



CureApp Institute

EFFICACY OF THE NOVEL DIGITAL ASCURE SMOKING CESSATION PROGRAM COMBINING SMARTPHONE APP AND WEB BASED MENTORING

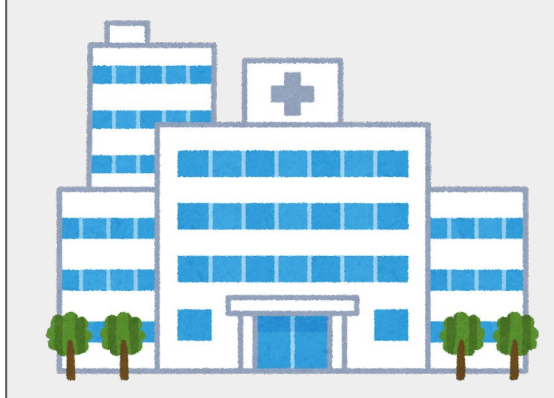
Ayaka Kato, MSc, 1,3, Tomoyuki Tanigawa, MD 1,4, Kohta Satake, M.D., MBA, MPH 1,2, Akihiro Nomura, MD, Ph.D 1,5,6 *

1. CureApp Institute, Karuzawa, Japan
2. CureApp Inc, Tokyo, Japan
3. Department of Life Sciences, Graduate School of Arts and Sciences, the University of Tokyo, Tokyo,
4. St.Luke's International University Graduate school of Public Health, Tokyo, Japan
5. Innovative Clinical Research Center, Kanazawa University (iCREK), Kanazawa, Japan
6. Department of Cardiovascular and Internal Medicine, Kanazawa University Graduate School of Medicine, Kanazawa, Japan

Problems of outpatient services in Japan

The numbers of estimated smokers: 20,000,000
Smoking is responsible for 50,000 deaths/year¹

Outpatient service Five face-to-face clinic visits in 12-week program



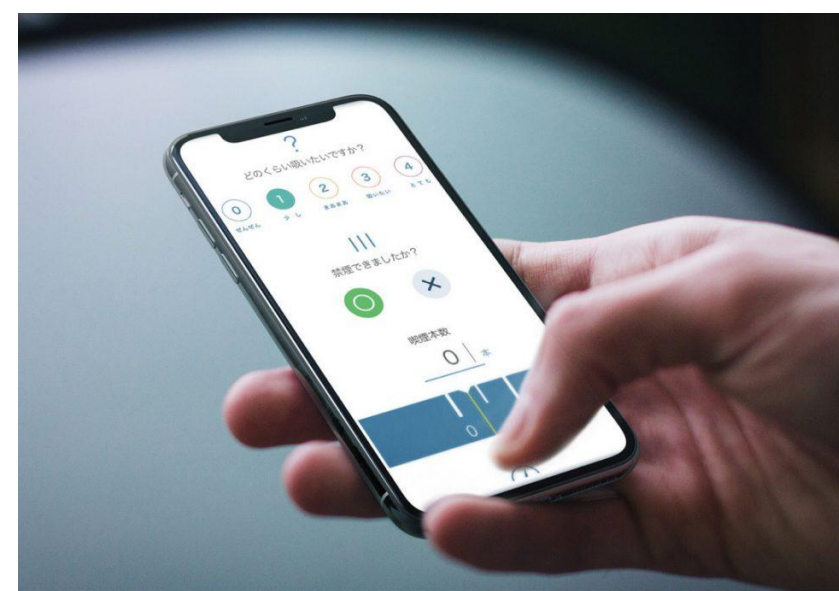
- burden of visit (around 70% drop out)²
- mostly elderly people and men
- need strong motivation to start the program

Any solutions for busy employed people ??

"ascure" smoking cessation program

ASCURE 卒煙 The first Japanese online smoking cessation program developed by CureApp, Inc.

1. Smartphone app
appropriate guidance based on behavioral therapy (BT) anytime via app



2. Online mentoring
6-8 online interactive sessions in 24 weeks with experienced nurses or pharmacists



3. Nicotine patch
medicine on the market was delivered to their home for assistance

The program is provided to the corporate health insurance societies of the various leading companies.

