<u>**Testimony to the New York State Gaming Commission: Forum on Problem Gambling and Commercial Casino Development, April 9th, 2014**</u>

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Chair Gearan and members of the Commission, thank you for inviting me to speak to you today as you consider casino development and how to address the issues of responsible gaming programs and problem gambling. I have four objectives in my testimony today. The first is to provide a very brief overview of what we know about gambling disorder, its prevalence and etiology, and its relation to other addictive disorders. The second is to review what we know about the impact of gambling expansion on gambling and gambling-related problems, the third is to review current best practices and evidence about responsible gaming programs, and the fourth is to identify gaps in the current research and important directions for future research.

But first, I would like to introduce myself. I am the Associate Director of Research at the Division on the Addiction at Cambridge Health Alliance and an Assistant Professor of Psychiatry at Harvard Medical School. At the Division, I have been involved in research related to gambling and gambling problems since 2003. The Division, under the Directorship of Dr. Howard Shaffer, has been a pioneer in the field of gambling studies, conducting research on gambling since the mid-90s.

To understand gambling problems, and how casino expansion might influence their development, we need to step back and consider how gambling disorder fits within our greater understanding of addiction. Though gambling disorder is now a commonly accepted form of addiction, it wasn't always so. People did not accept that a behavior could constitute an addiction. Our ability to understand disordered gambling as an addiction depends on how we view addiction. Addiction is often viewed as a property of the objects themselves. We say that

cigarettes are "addictive", alcohol is addictive, drugs are addictive, and so on. Recently, experiments with rats have even tested and confirmed the addictive properties of oreos!

This equation of addiction with object stretches beyond common culture. In fact, the APA's Diagnostic and Statistical Manual of Mental Disorders Fourth Edition – essentially the clinical bible until this past year, does not contain reference to addiction, instead defining substance use disorders exclusively by the object involved – alcohol use disorder, opioid use disorder, etc. Since gambling is not an object though to "induce" a disorder, in the DSM-IV, pathological gambling was classified under "impulse disorders not otherwise classified." I'll return in a minute to changes in the DSM5 that reflect our changing understanding of addiction. Even our National Institutes of Health do not address addiction as a cohesive disorder. Instead, there are separate institutes for drug abuse, alcohol abuse, and mental health.

The first question to ask, when addiction is defined so exclusively according to objects, is, if objects are addictive, then whey isn't everyone who has tried an "addictive" drug addicted? In the displayed figure, the gray bars represent use. Close to 90% of people surveyed report alcohol use in their lifetime (and about 70% in the past year). More than 75% report that they've used tobacco in their lifetime (37% in the past year), and close to 50% have used illicit drugs. But far fewer experienced symptoms of abuse or dependence even for objects we consider particularly addictive.

One of the reasons we are so focused on the objects of addiction is that more often than not, we equate addiction with chemical dependency. Drugs are addictive because they directly act on your brain. Twenty years ago, if I had asked "Do chemicals cause addiction", most would answer yes. That has changed, in part because of all the work on gambling. But still, if typical

addiction develops through the ingestion of chemicals, how can we say that something like disordered gambling really the same?

In fact, research has shown that the effects of behavioral addictions can mirror those of chemical addiction, even in the brain. With drug taking, imposter molecules compete for receptor sites in the brain with naturally occurring neurotransmitters. With activities like gambling, behavior and experience can stimulate the activity of naturally occurring neurotransmitters and directly act on the brain.

Dr. Potenza and colleagues have done multiple studies in this area showing how disordered gambling looks a lot like substance use disorders when you look at the brain. In one study, Potenza and colleagues showed disordered gamblers and control subjects videos related to gambling. The disordered gamblers' displayed brain activation in relation to the gambling videos that looked quite similar to the activation shown by people addicted to cocaine. This research has also shown that disordered gamblers show the same physiological symptoms of withdrawal and tolerance as people with substance use disorders.

Given the research in the past two decades on gambling, our view of addiction has changed. For example, the new edition of the DSM, DSM5, has re-titled its substance use disorder section to "Substance-related and addictive disorders". Gambling disorders are now incorporated within this section, and other potential addictive disorders are being considered.

