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# Gambling behaviours and treatment uptake among vulnerable populations during COVID-19 crisis

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### Abstract

This study aimed to explore changes in gambling behaviours and gambling disorder (GD) treatment uptake during the COVID-19 pandemic among those with a heightened vulnerability to gambling-related harm. This was a single-center, cross-sectional, retrospective case series study assessing gambling behaviours and GD counselling participation among a vulnerable population sector following the COVID-19 shutdown. The clinical records of clients at a community substance use disorder (SUD) treatment center were explored ( $N = 67$ ). Eight clients ( $n = 8$ ) had satisfied the objective criteria, and were qualified for data exploration and analysis of gambling activities and GD treatment participation following the COVID-19 shutdown. All clients in the study belonged to subgroups at an elevated risk for gambling-related harm, with a mean duration of gambling problems of 9.5 years. Following the COVID-19 shutdown, an increase in gambling activities was noted in five cases. Migration to online gambling was noted in three cases. In two cases, no change in gambling activities was noted, and a reduction of gambling activities was noted in one case. In seven cases, no screening for gambling problems prior to current SUD program was noted. None had a history of, nor were currently engaged in counselling for gambling problems. The COVID-19 crisis and associated increase in gambling participation, coupled with a diminutive gambling counselling uptake during the pandemic, present an opportunity to rethink current behavioural addictions service delivery model for those with an increased vulnerability to gambling-related harm. Further investigation of the changes in gambling participation, and a closer look at optimizing GD service delivery among vulnerable population sectors during the COVID-19 crisis is warranted.

**Keywords:** gambling behaviours, GD treatment-seeking, vulnerable populations, COVID-19 pandemic, integrated service delivery

## Introduction

Gambling-related harm, defined as the adverse impacts from gambling on the health and wellbeing of individuals, families, communities, and society (Wardle et al., 2019), is increasingly identified as a potential public health problem within leading medical and scientific communities (e.g., Griffiths, 2017; “Problem gambling is a public health concern,” 2017; “Science has a gambling problem,” 2018). As the 2019-coronavirus disease (COVID-19) is causing insurmountable psychosocial impact worldwide, New York City has emerged as an epicenter. By February 2, 2021, New York State had ranked number one in fatalities per 100,000 residents, and number four in US cases per state (Johns Hopkins University and Medicine, 2021). The confluence of isolation, excess available time, and anxiety about illness or finances as a result of the COVID-19 pandemic, have the potential to increase problem gambling participation during this public health emergency (Price, 2020), particularly among vulnerable population sectors.

Traditionally, the risk of gambling-related harm has been greater among vulnerable subgroups than within the general adult population (Bramley et al., 2019), and, although certain risk factors are indeed consistent across groups, other risk factors appear to be group-specific (Sharman et al., 2019). The relevant qualities heightening the vulnerability to gambling-related harm identified in previous international research include genetic variables (Lobo et al., 2014; Potenza et al., 2005), personality traits (Odlaug et al., 2012), and mental health difficulties (Bergamini et al., 2018). Aside from mental health concerns and certain personality traits, substance-related disorders also pose an additional risk (Martin et al., 2013; Shultz et al., 2016; Subramaniam et al., 2015), and tobacco use is associated with more severe gambling problems, depressive and anxiety symptoms. (Petry & Oncken, 2002; Potenza et al., 2004). Indeed, high rates of comorbid substance use and gambling disorders are evident in the literature, with attention drawn to overlapping clinical, neurocognitive, and neurobiological features of addictions (Grant & Chamberlain, 2014; Miela et al., 2018).

