUV
021 314 73 51 – www.chuv.ch/alcoologie

Patients 18-35 admitted in the ED with alcohol intoxication
N=2108

Excluded:

- Life threatening conditions, N= 12 (0.6%)
- Detainees and medico-legal admissions, N= 35 (1.7%)
- Psychiatric or medical contraindications, N= 224 (10.6%)
- Not fluent in French, N= 214 (10.2%)
- Current alcohol/substance treatment, N= 107 (5.1%)
- Not well enough to sign consent, N= 25 (1.2%)
- Already included, N= 39 (1.9%)

Left ED before meeting research staff:

- Inclusion not feasible within 10 days, N= 166 (7.9%)
- Cannot be reached to propose inclusion, N= 337 (16.0%)
- Inclusion set but missed, N= 61 (2.9%)

Refused participation, N= 538 (25.5%)

Early dropout (started inclusion but stopped it, not feeling well), N= 6 (0.3 %)

Baseline assessment and randomization
N= 344 (16.3%)

Left after randomization but before intervention
N= 1 (0.04%)

Brief advice, N= 173 (50.3%)

Motivational intervention, N= 171 (49.7%)

Booster 1-week, N= 133 (78.2%)

1-month FU, N= 285 (83.1%)

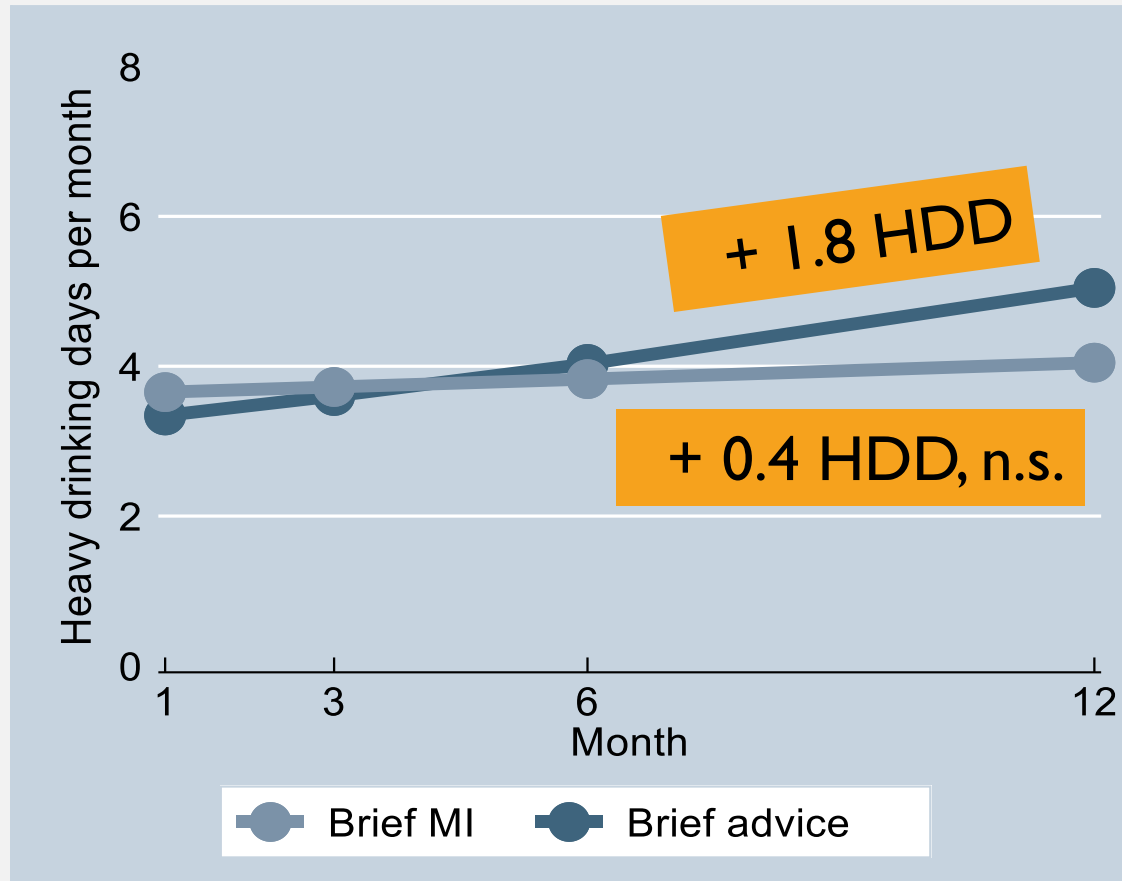Booster 1-month, N= 111 (65.3%)

