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### Title

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### Permalink

<https://escholarship.org/uc/item/5fd182qr>

### Journal

Journal of Addictive Diseases, 41(1)

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### Publication Date

2023

### DOI

10.1080/10550887.2022.2067463

Peer reviewed



# HHS Public Access

Author manuscript

*J Addict Dis.* Author manuscript; available in PMC 2023 January 20.

Published in final edited form as:

*J Addict Dis.* 2023 ; 41(1): 91–97. doi:10.1080/10550887.2022.2067463.

## PRELIMINARY ATTITUDES ON MEDICATIONS FOR OPIOID USE DISORDERS (MOUDs) IN SOUTHEASTERN SWITZERLAND AND NEW YORK CITY

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### Abstract

**Background and Objectives:** The United States (US) and Switzerland are affluent countries with different responses to surges in opioid use disorder (OUD) cases over the last thirty years. The Swiss “PROVE” trial implemented heroin-assisted treatment (HAT) for OUD alongside other medications for opioid use disorder (MOUD). In contrast, heroin remains highly controlled, HAT is inaccessible, and MOUD programs are generally more restrictive in the US than in Switzerland.

**Methods:** We conducted a survey to compare practitioners’ attitudes towards HAT across sites in both countries. Surveys were distributed electronically for voluntary, uncompensated completion (N=120) at two mental health delivery sites, Psychiatrische Dienste Graubünden (PDGR) in Graubünden, Switzerland and Montefiore Medical Center (MMC) in the Bronx, NY. The survey instrument included 10 demographic and 19 “beliefs” questions measuring agreement level with a statement on a 5-point scale.

**Results:** Analysis included 79 PDGR respondents (mean age = 43.2, 59.5% women) and 41 MMC respondents (mean age = 44.7, 63.4% women), and did not show differences in confidence to treat OUD, addictions, and psychiatric disorders. For belief in HAT, Swiss respondents had a significantly more favorable view ( $b = 0.62$ ) than those in New York ( $p=0.00027$ ).

**Conclusion:** This study shows a difference in attitudes toward HAT among demographically similar staff treating OUD patients across sites. The cohorts demonstrate an overall positive attitude towards HAT but a more robust positive attitude was evident in Switzerland.

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The authors report no conflicts of interest. The authors alone are responsible for the content and writing of this paper.

**Scientific Significance:** Previously unreported attitude comparisons across sites with dissimilar OUD treatment availability may explain differences in practices and success in reducing harm from this disorder.

## Keywords

Medications for Opioid Use Disorder; Provider Attitudes

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## 1. Introduction

Over 27 million people worldwide are affected by opioid use disorder (OUD)<sup>1</sup>. Most countries have experienced waves of increase in use over the past decades according to statistics from the United Nations Office on Drugs and Crime<sup>1</sup>. In response to the surges, different approaches have been developed and implemented, albeit in a fragmented manner. The relative heterogeneity in drug policy across nations allows for comparisons between strategies. The United States (US) and Switzerland (CH) are two of the wealthiest countries in the world and both have undergone opioid epidemics in recent decades<sup>1,2</sup>. However, differences start to emerge as we examine health care and drug policies more closely. CH has been able to engage in treatment 70 percent of its opioid-using population<sup>3</sup>. By contrast in the US, it is estimated that there are not enough providers to prescribe medications for opioid use disorder in the current opioid crisis<sup>4</sup>. In the case of buprenorphine as a treatment option, when US physicians were surveyed regarding prescribing practices, they were found to have a lack of belief in agonist treatment and a lack of time to see more patients<sup>4</sup>. Another study in the US correlated physician beliefs with actual prescribing practices<sup>5</sup>. More specifically, one of the areas where we performed this study, New York City, appears to follow the US national trend of insufficient prescribing of medication for opioid use disorder by outpatient providers, with the main barriers identified as lack of clinical support resources<sup>6</sup>.