Socio-demographic characteristics represent further relevant risk factors for gambling-related harm (Castrén et al., 2017). Males, young adults, low-income and non-married status, Indigenous persons, and other ethnoracial groups who have experienced historical trauma as well as systemic and structural racism, are almost universally found to be at elevated risk (Abbott et al., 2013; Abbott et al., 2015; Barnes et al., 2015; Hing et al., 2015). Additional risk factors include membership of particular religious groups (Buth et al., 2017), a low level of formal education (Fröberg et al., 2014), unemployed status, and criminality (Abbott, 2017; Williams et al., 2005). Residential proximity to gambling venues, living in high deprivation neighborhoods, and housing instability have also been shown to be associated with an increased risk in this regard (Gulicher et al., 2016; Nower et al., 2014). Consistent with other addictive disorders, children of parents with a problem gambling behaviour are at elevated risk of developing gambling problems (Dowling et al., 2016; Williams, 2015) and persons who had not been raised by both parents have

been shown to be at an elevated risk for gambling-related harm (Canale et al., 2017; Cheung, 2012).

The heightened risk for gambling-related harm may, in part, explain the plateauing of problem gambling prevalence rates among vulnerable populations, while general population gambling participation and expenditure rates are falling (Abbott, 2017). Consequently, recent calls for pathways and professional development activities among health care services, social services, and third sector organizations, to reduce gambling-related harm for adults with health and social care needs (Bramley et al., 2019), have been put forth.

As the pandemic is occurring against the backdrop of increased risk for gambling-related harm among vulnerable subgroups, the immediate priority is the collection of data related to gambling behaviours and GD counselling participation among marginalized population strata amid the COVID-19 crisis. To date, research has yielded only a paucity of data regarding changes in gambling activities and GD treatment uptake among vulnerable populations during the COVID-19 pandemic. In response to calls to action by researchers and stakeholders worldwide to supply essential data on problem gambling behaviours during the COVID-19 pandemic (Håkansson et al., 2020), we aimed to explore gambling participation and GD treatment uptake among those with a heightened vulnerability to gambling-related harm during the COVID-19 shutdown. As gambling problems may be an important health hazard to monitor, treat and prevent during and following the COVID-19 crisis, a deeper understanding of gambling participation as well as the experiences with gambling-related services, or the lack thereof, from the perspective of problem gamblers with complex needs, may help move the COVID-19 behavioural addictions research agenda forward, and inform the provision and coordination of care.

## **Method**

### **Setting**

This study was conducted at UNITAS NYC—St. Mark's Place Institute for Mental Health, a community mental healthcare center in New York City, offering mental health and substance use disorder services to NYC public sector residents.

### **Design**

This was a cross-sectional, retrospective, single-center study exploring gambling behaviours and GD treatment uptake during the COVID-19 pandemic, among clients in substance use disorder (SUD) treatment with a history of gambling problems, criminality, and varying degrees of co-morbidities and psychosocial burdens. A case series study approach, in this setting, was selected to generate a multi-faceted picture of gambling behaviours and treatment-seeking, among a disadvantaged population sector associated with a heightened vulnerability to gambling-related harm.

## Participants

The clinical records of clients enrolled in SUD treatment were explored ( $N = 67$ ). All clients had a history of substance misuse and criminality, as well as varying degrees of co-morbidities and psychosocial burdens including psychiatric disease, chronic medical conditions, housing instability, Cultural and Linguistic Diversity (CALD), and difficult home environments during the formative years. Client referrals for current SUD treatment were provided by the Department of Parole, the Department of Probation, Alternatives to Incarceration program, Pre-Trial mandate program, and other prevention/intervention agencies of the City and State of New York.

## Instruments

The South Oaks Gambling Screen (SOGS), which includes 20 items that produce a total score ranging from 0 to 20, with higher values indicating more severe psychopathology, and a score of five or more indicating probable pathological gambling (PG—now renamed as gambling disorder [GD] in DSM-5), was used as a screening instrument as part of the intake process for the current SUD treatment. The diagnoses of gambling disorder of 11 clients who were initially screened with a SOGS score of five or above, were subsequently confirmed by clinical interview in accordance with DSM-5 diagnostic criteria for GD. These clients were initially considered for further data exploration.

