

# Literature Review of the provision and effectiveness of residential programmes for gambling harm treatment

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## Introduction

There is a broad range of strategies and settings offered for the therapeutic reduction or minimisation of gambling harm that have been systematically reviewed, with the range extending from self-administered manuals, online strategies, helplines, brief interventions, individual and group therapies, and residentially delivered therapy. Within these strategies and settings, therapeutic approaches delivered may be wide ranging (e.g. CBT, Motivational Interviewing) and may address psychological, social and skills issues. Research into therapies addressing gambling harm has increased, as have briefer interventions that are often delivered in the community through opportunistic situations (e.g. non-specialists), self-help following accessing web-based resources (e.g. HPA; Choice not Chance), telephone helplines, chatrooms, texting and email contacts. Attending face-to-face counselling in the community is a more intensive resource and, in the past, has often been the resource of choice. Less

available because of perceived cost, high resources, and time required, residential or inpatient treatment often more available to alcohol and drug treatment, has in New Zealand, been a rarer option.

Residential treatment is usually treatment conducted within a live-in setting independent of the community and away from environmental stressors, for those requiring more intensive therapy and support than would otherwise be provided in the community.

The purpose of this literature review is to inform as to the role, if any, of residential treatment programmes for those experiencing a range of harm arising from their gambling, in order to provide effective treatment options appropriate to need, allowing for the known high comorbidity of other mental health problems with gambling harm, and finite resources available for this purpose.

## Findings

### **Cost-Benefit of residential treatment for problem gambling**

Cost-benefit analysis of residential treatment of problem gambling is limited. Politzer, Morrow and Leavey (1985)<sup>1</sup> evaluated the cost-benefits of the two types of treatment programmes provided at the John Hopkins Center for Pathological Gambling: an intensive residential programme and an outpatient programme. An 80% abstinence from gambling outcome six months after treatment (and 90% for the outpatient programme 6-months into outpatient treatment) was found, and 'similar high success rates for the stabilisation, maintenance, and/or restoration of families' and commencement of restitution, avoidance of legal risk, and return to employment. A cost-benefit ratio was calculated at 21.3:1 (based on estimates of dollars saved against cost of treatment). The authors noted that

'Pathological gambling not only ranks amongst the most expensive illnesses afflicting society, but is the least expensive to treat and the most 'cureable' when treated'. P131

The Ministry of Health (Singapore) guidelines (2011)<sup>2</sup> review of treatment for problem gambling noted this above study was the only relevant study on cost-effectiveness of residential treatment for problem gambling in its systematic review, concluding:

'The generalisability of the existing research is limited but it is logical that if pathological gambling can be effectively managed, there would be gains from money saved and social problems avoided' p24.

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<sup>1</sup> Politzer R, Morrow J, Leavey S. (1985). Report on the cost-benefit/effectiveness at the John Hopkins Center for Pathological Gambling. *J Gambling Behavior*, 1, 131-142.

<sup>2</sup> Ministry of Health, Singapore (2011). Management of Gambling Disorders: MOH Clinical Practice Guidelines 3/2011. Ministry of Health, Singapore ISBN 978-981-08-9145-9 <http://www.moh.gov.sg/cpg>

However, evaluating cost-benefit relationships of residential treatment will require specific programmes because of variation in length of programme, resources applied, numbers in the programme and other variables.

## Research into treatment effectiveness

Although many research papers may provide strong evidence for treatment effectiveness using acknowledged approaches (e.g. randomised controlled trials), such studies have been relatively few in the field of gambling, and largely focused upon the therapy rather than the setting.

The Cochrane Review<sup>3</sup>, focusing upon treatment therapies, concluded that at that time, there were insufficient studies (n=14 were deemed eligible) to base conclusions upon as to long-term treatment efficacy, although gave some support to CBT therapy for treatment of gambling harm. Sessions ranged from one to twenty sessions (average 17 hours), and only were included if there were face-to-face sessions with qualified therapists. The authors noted:

‘The lack of credible long-term studies means that the evidence base is presently inadequate concerning relapse rates and long-term efficacy.’<sup>4</sup>

Therapies, however, can be delivered in a range of settings, and many without face-to-face delivery, and this may support findings that those impacted by gambling harm are not a homogeneous group, some with mild to moderate problems, while others are impacted by a range of mental health issues, requiring differing support and resources.<sup>5 6</sup>

A recent focus upon brief therapies, including online strategies,<sup>7</sup> aimed to increase access to treatment for those in need, and has been supported and described as a stepped approach to treatment by others who have recognised the need for a range of therapies to meet need and motivation.<sup>8</sup>

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<sup>3</sup> The Cochrane Review identified a low number of therapies for gambling harm that met stringent evidential requirements, excluding online, manualised, and brief therapies where no face to face therapy had been delivered by a qualified therapist: Cowlshaw S, Merkouris S, Dowling N, Andrew C, Jackson A (2012). *Psychological therapies for pathological and problem gambling*. Cochrane Systematic Review. <https://www.cochranelibrary.com/cdsr/doi/10.1002/14651858.CD008937.pub2/full#CD008937-abs-0001>

<sup>4</sup> Cochrane Review website (above) – author plain word summary.

<sup>5</sup> Blaszczynski A & Nower L (2001) A pathway model of problem and pathological gamblers. *Addiction*, 97, 487-499.

<sup>6</sup> Sharma S, Clark L, Roberts A et al (2019). Heterogeneity in disordered gambling: decision-making and impulsivity in gamblers grouped by preferred form, *Front. Psychiatry* (19 August 2019). [Doi>org/10.3389/fpsy.2019.00588](https://doi.org/10.3389/fpsy.2019.00588).

<sup>7</sup> Van der Maas, Jing Shi, Elton-Marshall T, Hodgins D et al (2019) *Internet-based interventions for problem gambling: scoping review*, 6(1) e65, DOI: 10.2196/mental.9419.

<sup>8</sup> Hodgins D (2005). Implications of a brief intervention trial for problem gamblers for future outcome research. *J of Gambling Studies*, 21(1)

‘The initial intervention recommended to the individual problem gambler is one that is least expensive and least intrusive on the gambler’s lifestyle but one that is reasonably likely to be effective based upon personal characteristics. Failure in a less intensive intervention is followed by interventions of increasing intensity’ p.16 Hodgins

A model has been proposed that provides an algorithm to treatment that includes the range from online strategies to residential options<sup>9</sup>:

