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## International perspectives on opioid use disorder and treatment: Results from an online convenience sample

Katrine Melby<sup>1,15</sup>, Mehdi Farokhnia<sup>2,15</sup>, Serenella Tolomeo<sup>3,15</sup>, Roshan Bhad<sup>4,15</sup>,  
Jørgen G. Bramnes<sup>5</sup>, Alex Baldacchino<sup>6</sup>, Ravindra Rao<sup>4,15</sup>, Gomathinayagam Kandasami<sup>7,15</sup>,  
Jenna L. Butner<sup>8,15</sup>, Vicky Phan<sup>9,15</sup>, Francina Fonseca<sup>10,15</sup>, Parnian Rafei<sup>11,15</sup>, Jiang Long<sup>12,15</sup>,  
Georgios Tzeferakos<sup>13,15</sup>, and Geert Dom<sup>14</sup>

1. Department of Clinical Pharmacology, St. Olav University Hospital, Trondheim, Norway
2. Clinical Psychoneuroendocrinology and Neuropsychopharmacology Section, Translational Addiction Medicine Branch, National Institute on Drug Abuse Intramural Research Program and National Institute on Alcohol Abuse and Alcoholism Division of Intramural Clinical and Biological Research, National Institutes of Health, Baltimore and Bethesda, MD, USA
3. Institute of High Performance Computing (IHPC), Agency for Science, Technology and Research (A\*STAR), Connexis, Singapore, Republic of Singapore
4. Department of Psychiatry & National Drug Dependence Treatment Centre (NDDTC), AIIMS, New Delhi, India
5. Norwegian Institute of Public Health, Oslo, Norway
6. St Andrews University Medical School, St Andrews University, St Andrews, Scotland, UK
7. National Addictions Management Service, Institute of Mental Health, Buangkok Green Medical Park, Republic of Singapore
8. Department of General Internal Medicine, Yale University School of Medicine, New Haven, CT, USA
9. Turning Point, Eastern Health, Melbourne, Australia
10. Mental Health Institute, Hospital del Mar Medical Research Institute (IMIM), Barcelona, Spain
11. Department of Psychology, Faculty of Psychology and Education, University of Tehran, Tehran, Iran
12. Shanghai Mental Health Center, Shanghai Jiao Tong University School of Medicine, Shanghai, China
13. President of the Dual Diagnosis Section of the Hellenic Psychiatric Association
14. Collaborative Antwerp Psychiatric Research Institute (CAPRI), Antwerp University (UA), Antwerp, Belgium
15. International Society of Addiction Medicine, New Professionals Exploration, Training & Education (ISAM-NExT)

### Summary

Opioid use disorder (OUD) is a chronic disease characterised by periods of abstinence and episodic return to use, that is associated with enormous socioeconomic burden and great risk for morbidity and mortality. Implementation of national opioid agonist treatment (OAT) programs has been an important strategy to respond to the opioid crisis tailored to each region. Heterogeneity across such programs and policies introduces a challenge in terms of harmonisation but also an opportunity for mutual learning and improvement. In this study, a convenience sample of 15 addiction medicine professionals were invited to complete an online questionnaire focused on challenges and strategies in delivering OAT in different countries and regions. Although national opioid treatment programs were available in all but one country, important barriers were identified, and treatment coverage was overall low. In some countries, political and legislative changes are needed to improve public health responses and community attitudes towards people with OUD. Providing evidence-based information to clinicians and individuals, strengthening the education of health professionals, and minimising stigma at different levels are seen as important steps that national and international institutions must take to address the opioid crisis.

**Key Words:** International Perspective, Opioid Use Disorder, Opioid Agonist Treatment

Corresponding author: Corresponding author: Katrine Melby, International Society of Addiction Medicine - New Professionals - Exploration, Training & Education (ISAM-NExT), P.O. Box 3250 Torgarden, NO-7006, Trondheim, Norway.  
Phone: +4772829100; E-mail: katrine.melby@stolav.no

## 1. Introduction

Opioid use disorder (OUD) is a global health problem. Major health consequences of opioid use include a higher risk of premature death and increased risk of infections such as HIV and hepatitis B and C. Studies also indicate that OUD results in significant economic, personal, and social burden through unemployment, homelessness, family disruption, loss of economic productivity, and social instability [24]. Like other chronic diseases, OUD has an episodic return to use and remitting course [2, 6, 16, 23].

