Managed Alcohol Program: Evaluating Effectiveness of Alcohol Harm Reduction and Housing Instability

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Results of Station Street, Vancouver MAP Evaluation

University of Victoria | Centre for Addictions Research of BC

Rates of Alcohol Use in Homeless Populations

- Among homeless male populations, prevalence of severe alcohol dependence is estimated to be 37.9%

- In general public, 3-4%

- No studies of prevalence among women experiencing homelessness.

Harms of Alcohol

Acute
Injuries
Poisoning
Acute illness

Chronic
Liver disease
Cancers
Strokes
Gastrointestinal disease

Social
Problems with:
Housing
Finances
Relationships
Law
Workplace

Responses to Alcohol Dependence and Homelessness

Shelters and housing programs differ in how they approach alcohol use:

Abstinence-based or "dry" shelters/housing:
no drinking is allowed

Tolerant shelters/housing:
allow drinking but do not manage it (e.g. Collins, Larimer)

Managed alcohol programs:
shelters/housing that actively manage alcohol use for some people, sometimes providing alcohol

State of Evidence

Tolerance for alcohol use onsite (Housing First)

Evaluation of 1811 Eastlake in Seattle

(Collins et al, 2012 x4; Larimer et al., 2009)

- Decreased costs of health, social and police services
- Increased Housing Stability
- Decreased alcohol consumption

Current Evidence for MAPs

Prior to this, two programs (Ottawa and Toronto) have produced evaluations (Podymow et al. 2006, Slovoba 2006)

Limited research suggests MAPs can

- improve health
- Improve quality of life
- reduce police and emergency health service contacts
- reduce the harms of drinking

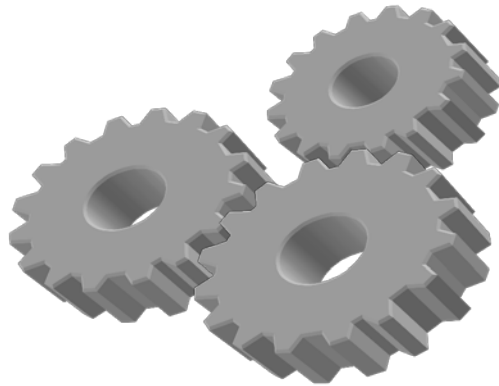# CARBC Evaluations To date

Vancouver MAP

Kwae Kii Win, Thunder Bay

CARBC Evaluation

To evaluate the implementation of Vancouver MAP and inform a larger study

- Assess changes in housing, social functioning, health, alcohol related harms, patterns of drinking, and health service use.

- Perceptions of program staff and participants as to program objectives, benefits, and challenges

- Offer Recommendations

Vancouver Managed Alcohol Program (MAP)

- **Housing and 2 meals a day**

- **Usually up to 12 drinks a day**

- **One drink per hour (7:30am-9:30pm)**

   → wine, spirits or beer

- **Regular doctor's appointments**

- **Social and cultural programming**

Program Goals

- **Reduce harms related to alcohol use**
- **Improve quality of life**
- **Reduce consumption of NBA**
- **Stabilize health conditions**
- **Maintain stable housing**
- **Replace non-MAP with MAP drinks**

Eligibility Criteria

* **Alcohol dependent (=AUDIT >15)**

* **Of overall benefit to participant**

&

-History of failed alcohol treatment

-Related health conditions

-Consumption of Non-Beverage

Alcohol (NBA)

Evaluation measures:

- **Participant interviews**
- **Staff Qualitative Interviews**
- **Liver function tests**
- **Alcohol administration data**
- **Clinician's ratings**
- **Records of ER & police contacts**

Participant Demographics

- **7 participants**
- **5 men, 2 women**
- **Mean age 47 (range 35-61)**
- **6 identified as Aboriginal**
- **4 completed high school or higher**
- **5 on income assistance or disability**

"It made me stop drinking Listerine and going downtown. I used to fight all the time, but now I stay home. I used to be really mean, now I make friends with people in the building and staff."

"It changed by life, I get along with my sister more now."
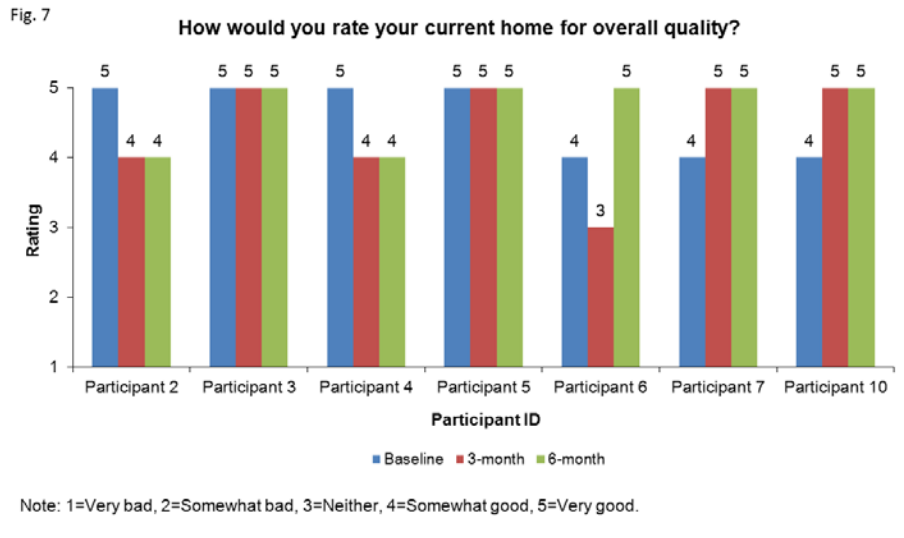
Managed Alcohol Program participants