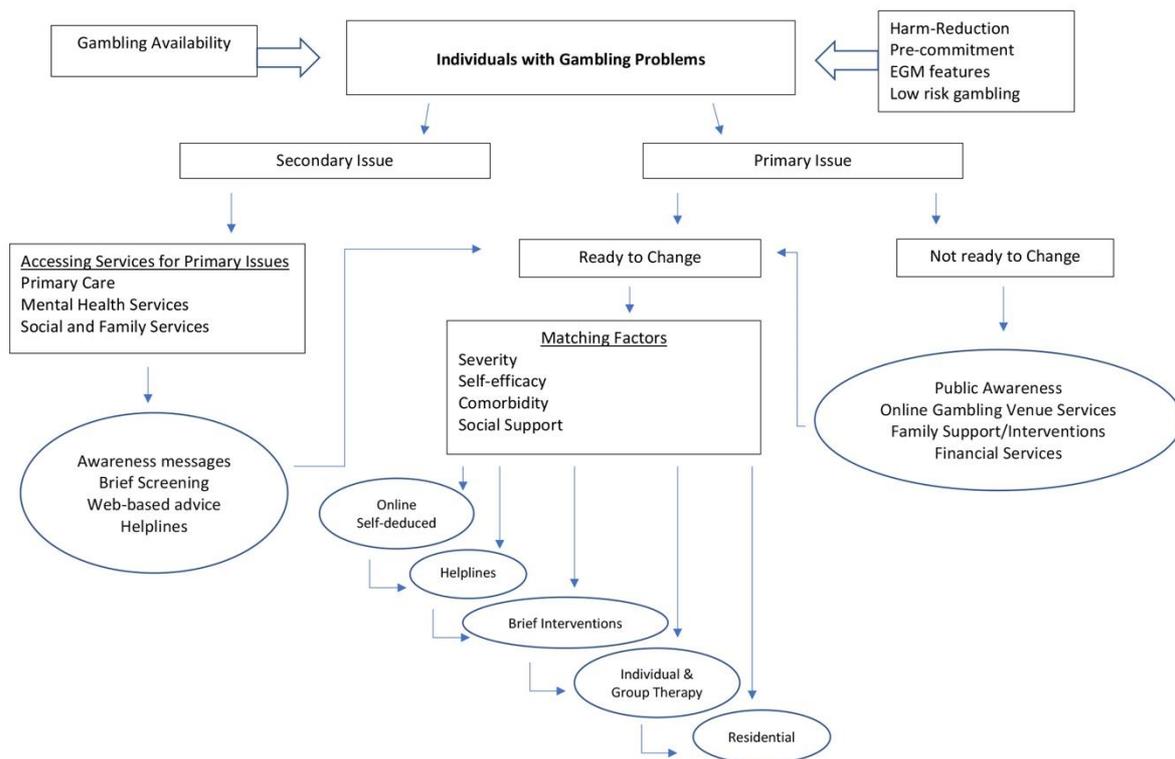


Figure 1: Hodgins & Schluter (2020)

The stepped care approach to addressing gambling harm is further supported by research that identifies that those affected by gambling harm, and who seek treatment, report high rates of psychiatric comorbidity<sup>10</sup>, and that:

‘The presence of high levels of psychiatric co-morbidity suggests that a multimodal, stepped care approach to gambling treatment may be appropriate, whereby treatment intensity increases with increasing client needs’ p.537 Dowling et al

<sup>9</sup> Hodgins D, Schluter M (2020) The role of treatment in reducing gambling related harm. In Dowden-James H, Dickson C, Dunand C & Simon O (Eds) *Harm reduction for gambling: a public health approach*. Oxon, Routledge.

<sup>10</sup> Dowling N, Cowlshaw S, Jackson A, Merkouris S, Francis K & Christensen D (2015). Prevalence of psychiatric co-morbidity in treatment-seeking problem gamblers: a systematic review and meta-analysis, 49(6), 519-539 DOI:10.1177/0004867415575774

However, although an increasing intensity in therapy may be warranted, there appears to be limited research into the benefits or costs of delivering these therapies within an inpatient or residential programme. A residential programme may have, in face value, a place within a stepped approach for those with high needs. Gamblers experiencing harm may have high debt but limited finances, be under pressure from creditors, have symptoms of depression and/or anxiety that may induce impulsive behaviour, have higher risk for suicide risk and coexisting mental health disorders<sup>11</sup>, be isolated from any support, need to learn socialising skills, and have co-existing alcohol and/or drug problems, nutritional deficiencies/other problems,<sup>12</sup> all of which could be addressed effectively in a residential setting with the intensity of a therapeutic community.

### **Evidence supporting a residential approach to gambling treatment**

Evidence can range from high levels of strength and validation (e.g. randomised controlled trials repeated, such as a meta-analysis of RCTs), and these can even place clinical decision guidelines based upon meta-analyses at this highest level, down to 'expert opinion' often seen as the lowest level, and includes editorials. RCTs and higher levels of research are not always available, and the Cochrane Review selected only 14 studies that merited inclusion and that:

'Future studies should also consider therapies for gambling problems that range in severity, as well as samples of mainly pathological gamblers. Intensive therapies for the treatment of severe forms of the disorder should be further considered.'

Clinical Guidelines based upon available evidence can be evidence for or against particular practice, such as the need or support for effectiveness of a residential option for treatment of gambling harm.

Ranking of research ranges from meta-analyses, systematic reviews, evidence guidelines, and randomised controlled trials (RCTs), all being categorised as Level A evidence<sup>13</sup>. Evidence guidelines often involve a systematic review of research, including RCTs, and addressing consistency, clinical impact, generalisability, applicability, as well as the evidence base, and can therefore be a very high level of evidence<sup>14</sup>.

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<sup>11</sup> Dowling et al: *ibid*

<sup>12</sup> Nasser J, Gluck M, Geliebter A (2004). Impulsivity and test meal intake in obese binge eating women. *Appetite*, 43(3), 303-7.

<sup>13</sup> Kapoor M (2016). Types of studies and research design. *Indian J Anaesth*, 60(9), 626-630.

<sup>14</sup> Hillier S, Grimmer-Somers K, Merlin T et al (2011). Form: an Australian method for formulating and grading recommendations in evidence-based guidelines. *BMC Medical Research Methodology*. [www.biomedresmethodol.biomedcentral.com](http://www.biomedresmethodol.biomedcentral.com)

## Guidelines support for residential treatment of gambling harm

Guidelines of professional health bodies acknowledge the lack of evidence in the field of gambling harm to provide an evidence-based guideline. These, if based on systematic reviews, are considered high-level evidence of support.

### USA

Because of the individual State approach to gambling, and funding or reimbursement for treatment from individual or commercial (insurance e.g. Medicare, Medicaid) sources, there has been limited national guidelines for gambling.

In 2014, the national Substance Abuse and Mental Health Services Administration (SAMSHA) issued an advisory on gambling problems<sup>15</sup> that behavioural health services can assist with information on available resources for financial, marital and family issues, and legal problems, and treatment strategies (behavioural, cognitive, Cognitive-Behavioural (CBT) and Motivational Interviewing (MI) therapies, as well as preventative strategies), however, there was no reference to treatment settings, and stated that although research has been found to be useful in treating gambling problems, 'none has been clearly shown to be more effective than another' p4. There was no reference in this advisory as to settings (residential, community, mixed) or treatment programmes, other than the four treatment strategies.

The American Society of Addiction Medicine (ASAM), a specialist society representing over 3,000 health professionals in the USA, has issued criteria since 1991, followed by revisions in 1996 and 2001, that have become required in 'over 30 States'. It has described its criteria as 'a continuum of addiction health services covering assessment, service planning, placement, continued stay and transfer/discharge' of clients<sup>16</sup>. In 2013, a third addition of The ASAM Criteria was issued with an advisory<sup>17</sup> that included sections on gambling, noting 'the goal the criteria is to unify the addiction field around a single set of criteria that will provide individualised, patient-centred care.' In 2015, the ASAM Chief Editor, David Mee-Lee and his colleague, released a directive on how the ASAM Criteria could assist services and practitioners, including barriers to providing that recommended approach<sup>18</sup>. They noted that it was:

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<sup>15</sup> SAMSHA (Summer 2014). Gambling Problems: an introduction for behavioural health service providers. Vol 13 (1), 1-8

<sup>16</sup> <https://www.asam.org>

<sup>17</sup> ASAM. (October 2013). American Society of Addiction Medicine releases new treatment criteria, modernising care for addictive disorders. Those affected by addiction (substances or behaviours) 'manifest a pathological pursuit of reward or relief and have a disease of brain reward, motivation, memory and related circuitry affecting control, interpersonal relationships, and emotional response'.

<sup>18</sup> Mee-Lee, D, Davis C (2015). Getting real about Gambling Disorder: how the ASAM criteria can help. Paper released at the 29<sup>th</sup> National Conference on Problem Gambling, Baltimore, MD.

‘currently uncommon for commercial or governmental health plans to offer payment for treatment in residential or inpatient levels of care unless there are co-occurring medical or psychiatric problems (which would be usually paid for)’ p2.

In addressing levels of care for Gambling Disorder, the editor noted that care placement was more complicated than substance abuse because of the lack of specialist resources and reimbursement, however noted that where co-occurring disorders existed, this may justify admission to a residential level of care.

In the ASAM addiction criteria for appropriate levels of care, higher severity in any of the assessment criteria dimensions suggested the need for higher levels of care, such as intensive outpatient treatment (IOP) or residential treatment.<sup>19</sup>

Two community only levels of care were described: 1) early intervention: prevention, screening and intervention of high risk for Gambling Disorder (GD) individuals who did not meet GD and 2) Outpatient counsellor or clinic: less than 9 hours per week (adults); less than 6 hours (adolescents) for recovery or motivational enhancement therapies or strategies.