Switzerland faced a public health crisis in the 1990's stemming from a rise in rates of heroin use, during which hundreds of people regularly congregated to use in public areas in Zurich. The unsanitary environments and use of contaminated needles resulted in an increase in HIV and hepatitis infections in heroin users and non-users alike<sup>7</sup>. This health crisis was the impetus for a comprehensive new policy approach commonly referred to as the Four Pillar Model<sup>8</sup>. Embedded within it was the unique public health intervention of offering heroin-assisted treatment (HAT) for the patients with OUD who did not respond to available medications for treating OUD (MOUD) or alternate psychosocial treatments. The initial studies conducted in Switzerland concluded that it was effective in reducing morbidity and mortality<sup>9,10</sup>. However, the vast majority of trials comparing HAT to Methadone Maintenance Treatment reported a higher risk of adverse events, including overdoses, in the HAT arm<sup>11,12</sup>. On the other hand, studies have demonstrated that HAT implementation is associated with a decrease in criminal behavior<sup>2,13</sup>, a lower cost to society<sup>14</sup>, and the absence of fatal overdoses<sup>7</sup>. Regardless of how much success or failure can be attributed to the implementation of HAT, it has found acceptance within the Swiss mental health system<sup>7,15</sup> and Swiss society at large, solidified by referenda in the 1990's<sup>2</sup>.

Given the worsening opioid crisis in the US despite the availability of effective MOUDs, it would be prudent to consider what could be learned from Switzerland's policy changes and implementation of HAT programs. Attempts to initiate similar interventions involving heroin administration have not been as accepted in the US<sup>16</sup>. Looking back at the Swiss experience through records of public opinion and anecdotal reports of physicians who were at the forefront of HAT during its initial implementation, it's clear that empirical evidence contrary to prevailing societal biases was instrumental in driving forward policy change. We recognize that provider attitudes may play a role in implementing policies and that policies shape attitudes in a bidirectional fashion.<sup>17</sup> Lastly, comparing practices across these two sites adds to the collective knowledge base of addiction medicine as a global field. The current study sought to evaluate the relationship between provider attitudes and treatment of opioid use disorders by surveying professional staff across two sites in developed nations with different available MOUDs.

## 2. Methods

### 2.1 Settings

The study was conducted at two sites: Psychiatrische Dienste Graubünden (PDGR) in English, Psychiatric Services Grisons, located in the Canton of Graubünden in Switzerland and in the departments of Psychiatry and Behavioral Sciences of Montefiore Medical Center (MMC), located in the Bronx, New York. Surveys were drafted in August and distributed electronically to staff at PDGR and MMC in September of 2018. Participation was voluntary, and surveys were not linked to the name of the participants to ensure confidentiality. Participants did not receive any monetary compensation for completing the survey. This study was granted exemption by the Albert Einstein College of Medicine IRB (IRB Number: 2018–9382, initial approval granted on 09/11/2018) which served as the IRB of record and was administratively approved at PDGR.

### 2.2 Survey

A survey instrument with 10 demographic questions and 19 beliefs and attitudes questions was developed *de novo* to capture attitudes towards agonist medication treatment for opioid use disorder. The questionnaire was written with the aim of describing organizational characteristics including involvement in research, percentage of patient load that carries a diagnosis of Substance Use Disorder (SUD), leadership that promotes the use of MOUD and the providers' experience with the medication. The 19 questions reflected attitudes and beliefs towards use of agonist MOUD, including benefits, risks and cost-effectiveness. Attitudes were measured using 5-point scale questions, measuring level of agreement or disagreement with a statement.\*

### 2.3 Data collection and analysis

Survey response data were collected using SurveyMonkey, a third-party, Web-based survey tool. Demographic and occupational descriptions of both New York and Switzerland site respondents were produced, and differences between the two samples were assessed using

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\* A copy of the survey instrument may be obtained by contacting the corresponding author directly.

chi-squared tests. For each survey item, an adjusted linear regression model was used to assess differences in responses between New York and Switzerland. Each model included a term for site and a term for years of experience to adjust for the observed differences in years of experience between the two sites. To maintain an overall level of significance of 5%, a Bonferroni-corrected threshold of .0026 (.05/19) was used to identify significant differences between sites.