Methods

Participants	Consecutive ascure program participants from August 2017 to April 2018 (from 11 corporate health insurance societies)
Data	- baseline smoking behaviors by self-report - application usage through 24 weeks
Outcomes	Salivary cotinine testing validated continuous abstinence rate (CAR) at weeks 9-12 and 20-24
Analysis	multivariable logistic regression

Definition	ascure	outpatient service
week 12	CA at weeks 9-12 salivary cotinine test	CA at weeks 9-12 CO <8ppm
week 24	CA at weeks 20-24 salivary cotinine test	CA at weeks 12-24 (self report only)

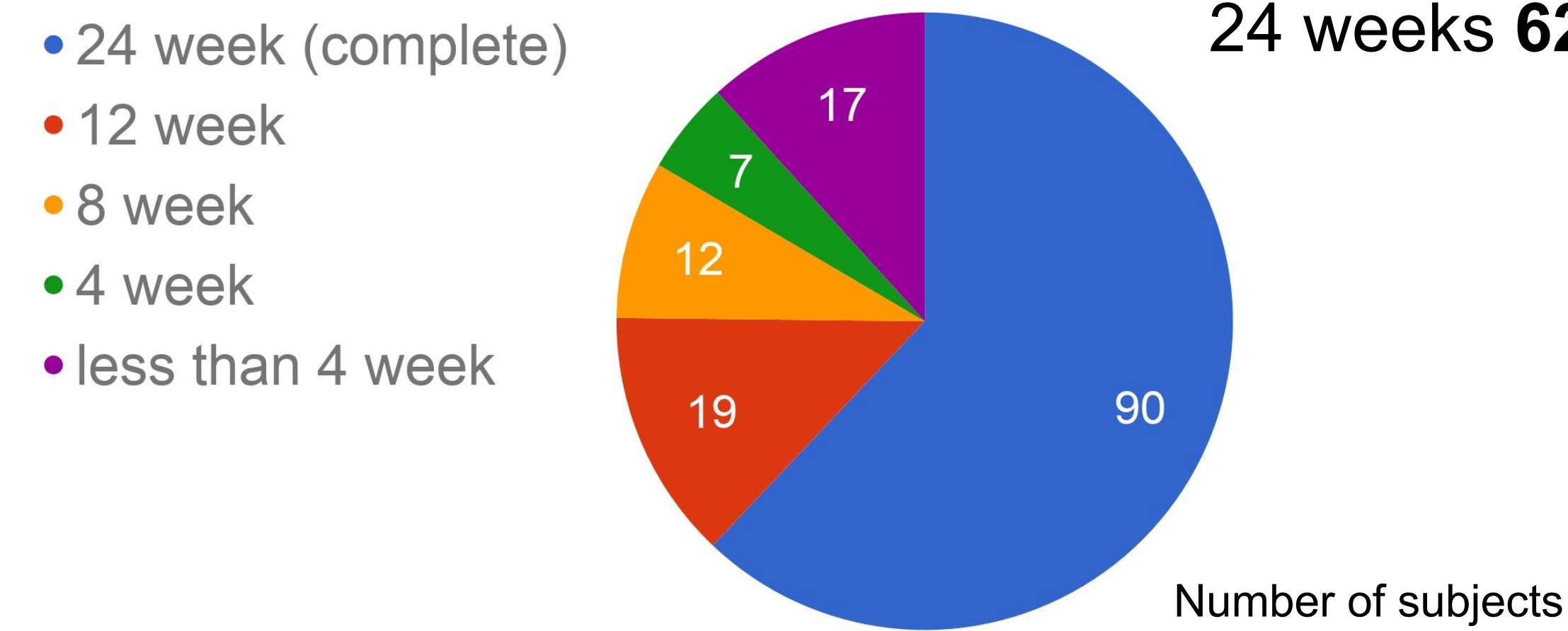
Baseline characteristics

	ascure	outpatient service (in 2017)
No. of participants	145	1,308
female sex	61 (42%)	400 (30.6%)
Age	44.3	49.0
years	22.2	27.5
No. of cigarettes /day	16.5	22.8
Brinkmann Index	376	634.1
TDS	7.1	7.8
No. of SC attempted before the trial	1.54	