There were two more intensive levels of care: 1) Intensive outpatient (IOP) of 9 or more hours per week for adults, or 6 hours or more for adolescents, and 2) Partial Hospitalisation programme (PHP) with 20 hours for ‘multidimensional instability not requiring 24-hour care where a day programme may suffice and where Gambling Disorder criteria were met.

Three residential care levels were described:

1. Clinically managed low-intensity residential: Here a 24-hour care structure would be provided with trained personnel being available if required, together with five hours of therapy. This is for those gamblers requiring transitional living and was exemplified as a ‘half-way house’.
2. Clinically managed, population-focused, high intensity residential: In this level, 24-hour care with trained (gambling certified) counsellors able to stabilise multidimensional imminent danger in a residential setting of lower intensity environment, or where those with cognitive impairment are unable to use a full active therapy community, and have a co-occurring substance use or cognitive problems.
3. Clinically managed high intensity residential: Again, trained gambling counsellors are able to stabilise multi-dimensional imminent danger and prepare for outpatient treatment, those clients able to tolerate and use a full active therapeutic community; again, for clients with co-existing medical, mental, or substance use disorders requiring this intensity of treatment. Here, there is an acknowledgement that some

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<sup>19</sup> Dimensions of criteria are 1. Acute intoxication/withdrawal potential (gambling withdrawal and/or AOD misuse) 2.biomedical conditions/complications e.g. hypertension associated with gambling) 3. Emotional, behavioural or cognitive complications e.g co-occurring MH/AOD problems 4. Readiness to change 5. Relapse, continued use 6.recovery environment eg. Limited support

clients without co-occurring problems who are unsuitable for non-residential strategies because of control issues, may be included.

An evaluation of the clinical need for residential treatment of gambling harm services for the State of Michigan<sup>20</sup> noted that although Michigan did not at the time currently offer higher levels of care 'such as residential and broad access to intensive outpatient treatment (IOP) for GD (other than limited access)' p7, nine States did offer residential treatment for GD and eleven States offered IOP. The authors noted higher suicidality, relapse risk and other factors, because lack of coping strategies may result in less effective outcomes with less structured outpatient care, which may need low to medium 24-hour residential programmes (although some IOP may provide this). They referred to Ruggle's model<sup>21</sup> that residential treatment is indicated when there is 'moderate suicide risk, high gambling severity, moderate-serious comorbidity, poor or no supports, high relapse risk, no outpatient options available, or low motivation to change gambling behaviour' p8.

In citing other research<sup>22</sup> in Minnesota, patients in residential treatment for PG with significant psychiatric severity and greater problem gambling severity, attended more Gamblers' Anonymous sessions prior to treatment, and more post-treatment. Also, residential clients for problem gambling had greater treatment completion than outpatients (91% versus 54%). The authors recommended (following a survey of problem gambling clients and therapists), that one-third of clients 'might be recommended for higher levels of treatment (inclusive of residential and IOP), and that these higher care levels be followed by outpatient aftercare - to ensure transition to the client's home environment' p.31, in order to cope with often high-risk situations in their natural environment. Without such aftercare, the 'more restrictive higher levels of treatment are likely to be unsuccessful' p.31.

### **Australia**

The Problem Gambling Research and Treatment Centre (PGRTC; Monash University) produced guidelines for evidence-based treatment of problem gambling in Australia that were approved by the National Health & Medical Research Council (NHMRC). They noted that 'inpatient treatment (for problem gambling) generally involves accommodation for 21-28 days' in various jurisdictions, and that these interventions 'are more expensive and more resource intensive and the cost-benefit of delivering these interventions requires evaluation' p.79. The authors considered that residential programmes for gambling treatment were more common in the USA rather than Australia, and were 'often strongly influenced by the disease or addiction model of gambling problems derived from the drug and alcohol field' p.79. They

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<sup>20</sup> Ledgerwood D, Arfken C. (May 2014) Evaluation of the clinical need for residential treatment services for problem gambling in Michigan: draft final report submitted to the Michigan Department of Community Health Office of Recovery Oriented Systems of Care.

<sup>21</sup> Cited p7

<sup>22</sup> Stinchfield et al (2008) cited p.8

stated that such programmes often combined gambling and alcohol dependence, and involved individual and group therapies, GA meetings, education on addictions, psychodrama, lectures, relaxation therapy, family counselling, financial and vocational counselling, and medical and legal consultation, citing many published papers between 1987-1992. They noted that because of the many components used in multi-modal therapies, it was difficult to attribute benefits to specific components. No studies were identified for inclusion in the evidence-based research, to answer the posed clinical question: (7) 'For people with gambling problems, are psychological interventions delivered in inpatient or residential settings more effective than psychological interventions delivered in community settings?'

They were, therefore, unable to assess whether there was evidence for inpatient gambling treatment because of the lack of research, and were unable to make recommendations, however recommended randomised controlled trials should be conducted if possible, into this question.

There was recommendation support of evidence for practitioner-delivered psychological treatment (particularly CBT), over self-help strategies, and some recommendation for group therapy<sup>23</sup>.

### **United Kingdom**

The Royal College of Psychiatrists were asked by the Department of Health (England) to provide a rapid review of evidence-based treatment for Gambling Disorder for NHS involvement in delivery of therapy and medication for Gambling Disorder.<sup>24</sup> They noted the Monash guidelines have been adopted widely and recommended the UK also adopted them (they further noted that the guidelines were in the process of upgrading, 5-yearly – these upgrades are not published at this time). They also noted that there were no NICE (National Institute for Health & Care) guidelines for treatment in the UK of problem gambling and recommended that NICE develop such guidelines. They noted that the Australian NHMRC guidelines '*suggested that studies are needed to assess whether there is evidence for inpatient treatment for gambling disorder*' p3.

A number of recommendations were made, including the need for UK specific research, rather than reliance on that of other countries, that gambling addiction causes considerable harm to society, and should be a core component in the NHS provision, the need for NICE guidelines, and training on identifying and treatment be a component of all medical school criteria/postgraduate psychiatry training.

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<sup>23</sup> Problem Gambling Research and Treatment Centre (PGRTC) (2011). Guideline for screening, assessment and treatment in problem gambling. Clayton: Monash University.

Thomas S, Radermacher H. (2011) Australian guideline for treatment of problem gambling: an abridged outline. The Medical J of Australia DOI: 10.5694/mja11.11088.

<sup>24</sup> Bowden-Jones H, Drummond C, Thomas S. (Dec 2016) Rapid evidence review of evidence-based treatment for Gambling Disorder in Britain. Royal College of Psychiatrists, London.

In the UK, formerly The Responsible Gambling Trust (now GambleAware), a public trust that funds treatment in the UK from the gambling industry<sup>25</sup>, rather than the NZ levy model, outlined funded specifications for treatment services between 2017-2020: the gambling helpline, brief interventions, 'care-planned' treatment, and two residential programmes. These were a 'sandwich' model of residential and outpatient care (taking less than two weeks – 'Shorter term residential') and a 'longer term residential' (more than 12 weeks)<sup>26</sup>. Residential treatment for problem gambling in the UK has only been delivered through the Gordon Moody Association, which has specialised in gambling treatment and residential treatment since 1971.

### **Singapore**

The Ministry of Health, Singapore, issued comprehensive guidelines in June 2011, as a result of substantial expansion of access to casino gambling in Singapore<sup>27</sup>. Levels of evidence and grades of recommendation were applied to each recommendation, based upon evidence identified by its clinical committee, with levels of evidence for each recommendation ranging over eight levels (highest 1+++ high quality meta analyses, systematic reviews of randomised controlled trials (RCTs), or RCTs with very low risk of bias; lowest 4=expert opinion), and five separate grades of recommendation (highest grade A=at least one meta-analysis, or body of evidence principally 1+ level studies; lowest GPP= recommended best practice based on the clinical experience of the guideline development group, comprising psychiatrist, family physicians, addiction counsellors and a psychologist). All medical guidelines exist for five years, then are withdrawn as they note that new evidence may replace that upon which guidelines are based and to date the guidelines have not been reviewed after their automatic withdrawal in 2016.

