

# Treatment Discontinuation and Mortality Among Patients on Opioid Agonist Therapy in Ukraine During the COVID-19 Pandemic

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## Background

In response to the COVID-19 pandemic, Ukraine's Ministry of Health maintained scale-up targets for opioid agonist therapies (OAT) while issuing emergent public health guidance to allow greater flexibility in take-home dosing (THD) for patients to mitigate COVID-19 transmission to patients and providers.

## Methods

Using Ukraine's national OAT registry, a prospective quasi-experimental Kaplan-Meier survival analysis was applied to compare OAT retention and mortality between patients newly enrolled in OAT within the first six months after the emergency guidance (post-COVID) and within the matching period of the previous year (pre-COVID). Age, sex, HIV status, dosage, THD, and previous OAT experience were assessed for their effect on treatment retention and death using Cox multivariate regression models.

## Results

During the pre-COVID (N=1,444) and post-COVID (N=1,667) cohorts, 22% and 64% of patients were transferred to THD within 365 days, respectively. Relative to the pre-COVID period, retention was significantly higher (p<0.0001) in the post-COVID group at 1 (97% vs 93%), 6 (88% vs 83%), and 12 (80% vs 76%) months (see **Fig.1**). Findings were similar for survival at 1 (99.5% vs 98.9%), 6 (97.5% vs 95.7%) and 12 (95.7% vs 93.7%) months (see **Fig.2A**). Patients enrolled during the post-COVID period had a 30% lower risk for dropout over 12 months (p<0.0001), high methadone dose (≥90mg), negative HIV status, and being first time on OAT were positively associated with higher retention. Similarly, over 12 months, the post-COVID group had a 37% lower risk of death (p=0.01); high methadone dose (MD) and HIV status were positively associated with higher survival. Neither retention on OAT or patient mortality differed significantly after controlling for THD, indicating that THD is significantly associated with treatment retention and survival in the post-COVID group (see **Tab.1**). Only regions of Ukraine in the highest quartile of the admission rate were had significantly improved survival in the post-COVID group (see **Fig.2B**).

Crude		Controlled for MD (high vs medium/low)			Controlled for MD (high/medium vs low)			HIV Status			THD			Previous OAT Experience			
cHR	95% CI	p-val.	aHR	95% CI	p-val.	aHR	95% CI	p-val.	aHR	95% CI	p-val.	aHR	95% CI	p-val.	aHR	95% CI	p-val.
<b>Hazard ratios for dropout:</b>																	
0.70	0.59-0.83	<.0001	0.68	0.57-0.80	<.0001	0.75	0.63-0.89	.0009	0.71	0.60-0.85	.0001	1.2	1.003-1.44	0.046	0.71	0.60-0.8	<.0001
<b>Hazard ratios for death:</b>																	
0.63	0.44-0.91	.0135	0.62	0.43-0.89	.0096	0.66	0.46-0.96	.0288	0.67	0.46-0.96	.0309	0.72	0.48-1.07	0.110			

## Conclusion

The proportion of patients on THD post-COVID was more than double that of the pre-COVID period. THD contributed to higher retention and survival in the post-COVID group at 6- and 12-months.

## References

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## Acknowledgments

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Figure 1: Retention on methadone treatment over 12 months, stratified by PRE- and POST-COVID admission (N=3,111)