"The goal of the program is basically to get them off of the [non-beverage alcohol] onto the alcoholic beverages and to get them... the proper medical treatment, this way we have ... more contact with them, better health for them in the long term, so keep them close by."
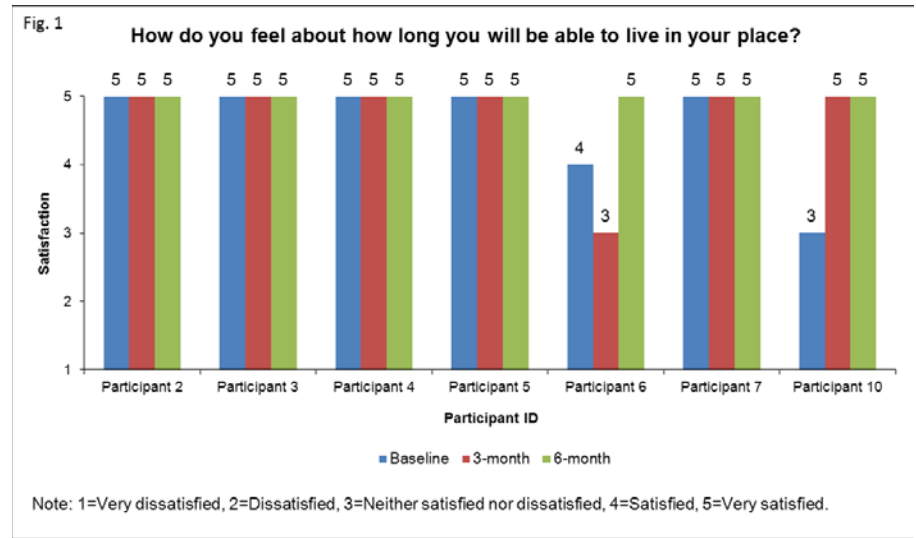
Staff Perspective

Housing Retention and Satisfaction

Quality of Housing

Retention in Housing

Fig. 7 — How would you rate your current home for overall quality?
Note: 1=Very bad, 2=Somewhat bad, 3=Neither, 4=Somewhat good, 5=Very good.

Fig. 1 — How do you feel about how long you will be able to live in your place?
Note: 1=Very dissatisfied, 2=Dissatisfied, 3=Neither satisfied nor dissatisfied, 4=Satisfied, 5=Very satisfied.

SF 12 Physical Health component

Fig. 9

SF-12 Physical Component Summary

Baseline / 3 month follow-up / 6 month follow-up

Participant ID: 2, 3, 4, 5, 6, 7, 10

- Participant 2: 30, 20, 28
- Participant 3: 57, 38, 32
- Participant 4: 30, 25, 24
- Participant 5: 33, 30, 28
- Participant 6: 42, 59, 44
- Participant 7: 25, 38, 30
- Participant 10: 34, 17, 25