So if we no longer consider addiction to be exclusively a property of objects or chemicals, what is it? At the Division on Addiction, my colleague and mentor, Dr. Howard Shaffer, developed a syndrome model of addiction. Within this framework, addiction is considered to develop out of the repeated interaction of a person with a set of underlying vulnerabilities and an object or activity.

A syndrome, like AIDS, is a cluster of symptoms and signs related to an abnormal underlying condition (in the case of AIDS, HIV); not all symptoms or signs are present in every expression of the syndrome (people with AIDS present with different infections), and some manifestations of a syndrome have unique signs and symptoms. In addition, syndromes and the expressive signs and symptoms that serve as identifying characteristics of the underlying condition have a distinctive temporal progression.

Dr. Shaffer wrote that the view "of separate addictions is similar to the view espoused during the early days of AIDS diagnosis, when rare diseases were not yet recognized as opportunistic infections of an underlying immune deficiency syndrome." The syndrome model of addiction recognizes that addiction shares many similarities with the definition of a syndrome. Addiction is characterized by a variety of related signs and symptoms reflect an underlying disorder -- craving, tolerance, withdrawal occur across all forms of addiction, including gambling disorder. Not all signs & symptoms are present at all times. Diagnostic criteria for substance use disorders require that patients meet a certain number of criteria, not all of them.

Unique & shared components co-occur. There are non-specific neurobiological system risks, shared psychosocial risk factors and shared experiences across different forms of addiction, as well as unique risk factors and consequences, like chasing behavior in gambling or sepsis in IV drug use. Addiction also demonstrates a distinctive temporal progression across forms of addiction. Different addictions have similar etiologies and similar relapse rates.

So what's required to develop an addiction? Risk factors. As I said before, neurological and many psychosocial factors are shared between addictions. Okay. So you need underlying vulnerability. What else? You need to have exposure and interactions. I may have all the vulnerability in the world, but if I never encounter drugs, alcohol, gambling, etc., I won't

develop an addiction. Once you have an underlying vulnerability and exposure, you need your interaction with the object to produce a reliable desirable subjective shift. What do I mean? Simply put. You need to get a kick out of it or have it ease your distress. Repeatedly and reliably. At this point, the addiction syndrome can be considered premorbid. People can move toward more or less healthy behavior. Those who move toward addiction do so through unique expressions. Depending on some risk factors, exposure and interaction, addiction can be expressed as drinking, gambling, smoking, iv drug using, etc. There are also shared and unique consequences for each of these manifestations.

The addiction syndrome can be recursive, and its consequences can generate an entirely new vulnerability profile (e.g., provoke reward-system malfunction in a previously normal system). The development of the addiction syndrome therefore places people with the syndrome at increased risk for continuing addictive behavior and for developing new addictive behaviors. This chain of events is evident in many ways, but most specifically in the parallel natural histories of different manifestations of addiction, including relapse patterns, addiction hopping, treatment nonspecificity, and addiction comorbidity.

One of the ways conceptualizing addiction within the syndrome model framework can inform gambling-specific interventions and policy is by offering treatment targets. Risk factors for addiction offer targets for primary preventions – interventions that target risk areas prior to any development of addiction; secondary preventions, interventions with individuals at particular risk for addiction, and tertiary prevention, or treatment, for those already experiencing consequences of addiction.

The syndrome model helps us better conceptualize addiction, but it doesn't necessarily help us identify or define it. Addiction-related disorders are still more often than not identified

and defined by their consequences. For gambling disorders, there are more than 30 instruments designed to measure disordered gambling, and these different tools often do not agree on whether someone has a gambling disorder. If we return to the DSM, the current criteria for gambling disorder according to the DSM are listed on the slide. DSM5 requires a person to endorse 4 of the 9 criteria to qualify as a disordered gambler.

Though the instruments we use to measure disordered gambling tend to vary greatly, the prevalence rates we find are remarkably stable. Prevalence studies across multiple states and countries reliably find that approximately 0.5% to 1% of the general population is currently suffering from gambling disorder and an additional 2 to 3% are experiencing subclinical gambling problems. Lifetime rates of gambling disorder, though less reliable, also hover around 1% with lifetime rates of subclinical problems ranging from 3 to 5% of the general population.