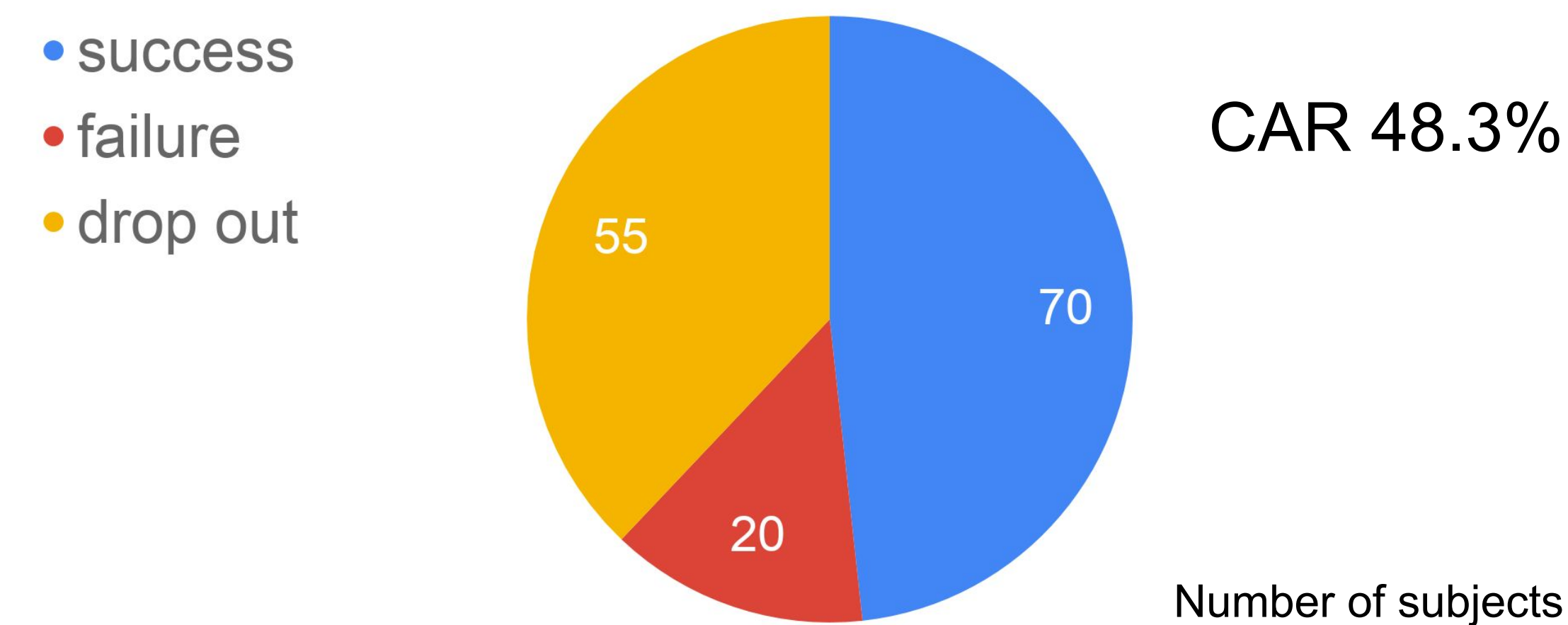
Data are n (%), mean (standard deviation), SC, smoking cessation; and TDS, Tobacco Dependence Screener