The guidelines attributed a Grade B recommendation (high) at a level 2++ (high quality level of evidence) for CBT interventions for gambling harm, but that in formulating a treatment plan:

*'(no single modality is shown as most beneficial) Pathological gambling should be regarded as a multi-faceted condition that requires a multi-modal treatment that considers pharmacological interventions, psychological interventions and practical management' p12.*

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<sup>25</sup> The trust receives money from the gambling industry by way of a voluntary grant, but as one of the government (Gambling Commission) approved recipients of such grants to be entitled to tax deductions. In 2020 only GambleAware, GamCare, and Youth Gamers & Gamblers Education Trust (YGAM) received this approval. As Gordon Moody, the only residential programme for gambling harm was not among the three, it would rely upon GambleAware extending its 3 year funding of residential treatment.

<sup>26</sup> Responsible Gambling Trust (May 2016) Outline Specification: RGT Problem Gambling Treatment Services- April 1<sup>st</sup> 2017 to March 31<sup>st</sup> 2020. <http://aboutgambleaware.org>

<sup>27</sup> Ministry of Health, Singapore (2011). Management of Gambling Disorders: MOH Clinical Practice Guidelines 3/2011. Ministry of Health, Singapore ISBN 978-981-08-9145-9 <http://www.moh.gov.sg/cpg>

The Guidelines further noted:

‘There are two main treatment settings for pathological gambling. While most cases can be managed at the outpatient setting, some patients may require inpatient treatment. The latter cases include those who require psychiatric stabilisation or crisis intervention, or where there are safety concerns (e.g. suicidal tendencies). Inpatient treatment can also be considered for those who may benefit from a period of intensive rehabilitation in a residential setting’ p.13

They concluded that a comprehensive treatment plan and multi-disciplinary/multi-modal approach should be developed for gambling harm and attributed a GPP level of recommendation.

The Singapore guidelines also noted there were high rates of ‘comorbid psychiatric conditions consistently found in individuals with gambling disorders’ and concluded that ‘appropriate treatment ... should be integrated into the treatment plan’ p21.

Lastly, they address cost-effectiveness, noting only one relevant study addressed this issue, but nevertheless concluded that ‘pathological gambling was one of the most expensive illnesses afflicting society, but treatment was effective and relatively inexpensive’.

Although these Guidelines have expired, a review of subsequent research will identify whether these may have been altered by more recent research, or still stand as valid and important research to inform the opinion on residential treatment as an appropriate treatment option.

Table 1: Summary of national or regional guidelines and evidence base

Article	Overview of recommendations	Level of evidence reviewed
SAMSHA (2014) Gambling Problems: an introduction for behavioural health service providers	A brief advisory supporting the need for PGs to be resourced with financial, family relationships, and legal support; Support for behavioural, cognitive, CBT and MI, and preventative strategies. No reference to settings or recommendations for residential.	Evidence-based for ‘notes’ and ‘advisory’ conclusions.
ASAM (2013) & Mee-Lee & Davis (2015)	Guidelines by the influential addiction society, ASAM, that in 2013 extended its guidelines to gambling influenced by DSM5 alignment of Gambling Disorder and Substance Disorders. Financial barriers to residential treatment are acknowledged (insurance restrictions). These may be circumvented by co-occurring disorder qualifying. Higher levels of severity suggest the need for higher levels of care, including residential (3 levels suggested - low intensity	Evidence-based, however limited gambling specific, and the ASAM Chief Editor paper adapts gambling to the ASAM addiction model for substance abuse.

	transition, high intensity that includes co-occurring problems for lower tolerance clients, and high intensity active therapeutic community, co-occurring clients.	
Ledgerwood & Arfken (2014) addressing the clinical need for problem gambling treatment for the State of Michigan	Noted 9 other States offered residential care and 11 offered intensive outpatient programmes. Low to medium residential options alongside IOP options may be required for problem gamblers due to higher suicidality, high relapse risk/lack of coping mechanisms, lower support, and lower motivation to change. Some evidence provided for better outcomes (programme completion) for residential programmes over outpatient. Suggested one-third PG clients may be suited to IOP/residential options and residential programmes be followed by an outpatient transition programme.	Evidence provided for recommendations and a survey supported their conclusions.
Monash University researchers (Professor S. Thomas et al) produced guidelines that were approved by the NHMRC (2011)	Psychological treatments supported over self-help options; no recommendations about residential treatment options due to lack of research for this setting.	Evidence-based research addressed treatment for problem gambling, however insufficient research to evaluate residential treatment options.
Royal College of Psychiatrists (Bowden-Jones et al) review of evidence-based treatment for Gambling Disorder in UK (2016)	A 'rapid review' of treatment for problem gambling was identified for the Dept of Health. They noticed the absence of NICE guidelines for problem gambling and that in the Monash guidelines, no studies met the inclusion requirements to enable assessment of residential treatment.	No conclusion reached around residential treatment need or effectiveness but did note this absence of information in the brief rapid review.
The Responsible Gambling Trust (now renamed 'GambleAware') strategic plan for 2017-2020. (2016)	Treatment of gambling in the UK is by a voluntary gambling industry self-levy, directed by the UK Government to accepted organisations. Funding of a short term residential (less than 2 weeks) and longer term (more than 12 weeks) model of residential care alongside community options. One service (Gordon Moody Assn) has provided residential treatment for problem gambling.	No evidence provided for the residential options offered to UK clients affected by gambling harm.
Ministry of Health, Singapore (2011) Clinical guidelines	Similar to the research standards of Monash, the Singapore guidelines recommended a multi-modal treatment approach for problem gambling because of the condition being multi-faceted, and that (although most clients could be managed in an outpatient setting)	The level of support for residential settings was 'recommended best practice based on the clinical experience of the guideline development group'

	<p>inpatient settings may be required for some clients/patients who require psychiatric stabilisation, crisis intervention, or safety (e.g. suicidal). Also, intensive rehabilitation for some clients may be a valid purpose.</p>	
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**Other research into residential treatment for gambling harm**

The evidence of the need and/or effectiveness residential or inpatient ('residential') treatment for gambling harm currently remains relatively limited.

Sander & Peters (2009)<sup>28</sup> in their study of quality of life and psychological stress in an inpatient setting (average treatment duration 75 days; 70% 8-16 weeks) in Germany, noted that 'the clinical-setting does not allow an experimental design with random controls' p261, and this may contribute to the low research into residential outcomes. The residential programme was CBT-based followed by out-patient skills training (debt reduction, social relationship building, job-finding as examples). Relapsed pathological gamblers suffered higher psychological stress than abstinent gamblers, with psychological distress impacting abstinence. There was an importance, they saw, in addressing the integration of comorbid disorders and psychosocial aspects into treatment of pathological gambling. The authors noted that from their clinical experience 'the high comorbidity rate of the sample seems to be typical for pathological gamblers treated in an inpatient setting' (p.261) and they raised the possibility that their findings may not be easily generalised to other problem gambling samples where there was reduced severity of symptoms.

Morefield, Walker and colleagues (2014)<sup>29</sup> assessed assessments and outcomes of N=53 clients attending an inpatient programme in South Australia. A CBT programme emphasising graded exposure to extinguish the urge to gamble was offered either in an outpatient programme (6-12 sessions) or with intensive two-week, daily sessions, in a hospital setting. The inpatient programme was offered to 'provide refuge and relief from their usual psychosocial distractions and day to day responsibilities' p369. In addition, trained staff were qualified to treat a range of mental health disorders. Hospital tests and assessments were also available for co-occurring health issues.

Residents participating in the programme were 'likely to have multiple psychiatric and physical illnesses that could complicate their gambling behaviour as well as their response to treatment' p377. The most common reason for suitability for the residential programme was severe comorbid mental illness (suicidal ideation, mood, substance use disorders) and the

<sup>28</sup> Sander W, Peters A. (2009). Pathological gambling: influence of quality of life and psychological distress on abstinence after cognitive-behavioral inpatient treatment. *J Gambling Studies*, 25, 253-262.