### 3. Results

#### 3.1 Demographic Description

There were 41 respondents (mean age = 44.7, % women 63.4, % with previous exposure to MOUD = 63.4, % of clientele with SUD diagnosis = 49) in the New York sample and 79 respondents (mean age = 43.2, % women 59.5, % with previous exposure to MOUD = 65.8, % of clientele with SUD diagnosis = 45) in the Swiss sample (Table 1). There were no significant differences between these samples in age category, gender, occupation, percentage of time devoted to research, experience with MOUD, leadership support of MOUD, or the percent of clientele with SUD. There was a significant difference in years of experience between the two groups ( $p = 0.014$ ): the New York sample had a lower proportion of respondents with 5–24 years of experience than Switzerland (New York: 12/41 29.2%; Switzerland: 45/79 57.0%) and a higher proportion of respondents with less than 5 years of experience or greater than 25 years of experience.

#### 3.2 Attitudes Comparisons

In models adjusted for years of experience, two survey items received significantly higher endorsement among respondents from Switzerland than those in New York: belief in the treatment efficacy of HAT ( $b = 0.62$ ;  $p = 0.0003$ ; Fig. 1) and belief in its cost effectiveness ( $b = 0.89$ ;  $p < 0.0001$ ). For the survey item measuring comfort with recommending MOUD to patients, Switzerland reported significantly lower comfort in the adjusted model ( $b = -0.66$ ;  $p = 0.00255$ ). There were no site differences in confidence to treat patients with OUD, alcohol use disorder, schizophrenia or other psychotic disorders, affective disorders, or personality disorders (Table 2). There were also no significant differences observed in beliefs about increased risk of death, health complications, or stigma (Fig 2) as a result of HAT. Of note, no respondents in the Swiss sample disagreed with the statement that physician prescribed HAT can play a role in a patient's recovery from OUD (Fig 1).

### 4. Discussion

The current opioid epidemic in the US calls for increasing efforts to curtail the number of preventable early deaths, decrease the morbidity associated with drug use, and increase the quality of life for those suffering from substance use disorders. Many interventions in the US in the past 10 years have only moved the dial slightly in the previously mentioned goals and have not prevented subsequent “waves” of the crisis from surging. At this stage, it is important to accurately identify factors such as attitudes and beliefs towards treatment options. This study assessed attitudes and beliefs in two separate samples in affluent countries in the developed world by means of a novel survey instrument. Based

on this survey, attitudes on the role of Heroin-Assisted Treatment appear independent of competence in treating psychiatric disorders, how comfortable providers are with SUDS, and with the principles of addiction science. The most salient difference was seen in the attitudes towards this singular modality used in the treatment of OUD that is available as medical treatment by prescription in Switzerland and is listed by the Drug Enforcement Administration in Schedule I (no accepted medical use, a lack of accepted safety for use under medical supervision, and a high potential for abuse) in the United States. From a regulatory point of view, there are multiple barriers that would need to be addressed before HAT could be implemented in the US.

The cohort sampled at PDGR had an overwhelmingly positive attitude towards HAT, with negative attitudes conspicuously absent from our results. The attitudes in the US sample were more widely distributed, though the mean tended towards a favorable view of HAT. Our results also did not distinguish a significant difference across sites with respect to the perceived stigma from using HAT for treating OUD. However, the sample in Switzerland had a belief that it did not add to stigma for the most part while the sample in New York had a more neutral response, perhaps owing to its lack of familiarity with this treatment modality. The causal basis for the shift in attitudes in Switzerland over the past thirty years is outside the scope of this study, however, we believe that the policy implemented three decades ago to expand available treatments may have played a role in the current positive attitudes towards HAT. In Switzerland, HAT was initially met with some resistance by clinicians, yet we did not find evidence of negative attitudes towards HAT in our survey responses. This could be because adverse effects from HAT have been mitigated by administering oral rather than injectable heroin, providing close supervision, and/or using safe induction protocols.<sup>13</sup>