Legend: ■ Baseline ■ 3 month follow-up ■ 6 month follow-up

A score above 50 is "normal", higher numbers indicate better health

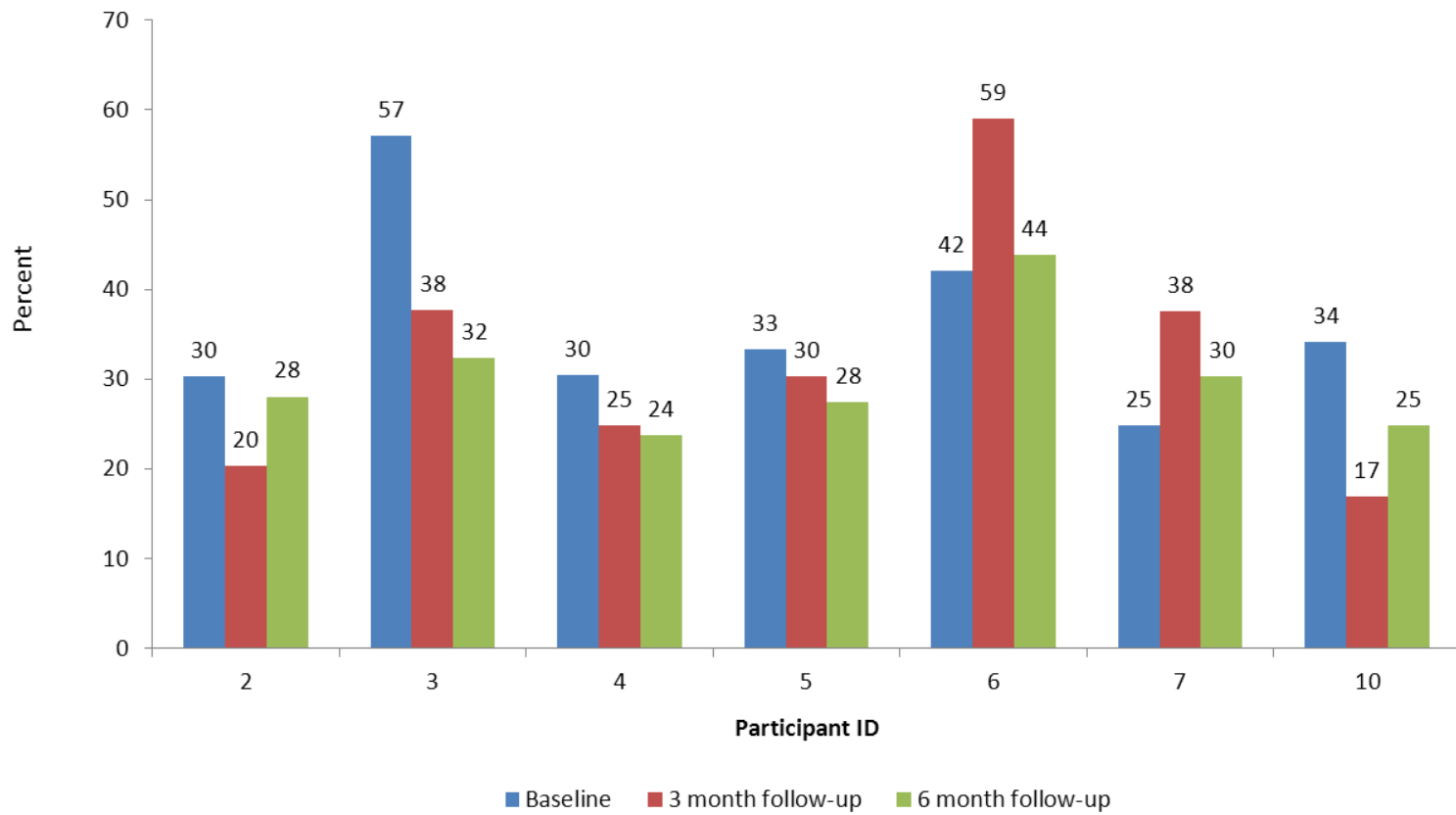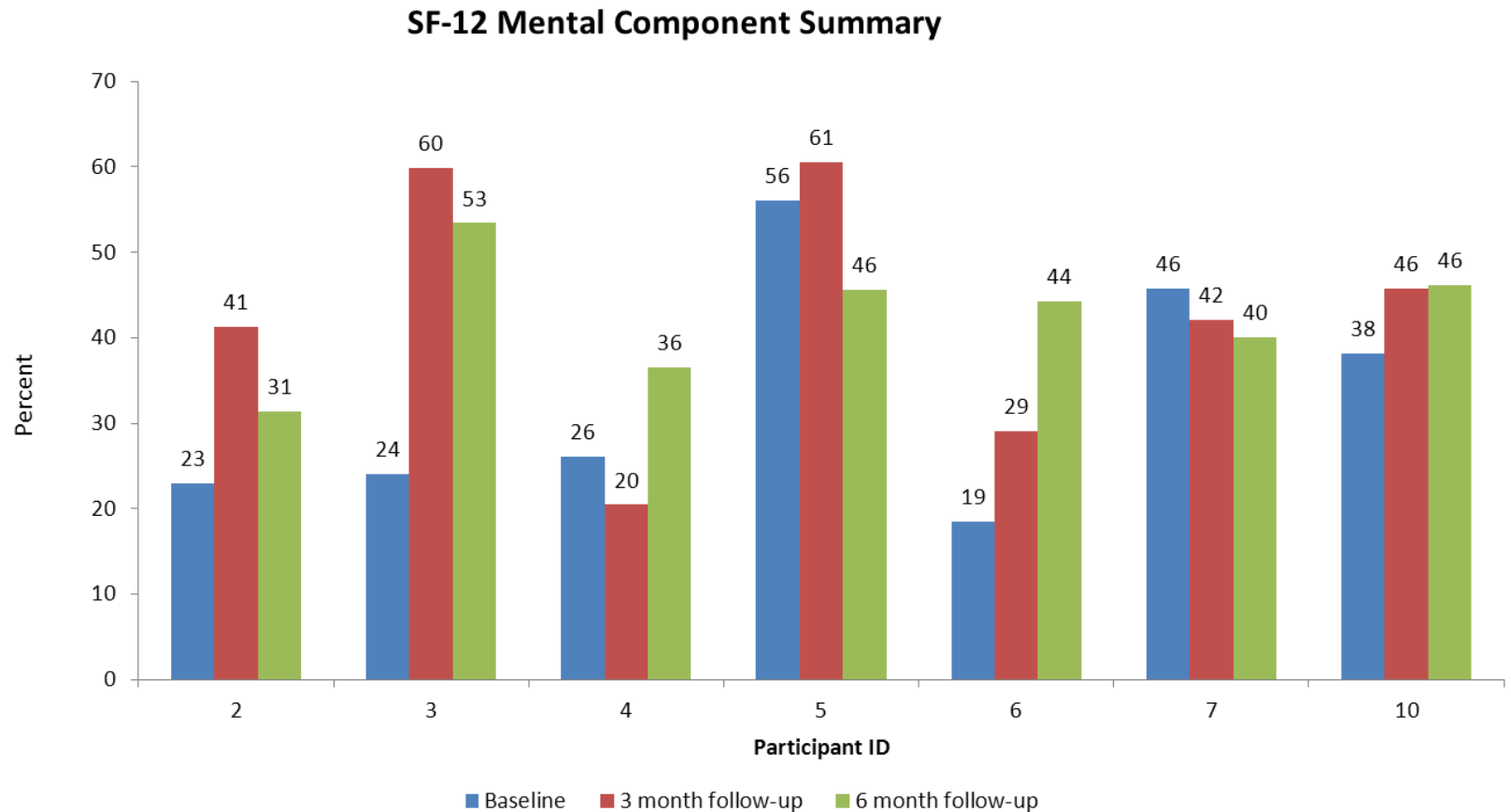NB Higher scores indicate better health