## Selection criteria

Those gamblers with persistent and recurrent problematic gambling behaviour leading to clinically significant impairment or distress, as indicated by the client exhibiting four (or more) of the requisite criteria for GD as indicated by DSM-5, were initially considered for the study. Clients in early remission, where criteria for gambling disorder were previously met, however, none of the criteria for gambling disorder have been met for at least 3 months but less than 12 months prior to intake were excluded. Clients in sustained remission, where criteria for gambling disorder were previously met, however, none of the criteria for gambling disorder have been met during a period of 12 months or longer prior to intake were likewise excluded. Following the exclusion of 3 clients in sustained remission (and 0 in early remission), where no analysis of changes in gambling activities and/or treatment participation during the COVID-19 crisis could be performed, eight clients ( $n = 8$ ) had satisfied the objective criteria, and were qualified for data exploration and analysis of gambling activities and GD treatment participation following the COVID-19 shutdown.

## Measures

Following the stay at home order issued on March 22, 2020, by the governor of New York State, the electronic records of in-person, telephone, and teleconferencing (Insync-zoom) sessions of clients who had been diagnosed with GD, and were not currently in remission, were reviewed. The following information, when available,

was recorded in a standardized data abstraction form: gender, age (in age groups), race, religion, marital status, residence, cohabitants, gambling activities and changes following the shutdown, GD counselling experience, alcohol and substance use, psychiatric history and current mental status, criminal justice history and current status, suicidality, homicidality, as well as family, educational, and vocational histories. An Institutional Review Board (IRB) reviewed and approved this protocol. Compliant with data privacy regulations, the Health Insurance Portability and Accountability Act of 1996 (HIPAA), and IRB stipulations ensuring protection of identifiers and anonymity of data, client consent for this analysis was not required.

## Cases

*Case 1* was an Islamic, African American, married male, residing in a homeless shelter (Table 1). His gambling activities consisted of playing cards and dice. He had no prior problem gambling evaluation or gambling counselling history (Table 2). He maintained a history of alcohol, tobacco, marijuana, amphetamine, and cocaine misuse. He had attended two prior SUD treatment programs, one of which he had completed. He had a diagnosis of major depressive disorder (MDD) and antisocial personality disorder (APD). Following the COVID-19 shutdown, he had experienced bouts of agitation and aggressive outburst, and relapse to marijuana use. His gambling-related activities had not changed in type or frequency. He dropped out of high school in the ninth grade and had been unemployed prior to the shutdown. His father misused illicit substances and had multiple incarcerations. He had two prior felony convictions one of which was of a financial nature, and he was currently on parole (Table 3).

*Case 2* was a non-religious, African American male, who had never married, and who was residing in a homeless shelter. His predominant gambling activity was scratch-offs. He had no prior problem gambling evaluation or gambling counselling history. He had a history of alcohol, tobacco, marijuana, and cocaine misuse, and had undergone six alcohol detoxifications within the last six months. He had completed one previous SUD treatment program. He was diagnosed with schizophrenia and had a history of suicidal ideations. Following the shutdown, he had had several relapses to alcohol use, and his gambling activity has increased in frequency. He had a chronic medical condition. He held a general equivalency diploma (GED) and was receiving social security disability insurance (SSDI). His father had numerous incarcerations. Both parents were drug misusers. He had multiple convictions of a financial, violent, and drug-related nature, and he was currently on parole.

