



BACKGROUND PAPER

COMPLEX LIVES: CO-OCCURRING CONDITIONS OF PROBLEM GAMBLING

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EXECUTIVE SUMMARY

COMPLEX LIVES: CO-OCCURRING CONDITIONS OF PROBLEM GAMBLING

People with gambling problems often experience other problems at the same time. Referred to in academia as ‘co-occurring conditions’ of problem gambling, people with gambling problems may experience a range of health conditions and social problems including mental illnesses, substance use disorders, other health conditions, family issues and social problems. When these co-occurring conditions are health problems, they may be referred to as ‘co-morbidities’ or ‘co-morbid conditions’.

This paper provides a summary of existing evidence about the co-occurrence of problem gambling with these other conditions, but does not explore the complex causal links between problem gambling and other conditions. The relationship between problem gambling and its co-occurring conditions is likely to be complex, and may vary between different individuals. However, understanding the conditions that occur alongside problem gambling can assist in providing services for problem gamblers, even if the specific causal pathways are not well understood.

The results of this review suggest the most common co-occurring health conditions associated with problem gambling are mental illnesses such as depression and anxiety. Substance use disorders occur less frequently, but are still more common among problem gamblers than in the general population. There is some evidence that other health conditions (such as obesity) are more common in problem gambling, but not to the same degree as mental health or substance use disorders.

Problem gambling is often accompanied by social problems such as socioeconomic disadvantage, low social capital and crime. Evidence also suggests problem gambling can be strongly associated with family violence and a broad range of family and relationship difficulties.

Finally, this paper explores the rates of problem gambling in health services outside of dedicated problem gambling services, as well as the criminal justice system. There is clear evidence that rates of problem gambling are elevated in the alcohol and drug treatment sector and in the criminal justice system. However, the evidence relating to the mental health and primary care sectors is less clear, and there is very limited evidence regarding the family services sector.

KEY FINDINGS

PROBLEM GAMBLING AND CO-OCCURRING CONDITIONS

Mental health

- Around half of problem gamblers experience depression
- Almost half of problem gamblers experience anxiety
- About ten per cent of problem gamblers may have bipolar disorder
- More than a quarter of problem gamblers show signs of having antisocial personality disorder
- More than a quarter of problem gamblers contemplated suicide in the past year.

Substance use disorders

- Problem gamblers often have a co-occurring substance use condition
- Between 19 and 35 per cent of problem gamblers may have had an alcohol use disorder at some point in their life
- About a quarter of problem gamblers in gambling treatment may have had a drug use disorder at some point in their life
- About half of problem gamblers smoke.

Other health conditions

- Problem gamblers may be more likely to experience some other health conditions, although available evidence is limited.

Social problems

- Social problems should be considered as co-occurring conditions of problem gambling
- Problem gambling may be associated with socioeconomic disadvantage, homelessness, low social capital and crime.

Family and relationships

- Nearly a third of problem gamblers say their gambling has led to a relationship break up at some point in their life
- Over half of family members of problem gamblers may have experienced some form of family violence in the past 12 months.

KEY FINDINGS

PROBLEM GAMBLING IN THE HEALTH AND CRIMINAL JUSTICE SECTORS

Mental health services

- Estimates of the prevalence of problem gambling in mental health service range from about two per cent (close to the rate in the general population) to 17 per cent
- The only Victorian study to investigate this issue found a high rate of problem gambling in the mental health sector (17 per cent), although this included problem gambling in someone close to the participant
- It is likely that the prevalence of problem gambling varies across different parts of the mental health system and different conditions
- There is no evidence on the prevalence of problem gambling in key parts of the mental health system, such as the community mental health sector.

Alcohol and drug treatment

- The prevalence of problem gambling is far higher in people seeking treatment for substance use disorders than it is in the community as a whole.
- It is estimated that 14 per cent of people seeking substance use treatment have co-morbid problem gambling. This rises to 23 per cent when at risk gamblers are included.

Primary care

- Some research suggests that people with gambling problems would like to receive assistance from their general practitioner
- Between three and 15 per cent of patients in primary care may have a lifetime history of problem gambling, although it is likely that the prevalence of problem gambling in primary care is at the lower end of this range
- There is insufficient evidence to draw a conclusion about whether problem gambling is more common in general practice than in the general population.