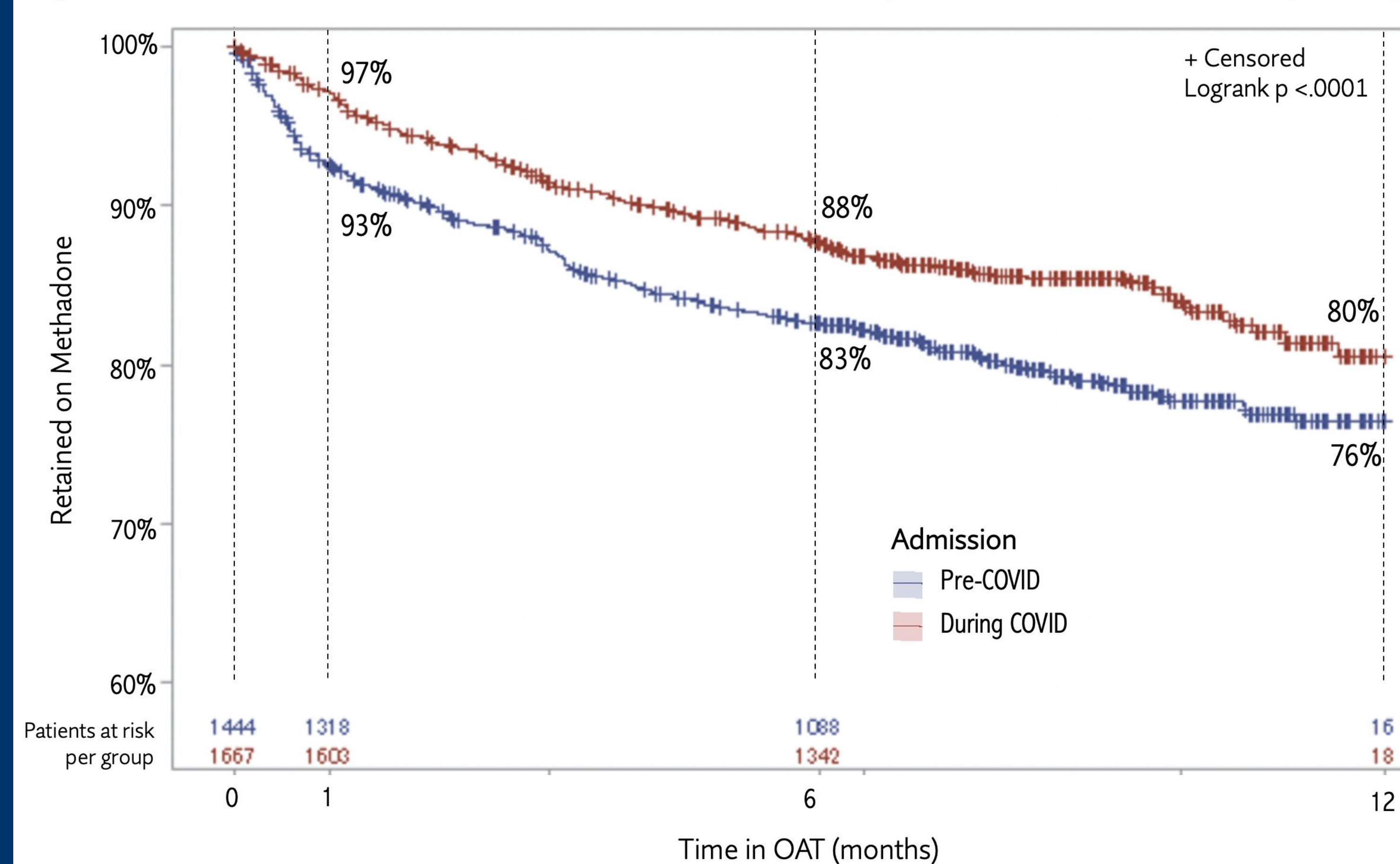


Figure 2A: Survival of OAT patients over 12 months, stratified by PRE- and POST-COVID admission (N=3,111)

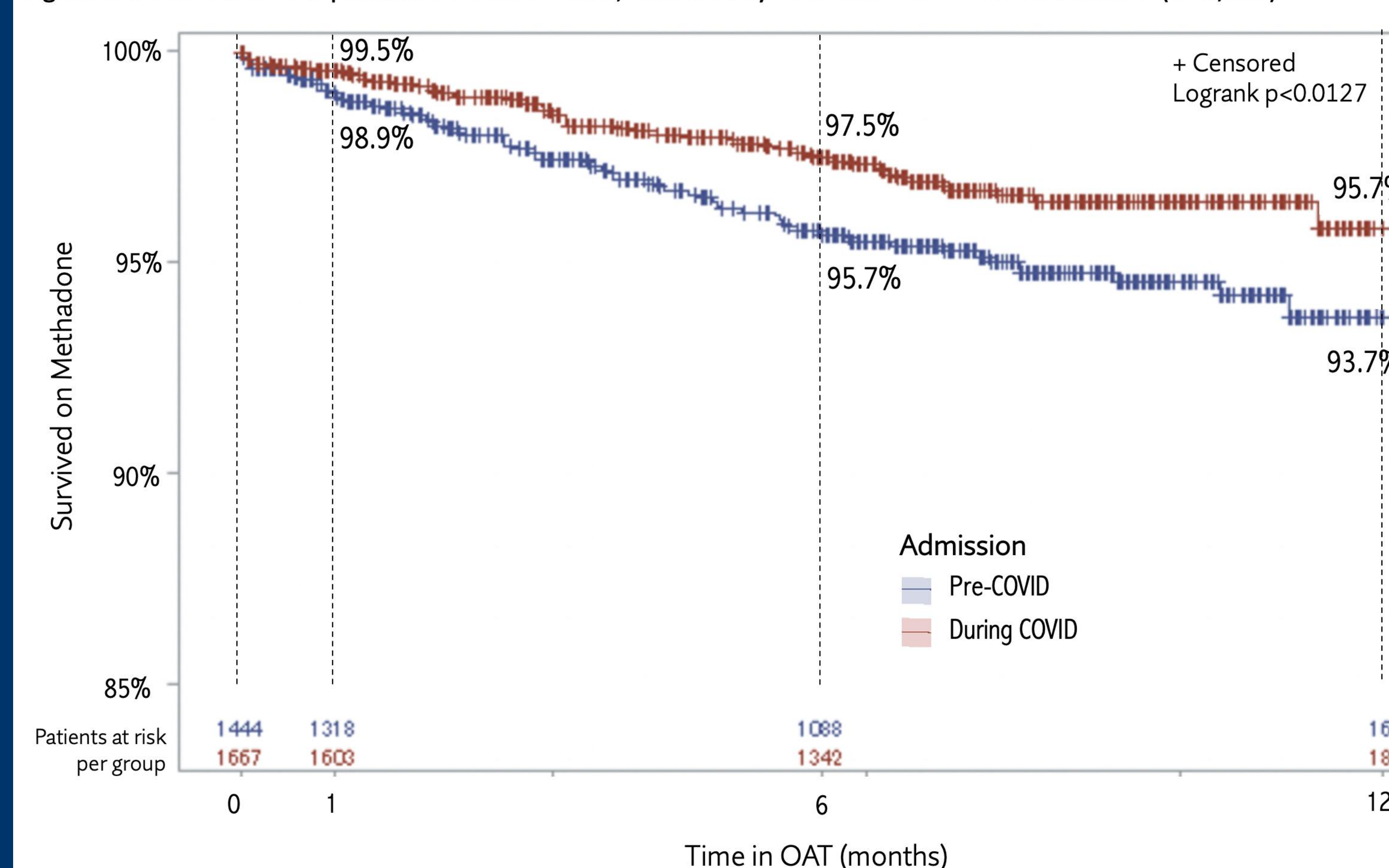


Figure 2B: PRE- and POST-COVID Survival of OAT patients over 12 months: Regional stratification by the quartiles of the admission rate variable.