*Case 3* was a married, Caucasian male, with a religious designation specified as “other,” who was living in a private residence with his spouse. His gambling activities consisted of poker and slot machines. He maintained a history of marijuana, cocaine, and oxycodone misuse, and had attended three prior SUD treatment programs, two of which he had completed. He had a diagnosis of APD and a chronic medical condition. Following the shutdown, he had experienced

**Table 1**  
*Sociodemographic data*

Case	Gender	Age bracket	Race	Religion	Marital status	Residence	Cohabitants	Education	Parental history of substance misuse
1	Male	[50-54]	African-American	Islamic	married	homeless shelter	non-related persons	9th grade	father
2	Male	[50-54]	African-American	non-religious	never married	homeless shelter	non-related persons	GED	both parents
3	Male	[50-54]	Caucasian	Other	married	private residence	spouse/relative	some college, no degree	none
4	Male	[40-44]	Hispanic	Catholic	divorced	private residence	spouse/relative	GED	none
5	Male	[50-54]	Other	non-religious	married	private residence	spouse/relative	graduate school	none
6	Male	[30-34]	African-American	non-religious	never married	private residence	non-related persons	BA degree	none
7	female	[55-59]	African-American	Catholic	divorced	private residence	none	HS diploma	both parents
8	Male	[60-64]	Caucasian	non-religious	never married	group residential setting	non-related persons	BA degree	father

*Note:* GED = general equivalency diploma, SSDI = social security disability insurance, BA = Bachelor of Arts, HS = high school.

**Table 2**  
*Gambling, mental health, medical condition, and SUD data*

Case	Gambling activities	Duration of gambling problems (in years)	SOGS Score at intake	Psychiatric diagnoses prior to intake	Chronic medical condition	History of suicidality	History of homicidality	Substances misused	Previous treatment history	Nicotine use
1	cards, dice	8	7	major depressive disorder, antisocial personality disorder	no	none	one	alcohol, marijuana, amphetamine, cocaine	1 prior SUD program, not completed	37 pack-years
2	scratch-offs	10	9	schizophrenia	yes	suicidal ideations	ideations without attempt	alcohol, marijuana, cocaine	1 prior SUD program, completed	42 pack-years
3	poker, slot machines	6	11	antisocial personality disorder	yes	none	none	marijuana, cocaine, oxycodone	1 prior SUD program, not completed	non-smoker
4	Chess	11	8	none	yes	none	none	alcohol, marijuana, cocaine	5 prior SUD programs, 3 completed	24 pack-years
5	high-risk stock options	5	7	none	no	none	none	alcohol, cocaine	1 prior SUD program, completed	15 pack-years
6	online gambling, OTB	9	10	bipolar disorder	yes	suicidal ideations	none	alcohol, marijuana	1 prior SUD program, completed	12 pack-years
7	scratch-offs, lotto	12	9	antisocial personality disorder, problem gambling	no	suicidal ideations, 2 suicidal attempts	ideations without attempt	alcohol, crack, marijuana	4 prior SUD programs, completed	40 pack-years
8	black-jack, poker	15	7	antisocial personality disorder	yes	none	none	alcohol	1 prior AOD program, completed	32 pack-years

*Note:* SUD = substance use disorder, AOD = alcohol and other drug, OTB = off-track betting, pack-year = 20 manufactured cigarettes smoked per day for one year.

**Table 3**  
*Criminality data*

Case	Prior arrests	Prior DWI arrests	Prior felony convictions	Prior financial crime convictions	Prior violent crime convictions	Prior drug related convictions	Criminal justice status	Admission alternative to Incarceration	Legal mandate for current SUD treatment
1	10	0	2	yes	no	no	parole	yes	yes
2	11	0	0	yes	yes	yes	parole	yes	yes
3	12	1	1	no	yes	yes	charges pending	yes	yes
4	8	2	3	yes	yes	yes	probation	yes	yes
5	1	0	1	yes	no	no	probation	yes	yes
6	7	0	0	yes	no	no	charges pending	yes	yes
7	4	0	2	yes	no	yes	charges pending	no	yes
8	1	0	1	yes	no	no	specialty court	yes	yes

*Note:* DWI = driving while intoxicated.



increased cravings for oxycodone and bouts of anxiety. His poker and slot machines activities had ceased, and he had migrated to online gambling, where he had been spending more money than on previous gambling activities. He had been experiencing a sense of guilt and increased tension between himself and his spouse as a result of increased gambling participation. He had never been offered a gambling problem evaluation or counselling. He had some college education with no degree, vocational experience in construction, and became unemployed as a result of the shutdown. He was raised by both parents, neither of whom used drugs or alcohol. He had a prior driving while intoxicated (DWI) arrest, a previous drug-related and a violence-related felony conviction.