Family and relationships and other services

- This review was not able to identify any evidence regarding problem gambling in family or relationship services
- There is preliminary evidence of elevated rates of problem gambling in emergency relief services, however further research is required to confirm this finding.

Problem gambling and the criminal justice system

- Rates of problem gambling are much higher among people, including adolescents, in the criminal justice system
- Victorian research has shown that as many as 33 per cent of prisoners may be problem gamblers
- There is evidence to suggest that the prevalence of problem gambling is higher in community corrections environments.

INTRODUCTION

Co-occurring conditions are multiple problems experienced by a person at the same time. For example, a problem gambler may also have a health condition such as anxiety, or another social problem such as socioeconomic disadvantage. When these co-occurring conditions are health problems, they may be referred to as co-morbidities or co-morbid conditions.

Being aware of likely co-morbidities is useful when diagnosing someone with a gambling problem and for helping or treating them. In some cases, treatment for problem gambling may be better managed by treating the other health conditions as part of a broad treatment approach.

This paper provides an overview of conditions which may co-occur with problem gambling, and aims to:

- Outline the current evidence on problem gambling and its co-occurring conditions. This is intended to inform treatment providers, researchers, policy makers and consumers.
- Summarise existing evidence about the likelihood that people seeking treatment for other health conditions and those in the correctional system will also have gambling problems. This is intended to inform clinicians and other service providers who do not usually work with problem gamblers.

This paper is based on a review of the literature relating to problem gambling and its co-occurring conditions. It contains two sections. The first section examines the co-occurring conditions of problem gambling, including co-morbid health conditions such as mental health and substance use disorders as well as social problems and family and relationship difficulties. The second section examines the prevalence of problem gambling in the health system, including the mental health, alcohol and drug, primary care and family services sectors, and in the criminal justice system.

Problem gambling definitions

The literature relating to gambling uses a range of terminology to identify and describe gambling problems. The terminology is important because it determines the way gambling problems are defined and measured for the purposes of a given study. The terminology employed is often related to the screening instrument used to determine an individual's gambling status.

The two most commonly used screening instruments are the South Oaks Gambling Screen (SOGS), which is commonly used in the United States, and the Canadian Problem Gambling Index

(CPGI), which is commonly used in Australia. Where the SOGS refers to 'pathological gambling', the CPGI refers to 'problem gambling.' Confusingly, the SOGS also includes a 'problem gambling' category, which is likely to be similar to the 'moderate risk' category in the CPGI. Throughout the paper, the terms 'problem gambler' and 'problem gambling' are therefore used to refer to people classified as 'pathological gamblers' by the SOGS or 'problem gamblers' by the CPGI. The paper also uses the term 'at risk gamblers', to refer to SOGS 'problem gamblers' and CPGI 'moderate risk' gamblers'.

Another key issue is whether measures of problem gambling or co-occurring conditions cover a whole lifetime or are limited to the past 12 months. This has important implications for comparing the results of different studies, as lifetime rates will obviously be higher than rates for the past 12 months. In addition, rates referring to the past 12 months are a better indicator of current gambling problems. Unfortunately a number of studies do not indicate whether they utilise a lifetime or past 12 month measure (Cowlshaw 2014). Where possible, this paper indicates the timeframe used in each study.

Also of importance when assessing research on problem gambling and its co-occurring conditions is whether problem gamblers are recruited from treatment settings or from the community. Many research projects recruit problem gamblers from problem gambling treatment providers. However, it would be expected that problem gamblers in treatment would experience more severe co-morbidities and negative effects from their gambling. As such, it is important to recognise that research on problem gamblers in treatment may not be representative of all problem gamblers.

PROBLEM GAMBLING AND CO-OCCURRING CONDITIONS

This section will discuss conditions that frequently occur in problem gamblers, including health conditions, family issues and social problems such as crime and socioeconomic disadvantage. The aim is to identify the most common co-occurring conditions of problem gambling.

It is important to note that most problem gamblers have at least one co-occurring condition.