3-month FU, N= 275 (80.2%)

Booster 3-month, N= 87 (51.2%)

6-month FU, N= 268 (78.1%)

12-month FU, N= 272 (79.3%)

STUDY FLOW-CHART

HEAVY DRINKING DAYS

	Coef. (SE) [95%CI]	P
Brief MI	0.09 (0.11) [-0.13 to 0.31]	0.43
Month (centered)	0.04 (0.01) [0.02 to 0.05]	<0.001
Brief MIxMonth	-0.03 (0.01) [-0.05 to -0.004]	0.02

GEE population-averaged model, Observations: 1102; Groups: 306 (i.e. patients); 1-4 observations/group (avg. 3.6). Negative binomial distribution; Log link; Exchangeable correlation structure. Sensitivity analyses adjusting for age and sex, and multiple imputation for missing data yielded similar patterns of findings.
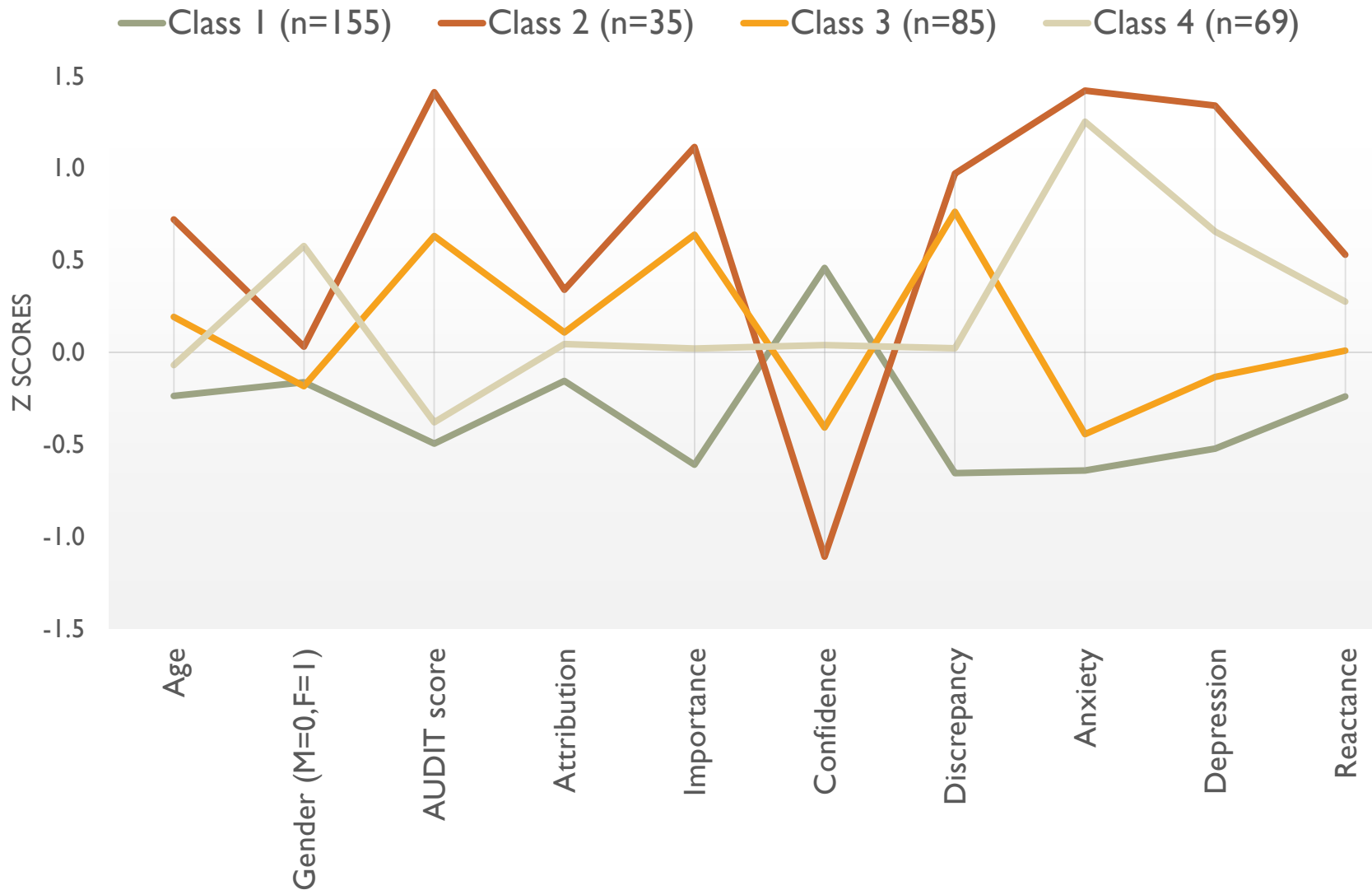
NEXT STEP