OUD can present in the context of unregulated substance use (e.g., heroin) and/or non-prescribed use of prescription opioids (POs). POs are on the World Health Organization's (WHO) list of essential medicines for the treatment of acute cancer pain, palliative care, and the treatment of OUD [25]. However, in parallel with their medical usefulness, considerable increase in POs, due to an overreliance on these to treat chronic non-cancer pain, has contributed to the increase in OUD and related overdoses [12], particularly in the U.S. [20]. In 2019, 62 million people used opioids for non-medical purposes, which accounts for 1.2% of the global population [24]. Furthermore, it is estimated that there are at least 15.6 million people who use opioids worldwide, of whom 11 million are people with a diagnosed OUD [23].

Although opioid agonist treatment (OAT) has become widely accepted and proven to be the most effective treatment for OUD, treatment coverage remains poor in most countries [11, 14-16, 18]. In a systematic review from 2017, only 86 of 179 countries provided OAT [13], and 5% of the global population who inject drugs in countries with high coverage received treatment. High coverage was defined as  $\geq 40$  OAT recipients per 100 people who inject drugs. There seemed to be a great heterogeneity across countries when it came to treatment coverage. The goal of this survey was to examine addiction medicine professional perspectives on OUD, to shed light on challenges and strategies in delivering OAT in different countries and regions.

Through a survey conducted by the International Society of Addiction Medicine – New professionals Exploration, Training and Education (ISAM-NExT), we aimed to capture the current context of OUD treatment within different countries. We collected data for this study in 2021 via a Google Survey (Suppl 1: Questionnaire) distributed to a convenience sample of addiction medicine professionals (clinicians and researchers), who were members of ISAM and worked in 11 different countries, spanning three continents. Focus areas of the survey were the following: estimated prevalence of OUD in different countries, available treatment types and treatment coverage,

challenges in the different countries, and suggestions to improve the level of care for these patients.

## 2. Estimated prevalence of OUD in different countries

About 0.18-2% of the population in every country with available data represented in this study is diagnosed with OUD (see **Table 1**). The numbers from this survey correspond with the WHO/UNODC (United Nations Office on Drugs and Crime)/UNAIDS (Joint United Nations Programme on HIV/AIDS) position paper estimation of 1.2% of the global population having OUD [24].

### 2.1. Available treatment types and treatment coverage

Methadone and buprenorphine are used in all countries with OAT available. Some countries also use morphine (Norway and Spain) and natural opiates (Iran and Norway) in their opioid treatment programs.

An OAT program was available in all countries, except Singapore, due to the zero-drug tolerance policy, and a total abstinence-based approach is practiced. However, elderly people with OUD have received methadone maintenance treatment during the past decade. The range of OUD patients enrolled across different countries was wide, estimated to be less than 5% in India, to 70% in Spain and China. There was no valid data accessible in Belgium (**Table 1**).

### 2.2. Treatment coverage and gap

Norway, Spain, Australia, UK, Iran, China, and Belgium fall into the high coverage category; each country has over 40% treatment coverage for patients with OUD. In several of these countries, universal healthcare, including OAT, is free and available.

The Norwegian OAT program initially targeted older people with OUD who had not responded to previous and multiple non-OAT treatment programs; there has been a change in recipient profiles over time. In the absence of OAT, it is believed that outcomes would be a mix of continued opioid use, other treatments, maturing out of use, and death. Approximately 50% coverage is seen as optimal [17]. A low treatment gap is seen in Spain, which is thought to be a result of the availability of OAT. Similarly, there is OAT coverage for around 50% of people with OUD in Australia, though a significant proportion of people do not seek, do not choose, or do not respond to available OAT there. In the UK, it is believed that around 60% access treatment, whereas in Iran, about 40% receive treatment. In China, treatment gap is estimated to be 30% or less, as more than 70% of patients in need are provided with methadone maintenance