SF 12 Mental Health component
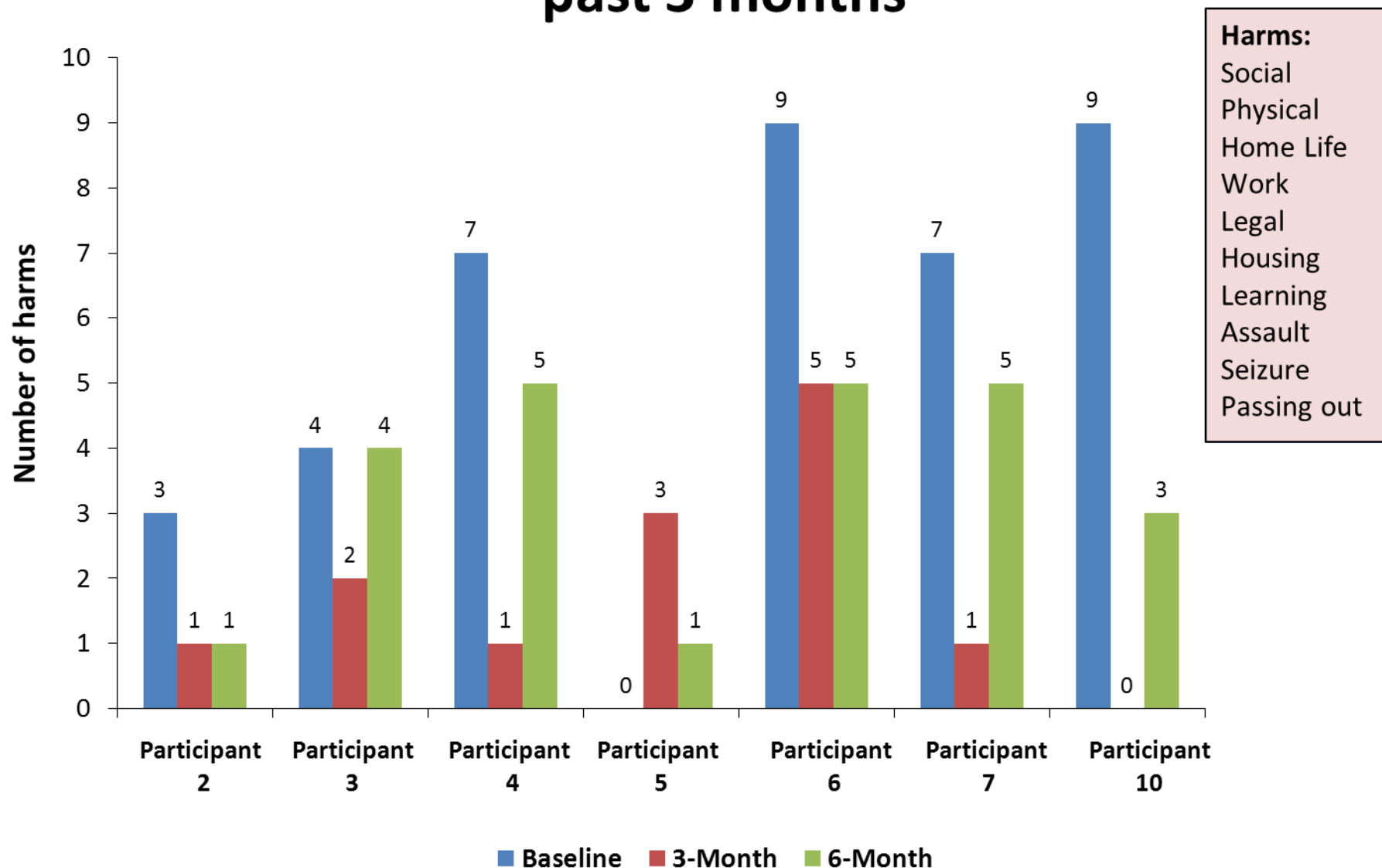

Fig. 8

SF-12 Mental Component Summary

A score above 50 is "normal", higher numbers indicate better health

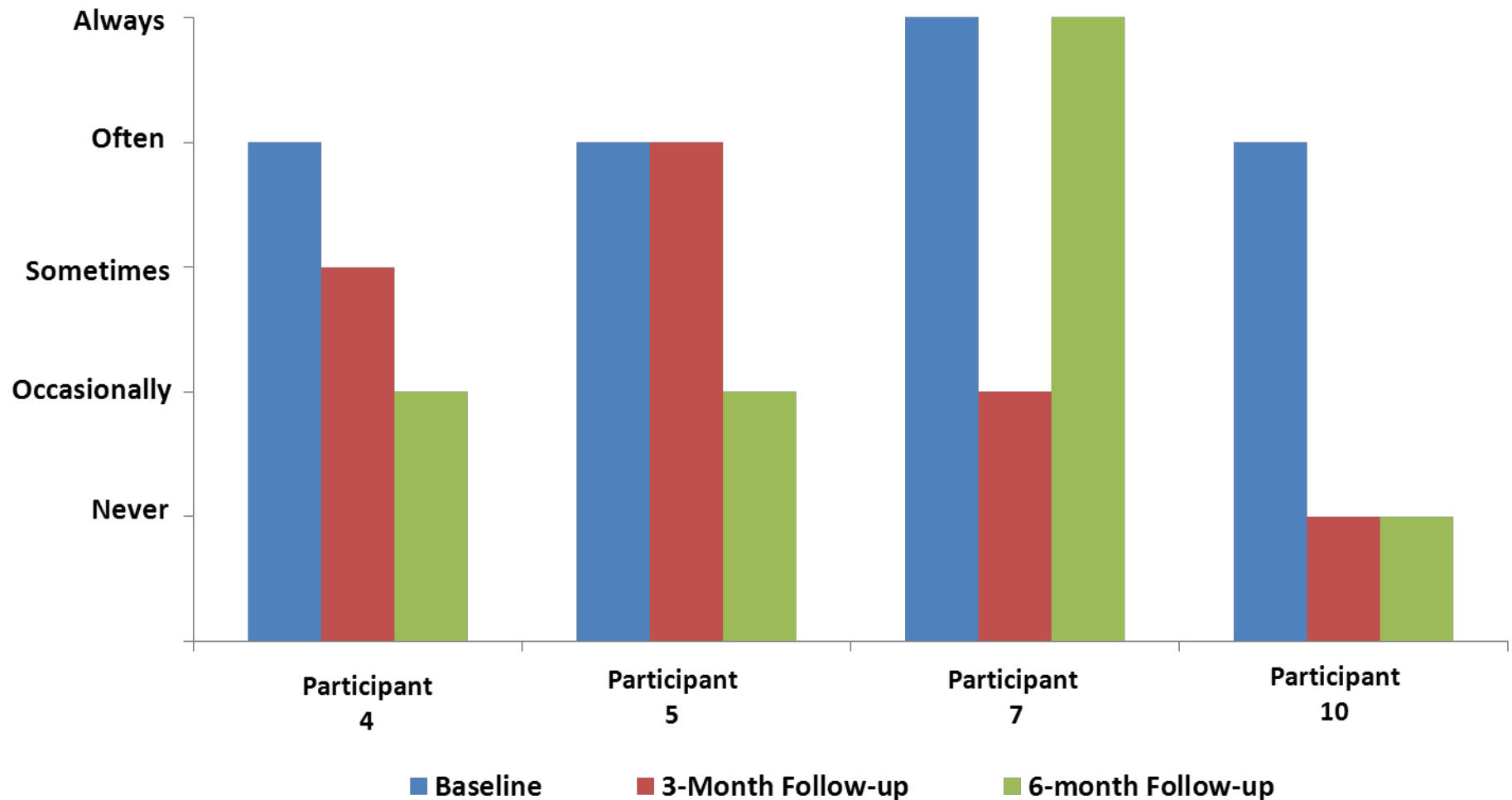NB Higher scores indicate better health

Alcohol Related Harms

"I think now we can really see the benefits. You know...clients that used to be really aggressive, and kind of scary for staff, and had a history of punching staff in the face at