<sup>29</sup> Morefield K, Walker C, Smith D, Harvey P, Dunn K & Battersby M (2014). An inpatient treatment program for people with gambling problems: synopsis and early outcomes. *Int J Mental Health Addiction*, 12, 367-379.

holistic approach in a residential setting was seen as an opportunity to address these issues, especially as few were in stable employment or relationships, a common outcome of severe gambling behaviour. Improvements were noted over a 12-month period post-treatment and the residential option was seen as a 'realistic treatment option for participants presenting with complex needs and multiple, comorbid health related conditions' that would otherwise struggle in traditional outpatient treatment approaches p377.

Leavens, Marotta and Weinstock (2014)<sup>30</sup> identified clients in US residential programmes for substance use disorders (SUD) who also met criteria for disordered gambling. One in five SUD clients screened positive (SOGS) for gambling harm, and only one in seven had their gambling addressed in the SUD setting, despite evidence that unaddressed gambling can negatively impact upon SUD treatment<sup>31</sup>. One-third of the clients identified concerns that their gambling, if unaddressed, could lead to SUD relapse. The authors noted an integrated approach may avoid relapse or consequential increase in their gambling behaviour, and unaddressed, these comorbid problems may reinforce each other. Screening for gambling harm within SUD residential programmes was seen as both necessary and an opportunity to address gambling harm, especially when self-seeking of help for gambling harm was low.

Parker and Bauermann (2015)<sup>32</sup> conducted a meta-analysis of efficacy of treatments for pathological gambling, including N=40 studies in the previous 25 years. They identified CBT as the most effective strategy across inpatient (n=4)<sup>33</sup>, outpatient (n=28), and self-help settings (n=8), and concluded the strongest effect on reducing the impact of problematic gambling was in outpatient settings. The residential studies were early studies, with the latest being Sander et al (2009, above) with treatment periods ranging from 28 days, 12 weeks (2), and less than 6 months.

Moghaddam, Campos, Myo and colleagues (2015)<sup>34</sup> noted that pathological gamblers have high rates of depression, with 75% impacted by depressive symptoms, and were at three times the risk for Major Depressive Episode than the general population. They attributed this risk to a range of factors, including genetic predisposition to either gambling disorder and/or depression, dysfunctional coping through avoidance, impulsiveness, emotional dysregulation, and the consequences of their gambling. They noted depression may cause higher rates of relapse, and poorer treatment outcomes. Depression may lead to the

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<sup>30</sup> Leavens E, Marotta J, Weinstock J. (2014) Disordered gambling in residential substance use treatment centers: an unmet need. *J Addictive Diseases*, 33(2), 163-173.

<sup>31</sup> Ledgerwood D, Downey K, (2002). Relationship between problem gambling and substance use in methadone maintenance population. *Addictive Behaviour*, 27, 483-91.

<sup>32</sup> Parker, J. D. A., & Bauermann, T. M. (2015). *Outcome of psychological treatments of pathological gambling: A review and meta-analysis*. Report prepared for the Gambling Research Exchange Ontario (GREO), Guelph, Ontario, Canada. September, 2015.

<sup>33</sup> Lesieur & Blume (1991), Swartz & Linder (1992), Breen et al (2001), and Sander et al (2009)

<sup>34</sup> Moghaddam J, Campos M, Myo C, Reid R, Fong T. (2015). A longitudinal examination of depression among gambling inpatients. *J Gambling Studies*, 31, 1245-1255.

gambling problems, and the problems cause depression. The authors sought to measure change over time with residential clients at problem gambling services, to assist to determine optimal treatment periods. N=44 clients in a residential US treatment clinic for gambling harm over an 8-week programme, with CBT and group therapy, addressed a range of issues (e.g family education, financial issues), with 12-Step (GA and AA), DBT, Mindfulness and Motivational Interviewing additional approaches. The 8-week programme could be extended with alternative funding being found. A finding of reduced depression measures over the 8-weeks occurred for both the severely depressed and the mild to moderate groups. This was attributed to the stabilisation of their living environment (residential), developed rapport with clinicians, and raised self-efficacy. Isolation, unresolved attachment issues, and impaired attachment styles, have often been found with problem gamblers and resulted in poorer coping, while the residential programme, including 12-Step engagement, offered 'socially enriching activities that enhanced social learning and engagement'.

Dowling, Cowlshaw and colleagues (2015)<sup>35</sup> conducted a meta-analysis of the prevalence of comorbidity of psychiatric disorders among treatment-seeking problem gamblers (52.8% outpatient, 13.9% residential, rest not reported). Only depressive disorder in residential or outpatient treatment had sufficient studies in both settings, and there were no differences in severity according to setting. Across N=36 studies, three quarters of the problem gamblers met criteria for both current and lifetime Axis 1 mental health disorders, with 'no consistent patterns according to problem gambling severity or type of treatment facility' p519. Although there was no specific evaluation of residential programmes, the authors concluded:

'The presence of high levels of psychiatric co-morbidity suggests that a multi-modal, stepped care approach to gambling treatment may be appropriate, whereby treatment intensity increases with client needs' p537.

They supported a stepped care approach that provided an integrated continuum of services from minimally restrictive to increasingly intensive approaches.

Buchner and colleagues (2015)<sup>36</sup> sought to compare two approaches to residential treatment of pathological gambling in Germany: either specialising in addiction or specialising in psychosomatic illness. They noted that there were high proportions of those affected by their gambling to have elevated suicidal tendencies, alcohol misuse and other poor mental health:

'Hence, given the nature and severity of their condition and potential comorbid disorders, those affected by PG require adequate treatment' p258.

Of those treated, 90% were males and 93% had at least one comorbid disorder. Gamblers with a comorbid substance or personality disorder were recommended to attend an addiction

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<sup>35</sup> Dowling N, Cowlshaw S, Jackson A, Merkouris S, Francis K, Christensen D. (2015). Australian & NZ J of Psychiatry, 49(6), 519-539.

<sup>36</sup> Buchner U, Erbas B, Sturmer M, Arnold M et al (2015). J Gambling Studies, 31, 257-279.

facility, and those with depression/neurosis or additional psychological disorder were recommended to the psychosomatic residential programmes (*impulse control disorder vs addiction*). Those with gambling problems were more likely to be treated in psychosocial residential centres. In all, 55% of gamblers had an alcohol use disorder, 60% a mood disorder, and 44% a drug (other than tobacco) disorder. Treatment generally ranged from 12 to 16 weeks. Females were under-represented in residential programmes even though they were more likely to be more severely impacted by comorbid disorders. The authors were unable to ascertain whether treatment outcome benefited from the allocation to one or other service.

Merkouris, Thomas, Browning & Dowling (2016)<sup>37</sup> conducted a systematic review to identify predictors of successful treatment outcomes over a period of time (N=50 studies, 8 being residential/both/mixed; 1990-2016). Of the eight residential settings, treatment length ranged from one week to 30 days, with another two having no set length depending upon need. Interventions ranged in the residential settings between CBT, imaginal desensitisation, to 12-step/family group, to multimodal. There were insufficient studies to identify conclusions around treatments settings (outpatient vs inpatient). Predictors of successful treatment were being older, having a lower severity of gambling, lower alcohol use, lower depression, and higher treatment attendance. Younger clients and females were at risk for poorer outcomes and additional treatment time and intensity may be required for these. They noticed that research was unclear around treating gamblers with comorbid psychiatric disorders. They noted limited conclusions could be drawn with current available evidence for treatment types and treatment outcomes.

Muller, Wolfing and colleagues (2017)<sup>38</sup> sought to identify the effectiveness of residential treatment programmes for problem gamblers in Germany. N=270 residential patients completing treatment for problem gambling participated in this study (33% did not complete treatment and dropped out, within expected drop-out rates). Those that had dropped out from treatment had marginally higher comorbid disorders. Less than half (41.6%) maintain full abstinence from gambling after 12 months, although over 70% no longer met the criteria for Gambling Disorder (approximately half of continuing gamblers still met GD). Those not gambling displayed significantly less psychopathology than those still meeting GD criteria, and the lowest functional impairment in family/social matters. Surprisingly, those still meeting GD also had significant functioning improvement and this was attributed to skills training.