Table 1. Challenges and strategies in delivering OAT by country

Country	1 Approximately number/percentage of people with opioid use disorders/opioid dependence of the population (Prevalence)	2 What are the national challenges of OUD/opioid dependence in your country?	3 Is opioid agonist treatment program available in your country?	4 Which opioids drugs, formulation are used for OAT in your country?	5 Approximate percentage of OUD/opioid dependence patients enrolled on opioid agonist i.e treatment coverage in your country ?
United Kingdom	1-2%	A. Overdose and associated morbidity/mortality, C. Prescription opioid misuse	A. Yes	A. Methadone, B. Buprenorphine	Around 25000, 60% access treatment
India [1]	0.7% with problematic opioid use (7.7 million) and 0.26% opioid dependence (2.8 million)	A. Overdose and associated morbidity/mortality, B. Injecting drug use and associated morbidity including HIV	A. Yes	A. Methadone, B. Buprenorphine	approximately 2%
India [1]	0.7%	A. Overdose and associated morbidity/mortality, B. Injecting drug use and associated morbidity including HIV	A. Yes	A. Methadone, B. Buprenorphine	About 5%
United States	1%	A. Overdose and associated morbidity/mortality, E. Any other (please specify)	A. Yes	A. Methadone, B. Buprenorphine	18%
Australia [22]	104,026 individuals, approximately 0.4%	A. Overdose and associated morbidity/mortality, B. Injecting drug use and associated morbidity including HIV, C. Prescription opioid misuse, E. Any other (please specify)	A. Yes	A. Methadone, B. Buprenorphine	53, 316 patients, 50%
Greece	0.18%-0.27%	A. Overdose and associated morbidity/mortality, B. Injecting drug use and associated morbidity including HIV	A. Yes	A. Methadone, B. Buprenorphine, E. Any other (Please specify)	24.4%
Belgium [9]	0.2% in 2013. More recent data indicate a prevalence of last-year opioid use of 0.7% in the Flemish region (population 6.65 million)	E. Any other (please specify)	A. Yes	A. Methadone, B. Buprenorphine	no valid data accessible

**Table 1.** Challenges and strategies in delivering OAT by country

Spain [4]	0.5%	A. Overdose and associated morbidity/mortality	A. Yes	A. Methadone, B. Buprenorphine, C. Morphine	70%
Norway [9]	0.2%. 15000 of a population of 5.4 million inhabitants	A. Overdose and associated morbidity/mortality, B. Injecting drug use and associated morbidity including HIV	A. Yes	A. Methadone, B. Buprenorphine, C. Morphine, D. Natural opiates	50%
Iran [8]	1.8% (15–64-year-old population)	A. Overdose and associated morbidity/mortality, B. Injecting drug use and associated morbidity including HIV, C. Prescription opioid misuse	A. Yes	A. Methadone, B. Buprenorphine, D. Natural opiates	Methadone: 779,791 patients in 2018 (~81% of the OAT clients); Buprenorphine: 155,000 patients in 2019 (17.3% of the OAT clients)
China [26]	0.5%	B. Injecting drug use and associated morbidity including HIV, C. Prescription opioid misuse	A. Yes	A. Methadone	40%
China [26]	0.6 - 0.8%	A. Overdose and associated morbidity/mortality, B. Injecting drug use and associated morbidity including HIV	A. Yes	A. Methadone, B. Buprenorphine, C. Morphine	Unknown, no official data was found
Singapore [5]	No population surveys available	E. Any other. The above findings are not seen as highly prevalent situation in Singapore as in other countries .Aging heroin users is a concern. Death among PWUD or PWOOD is largely due to suicide About 25% of drug clients visiting National Addictions Management Service are Hepatitis C positive cases	B. No	E. Any other Opioid Agonist Therapy is not available in Singapore due to Government Zero Drug Tolerance Policy. Total Abstinence based approach is being practised	NA. Opioid agonists are not prescribed for heroin users in Singapore. However, a very small group of 40 elderly opium users have been treated with Methadone maintenance treatment for the past 10-11 years

treatment [26]. In Belgium, it is estimated that 75% of patients are in some form of treatment. Based on the waiting lists for OAT in Greece, about 25% treatment coverage is estimated. In the US and India, the treatment coverage is estimated to be lower than 20%.

### **3. Challenges**

Overdoses, other opioid-related mortality, and morbidity related to injecting drug use, are the biggest challenges, reflected in most countries. The rising challenge of prescription opioid misuse was also a problem seen in Australia, Iran, and the UK. Longitudinal studies suggest that approximately 2–3% of patients with OUD die each year due to overdose. The mortality rate for dependent heroin users is 6–20 times of that in the general population of the same age and gender. In the study, the public health benefit and treatment coverage increased over time, with an estimated reduction of 27% in expected overdose fatalities in the final data year [17].

Around 5–10% of HIV infections are attributed to injection drug use, with opioids being the most commonly injected drugs, though it is over 70% in some countries in Asia and Europe. Injection drug use is now the dominant mode of transmission of hepatitis C virus in several countries [3, 24]. However, there is a downward trend in HIV and hepatitis infections in substance users, as seen in the UK, especially those presenting with OUD due to not only a reduction in injecting practices, but also community-based hepatitis eradication programs.