In an online survey of 267 problem gamblers in treatment, Haw (2013 p.88) found only four participants (less than two per cent) who had not experienced one of the other health conditions studied in addition to their problem gambling. It is therefore important to recognise that most problem gamblers, and certainly those in treatment, experience at least one of the co-occurring conditions discussed below. In addition, it is common for problem gamblers to experience more than one co-occurring condition. For example Abdollahnejad (2013) found that two thirds of problem gamblers experienced a mood or anxiety disorder as well as one of the other disorders studied.

Given that co-occurring conditions are common in problem gamblers, it is important to understand the causal link between problem gambling and co-occurring conditions. This causal link, particularly the relationship between mental illness and problem gambling, has been the subject of extensive debate. There is considerable interest in whether, for example, depression leads to the development of problem gambling, or problem gambling causes a person to become depressed. However, this paper will not explore the complex causal links between problem gambling and other conditions. Instead, it will identify the association between some conditions and problem gambling, and discuss how particular co-occurring conditions are commonly experienced by problem gamblers.

Mental health

Mental health conditions often co-occur with problem gambling. Victorian research found that problem gamblers are five times more likely than other gamblers to report depression in the past 12 months (52 per cent of problem gamblers compared to 11 per cent of all gamblers) (Department of Justice 2009 p.210). In a meta-analysis, Lorains (2011 p.493) found that 23 per cent of problem gamblers have had depression during their lifetime. On the other hand, Haw (2013 p.89) finds an even higher lifetime rate of depression in problem gamblers in treatment, with 92 per cent of problem gamblers in this study reporting depression.

Although the results of these studies vary, it is clear the rate of depression among problem gamblers is much higher than in the general population, estimated at around four per cent over the past 12 months (ABS 2008).

Problem gamblers are also more likely to experience anxiety. The Department of Justice (2009 p.210) found problem gamblers were five times more likely to experience anxiety over the past 12 months, compared with other gamblers. In this study, 46 per cent of problem gamblers, compared with nine per cent of all gamblers, reported experiencing anxiety. Haw (2013 p.90) found an even higher rate of anxiety in problem gamblers seeking treatment, with 81 per cent of his sample experiencing anxiety at some point in their lifetime. Using a meta-analysis of a number of studies, Lorains (2009 p.493) found a lower estimate, with 37 per cent of problem gamblers having an anxiety disorder. As with depression, while the results of these studies are different, they all demonstrate that rates of anxiety are high in problem gamblers.

Similarly, less common mental illnesses may be more likely to occur in problem gamblers. Lorains (2011 p.493) found that ten per cent of problem gamblers may have bipolar disorder. This is far higher than the rate of bipolar disorder in the community (about two per cent (ABS 2008)). Similarly, Lorains (2011 p.493) found that more than a quarter (29 per cent) of problem gamblers had antisocial personality disorder, much higher than the rate of one to three per cent in the general population.

As well as having strong associations with mental illness, problem gambling has also been linked to suicide. The Department of Justice (2009 p.217) found that more than a quarter (27 per cent) of problem gamblers had thought about taking their own life in the past year. However, given the prevalence of depression among problem gamblers, the high rates of suicide ideation found in this study may not be related to problem gambling. On the other hand, there is some evidence that problem gambling may lead to suicide ideation. The Productivity Commission (1999 p.6.27) found that one in ten problem gamblers had contemplated suicide as a result of their gambling.

Key findings

- Around half of problem gamblers experience depression.
- Almost half of problem gamblers experience anxiety.
- About ten per cent of problem gamblers may have bipolar disorder.
- More than a quarter of problem gamblers show signs of having antisocial personality disorder.
- More than a quarter of problem gamblers contemplated suicide in the past year.

Key findings

- Problem gamblers often have a co-occurring substance use condition.
- Between 19 and 35 per cent of problem gamblers may have had an alcohol use disorder at some point in their life.
- About a quarter of problem gamblers in gambling treatment may have had a drug use disorder at some point in their life.
- About half of problem gamblers smoke.

Substance use disorders

Problem gamblers often have a co-occurring substance use disorder. A recent systematic review of international research on co-morbid disorders in problem gambling found that more than a quarter (28 per cent) of problem gamblers had a lifetime alcohol use disorder and 17 per cent had a lifetime illicit drug use disorder (Lorains 2011 p.493). This is also supported by Australian research. The Victorian Department of Justice (2009 p.199) found that 20 per cent of problem gamblers in the Victorian community showed signs of moderate or high levels of lifetime clinical alcohol abuse (compared with five per cent of all gamblers).