In comparison, our survey responses in New York had a mix of negative, positive and neutral attitudes towards HAT. An unusual finding was the difference seen in comfort in recommending MOUD when adjusting for experience, as the cohort in NY responded with a higher level of comfort than the Swiss one. We believe we detected this difference as providers in Switzerland will not report as high a level of personal (individual) comfort in their ability to recommend MOUD to patients while believing in its effectiveness. Decision making for this type of referral is less of a consensus decision in the United States, therefore it is not surprising that the NY respondents displayed a higher degree of comfort.

We recognize that we are limited in this study's ability to detect differences in attitudes attributable to how healthcare is organized in the two countries. Another limitation of this study is that the survey instrument was only distributed to two sites and may not capture the diversity of beliefs and attitudes towards the treatment of substance use disorders. The relatively small sample size, and restriction to mainly psychiatric providers, may additionally be limited in its ability to capture that breadth in opinions. The sites queried both in the US and Switzerland may not be representative of both nations as a whole. Expanding the survey to other sites and conducting a qualitative analysis approach of beliefs were not feasible due to funding and time constraints, though they can be explored in future studies. Both Switzerland and the United States likely have regional variability in terms of

attitudes towards different MOUDs. Lastly, there may have been attitudes and beliefs not queried which may also play a role in drug policy.

## 5. Conclusion

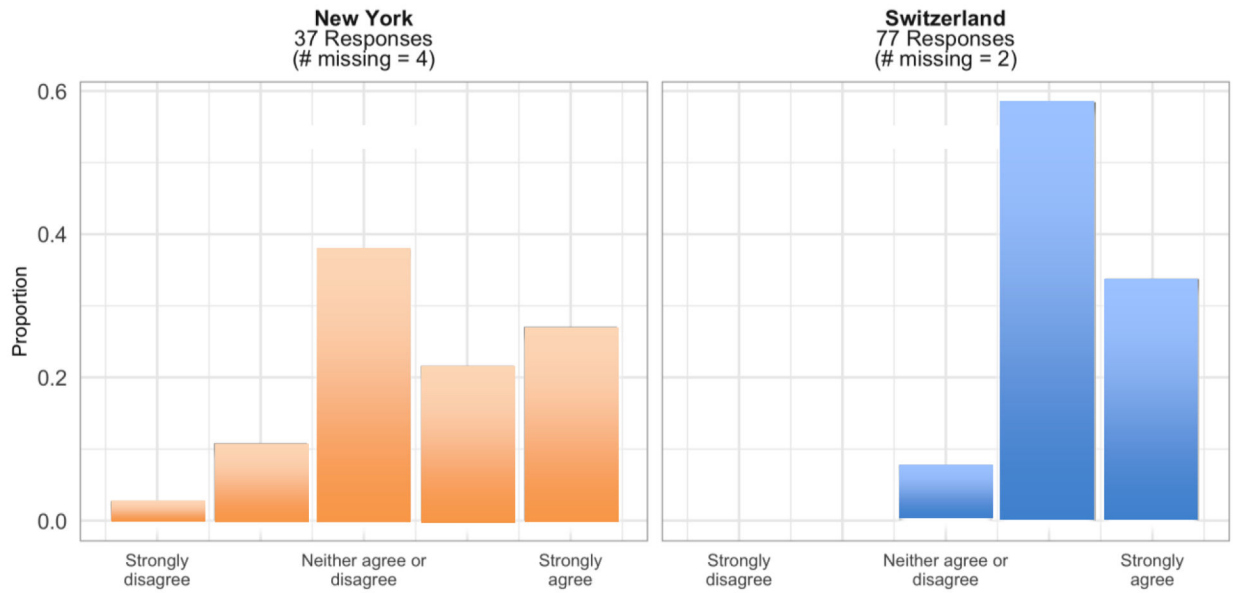
The current study compared two independent cohorts of clinician attitudes across two sites that had contrasting implementations of drug policy when facing similar opioid use crises. These data suggest that there is a divergence in attitudes towards agonist treatment between the sites in the Bronx and Graubünden. It is uncertain whether a turn toward Switzerland's history for guidance would result in harmonization between the sites, whether a shared goal of increasing health and minimizing the burden of disease is what is underlying these differences, all while conceding that HAT expansion in the US may not be as cost-effective as it is in Switzerland. The present results are encouraging in that the practitioners who were interviewed were either neutral or comfortable with prescribing heroin for the treatment of OUD. Perhaps these attitudes by clinicians may support a re-evaluation of the value of implementing this treatment modality for OUD in the United States. Whereas most current studies in the literature have only offered the description of attitudes at one site, the current study sought to gain a deeper understanding of the differences in policies as reflected in providers' attitudes. We suggest that there is a correlation between the actual practices in place to treat substance use disorders in general and the attitudes exhibited by practitioners at a site.