other projects when they were drinking rubbing alcohol, don't anymore, now they're crocheting and taking exercise classes and...watching Who Wants to be a Millionaire and...it's a lot better."
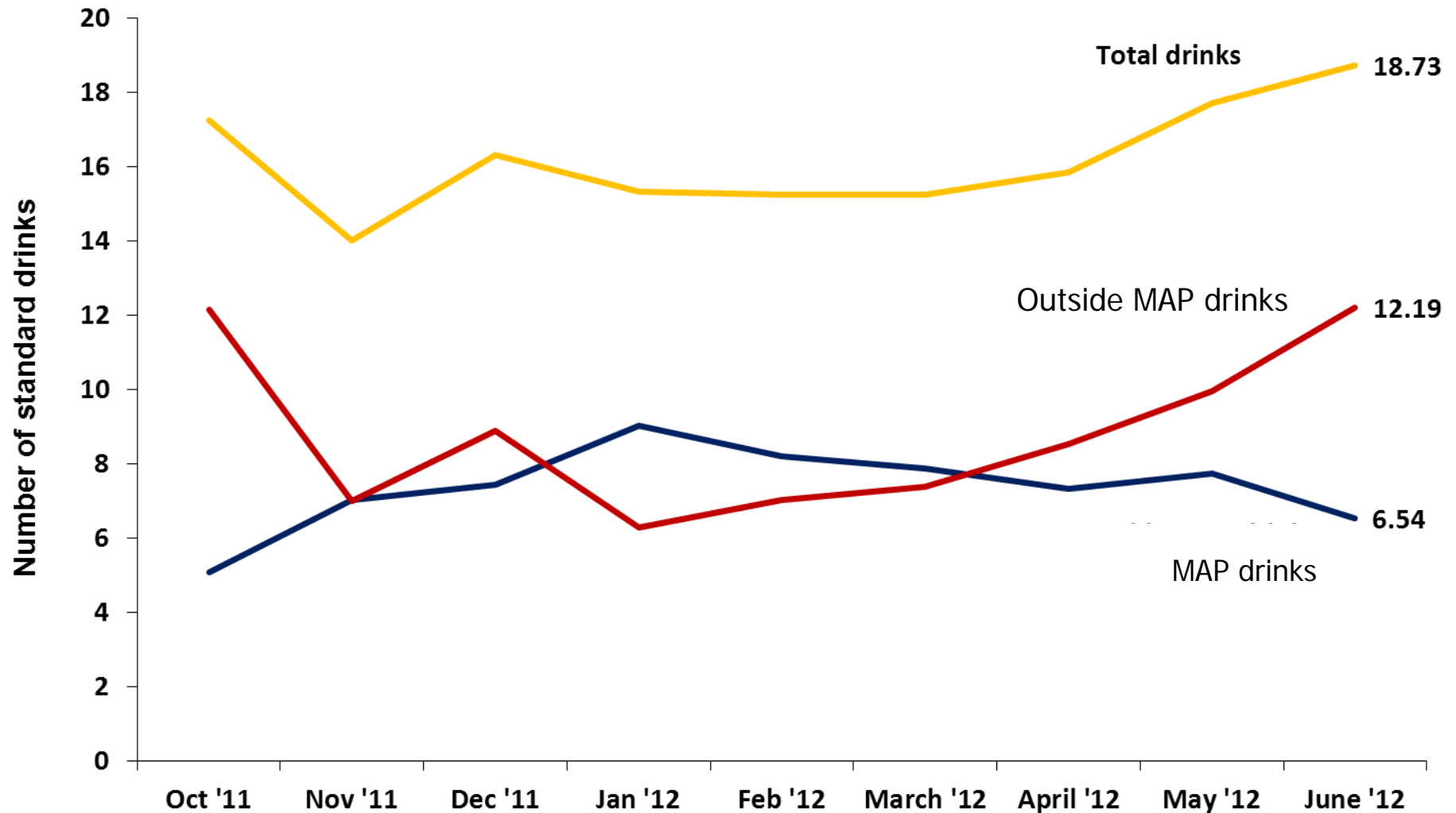
Number of harms (out of 10) reported in the past 3 months

Number of harms

Harms:
Social
Physical
Home Life
Work
Legal
Housing
Learning
Assault
Seizure
Passing out

Participant 2 — Baseline: 3, 3-Month: 1, 6-Month: 1
Participant 3 — Baseline: 4, 3-Month: 2, 6-Month: 4
Participant 4 — Baseline: 7, 3-Month: 1, 6-Month: 5
Participant 5 — Baseline: 0, 3-Month: 3, 6-Month: 1
Participant 6 — Baseline: 9, 3-Month: 5, 6-Month: 5
Participant 7 — Baseline: 7, 3-Month: 1, 6-Month: 5
Participant 10 — Baseline: 9, 3-Month: 0, 6-Month: 3

■ Baseline ■ 3-Month ■ 6-Month

Frequency of self-reported non-beverage alcohol use in the past 3 months (Hand Sanitizer, Mouthwash, and/or Rubbing Alcohol)