Similarly, Haw (2013 pp.91-94) found that of a sample of Australian problem gamblers in treatment, 35 per cent thought that they had experienced an alcohol use disorder at some point in their lifetime, and 27 per cent thought they had experienced a drug use disorder.

Substance use disorders, including both drug and alcohol related conditions, are therefore much more common in problem gamblers than in the general population.

Research also consistently shows that many problem gamblers smoke. Lorains (2011 p.493) found that 60 per cent of problem gamblers may be dependent on nicotine. Victorian research has found that problem gamblers are more than twice as likely to smoke than other gamblers. About half (47 per cent) of problem gamblers are current smokers, compared with 21 per cent of all Victorian gamblers (Department of Justice 2009 p.191).

Other health conditions

There is some evidence that problem gamblers may be more likely to experience some other health conditions. For example, Department of Justice (2009 p.210) found that problem gamblers were more likely to have lung conditions including asthma and to be obese.

Similarly, Black (2013) found that problem gambling was associated with obesity and chronic medical conditions such as heartburn or stomach conditions, headaches and sleep disorders. These conditions may be caused by other co-morbidities of problem gambling, for example, lung disorders may be linked to the high rates of smoking among problem gamblers. However, there is less evidence to support the association between problem gambling and these conditions, and the available evidence suggests that the association between problem gambling and these conditions is weaker than the association with mental illness and other co-occurring conditions.

Key findings

- Problem gamblers may be more likely to experience some other health conditions, although the available evidence is weak.

Social problems

Problem gambling is more likely to occur alongside a variety of social problems including socioeconomic disadvantage, homelessness, low social capital and crime.

These social problems should be considered as co-occurring conditions of problem gambling, and they may have significant impacts on the lives of problem gamblers.

Problem gambling can cause significant financial problems for individuals. The Productivity Commission (1999 p.7.50) found that six per cent of problem gamblers seeking treatment had experienced bankruptcy as a result of their gambling in the past year, and that eight per cent had lost their house as a result of gambling during their lifetime.

Problem gambling may also be associated with homelessness. A recent British study of 456 people recruited from homeless centres found that 12 per cent of the homeless population was experiencing a problem with gambling, compared to 0.7 per cent of the general population (Sharman 2014). Similarly, a US study of 275 homeless people from St Louis also found that 12 per cent were problem gamblers (Nower 2014).

As well as homelessness, problem gambling has also been associated with broader socioeconomic disadvantage. Rintoul (2013) showed that disadvantage and problem gambling are associated at an area level. Similarly, problem gambling is commonly associated with lower incomes (Delfabbro 2011 p.108). Disadvantage may therefore be a co-occurring condition of problem gambling, in addition to the financial problems that gambling can cause.

As well as experiencing socioeconomic disadvantage, there is some evidence that problem gamblers may experience low social capital or lower levels of social connectedness. The Department of Justice (2009 p.220) found that 21 per cent of problem gamblers, compared with three per cent of all gamblers, thought that they would not be able to get help from family, friends or neighbours if they needed it. Similarly, problem gamblers were less likely to be a member of an organised group or to like living in their community. Problem gamblers therefore appear to have lower levels of social capital than others in the community.

Problem gambling has also been associated with crime. The Department of Justice (2009, p.217) found that 15 per cent of problem gamblers had done something against the law as a result of gambling in the past year. The Productivity Commission (1999 p.7.67) found 11 per cent of problem gamblers had committed a crime as a result of their gambling. Criminal activity should therefore be considered as one of the potential co-occurring conditions of problem gambling.

Key findings

- Social problems should be considered as co-occurring conditions of problem gambling.
- Problem gambling may be associated with socioeconomic disadvantage, homelessness, low social capital and crime.

Family and relationships

Problem gambling is likely to occur with significant difficulties in families and relationships. For example, financial problems caused by problem gambling are not limited to the problem gambler and are likely to also affect family members. However, problem gambling can also cause broader problems for families, such as conflict and relationship breakdown. The Productivity Commission (1999 p.6.27) found that nearly a third (32 per cent) of problem gamblers said their gambling had led to a relationship break up at some point in their life.