*Case 4* was a Catholic, Hispanic male, divorced, who was living in a private residence with a relative. His gambling activity was chess. He had no prior gambling problem evaluation nor gambling counselling history. He had a history of alcohol, tobacco, marijuana, and cocaine misuse. He had attended five prior SUD treatment programs, three of which he had completed, and he had visited the emergency room (ER) once during the previous six months because of a drug overdose. Following the shutdown, he had had several relapses to cocaine use, his gambling activity had been reduced in frequency, and he spent more time using online pornography. He maintained a chronic medical condition, held a GED diploma, with a vocation as an electrician, and was employed full-time. He was raised by both parents, neither of whom used either drugs or alcohol. He had two prior DWI arrests, and prior financial crime, violent crime, and drug-related crime convictions. He was currently on probation. Because of the arrest for a financial-related violent crime, the Department of Probation has terminated his enrollment in the current SUD program prior to treatment completion.

*Case 5* was a non-religious, married male, with a racial designation as “other,” who was living in a private residence with a spouse. His gambling activity consisted of placing high-risk stock options. He had never been evaluated for gambling problems and had never sought counselling. He held a history of alcohol, tobacco, and cocaine misuse. Following the shutdown, he had had two relapses to alcohol use, and one relapse to cocaine use. He continued to place high-risk stock options and had additionally migrated to online gambling. He had completed one prior SUD treatment program. He was a graduate of a law school, and was employed full time as an analyst. He was raised by both parents, neither of whom used drugs or alcohol. Both parents gambled recreationally. He had a prior conviction for a financial felony and was currently on probation.

*Case 6* was a non-religious, African American male, who had never married, and was living in a private residence with non-related persons. His gambling activities consisted of online gambling and Off-Track Betting (OTB). He had no prior evaluation or counselling for gambling problems. He maintained a history of alcohol, tobacco, and marijuana misuse, and had completed one prior SUD treatment program. He had a diagnosis of bipolar disorder (BD) and a chronic medical condition. He had earned a bachelor’s degree and was employed as a real

estate agent. As a result of the shutdown, he had become unemployed, resulting in a deterioration of his mood, and necessitating an augmentation of pharmacotherapy for BD. His online gambling became more frequent, and OTB activity remained unchanged. He had not relapsed into alcohol or illicit substance use as a result of the shutdown. He was raised by his father who gambled and misused alcohol. He had a prior conviction for a financial felony.

*Case 7* was a Catholic, African American female, who had never married, and was living alone in a private residence. Her gambling activities consisted of scratch-offs and lotto. She had a prior problem gambling (PG) diagnosis, with no prior PG counselling. She maintained a history of alcohol, tobacco, crack cocaine, and marijuana misuse. She had completed four prior SUD treatment programs. She was diagnosed with APD and had a history of suicidal attempts and homicidal ideations. Following the shutdown, she had several relapses to alcohol use, an episode of suicidal ideations, and her gambling activities had increased in frequency. She held a high school diploma and had vocational experience in carpentry. She has been receiving SSDI. She had experienced poor family cohesion and a lack of perceived support from parents during her formative years. She had been convicted of a financial crime.