HIV and hepatitis infections are not considered to be as prevalent in Singapore as in other countries. However, the ageing population of people with OUD and death by suicide among people with substance use disorders are a concern. It is also estimated that about 25% of patients visiting the National Addictions Management Service clinics are positive for hepatitis C. In Spain, people who inject drugs presented a high prevalence of hepatitis C infection, around 65%, in both those attending harm reduction services and those who ask for substance use treatments [10].

## **4. Suggestions to improve the level of care for OUD**

### *4.1. Controlling supply*

Fragile communities in areas of illicit cultivation of drugs are now increasingly vulnerable, as a result of the economic downturn triggered by the COVID-19 pandemic [19]. National, regional, and international initiatives are made by the UNODC in Iran, as a large part of the heroin and morphine from Afghanistan moves through Iran via a transit route known as the Golden Crescent, principally to central

and west Europe. In Singapore, there are effective drug policies and border control measures to control the drug supply and demand.

### *4.2. Accessibility to OAT*

Though an OAT program is available in all countries represented in the survey, except Singapore, the coverage is poor in most countries, and non-uptake of OAT is seen as one of the main key barriers. With a national shift from low to high treatment coverage, a reduction of overdose fatalities is estimated to be in between 13% to 22% [7]. To address the national challenges of poor treatment coverage for OUD patients, political and legislative changes are needed, such as free or affordable insurance coverage for OAT. In countries like Iran, where the costs of health insurance tend to be too high for low-income citizens, outpatient clinics might shy away from accepting patients with health insurance due to financial issues and the debt of the insurance companies.

### *4.3. Reducing social stigma*

Social stigma is also believed to be one of the key barriers to entering OAT by several of the countries represented in this survey. Addressing the stigma associated OUD and addiction in general, removing infrastructural barriers to OAT, and expanding the engagement of health-care professionals are important steps to address the challenges of OUD [21]. For example, street-based treatment programs, community care treatment and harm reduction programs, will ensure help for OUD patients who would otherwise be difficult to reach. This could involve tailoring individualized goals for treatment, which should also consist of ensuring social services for patients, including housing and employment.

### *4.4. Change in prescription practices, education of health personnel*

Work is needed in order to prevent unnecessary prescriptions of opioids in chronic diseases, by providing information to prescribers and patients about the addictive sides of opioids, considering alternative methods of pain management, and recognizing addiction at an early stage. Structured collaboration between first responders, health institutions, and authorities to facilitate early referrals to treatment and social services is important to enhance public awareness. These efforts can prevent the development of use disorders, overdoses, and improve the management of the overdose. This also requires scaling up interventions for preventing blood-borne infections, e.g. hepatitis C, and the availability of anti-viral treatment for people who use drugs [24].

E-mail address:

Country:

1. Approximately number/percentage of people with opioid use disorders/opioid dependence of the population (Prevalence) Reference please

2. What are the national challenges of OUD/opioid dependence in your country?

- Overdoses and associated mortality/morbidity
- Injecting drug use and associated morbidity including HIV
- Prescription opioid misuse
- Rising incidence of neonatal abstinence syndrome due to opioid use and misuse during pregnancy
- Any other (please specify)

3. Is opioid agonist treatment program available in your country?

A. Yes

B. No

4. Which opioids drugs, formulation are used for OAT in your country?

- Methadone
- Buprenorphine
- Morphine
- Natural opiates
- Any other (please specify)

5. Approximate percentage of OUD/opioid dependence patients enrolled on opioid agonist i.e treatment coverage in your country ?

6. What are the key barriers for opioid agonist treatment (OAT) in your country ?

- Non-availability of OAT
- Lack of trained human resources/insufficient training
- Limited access of OAT due to stricter policy/legal regulations
- Stigma related to opioid agonist treatment
- Lack of standardized evidence based treatment in existing treatment facilities
- Any other (please specify)

7. What is the level of treatment gap for opioid use disorders in your country ? (i.e. difference between prevalence of opioid use disorder and the treated proportion of individuals affected by the disorder)

8. Kindly provide at least 3 essential steps/solutions for controlling opioid misuse/use disorder problem in your country in order of priority

## SupplI. International perspectives on opioid use disorder and treatment

Implementation of the current understanding of neurobiological models of addiction, with evidence-based interventions as such, will strengthen the quality of medical care. Education and training of health personnel are crucial, but in order to reduce the burden of disease, it is also essential to educate patients in prevention strategies addressing opioid use, e.g.

overdose deaths and comorbidity that may arise from unsafe injecting practices [24].

In this study, the key informants' sample consisted of a small number of addiction medicine professionals being approached conveniently and some factors were not assessed; therefore, the results must be interpreted with caution.

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*Conflict of interest*

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