Problem gambling is also associated with family violence. In a study of the family members of problem gamblers, Suomi (2013) found that 52.5 per cent of participants reported some form of family violence in the past 12 months. In this study, problem gamblers were both the perpetrators and the victims of family violence.

Key findings

- Nearly a third of problem gamblers say that their gambling had led to a relationship break up at some point in their life.
- Over half of family members of problem gambling may have experienced some form of family violence in the past 12 months.

Conclusion: Problem gambling and co-occurring conditions

The results of this review suggest the most common co-occurring health conditions with problem gambling are mental illnesses such as depression and anxiety, which both occur in about half of problem gamblers.

Substance use disorders occur less frequently, but are still much more common among problem gamblers than in the general population. There is some evidence that other health conditions (such as obesity) are more common in problem gamblers, but not to the same degree as for mental health or substance use disorders.

Problem gambling is often accompanied by a range of social problems, and associated with socioeconomic disadvantage, low social capital and crime. Problem gambling also appears to occur alongside a broad range of family and relationship difficulties. For example, problem gambling appears to be strongly associated with family violence, with over half of family members of problem gamblers reporting experiences of family violence.

Although this section has outlined clear evidence that problem gambling is associated with a number of co-occurring conditions, this review was not able to determine the causal links between problem gambling and these co-occurring conditions. The relationship between problem gambling and its co-occurring conditions is likely to be complex, and may vary between different individuals. However, understanding the conditions that occur alongside problem gambling can assist in providing services for problem gamblers, even if the specific causal pathways are not well understood.

PROBLEM GAMBLING IN THE HEALTH AND CRIMINAL JUSTICE SYSTEMS

The previous section identified that there are very high rates of co-occurring conditions among problem gamblers, particularly mental illnesses and substance use disorders.

These co-occurring conditions make it likely that problem gamblers are involved with other treatment sectors or the criminal justice system, even if they have not identified themselves as having a gambling problem.

This means there is an opportunity for screening, intervention and treatment in other sectors such as the mental health, family services, alcohol and other drug treatment sectors, or the criminal justice system.

This section will outline current evidence on rates of problem gambling in people seeking treatment in five key sectors:

- Mental health
- Alcohol and other drug treatment
- Primary care
- Family and relationships and other services
- Criminal justice system

However, there are significant limitations to the research relating to problem gambling in treatment systems in terms of relevance in the current Victorian context that need to be acknowledged. Much of the research in this area is conducted in the United States, which has a very different health system to Australia.

The United States also has a different gambling culture to Australia, which means that problem gamblers identified in these studies may be involved with different gambling products and exhibit different behaviours to problem gamblers in Australia. Findings from the US health system must therefore be treated with caution.

Mental health services

As discussed in Section 1, problem gambling may be more common in people with mental health conditions. In Victoria, many people with a mental illness are treated in specialist mental health services, such as community mental health services, private psychiatrists and hospital services. However, there is limited evidence about the prevalence of problem gambling in specialist mental health services.

Studies of psychiatric outpatients in the United States have found that between two per cent (Henderson 2004 p.1,346) and nine per cent (Kennedy 2010) of patients may have experienced problem gambling at some point in their lifetime.

The largest study to date investigated 1,709 patients of Rhode Island Hospital Department of Psychiatry outpatient practice, and found that the lifetime prevalence of problem gambling was two per cent (Zimmerman 2006). This is similar to the lifetime rate of problem gambling found in prevalence surveys of the general population in the United States.

On the other hand, studies conducted elsewhere have found much higher rates of problem gambling in mental health services. A recent study conducted in Victoria found that gambling had been a problem for the participant or someone close to them for 17 per cent of 290 people screened after assessment by the Crisis Assessment and Triage Team (CATT) or on admission to the Alfred Hospital Emergency Department (de Castella 2011). In contrast, a study of admissions to a US hospital (Lesiuer 1990) found that only seven per cent of 105 psychiatric admissions were problem gamblers.

Rates of problem gambling may be higher in services targeting particular diagnoses.