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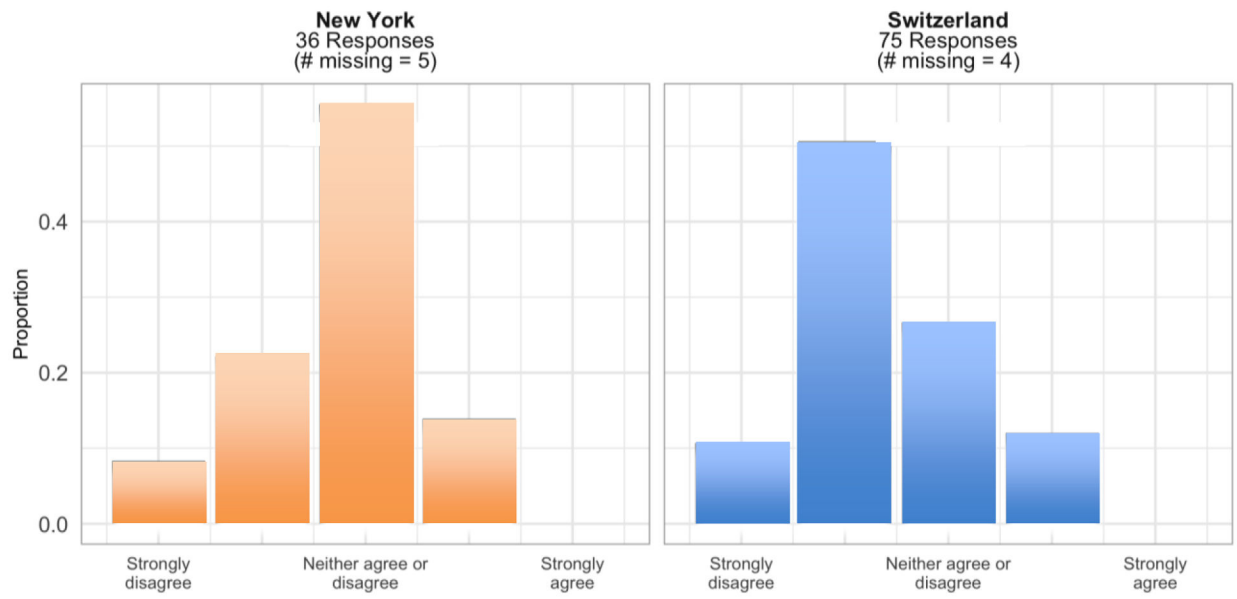
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**Fig 1.** Responses to survey item: “I believe that Physician prescribed heroin assisted treatment can play a role in a patient’s recovery from addiction”



**Fig 2.** Responses to survey item: “I believe that treating patients with heroin increases the stigma associated with drug abuse”