*Case 8* was a non-religious, Caucasian male, who had never married, and who was living in a residential setting with non-related persons. His gambling activities consisted of blackjack and poker. Following the shutdown, his blackjack and poker activities had ceased, and his gambling activity had migrated to online gambling, with no change in the frequency of gambling. He had never been evaluated for gambling problems and had never sought counselling. He had a history of alcohol abuse and had completed one alcohol and other drug (AOD) treatment program. No relapse to alcohol use was noted as a result of the shutdown. He had a diagnosis of APD and a chronic medical condition. He had a bachelor's degree and vocational experience as a heavy machine operator, and he became unemployed as a result of the shutdown. He was raised by both parents, neither of whom used drugs or alcohol. He had a history of homelessness and a prior financial felony conviction.

## Results

All clients in the study belonged to subgroups at an elevated risk for gambling-related harm, with a mean duration of gambling problems of 9.5 years. All participants had previously attended SUD or AOD treatment programs because of alcohol, prescription medication, and/or illicit drug misuse. All subjects had previous exposure to the criminal justice system and had prior convictions for violent, drug-related, or financial crimes. Six of eight cases had prior psychiatric diagnoses and treatment, and six were culturally and linguistically diverse (CALD). Five of eight had chronic medical conditions. Four out of eight participants had experienced poor family cohesion and neglectful or otherwise abusive parenting, and three of eight subjects had experienced housing instability and homelessness.

Following the COVID-19 shutdown, an increase in gambling activities was noted in five cases. Migration to online gambling was noted in three participants, where a cessation of previous gambling activities coupled with a relative increase of online gambling expenditure was observed in one; no change in previous gambling activities coupled with the uptake of online gambling activities was observed in another; cessation of previous gambling activities coupled with the uptake of online gambling was observed in the third subjects. No change in gambling participation was noted in two participants, and a reduction of gambling participation was noted in one.

In seven of eight cases, the initial screening and diagnosis for GD were performed during the current SUD treatment program. Previous screening for gambling problems was noted in one subject. None of the participants had been engaged in prior nor current counselling for gambling problems. The COVID-19 crisis had not affected the drive to seek GD counselling on the part of the clients, nor had there been any discernable outreach on the part of the health care delivery system or third sector organizations regarding GD treatment following the COVID-19 shutdown.

Supplemental to the objective of this study, nevertheless meaningful regarding vulnerable populations' health indicators during the COVID-19 pandemic, were changes in patterns of substance misuse and mental health status among a significant portion of our sample. Relapse into alcohol or illicit substance misuse or both was noted in five subjects, with two participants reporting relapse to illicit substance misuse, two reporting relapse to alcohol misuse, and one reporting relapse to both illicit substance and alcohol misuse. Exacerbation of cravings without resorting to the use of an illicit substance was noted in one case. A deterioration in mental health status was noted in four subjects, with one client reporting suicidal ideations, the second exacerbation of depressive symptoms, the third psychomotor agitation and aggression, and the fourth feelings of guilt as a result of increased gambling participation.

## **Discussion**

Thus far, gambling behaviours during the pandemic have been characterized by stable or decreased participation among the general population (Håkansson, 2020), although migration to online gambling among the general population as a result of COVID-19 has recently been described (Price, 2020). The current study contributes to a growing recognition of increased gambling-related harm among vulnerable population sectors, with 11.94% of our sample being diagnosed with GD, versus past year problem gambling prevalence rates ranging from 0.1 to 6.0% in the general population (Cowlshaw et al., 2012). It provides additional subsets of timely and essential data, relative to gambling participation and GD counselling seeking among adults with health and social care needs during the pandemic.

First, the study highlights changes in gambling behaviours among a vulnerable population sector following the COVID-19 shutdown. It expands the field of behavioural addictions research by providing data on marginalized population

strata, indicating that a considerable portion of disordered gamblers with a history of substance misuse and criminality, as well as varying degrees of co-morbidities and psychosocial burdens including psychiatric disease, chronic medical conditions, housing instability, cultural and linguistic diversity (CALD), and difficult home environments during formative years, have either increased their gambling participation, or have migrated to online gambling following the COVID-19 shutdown, or both.