Pickering, Keen, Entwistle and Blaszczynski (2017)<sup>39</sup> conducted a systematic review of treatment outcomes, concluding that the many variations in measurement of outcomes

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<sup>37</sup> Merkouris S, Thomas S, Browning C, Dowling N. (2016). Predictors of outcomes of psychological treatments for disordered gambling: a systematic review. *Clinical Psychology Review*, 48, 7-31.

<sup>38</sup> Muller K, Wolfing K, Dickenhorst U, Beutel M, Medenwaldt J, Koch A. (2017). Recovery, relapse, or else? Treatment outcomes in gambling disorder from a multicentre follow-up study. *European Psychiatry*, 43, 28-34.

<sup>39</sup> Pickering D, Keen B, Entwistle G, Blaszczynski A. (2017). Measuring treatment outcomes in gambling disorders: a systematic review. *Addiction*, 113, 411-426.

prevented accuracy in comparing outcomes of treatment. They concluded that an outcome measure broader than specific disorder measurement to include ‘measures of positive health as manifested by physical, mental and social wellbeing’ (p423) would provide a more accurate multidimensional conceptualisation of recovery.

Chan, Cheung, Yeung, Kwok, and Wong (2018)<sup>40</sup> approached addiction from a ‘syndrome’ model with individual addictions being an expression of an overall addiction with all sharing commonalities. The need for a broad approach (assessment and intervention) is necessary because a focus upon symptoms results in high relapse. A short-term (4 day/three nights; 3 post-camp workshops and one full day camp) broad residential approach (RESTART) applied ACT and Expressive Arts Therapy. Therapy aims were building a positive lifestyle, increasing self-efficacy and coping abilities. Several different expressed addictions were addressed (gambling, sex, buying, stealing, gaming, alcohol, and tobacco; N=44) with six outcomes (health awareness, motivation towards health, distress disclosure and addressing it, emotional disturbance, and urge management). A control group (non-treatment, matched) and quasi-experimental design testing prior to and 3-months post-treatment, found increased willingness to disclose distress; self-efficacy, and reduced addiction disturbance, but not health consciousness or psychological distress, and concluded these two outcomes may require a longer term programme, citing evidence in another study for those with more serious mental health conditions requiring longer duration treatment (Shapiro et al 1994). They also concluded longer duration addictions may warrant longer duration programmes, with content, length, and longer individual follow-up sessions. Family members were invited to the training camp and participated in family-based activities to assist to understand the syndrome model of addiction, increased coping and to reduce their psychological distress. The authors noted higher drop-outs in community therapy, and their shared approach to a syndrome model supported a residential approach.

The Gordon Moody Association (2018) Annual Residential Services Impact Report<sup>41</sup> provides outcomes for the UK trust for 2017-2018 (earlier reports covered 2011-2016). Sixty-nine males entered its residential programme following a two-week assessment, of which, 74% completed treatment (12 weeks followed by a half-way house/6-week relapse prevention programme). In another mixed residential model at a second residential facility, 36 females and 9 males commenced another treatment briefer format, a Mixed Model of Care, (4-day, 3-night, followed by 12-week individual sessions and a fortnightly online group; in turn followed by a second retreat for 3 days and 2 nights with a relapse prevention focus). Positive outcomes were recorded against baseline on social functioning, general health, gambling,

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<sup>40</sup> Chan M, Cheung W, Yeung N, Kwok, and Wong H (2018) An evaluation study of the ‘RESTART’ program-short-term residential treatment for addiction, *Int J Mental Health & Addiction*, 16, 1357-1372

<sup>41</sup> Gordon Moody Association. Our Annual Residential Services Impact Report 2017-2018. [www.gordonmoody.org.uk/](http://www.gordonmoody.org.uk/) Impact reports

psychological and occupational functioning, legal/financial situation, and compliance. Ongoing surveys supported persistence of these outcomes.

Ledgerwood & colleagues (2019)<sup>42</sup> found there were several associations between cognitive distortions and psychiatric symptoms, and between impulsivity level and addiction, and the client's perceived control in the 21-day residential programme. Cognitive distortions are 'crucial to the development and maintenance of problematic gambling behaviours' p2. Major types are illusion of control (rituals), predictive control (gambler's fallacy - past enables prediction), and interpretive bias (remembering wins more than losses); that gambling will make the person feel better, and belief in inability to stop gambling (helplessness). Few left treatment, similar they noted, to Stinchfield et als' (2008) US finding, where 91% of residential patients successfully completed residential treatment versus 54% of outpatients. Residential treatment gamblers will have more severe symptoms, more comorbid disorders, and more distorted thinking. Remembering wins rather than losses and perceived inability to stop, were associated with greater gambling harm severity in residential treatment. In residential treatment, there was significantly more distorted thinking when there were coexisting psychiatric difficulties, while those that completed treatment experience had clinically significant changes in their thinking and ability to identify disordered thought patterns; also, they improved psychiatric functioning.

Re, Bragazzi, Covelli and colleagues (2019)<sup>43</sup> evaluated a residential programme in Italy for gambling addiction, Orthos, comprising an intensive three-week programme followed by three follow-up meetings. Participants comprised N=165 problematic gamblers (not affected by serious psychiatric disorders, due to the short nature of the programme and absence of medical staff). Compliance was high with 97% completing the residential programme, with 59% abstaining from gambling, 34% having partial abstinence, and 6% having episodes of relapse.

Roberts, Murphy Turner and Sharman (2020) noted that over half of those seeking treatment for disorder gambling fail to complete treatment. This UK study sought to identify factors that resulted in drop out from treatment (as opposed to enforced leaving from treatment). For clients seeking treatment at the Gordon Moody Association (GMA) between 2000 and 2015, dropout was high (51.3%; two-thirds voluntarily left, and one-third had enforced leaving), with those in longer programmes who had previously received treatment or had support being less likely to leave treatment. They noted research identifying that inpatient treatment has been sought when outpatient treatment has failed, or problems are too acute to be

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<sup>42</sup> Ledgerwood D, Dyshniku F, McCarthy J, Ostojic-Aitkens D, Forfitt J & Rumble S (2019). Gambling-related cognitive distortions in residential treatment for gambling disorder. *J Gambling Studies* doi.org/10.1007/s10899-019-09895-4

<sup>43</sup> Re T, Bragazzi N, Covelli M, Poli D, Dalpiaz C, Benevene P, Zerbetto R. (2019) Outcomes evaluation of Orthos: an intensive residential program for gambling addiction treatment. *International J of Developmental and Educational Psychology*. Vol 1, 269-276.

managed in the community and need higher levels of care. Gambling problems were more severe than with those in outpatient services:

‘Our findings suggest that multi-morbidities and more acute psychopathology may have significant implications for future treatment....depression may make individuals more likely to drop out...Such individuals may need more time and effort in treatment due to additional care for their comorbid depression’ p381

They noted that the drop in residential treatment time in GMA from 9 to 3 months in 2010 that participants were more likely to leave treatment (opposite to AOD programmes) and noted there was ‘currently, no comparable data for length of stay and drop out in residential gambling treatment’ p382. They hypothesised that longer treatment may allow individuals to maintain long-term goals, but that many external considerations (e.g. resources, therapeutic competence) may also be factors.