Efficacy of the program

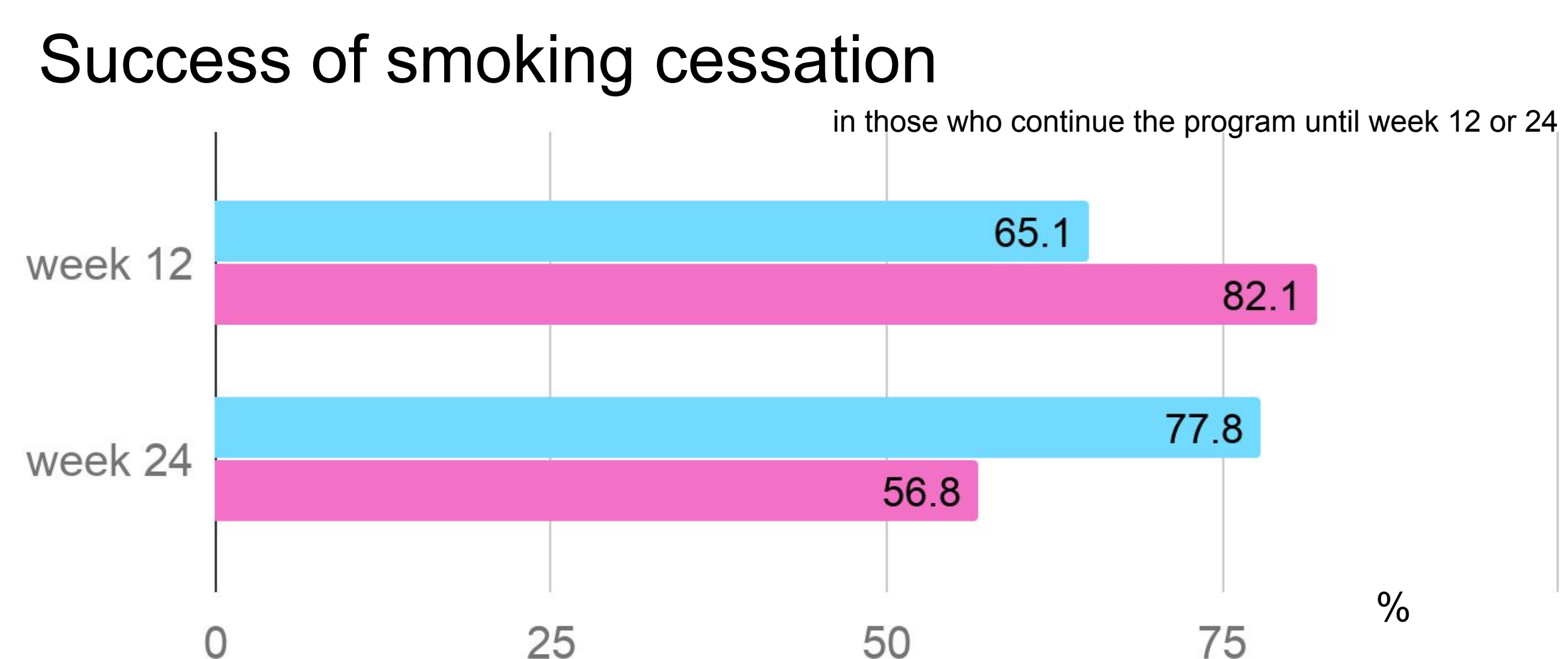