Second, it reveals no changes in GD treatment uptake during the COVID-19 crisis, and points to gaps in GD service provision for those with an increased vulnerability to gambling-related harm, indicating that the current model of GD service delivery for marginalized population strata remains rigidly structured and fragmented. Services related to particular problems, e.g., substance misuse or legal/correctional issues or mental health, etc., appear to inconsistently provide GD screening and referral, treatment, and recovery support to gambling disordered clients at various levels of need.

Granted the small sample size of the study, it provides an overarching snapshot of an urban population with gambling disorder adversely affected by multi-morbidities and psychosocial burdens amid the COVID-19 crisis. It points to opportunities for improved prevention and health promotion, screening and referral, treatment and recovery support as well as intersectoral coordination of gambling problems among populations at an elevated risk for experiencing gambling-related harm. If a nation is to recover from this disastrous pandemic, the special needs of the marginalized strata of the society should be addressed with the utmost care (Hamilton, 2020). A strong, integrated GD support system should be envisioned for the vulnerable. The Department of Health and Human Services (DHHS), health care providers, the Department of Corrections and Community Supervision (DCCS), and relevant third sector organizations must remain vigilant. Improving surveillance, enhancing accessibility, and encouraging treatment of behavioural addictions, although often overlooked, should be given greater priority. Despite the diversion of resources and the overall negative effect that the COVID-19 restrictions have had on health services delivery, opportunities do exist to re-evaluate existing processes, to reskill in key areas, and introduce new technologies and service delivery models that may benefit the marginalized, gambling disordered clients during the pandemic and in the long term.

Although the infrastructure and resources in the current Department of Health and Human Services (DHHS) problem gambling system are not sufficient to fully support the ideal integration of interdisciplinary services at a national level (DHHS Problem Gambling Services FY2020 & FY2021 Strategic Plan, 2020), an optimized problem gambling service delivery model striving to increase GD treatment participation can be applied in a limited scope, and serve as a vision for longer-term system development if or when additional resources are made available. Such a model would address the need to harness opportunities for joint-working between the DHHS, Gambling Control Board, Commissioners of Mental Health, Department of Corrections and Community Supervision (DCCS), and relevant social services

agencies, moving away from fragmented, siloed operations and towards shared joint-strategic and integrated work.

The COVID-19 crisis presents a unique opportunity to raise the profile of heightened gambling activity and underutilization of GD services among vulnerable populations within primary care and mental health service providers, and communicate to clinicians that gambling problems compounded by social isolation can serve as a stressor that affects a person's mental health as well as their ability to adhere to treatment, increasing the risk of relapse, significant financial loss, housing instability, and criminal acts. GPs can play a crucial role in the prevention of problems associated with gambling by using screening measures, offering brief interventions, and onward referral where appropriate. Mental health services, likewise, should at a minimum, consider embedding a screening tool within the service's intake process as most have done with alcohol and illicit substances. Tele-addiction encompassing behavioural addictions infrastructure should be incorporated and expanded within the current service venues, providing clients with a blended approach to consultation and treatment (Wind et al. 2020).

Thus far, telehealth services have not been made fully available to the medically underserved, and state and federal barriers in the use of telehealth have served as hindrances to the launch of its full capabilities (Turner Lee et al., 2020). The immediate concern is that once the current pandemic rules are lifted, the New York State Office of Mental Health (OMH) will no longer allow for telephone sessions to continue, leaving those without access to requisite infrastructure – e.g., Internet access and/or smartphone, and reluctant to engage in face-to-face sessions, without the opportunity to access addiction counselling services. Telehealth regulations, especially those at the state level, must be drafted with a broad eye toward the future, being as flexible as possible to remove restrictive regulatory barriers to telehealth during and after the COVID-19 crisis, and incorporate existing and emerging modalities of the future.