Table 2: Summary of residential research findings published 2009-2020

Article	Findings summary	Commentary
Sander & Peters (2009)	A CBT treatment based residential treatment programme followed by outpatient skills training, was assessed. They concluded it was important to integrate comorbid psychological disorders into treatment, and that inpatient gamblers typically had high rates of psychological disorders that may reduce comparison to gamblers’ outpatient settings.	Residential treatment (CBT-based) on average 8-16 weeks, followed by out-patient skills sessions. Recommended integration of treatment for gambling and comorbid disorders. They consider that the findings may not generalise to community treatment research, as higher comorbidity for residential clients.
Morefield et al (2014)	A CBT programme either delivered as an outpatient (6-12 sessions), or residential (2 weeks) for those clients requiring relief from distracting social and daily responsibilities (these are more likely to have psychiatric/physical complications) that would cause them to struggle in a community treatment setting.	Brief intervention periods, where residential clients are selected for greater severity of comorbid problems and/or gambling harm. Intervention is similar to a recent study in NZ as yet to be reported (community intervention only).
Leavens et al (2014)	Residential programmes for substance use disorders (SUD) where comorbid gambling (GD) harm identified. One in five SUD clients met this comorbid assessment. Not all had received contemporaneous treatment for SUD and GD.	Similar to previous findings around the 20% comorbidity of SUD and GD (17.8% in NZ <sup>44</sup> ) in SUD treatment settings, and recommended screening for, and treatment of, comorbid GD and SUD in residential

<sup>44</sup> Sullivan S & Steenhuizen R (2006). The CADS/Abacus problem gambling screening project: gambling problems commonly co-exist in AOD clients. Conference Proceedings, Cutting Edge Conference 2006, Christchurch.

		settings. Failure to do so may result in these problems reinforcing each other, resulting in relapse.
Parker & Bauermann (2015)	Meta-analysis of 40 studies of treatment programmes for pathological gambling (PG) identified four inpatient studies (36 outpatient or self-help). They concluded outpatient programmes resulted in more positive outcomes.	Of the 4 residential studies, 3 were early studies (1990s), the latest being Sanders et al (2009) above, where the authors were concerned about comparison of residential and outpatient studies, where residential programmes may address more complex problems.
Moghaddam et al (2015)	The authors noted high levels of comorbid disorders found with presenting problem gamblers (PG) and measured changes over time in depression rates of PGs in a residential 8-week programme with varying severity of depression. The intervention was CBT, MI and 12-step based, addressing a range of comorbid problems, resulting in reduced depression. Improvement attributed to residential treatment stabilising living, rapport building, social engagement, and improved self-efficacy.	A three-month residential programme using mixed therapies to address coexisting disorders and social deficits in an environment without outside distractions/pressures.
Dowling et al (2015)	Meta-analysis of comorbidity disorders of PGs in both residential and outpatient settings. No increased depression was identified across both. Samples were low and other comparisons unavailable. However, there was support by the authors for a multi-modal stepped care approach being appropriate with increased intensity of treatment meeting client needs.	Comparison of outpatient and residential outcomes were limited and the authors noted this. Although no differences in client depression between settings was found (mean 29.9% were also affected by major depressive disorder), Many other disorders were insufficiently recorded to assess prevalence in setting comparison.
Buchner et al (2015)	Two residential programmes addressing PG (addiction or psychosomatic/impulse control illness) identified clients in both settings were affected by high comorbidity. Programmes ranged 3-4 months. Most PGs presented to the psychosocial setting rather than addiction, but neither outcome was found to be the more beneficial one.	Because of the high comorbidity (alcohol use 55%, 44% drug, 60% mood disorders), 'adequate treatment' was recommended.

Merkouris et al (2016)	Sought to identify predictors of successful treatment. Settings for treatment were considered, however, insufficient residential studies existed. Lower depression and being a male were the most consistent predictors of positive treatment outcomes.	Limited conclusions are able to be drawn as to client or setting factors for successful outcomes.
Muller et al (2017)	Residential treatment programmes for GD were compared to identify residential treatment effectiveness. One-third dropped out within expected attrition rates, (those within slightly higher comorbidity rates). 70% no longer met GD (41.6% abstinent). Higher comorbidity and higher family/social problems were factors in poorer outcome. Skills training was important.	Almost ¾ of those completing (1/3 attrition) reduced to below GD diagnosis level. Skills training appeared to assist those still meeting GD.
Pickering et al (2017)	Although n=34 research studies were reviewed, only one referred to a residential setting, and not an outcome factor focused upon settings. They concluded a restrictive focus upon gambling as an outcome was less desired than a broader social wellbeing measure.	In this research of 197 initial studies, only 34 papers met the analysis standard requirements, perhaps indicating the difficulties of identifying factors in residential settings when there are too few studies.
Chan et al (2018)	A short-term (4 day) plus community workshops combining a range of addictions (an addiction syndrome approach) identified positives, but also the need for a longer programme for psychological distress, as with addictions that have endured over time. Family inclusion was seen to reduce treatment drop-out. A syndrome approach was seen as effective.	Psychological comorbidity was identified as requiring longer intervention in this short-term combined residential/community programme.
Gordon Moody Association Annual Residential Report 2018.	74% of clients completed a 12 week programme followed by a 6-week relapse prevention community (half-way house) programme. A briefer 4 day model + 3-day retreat and 12-week individual session/online model, was also reported. Positive outcomes were reported for each.	An annual report was published identifying the only residential programme in the UK for gambling harm treatment. Two options appeared to be offered depending upon need. Social functioning, general health, reduced gambling, financial stability, and psychological and occupational functioning were measured outcomes.
Ledgerwood et al (2019)	A 21-day residential programme addressed cognitive distortions and	Positive outcomes were found from this brief residential

	beliefs of control. Treatment dropouts were low. Residential clients were considered to have more severe symptoms, more distorted thinking, and more comorbidity.	programme. Some measure of psychiatric comorbidity was assessed and psychiatric functioning was improved.
Bragazzi et al (2019)	A 3-week residential programme (plus 3 follow-up meetings) in Italy was evaluated. Clients did not have serious psychiatric disorders because of the unavailability of medical staff and also the brevity of the programme.	A programme for less severe problem gamblers that may be less typical of residential treatment clients in other countries.
Roberts et al (2020)	The Gordon Moody programme (above) was evaluated over a 15-year period. Researchers noted clients were often more severely affected or had unsuccessfully attempted community treatment. Depression was associated with treatment dropout, and with reduced treatment programme time, dropout risk increased. However, this conclusion was not supported elsewhere.	This study identified the commonly held view that more severely affected clients may be present in residential programmes (as opposed to community settings).

## Conclusions

Research into the effectiveness and efficiency of residential settings for the treatment of gambling harm remains limited and, because of the range of therapies provided across reported studies of residential programmes, is difficult to compare, with wide variables in length of the programme, focus of the programme, therapies used, and individual differences with clients.

With limited evidence and perceived high, resource-intensive costs, this literature review of the evidence notes that despite the relative absence of evidence, there is support for availability of such a residential option, largely based upon expert opinion and experience, and face-validity for its need.

Although the most influential American institution, SAMSHA, did not refer to residential settings in its limited Advisory, the health professional ASAM noted the need for higher levels of care with some differentiation between three residential levels (half-way house, lower intensity for comorbid problems with disabilities to engage strongly, and intensive full active therapy). This was partially evidence-based and presented as an authorised release by ASAM's Chief Editor.

In an evaluation by Ledgerwood and Arfken of the clinical need for Michigan's treatment provision for problem gambling, they recommended the need for higher (intensive outpatient or residential treatment) options that may be necessary for up to one-third of treatment-seeking problem gamblers. They also recommended the provision of transition support to the client's home environment following intensive treatment.

Australia adopted the findings of the Monash University PGRTC Centre, and although they noted there was some evidence for inpatient treatment, their inclusion requirements of research to be considered for the guidelines did not identify research at the evidence grade required, so no conclusion could be drawn in respect of the value for residential settings in gambling treatment. In following these guidelines, the UK Royal College of Psychiatrists concluded that there was a need for further studies before a guideline could be reached on residential treatment options for gambling harm. In the absence of such a guideline, GambleAware issued their model to fund residential treatment through a sole provider (Gordon Moody Association) in two options: one, a brief under two-week programme, and the second, a longer, 'more than 12 week' option.