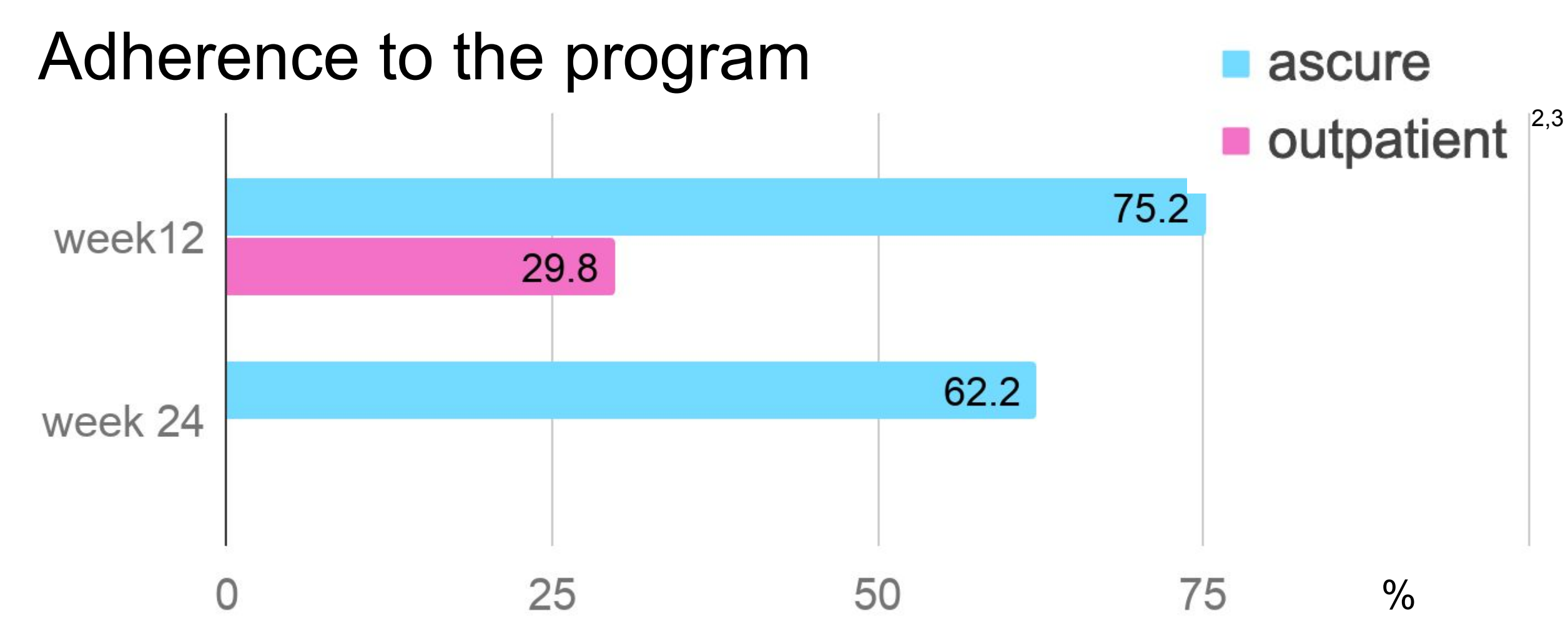
Adherence to the program
12 weeks 75.1%
24 weeks 62.2%