An Australian study investigating problem gambling among people seeking treatment for post-traumatic stress disorder (PTSD) found a very high rate of problem gambling (Biddle 2005). In this study 17 per cent of 153 patients had a gambling problem.

Overall, it is difficult to draw a conclusion about the rate of problem gambling in mental health services on the basis of these studies. Some studies have found the prevalence is no higher than the general population, while others show much higher rates of problem gambling.

It is likely that the prevalence of problem gambling varies across different parts of the mental health system, perhaps with higher prevalence among patients with more acute mental health conditions.

It is also unclear what the prevalence of problem gambling is in community mental health services, as all the studies examined in this section have focused on acute care or outpatient services.

There is a need for more evidence to inform practice in this area. The foundation has commissioned a research project to investigate the prevalence of problem gambling in people seeking treatment for a mental illness in Victoria, which is due for completion in 2016.

Key findings

- Estimates of the prevalence of problem gambling in mental health service range from about two per cent (close to the rate in the general population) to 17 per cent.
- The only Victorian study to investigate this issue found a high rate of problem gambling in the mental health sector (17 per cent), although this included problem gambling in someone close to the participant.
- It is likely that the prevalence of problem gambling varies across different parts of the mental health system and different conditions,
- There is no evidence on the prevalence of problem gambling in key parts of the mental health system, such as the community mental health sector.

Alcohol and drug treatment

There is strong evidence that problem gambling is a common co-occurring condition in people seeking treatment for substance use disorders.

Studies have provided a range of estimates for the prevalence of problem gambling among patients seeking treatment for substance use disorders, almost all of which are higher than the prevalence of problem gambling in the general population. For example, one large French study of 2,588 consecutive admissions to 55 French addiction treatment centres found that the prevalence of problem gambling in the past 12 months was 6.5 per cent, with an additional 12 per cent who were at risk gamblers (ANPAA 2011). In contrast, other studies in the US have reported rates of problem gambling of up to 21.7 per cent (Mathias 2009). The prevalence of gambling is high in studies mainly focusing on alcohol (ANPAA 2011), as well as opiates (Peles 2010), and in studies examining both alcohol and illicit drugs (Matthias 2009).

The foundation has recently published a meta-analysis of studies examining the prevalence of problem gambling in substance use treatment (Cowlshaw 2014). A meta-analysis is a way of combining the results of multiple studies to produce a more accurate estimate. This meta-analysis included the results of 25 studies, and found that 14 per cent of people seeking substance use treatment have co-morbid problem gambling. When at risk gamblers are included, this rises to 23 per cent of people seeking substance use treatment.

However, some studies have shown lower rates of problem gambling in people seeking treatment for substance use disorders. For example, Cowlshaw (2014) also included a secondary analysis of data from a large epidemiological survey conducted in the US, which showed that only four per cent of people seeking treatment for substance use were lifetime problem gamblers. However, even this lower estimate is higher than the lifetime prevalence of problem gambling in the general population.

There are some limitations to the studies examined in this section, including the tendency for studies with more dramatic results to be published, which may inflate the prevalence of problem gambling. In addition, most of the studies included are from the US, and none are Australian. However, it is clear from the studies included in this analysis that the prevalence of problem gambling is far higher in people seeking treatment for substance use disorders than it is in the community as a whole.

Key findings

- The prevalence of problem gambling is far higher in people seeking treatment for substance use disorders than it is in the community as a whole.
- The most recent estimate is that 14 per cent of people seeking substance use treatment have co-morbid problem gambling. This rises to 23 per cent, almost a quarter, when at risk gamblers are included.

Primary care

There is some research to suggest people with gambling problems would like to receive assistance from their general practitioner.

Hing (2011 p.39) found that 28 per cent of regular gamblers would seek professional help for gambling from a general practitioner, more than double the amount who said they would seek help from any other professional source. Similarly, in a study of patients presenting to four New Zealand primary health organisations, Sullivan (2007) found that 21 per cent of problem gamblers thought their doctor could help with gambling problems.

In another study examining problem gambling in general practice, Goodyear-Smith (2006) implemented a screening tool for risky behaviours, which was completed by 2,536 adult patients at 51 New Zealand general practices. This screening tool included the question “Do you sometimes feel unhappy or worried after a

session of gambling?”. Three per cent of participants answered yes to this question. Of those who answered yes, 14 per cent wanted help for their gambling, either now or in the future. This study indicates that screening in general practice provides another opportunity for an intervention for problem gambling.