A systematic review by the Singapore Ministry of Health underpinned its comprehensive guideline for the treatment of problem gambling in 2011. Although this lapsed automatically after five years, as do all their guidelines, (to ensure new evidence does not rebut earlier findings), nothing has replaced this substantial document. It supported CBT treatment generally for addressing gambling harm, but also noted that no single approach had proved to be the most beneficial, and because problem gambling was a multi-faceted condition, a multi-model approach was required. It noted that some clients may require residential treatment (the majority could be addressed in community programmes) where 'psychiatric stabilisation or crisis intervention' was required, and also in other circumstances where those clients would benefit from intensive rehabilitation. They attributed the level of evidence to be 'Good Practice Point', perhaps indicating the lack of research evidence available for residential treatment of problem gambling, however, this was identified as GPP or 'best practice based upon the clinical experience of the guideline development group', comprising a wide range of qualified health professionals.

A limited range of systematic reviews, RCT trials, system evaluations and individual case studies have occurred in the past decade or so, often referring to residential settings alongside community settings, however, often with low numbers of residential studies to compare. Sander and Peters (2009) indicated difficulties in comparing residential findings against a randomised control group, but opined that residential clients affected by their gambling appeared to have higher rates of comorbidity than clients attending community programmes, and a residential target would be reduction of psychological distress. Morefield and colleagues (2014) noted residential programmes provided refuge from psychosocial and every-day distractions, and this was particularly suitable for clients with multiple, often

severe, psychiatric and physical illnesses that would interfere with their recovery in a non-residential setting. It was noted that this residential setting programme was relatively brief (2 weeks) and addressing comorbidity in an integrated approach may be somewhat challenging, but may, in the short-term, offer respite from community pressures for these clients in order to focus upon the gambling problem, using a graded exposure approach.

Leavens and colleagues (2014) identified the benefits of screening opportunistically for gambling in residential substance use programmes, although this is a common approach in New Zealand.

Parker and Bauermann (2015) concluded that community programmes were more effective than residential treatment for gambling harm, however, they reviewed just four studies of residential treatment, the latest being Sander et al (2009) above, where those authors considered that increased complexity in residential treatment clients reduced ability to generalise to community programmes.

Moghaddam et al (2015) reviewed a residential programme delivered over eight weeks to try to identify an optimal treatment programme period. They noted that depression levels, an important factor in successful treatment, reduced in the multi-modal programme, and that extended treatment in the programme may benefit clients.

Dowling et al (2015) conducted a meta-analysis, noting no statistical differences of depression in clients attending either residential or community programmes. They supported a stepped care approach, with increased multi-modal interventions for increased severity of comorbid Axis 1 disorders, but did not appear to address setting, other than with depression analysis. Buchner et al (2015) study was a limited comparison of two residential programmes commonly available in Germany - one addiction based, the other, psychosocial, where comorbidity of psychosocial problems with gambling harm may be a focus. Treatment generally ranged from 3-4 months, and the authors supported residential programmes where severity of gambling harm and/or psychosocial problems impacted. Gamblers were more likely to attend the psychosocial programmes rather than the addiction programmes. They were concerned that female gamblers, often with more severe harm, were under-represented in the programmes. This provided support for residential programmes, especially where serious coexisting mental health and/or social problems existed.

Merkouris et al (2016) identified predictors of effective treatment, and included some residentially delivered programmes (8 being residential, of the 50 reviewed). Residential programmes were relatively short (7-30 days; although two had no set length and focused upon client need), and because of the low numbers of residential studies, there were insufficient numbers to reach conclusions based on settings. There was a broad range of predictors (lower depression level when accessing treatment, for example, predicted better

outcomes), perhaps suggesting that multi-modal approaches are appropriate for the complex needs of problem gamblers in treatment.

Muller et al (2017) found (expected) high drop-out rates in residential treatment programmes for gambling harm, and although many may have continued gambling post-treatment, their level of pathology had dropped.

Pickering et al (2017) concluded that because of the many variations of measurement, comparisons were difficult in their systematic review. They concluded, however, that outcome measures should be broader than gambling outcomes, and include positive health outcomes. This research again raises the difficulty in comparing research outcomes, including effectiveness of settings.

Chan et al (2018) described a brief residential programme (less than one week) followed by several days of community programme; these combined clients were affected by a range of addictions, using a syndrome model. Treatment dropouts were considered to be lower than community programmes. Psychological distress was one of the conditions that the authors considered may require a longer programme. A syndrome model of addiction has been previously raised, when Shaffer and colleagues<sup>45</sup> considered gambling may benefit from such an approach, but more research was required. In particular, they considered a syndrome model may help to reduce the high rate of relapse in addictions (including gambling) where:

‘About 80 to 90% of individuals entering recovery from addiction will relapse during the first year after treatment’ p372

This broad outcome across several addictions may require further research into a syndrome approach benefitting clients affected by gambling harm, before this approach can be generalised.

The Gordon Moody (2018) models (3 month residential followed by 6-week community programme - a mixed model, brief 4-day programme) offer some evidence of effectiveness and that variation based upon need may benefit - an example of a stepped care approach based on need.

Ledgerwood et al (2019) noted residential clients in the 3-week programme had more severe symptoms and more comorbid disorders, with outcomes including improved psychiatric functioning as well as reduced gambling harm. The focus in this programme appeared to be gambling-specific (e.g. distorted thinking).

The Bragazzi et al (2019) study appeared to have reduced its relevance because of the exclusion from treatment of those with serious psychiatric disorders, restricted because of

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<sup>45</sup> Shaffer H, LaPlante D, LaBrie R, Kidman R et al (2004) Toward a syndrome model of addiction: multiple expressions , common etiology. *Harvard Rev Psychiatry*, 12, 367-374.

the brevity of the programme (3-weeks) and lack of medical support. Evidence would appear to support the presence of psychiatric disorder, especially depression, to be commonly coexisting in problem gambling harm, and moreover perhaps with residential clients.

Roberts et al (2020) addressed the high drop-out in treatment in the Gordon Moody programme between 2000-2015 (50%). Of these, one-third were asked to leave. Depression was a factor that resulted in higher drop-outs, and more time was seen as a possible need where coexisting problems existed. Programmes were delivered over 3-9 months, whereas later programmes (see above) were offered in a brief mixed model (less than one week) or longer model (12 weeks) that may address the dropout rate typically found in the above research.

From the above review of research and clinical recommendations, some conclusions can be drawn that may provide the basis of evaluation of the effectiveness of a residential programme option for those seeking help for gambling harm in NZ. They are:

1. The costs of residential programmes for gambling harm is perceived to be higher than community delivery, however, evidence of cost benefit analyses is very limited. There is some limited support for higher benefits over costs.
2. There is limited research to enable comparison of residential with community programmes. This may be due to the range of programmes offered by residential programmes in the published research, the variability in the length of the programmes, and the possibility that those presenting to residential programmes may be more affected (severity of gambling, number and severity of comorbid disorders, social problems) than those attending community programmes.
3. There is support for residential programmes for gambling harm treatment from expert guidelines, based upon perceived need through often, high levels of harm from gambling, although the evidence supporting the content of such programmes to be best practice, remains uncertain.
4. Evidence supports that the majority presenting with harm from their gambling will have comorbid disorders and coexisting problems, and that these will range from moderate to severe<sup>46</sup>.

## Recommendations

5. A stepped care approach will address the needs in a client-centred approach, including intensive outpatient programmes, mixed residential/community programmes, and family involvement, to address the range of needs of those affected by their gambling.

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<sup>46</sup> Rash C, Weinstock J, Van Patten R. (2016). A review of gambling disorder and substance use disorders. *Substance Use Rehabil*, 7, 3-13. Rash et al cite evidence that 75% of all GD comorbid disorders will pre-exist the GD.

6. The most severely affected by their gambling and their comorbid problems may benefit from the ability to attend a residential programme to prevent distractions and pressures in the community that may impact negatively on their treatment.
7. Such residential programmes should address comorbid problems in an integrated manner, particularly addressing depression, and this may require variation in length of the programme.
8. Residential programmes may be best aligned with client needs, with short and longer-term options.
9. Residential programmes should be multi-modal, using therapies and strategies to address psychological, social and family relationships, skills learning, and educational deficits.
10. Residential programmes may benefit from a transition community programme or 'half-way' option to align with residential treatment completion, to reduce harm from relapse.

Further research is required into the benefits of residential over community programmes, the content of such programmes, and the optimum treatment length.