Increasing GD treatment participation requires ongoing evaluation and optimization of treatment delivery models to meet the changing needs of the target populations during and after the COVID-19 shutdown. Ideally, the optimization and streamlining of services related to disordered gambling prevention and health promotion, screening and referral, treatment, and recovery support for marginalized populations should offer assistance to clients at all levels of need. Any innovations and processes occurring because of the COVID-19 pandemic that deliver an improved model of care to GD clients should be retained and expanded upon. Certain countries have recognized gambling problems as a significant issue during the COVID-19 pandemic, with Latvia imposing a ban on online gambling (O'Boyle, 2020) and Portugal considering a similar ban on online casino gambling (Simmons, 2020).

The court system should be routinely provided with a pre-sentence investigation that outlines specific recommendations for those with a gambling problem facing

incarceration before sentencing. The Amherst Gambling Treatment Court in New York State stands as a pioneering model for any court interested in establishing a gambling court to permit a defendant to enter a gambling diversion treatment program if a criminal judge deems, they are eligible instead of incarceration (Cohen et al., 2013). Together with the Nevada Eighth Judicial District Court and a handful of other legal bodies, specialty courts are an effective way to address root-causes that lead to recidivism (Turner et al., 2017). The Nevada program has been considered as a gold-standard for gambling addiction reform and treatment, and courts from around the US have expressed interest in modeling similar programs. This should be encouraged in the aftermath of the COVID-19 outbreak.

Culturally and linguistically diverse (CALD) problem gamblers come from different countries across the world, speak a Language Other Than English (LOTE), represent various racial, ethnic, and cultural backgrounds, and have various religious beliefs. As such, are often reluctant to seek help outside their family network because of shame and “loss of face,” language barriers, concerns about trust and confidentiality, suspicion of and a lack of understanding about mainstream services, and a lack of culturally appropriate services (Gainsbury et al., 2013). Culturally-tailored GD interventions might attract CALD clients into treatment, keep them involved in therapeutic activities, improve the client-therapist relationship, and prevent premature treatment termination. Homeless services might more readily include assessment for gambling problems along with psychiatric disorders and referrals to gambling resources and treatment programs should be routinely available. Positioning clinics and gambling service venues in close proximity to shelters might further optimize the use of GD services.

Finally, although coincidental vis-a-vis the objective of this study, a third, supplemental finding points to exacerbation of patterns of substance misuse and deterioration of mental health status during the COVID-19 crisis, among a traditionally vulnerable sector of the population. As such, a deeper analysis of the causality and interdependence of behavioural addictions, substance misuse, mental health issues, and criminality, within the context of a myriad of psychosocial burdens compounded by stressors related to the pandemic, is warranted. Further research is needed to understand the impact of the COVID-19 crisis on gambling problems among vulnerable population sectors, focusing on improving treatment participation and outcomes. Feasibility studies are needed on optimizing intersectoral coordination among primary care practitioners, mental health and addiction service providers, the Department of Corrections and Community Supervision (DCCS), relevant social service agencies, and gambling help service providers.

## **Conclusion**

The COVID-19 crisis and associated uptake in gambling activities among those most vulnerable to gambling-related harm, coupled with diminutive gambling counselling participation, emphasize the need to rethink the current behavioural addictions services delivery model for marginalized population strata. It highlights a timely

need to take steps to enhance GD treatment uptake, as the ongoing stress associated with COVID-19 is likely to increase the prevalence of gambling participation among the vulnerable.

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Submitted November 15, 2020; accepted April 30, 2021. This opinion paper was peer reviewed by members of the *JGI* editorial board. All URLs were available at the time of submission.

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Competing interests: None reported (all authors).

Ethics approval: This study was approved by the Independent Bioethics Committee affiliated with the University of Gdansk. The approval designation of NKBBN/186/2017 was issued on November 11, 2018.

Acknowledgements: This research received no specific grant from any funding agency, commercial or not-for-profit sectors. We wish to express our gratitude to UNITAS NYC - St. Mark's Place Institute for Mental Health for providing regulatory and administrative requirements and framework requisite to conduct this study.