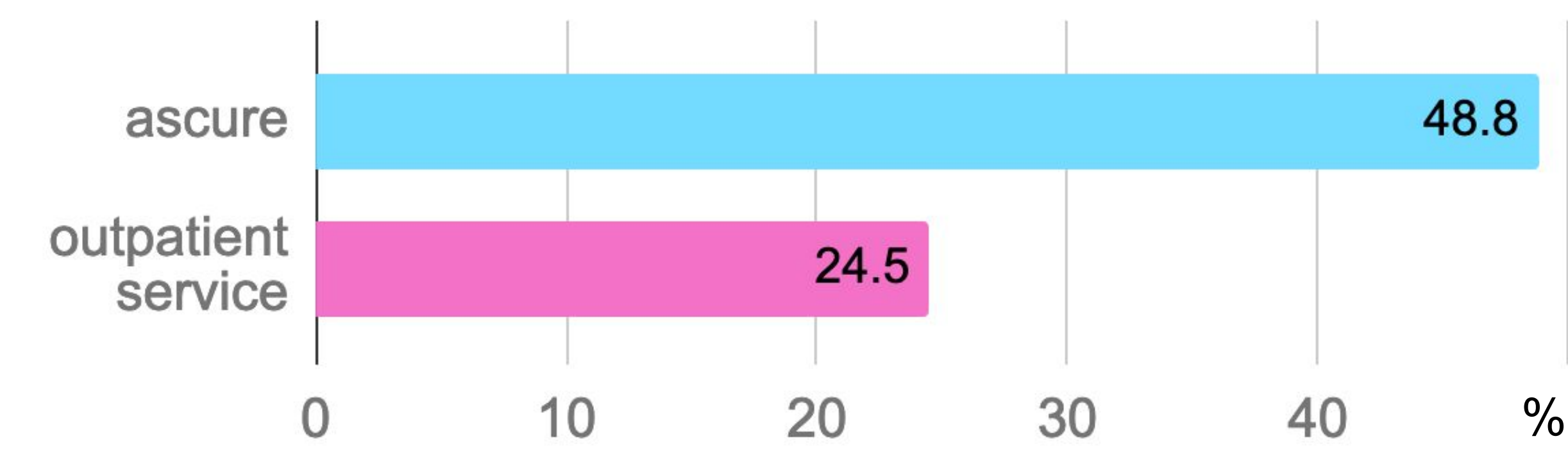
Continuous abstinence (CA) at week 24



Comparison with the outpatient service

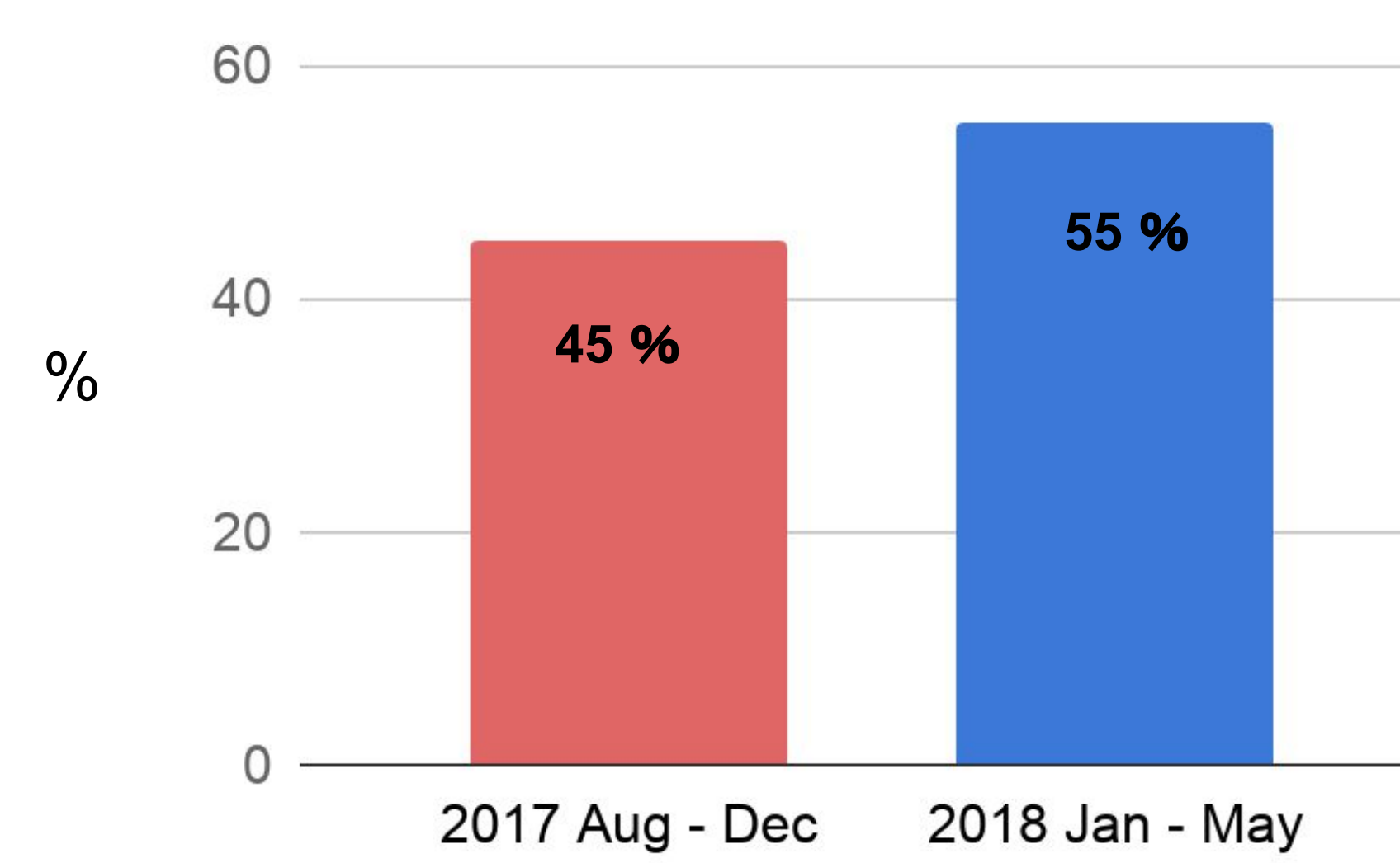


CAR at weeks 9 - 12



Data driven improvement of the program

CAR at week 24



The timing of the enrollment

Improvement

1. Notification at an appropriate timing based on actions in the app
2. Training of the online mentors
3. Communication with the corporate health insurance societies