Although primary care appears to be an important potential source of help for problem gamblers, there is limited evidence about the prevalence of problem gambling in primary care settings.

Some evidence suggests the prevalence of problem gambling in general practice is similar to the general population. For example, Pasturnak (1999 p.517) finds that three per cent of 1,394 participants attending two primary care clinics in the US showed signs of a gambling disorder at some point in their lifetime.

On the other hand, other smaller studies from the US have found higher rates. For example, Morasco (2006) found 11 per cent of 574 patients at an urban medical clinic were lifetime problem gamblers, with an additional five per cent at risk. Similarly, Ladd (2002) found that 15 per cent of 389 patients at university health clinics were lifetime problem gamblers, with 11 per cent at risk.

There are significant limitations to understanding the prevalence of problem gambling in primary care. This paper has only identified three studies which examine the prevalence of problem gambling in primary care, none of which are Australian. These studies show varied results, indicating that between three and fifteen per cent of patients in primary care may have a lifetime history of problem gambling. Given the studies showing higher prevalence rates are smaller, while larger studies show lower prevalence rates, it is likely the prevalence of problem gambling in primary care is at the lower end of this range. Therefore, this paper cannot conclude on the basis of these studies whether the prevalence of problem gambling is higher in general practice than in the general population.

Key findings

- Some research suggests people with gambling problems would like to receive assistance from their general practitioner.
- Between three and fifteen per cent of patients in primary care may have a lifetime history of problem gambling, although it is likely the prevalence of problem gambling in primary care is at the lower end of this range.
- There is insufficient evidence to draw a conclusion about whether problem gambling is more common in general practice than in the general population.

Family, relationship and other community services

Despite the evidence that there is a strong association between problem gambling and both family violence and conflict within families, a review of the literature did not identify any studies examining the prevalence of problem gambling among people in relationship or family counselling. It would be beneficial for future research projects to address this issue, and examine the prevalence of problem gambling in family support services as well as family violence services.

There is some evidence for a higher rate of problem gambling among clients seeking emergency relief services.

A small survey of 63 people at two emergency relief agencies conducted by St Luke's Anglicare (2012) found 11 per cent of people were seeking support on that particular occasion because somebody in their household may have a problem with gambling. In addition, 17 per cent of participants said gambling had caused them to run out of money and 24 per cent said gambling had caused them to run out of money on other occasions.

Key findings

- This review was not able to identify any evidence regarding problem gambling in family or relationship services.
- There is preliminary evidence of elevated rates of problem gambling in emergency relief services, however further research is required to confirm this finding.

Problem gambling and the criminal justice system

As discussed in Section 1, crime is one of the potential co-occurring conditions of problem gambling. This means that as well as seeking treatment from the health system, some problem gamblers are likely to interact with the criminal justice system.

Previous research in Victoria has found that rates of problem gambling among people in the criminal justice system are much higher than in the general population. Perrone (2013 p.10) surveyed 173 Victorian prisoners, and found that about a third (33 per cent) were past-year problem gamblers. Interestingly, female prisoners were more likely to be problem gamblers than male prisoners (48 per cent of female prisoners compared with 32 per cent of male prisoners), although the sample of female prisoners was small.

Gambling problems appeared to be directly linked to imprisonment, with 88 per cent of those prisoners found to be problem gamblers reporting that they had committed a gambling-related crime.

Other Australian studies have found a range of estimates of the prevalence of problem gambling. In all of these studies, the rates of problem gambling are much higher than the general population. For example, in a survey of 914 prisoners in New South Wales, Butler and Milner (2003 p.8) found that 11 per cent of women and 20 per cent of men were identified as lifetime problem gamblers. There are also high rates among people serving sentences in the community. A Queensland study involving 570 people in community corrections found that nine per cent were past year problem gamblers (Queensland Corrective Services 2005 p.5).