Bar chart legend: Baseline (blue), 3-Month Follow-up (red), 6-month Follow-up (green). Y-axis categories from bottom to top: Never, Occasionally, Sometimes, Often, Always. X-axis: Participant 4, Participant 5, Participant 7, Participant 10.
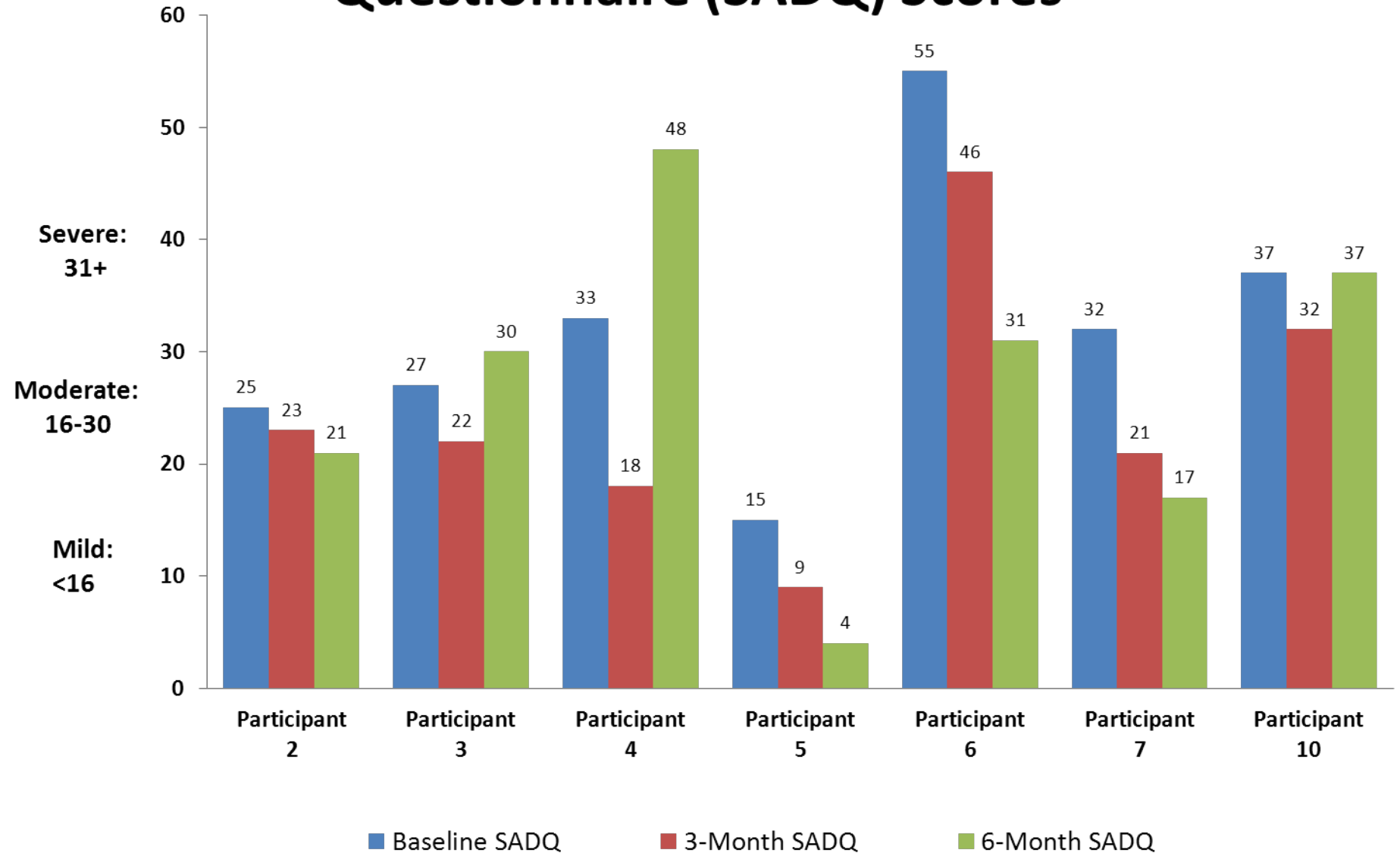
Average daily MAP & non-MAP drinks by month

Note: Outside of MAP drink averages were calculated only of those days that had clearly quantifiable reports.

Severity of Alcohol Dependence Questionnaire (SADQ) Scores

Liver Function Tests

Aspartate transaminase (AST): measures acute liver damage, normal range: 5-40

Alanine Transaminase (ALT): measures presence of an enzyme in liver cells, normal range: 7-56

Glutamyl Transpeptidase (GGT): measures liver dysfunction, normal range: M 0-65, F 0-45

Criteria for alcohol induced liver damage:

(i) GGT **or** AST 3X >normal **and** (ii) AST>0.5XALT

Liver Function Test Results

Test (normal range)	Pre MAP			MAP 3 months			MAP 6 months		
	Avg	Range	#	Avg	Range	#	Avg	Range	#
Participant 2									
AST (5-40)	**129**		1	-	-	-	**179.5**	**170-189**	2
ALT (7-56)	**125**	-	1	-	-	-	**175**	**156-194**	2
GGT (M0-65, F0-45)	-	-	-	-	-	-	**242**	-	1
Participant 3									
AST (5-40)	23	-	1	26	-	1	**40.5**	**31-50**	2
ALT (7-56)	20	-	1	19	-	1	53	**43-63**	2
GGT (M0-65, F0-45)	43	-	1	-	-	1	**133**	**105-161**	2
Participant 4									
AST (5-40)	25	-	1	24	-	1	19.5	16-23	2
ALT (7-56)	13	-	1	13	-	1	22	19-25	2
GGT (M0-65, F0-45)	-	-	-	23	-	1	41	**24-58**	2
Participant 5									
AST (5-40)	29	-	1	-	-	-	31.5	24-39	2
ALT (7-56)	23.5	21-26	2	19	-	1	19.5	14-25	2
GGT (M0-65, F0-45)	45	-	1	62	-	1	**92.5**	**74-111**	2
Participant 6									
AST (5-40)	32	-	1	45	-	1	**230.3**	**60-529**	3
ALT (7-56)	28	-	1	34	-	1	**135.7**	**55-278**	3
GGT (M0-65, F0-45)	-	-	-	-	-	-	**1517**	**1353-**	2
Participant 7									
AST (5-40)	40	40-40	2	-	-	-	**95.5**	**87-104**	2
ALT (7-56)	24	21-27	2	-	-	-	41.5	**26-57**	2
GGT (M0-65, F0-45)	**262**	-	1	-	-	-	**579.5**	**488-671**	2
Participant 10									
AST (5-40)	**189.1**	**95-402**	11	**66.0**	**53-100**	9	**120.3**	**96-152**	4
ALT (7-56)	**60**	**33-111**	11	35.6	30-56	10	49.6	**38-58**	5
GGT (M0-65, F0-45)	**526.8**	**411-**	10	**426.3**	**346-567**	10	**976.3**	**910-**	3