**Table 1**

## Demographics

	Category	Site		p-value
		New York, N (%)	Switzerland, N (%)	
		41	79	
Age	25–30	9 (22.0)	15 (19.0)	0.109
	31–40	11 (26.8)	20 (25.3)	
	41–50	7 (17.1)	21 (26.6)	
	51–60	4 (9.8)	16 (20.3)	
	Over 60	10 (24.4)	7 (8.9)	
Gender	Male	14 (34.1)	31 (39.2)	0.787
	Female	26 (63.4)	47 (59.5)	
	Other	1 (2.4)	1 (1.3)	
Occupation	Psychiatrist or Psychologist	25 (61.0)	49 (62.0)	0.999
	Other	16 (39.0)	30 (38.0)	
Years of Experience	Less than 5 years	20 (48.8)	25 (31.6)	<b>0.014</b>
	5–24 years	12 (29.2)	45 (57.0)	
	25 years or more	9 (22.0)	9 (11.4)	
Research Effort	0 percent	22 (53.7)	44 (55.7)	0.95
	1 to 50 percent	17 (41.5)	32 (40.5)	
	80 percent or more	2 (4.9)	3 (3.8)	
MOUD experience	No	15 (36.6)	27 (34.2)	0.952
	Yes	26 (63.4)	52 (65.8)	
MOUD years of experience	0 years	14 (34.1)	30 (38.0)	0.605
	1 to 9 years	19 (46.3)	39 (49.4)	
	10 years or more	8 (19.5)	10 (12.7)	
Leadership support of MOUD	Moderate or less	12 (29.3)	12 (15.2)	0.112
	Great or Very great	29 (70.7)	67 (84.8)	
Percent of clientele with SUD	Less than 15 percent	11 (27.5)	19 (24.1)	0.914
	15 to 85 percent	19 (47.5)	40 (50.6)	
	Over 85 percent	10 (25.0)	20 (25.3)	

**Table 2**

## Survey Results

Survey Question	Difference between sites	Std dev	P-value
I am comfortable with treating a patient with opioid use disorder	-0.319	0.205	0.12285
I am concerned about my personal liability when providing MAT	-0.130	0.208	0.53369
I am comfortable with treating a patient with schizophrenia or another psychotic disorder	-0.212	0.174	0.22584
I am comfortable with treating a patient with an affective disorder	0.031	0.147	0.83123
I am comfortable with treating a patient with a personality disorder	0.162	0.174	0.35427
I am comfortable with treating a patient with alcohol use disorder	0.214	0.153	0.16483
I am comfortable in my ability to recommend medication assisted treatment options to patients	-0.661	0.214	<b>0.00255</b>
I believe that physician-prescribed heroin assisted treatment can play a role in a patient's recovery from addiction	0.623	0.165	<b>0.00027</b>
I believe treating patients with heroin is a cost-effective strategy	0.895	0.169	<b>&lt; 0.00001</b>
I believe that treating patients with heroin increases the stigma associated with drug abuse	-0.274	0.174	0.11767
I believe that sobriety is the best cure for addiction	-0.073	0.211	0.72932
I believe that medication assisted treatment should have independent oversight	0.590	0.216	0.00734
I believe that medication assisted treatment carries a risk of death from an adverse event	-0.354	0.218	0.10664
I believe that medication assisted treatment increases the risk of health complications of SUDS	0.134	0.188	0.47787
I believe that medication assisted treatment complicates the treatment of other psychiatric disorders	0.264	0.207	0.20545
I believe that medication assisted treatment improves the quality of life of those affected	0.020	0.183	0.91436
How comfortable are you in your knowledge of the legality of medication assisted treatment?	-0.698	0.241	0.00464
How comfortable are you in your knowledge of the effectiveness of medication assisted treatment?	-0.231	0.202	0.25649
How comfortable are you in your knowledge of the principles of addiction science?	-0.175	0.195	0.37065

[positive value reflects greater comfort or strength of belief in the CH site, negative value reflects greater comfort or strength of belief in the NY site]

[significant differences between sites are in bold if values were below the Bonferroni-corrected threshold of .0026 (.05/19)]