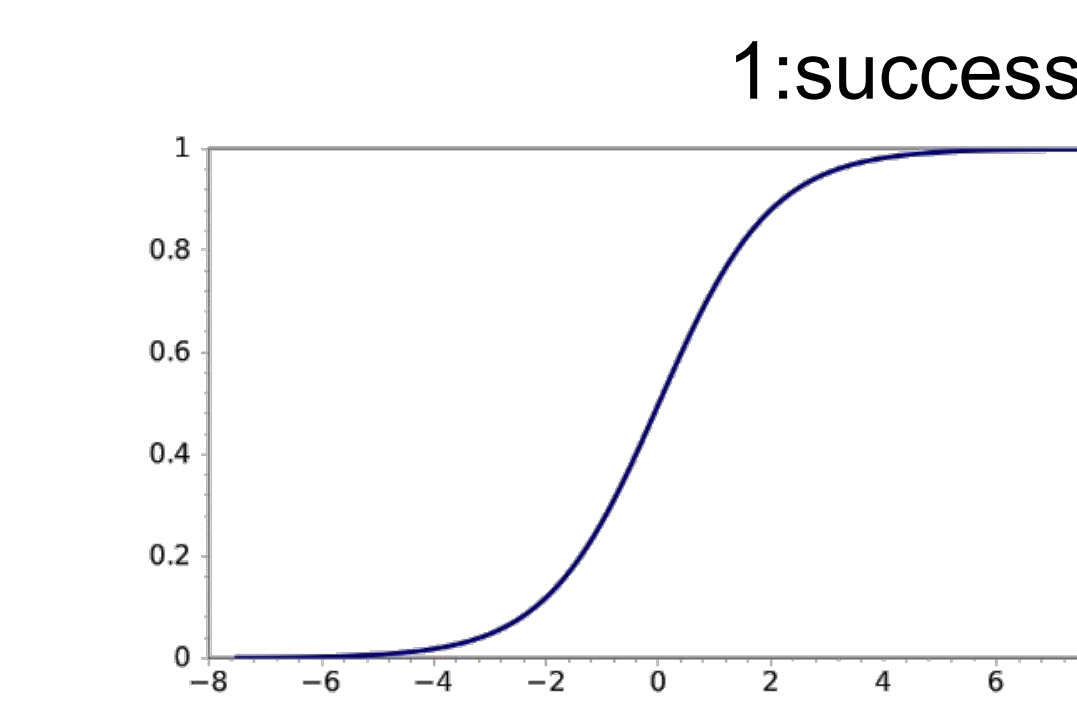
Possible predictors of the outcome

Candidate predictors

age
sex
years of smoking
No. of cigarettes /day
Brinkmann Index
TDS
No. of SC attempted before the trial
No. of written diary
No. of report in poor physical condition
No. of avoiding environmental triggers
No. of changing behavioral patterns
No. of alternative behavior
No. of assertiveness training
No. of watched educational movies
No. of program they have learned

Outcome

CA at week 24



0: failure (including dropout)

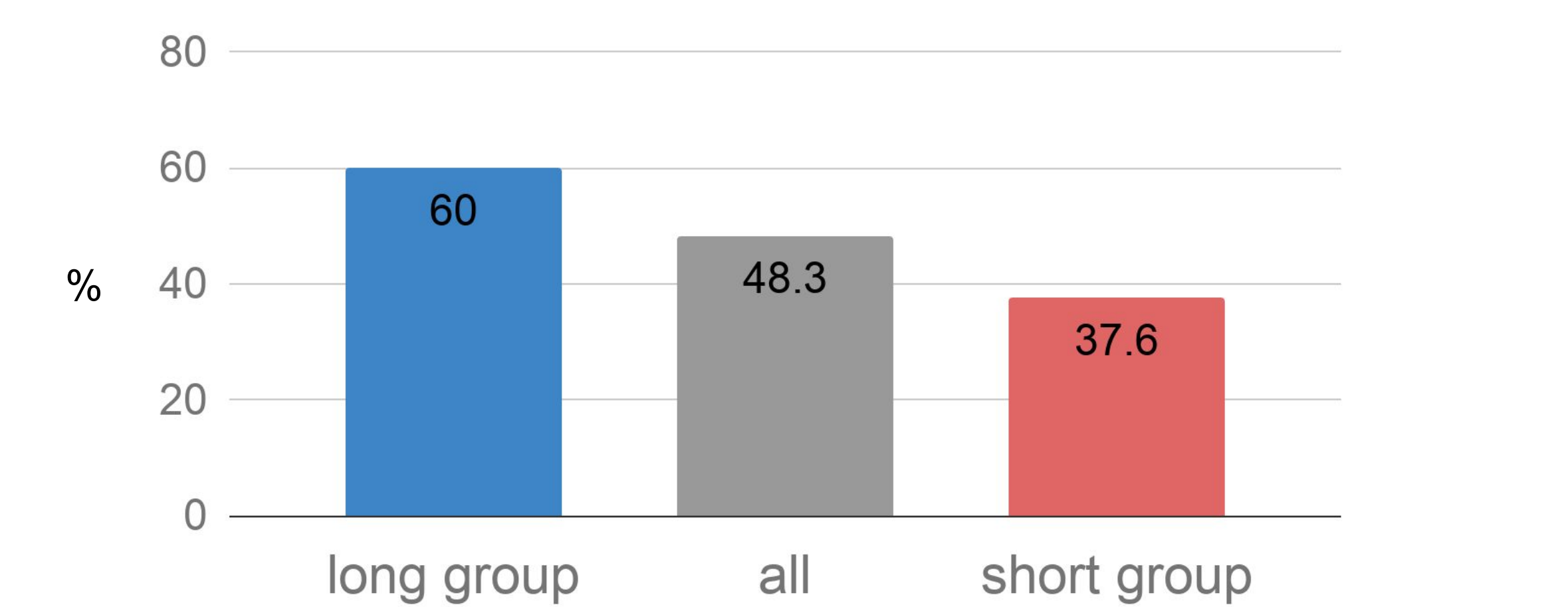
Variables are chosen by AIC

Predictors	OR	95% CI	P value
years of smoking	1.021	1.006 - 1.035	0.006
No. of SC attempted before the trial	0.954	0.887 - 1.026	0.204
No. of written diary	1.015	1.010 - 1.020	<0.0001
No. of report in poor physical condition	0.988	0.974 - 1.001	0.073
TDS	0.954	0.897 - 1.015	0.137