➢ Evaluate which patients benefitted from the brief MI

➢ Latent Class Analysis (LCA) to derive participants' profiles based on baseline characteristics

➢ Regression models with an interaction between intervention group and derived classes

LCA FIT INDICES

Fit indices	AIC	BIC	ABIC	Entropy	VLMR *	LMR *	BLRT *
2 classes	15350.6	15488.9	15374.7	0.792	0.026	0.025	<0.001
3 classes	15243.6	15431.8	15276.4	0.797	0.032	0.033	<0.001
4 classes	**15153.4**	**15391.6**	**15194.9**	**0.833**	**0.097**	**0.100**	**<0.001**
5 classes	15103.5	15391.5	15153.6	0.854	0.367	0.372	<0.001
6 classes	15060.1	15398.0	15118.9	0.860	0.537	0.540	<0.001

GRAPHICAL REPRESENTATION OF LATENT CLASSES

Legend: Class 1 (n=155), Class 2 (n=35), Class 3 (n=85), Class 4 (n=69)

Y-axis: Z SCORES (-1.5 to 1.5)

X-axis: Age, Gender (M=0,F=1), AUDIT score, Attribution, Importance, Confidence, Discrepancy, Anxiety, Depression, Reactance

INTERACTION BETWEEN INTERVENTION AND MODERATOR LATENT CLASSES

DISCUSSION

- Class 3: effects of brief MI at short- and long-term
  - High severity, high importance, high discrepancy, but low confidence
  - ➤ Best effects for MI when individuals recognize an alcohol issue, want to change, but do not feel able to.
- Class 2: effects of brief MI at short-term only
  - Highest severity, lowest confidence, and mental health issues
  - ➤ Effects at short term, but more intensive treatment might be needed to maintain effects at long term.
- Class 1: findings seem to indicate better effects of BA
  - Low severity, but also low discrepancy and low expectations → alcohol not an issue
  - Also, lowest reactance: advice to avoid HDD might be enough

CLINICAL IMPLICATIONS

- Patient' characteristics profiles should be considered when implementing brief interventions in the ED.

- Our findings suggest to:

  ➢ Allocate more time and provide high-quality MI for people with high severity and mental health issues

  ➢ Rely on short BA for those with low severity, low expectancies/discrepancy, and low reactance

THANK YOU FOR YOUR ATTENTION!

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