International research has also found that rates of problem gambling are much higher among people who are in prison or otherwise in the criminal justice system. Abbott (2005) surveyed 357 recently sentenced inmates in New Zealand prisons, and found that 21 per cent were lifetime probable pathological gamblers. International research has also shown that young people in the criminal justice system may be at higher risk. Westpal and Johnson (2006) found that of 1,636 inmates of minimum and maximum security correctional facilities in Louisiana aged 10 to 19, 21 per cent were problem gamblers,

compared with four per cent of a sample of school students of comparable age.

Overall, it seems that rates of problem gambling are much higher throughout the criminal justice system, both in Australia and internationally.

Key findings

- Rates of problem gambling are much higher among people, including adolescents, in the criminal justice system.
- Victorian research has shown that as many as 33 per cent of prisoners may be problem gamblers.
- There is evidence to suggest that the prevalence of problem gambling is higher in community corrections environments.

Conclusion: problem gambling in the health and criminal justice systems

This section has discussed the rates of problem gambling among people interacting with the health and criminal justice systems. The evidence relating to the mental health sector and primary care was unclear. Rates of problem gambling in these sectors may not be higher than in the general population, although some studies have found higher rates. It seems likely the prevalence of problem gambling is higher for people presenting for particular conditions or at particular services. The foundation is funding a research project to further investigate the prevalence of problem gambling in mental health services.

Evidence relating to problem gambling in the alcohol and other drug sector showed an estimated rate of 14 per cent, which is higher than in the general population. On the other hand, this review was not able to identify any research relating to problem gambling and family services. This could be a fruitful area of future research. There was clear evidence that rates of problem gambling are elevated in the criminal justice system, with up to 33 per cent of prisoners experiencing problem gambling.

CONCLUSION

The evidence provided in this paper indicates that people with gambling problems may also experience a range of other health conditions and social problems.

Given the prevalence of co-morbid conditions in problem gamblers and the rates of problem gambling in people seeking treatment for other conditions, it is important to understand the relationship between these co-occurring conditions. However, due to the nature of the research reviewed in this paper, it was not possible to determine the causal links between problem gambling and its co-occurring conditions.

As outlined in the first section of this paper, the most common co-occurring health conditions with problem gambling are mental illnesses such as depression and anxiety. These conditions were found to occur in around half of problem gamblers.

Substance use disorders, while less common than mental illness, were more common among problem gamblers than in the general population. Problem gambling is also often accompanied by a range of social problems such as socioeconomic disadvantage, low social capital and crime. In addition, problem gambling can occur alongside a broad range of family and relationship difficulties including family violence.

The second section of this paper considered the rates of problem gambling among people interacting with the health and criminal justice systems. Rates of problem gambling among people

with alcohol and other drug problems was 14 per cent, which is higher than in the general population. There was also clear evidence of elevated rates of problem gambling in the criminal justice system, with up to 33 per cent of prisoners experiencing problems with gambling. In contrast, evidence relating to problem gambling in mental health and primary care settings was unclear. It was not possible to identify any research relating to problem gambling and family services.

Understanding the relationship between problem gambling and other conditions can assist in treatment approaches for problem gamblers.

Similarly, increasing knowledge of co-occurring conditions of problem gambling among professionals working in the health sector, community sector and criminal justice system, may assist in the treatment of clients presenting with multiple problems including problem gambling.

Overall, the evidence contained in this paper is extremely valuable for ensuring problem gambling treatments, policies and programs are underpinned by a thorough understanding of problem gambling and its co-occurring conditions.

FOR FURTHER INFORMATION

Further information about the topics discussed in this paper is available from these key resources:

Cowlishaw, S. (2014) **Comorbid problem gambling in substance users seeking treatment**. Victorian Responsible Gambling Foundation.

Delfabbro, P. H. (2011). **Australasian gambling review (1992–2011)**. Independent Gambling Authority. June 2011.

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Haw, J., Holdsworth, L. and Nisbet, S. (2013) **Gambling and comorbid disorders**. Gambling Research Australia. February 2013

Hing, N., Nuske, E and Gainsbury, S. (2011) **Gamblers at-risk and their helpseeking behaviour**. Gambling Research Australia. September 2011. Retrieved 1 October 2013.

Perrone, S., Jansons, D. and Morrison, L. (2013) **Problem gambling and the criminal justice system**. Victorian Responsible Gambling Foundation. January 2013.

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