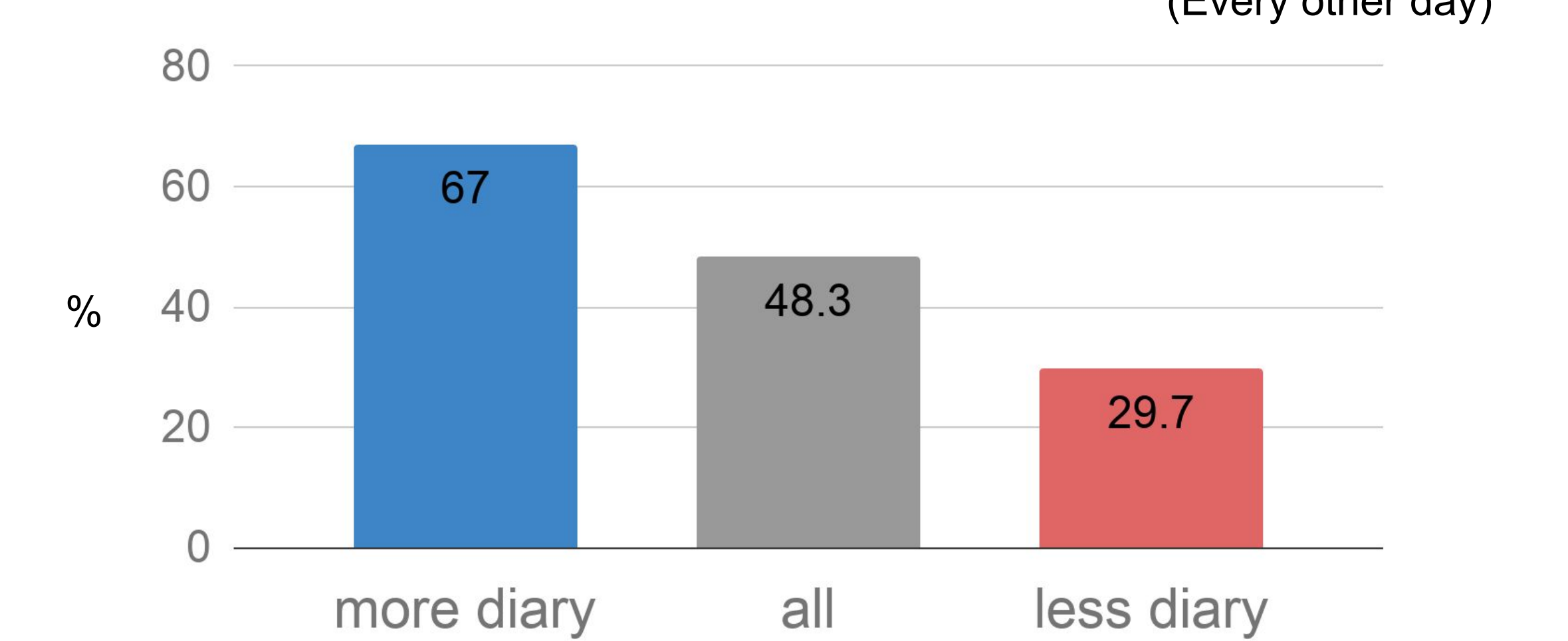
OR: Odds ratio CI: Confidence interval

Subgroup analysis

Years of smoking



No. of written diary



Conclusion

- Evaluated the efficacy of the novel program featuring "online mentoring", "concurrent use of applications", and "follow-up over a long period of time (24 weeks)"
- "ascure" program is a feasible approach to encourage female, younger, not severe nicotine-dependent smokers
- Higher adherence to the program and longer continuous abstinence was achieved compared to the outpatient services
- No. of years of smoking and No. of written diary in week 0-12 were possible predictors of the success in smoking cessation
- Future task could be the data driven improvement of the program

Contact info



info@cureapp.institute



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References

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2. Report on the Efficacy of Smoking Cessation Treatment Based on Nicotine Dependency Management Fee. Ministry of Health, Labour and Welfare. Japan; 2017
3. Report on the Efficacy of Smoking Cessation Treatment Based on Nicotine Dependency Management Fee. Ministry of Health, Labour and Welfare. Japan; 2008