Note: Levels above the normal range are in bold

Summary of results:

Improved outcomes:

• Kept housing & high satisfaction of quality

• Positive changes in lives & well-being

• Staff confirmed several positive outcomes

• Dr.- & self-rated MH improved

• Reduced quantity & frequency NBA

• Reductions in some alcohol-related harms (especially social, financial, withdrawal seizures)

Summary of results:

Program challenges & issues of concern:

- Self-rated physical health worsened for most

- Liver function deteriorated for most by 6 mos

- Alcohol consumption up for some by 6 mos
   → possibly due to outside drinking being more likely in the warmer months

Potential Benefits & Risks from a MAP in relation to different types of Alcohol Related Harms

Patterns of Risky Drinking	Heavy Episodic Drinking	Non-Beverage Alcohol (NBA) Consumption	Drinking in Unsafe Settings	High Volumes of Alcohol Consumed Over the Long-Term
Potential Harms	Violence, Injuries, Poisoning, Seizures, Unstable Housing, Legal and Social Problems	Exacerbate chronic diseases, higher ethanol consumption, poisoning	Violence, Injuries, Freezing, Problems with Police, Intoxication from hurried Consumption	Liver cirrhosis, Cancers, other chronic diseases, Dependence, Housing and Social Problems Nutritional Deficiencies
Potential MAP Benefits	Smooth Drinking Pattern, Fewer Injuries & Seizures, Secure Housing, Improved Relationships	Reduced consumption of NBA	Shelter from cold, protected supply of alcohol, personal safety, food	Housing Security, Reduced Consumption Improved nutrition
Potential MAP Risks	Higher BACs if non-MAP consumption continues	Increased ethanol consumption if MAP drinks are additive	Less exercise, unhealthy weight gain for some	Fewer abstinent days may increase liver disease risk
Remedial Strategies	1. Protocols to manage non-MAP drinking	1. Protocols for non-MAP drinking 2. Ensure no increase in ethanol consumption	1. Incorporate leisure and physical activities 2. Nutrition advice	1. Strict eligibility criteria 2. No increase in amount or frequency of use 3. Medication to assist with regular days off 4. Offer detox referrals
Balance of benefits versus risks need to be reviewed continually				

Recommendations:

- Clear eligibility criteria focusing on acute harms & severity of dependence

- Monitoring of chronic harms of alcohol use part of ongoing clinical care (e.g., liver function tests)

- Potential risks from continuous high-level alcohol consumption fully explained to participants

- Alcohol admin tailored so neither use frequency or amount increases

- Opportunities for both short/longer term abstinence available on demand

- Protocols to manage non-MAP consumption

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Vancouver Coastal Health

Managed Alcohol Programs (MAPs): Implementation and Effectiveness:

The purpose of the proposed research is to rigorously evaluate MAPs in Canada and generate insights into the implementation of MAPs.

National Study of MAP's

- 5 MAP Sites
- 3 year project (2013-2016)

★ MAP Site

• Other partner

Research Objectives

1) *To establish whether entry into a MAP contributes to significant* **improvements in the health and well-being of participants**

2) *To establish whether entry into a MAP* **contributes to significant reductions in the use of emergency, hospital and police services**.

3) *To investigate whether entry into a MAP contributes significantly to* **less hazardous patterns of alcohol** *use*

4) *To* **inform the development of program and policy recommendations for MAPs**

Study Design – Sources of Data

Interviews

Structured Interviews with MAP and controls

Brief Monthly Follow-ups with MAP and controls

Qual. Interviews with MAP staff and managers

MAP Records

Alcohol administration records

Clinician assessments

Liver function tests

MAP policies

Other Records

Shelter records

Hospital records

Police records

Recruitment Plan for MAP Participants and Controls for Quantitative and Qualitative Assessments

All MAP Participants

n = 160 at baseline

n = 30 at 1-6 month

n = 30 at 7-12 month

Total = 220 for consent to access official records

Control Participants

n = 160 at baseline

n = 45 at 1-6 month

n = 45 at 7-12 months

Total = 250 for consent to access official records

Participants for Follow Up

n = 100 for brief monthly interviews and 6 monthly in-depth interviews
NB <120 days on MAP

Qualitative interviews

n = 5-7 at each of the 5 sites

Controls for Follow Up

n = 130 for brief monthly and 6 monthly in-depth interviews

Benefits/Significance

The results of this research will be to:

- provide evidence of outcomes for MAPs

- may be used to reduce unintended negative consequences of MAPs and

- inform the development of program and policy recommendations.

Acknowledgements

Thank you!

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