Research to date has identified a host of risk factors for gambling disorder, many of which are shared with other substance use disorders. Risk factors include being young, being male, being unemployed or having low income, having easy access to gambling, starting to gamble at an early age, thrill seeking and impulsivity, having a criminal history, believing in the ability to control random events, and suffering from other mental health issues such as substance use disorders or mood disorders.

In particular, psychiatric comorbidity, in other words, suffering from multiple mental health disorders, is particularly associated with gambling disorder. In a recent study using data from the National Comorbidity Survey replication, Dr. Ron Kessler and colleagues from the Division on Addiction found that disordered gamblers had significantly elevated prevalence of mood disorders, anxiety disorders, conduct disorder, and substance use disorders compared to others, and 96% of respondents who qualified for disordered gambling also met criteria for at

least one other mental health disorder in their lifetime. In the majority of cases, the mental health disorder preceded the gambling disorder.

The next topic I would like to cover, incorporating the research that I have just discussed, is how we can expect gambling expansion to impact the prevalence and incidence of gambling-related problems. The most straightforward view is that exposure ought to increase rates of problems. And some research finds such a relationship. For example, the National Gambling Impact Study Commission reported early on that having a casino within 50 miles of one's home elevates that person's risk for experiencing a gambling-related problem. Similarly, our own work at the Division on Addiction has demonstrated associations between the presence of gambling opportunities and helpline calls in Iowa as well as self-exclusion rates in Missouri.

This slide shows the results of a research project that we completed with the Iowa Department of Public Health. It shows population adjusted rates of help-line calls as a function of proximity to casino venues. Darker green represents more calls. The circles indicate casino locations. It is clear from the slide that problem gamblers who seek help are concentrated around casino locations. Similarly, this slid shows self exclusion rates by county. Red indicates higher self-exclusion rates. The yellow dots represent casinos.

This slide shows the major general population studies of gambling and gambling problems that have been done in the US. The first national report on pathological gambling behavior in the United States was conducted in 1975. At that time, only a few states had state-run lotteries, and casino gambling was confined to Nevada. Since then, more than 30 states have implemented state lotteries, casinos have expanded beyond Nevada to include riverboats, resorts, and tribal gaming, and racetracks have begun to open VLTs. Clearly, there has been an increase in both government sponsored gaming and legalized gaming. One would expect gambling

problems to increase as well if they were directly related to exposure. In that 1975 survey, Kallick and colleagues (1979) found that 68% of their nationally representative sample reported gambling in their lifetime, 61% reported gambling in the past year, and 0.7% were past-year compulsive (i.e., pathological) gamblers.

Four other national studies have taken place since the original Kallick study. A study by the National Opinion Research Council in 1998 (Gerstein et al., 1999), surveying a nationally representative sample found that 86% of those surveyed had gambled in their lifetime, but only 63% of those surveyed had gambled in the past year (surprisingly similar to the rate before gambling expanded), 0.8% were lifetime pathological gamblers, and 0.1% were past year pathological gamblers. Welte and his colleagues (2002) conducted a national telephone survey in 1999-2000 and found that 82% of those surveyed reported gambling in the past year, and 1.4% qualified as past-year pathological gamblers. As part of the National Epidemiologic Survey of Alcohol and Related Disorders, Petry and her colleagues analyzed the data on gambling and found that only 0.42% of those sampled qualified for lifetime pathological gambling. Finally, in the National Comorbidity Survey Replication, conducted at a similar time to the previous study Kessler and colleagues found that 0.3% of the sample qualified for past year gambling disorder and 0.6% qualified for lifetime disorder.

So, nationally there has been no significant increase in gambling disorder since 1975, depiste the growth of gambling and participation in gambling. The data suggest that since 1975, more people have tried gambling, but the number who develop problems has not increased to the same extent. Disordered gambling appears to be a relatively stable phenomenon across time and place.

The best test of the effects of gambling legalization on disordered gambling, of course, is to look at disordered gambling before and after a casino opening or lottery implementation in a given community. There have been several studies that have looked at changes in pathological gambling prevalence rates after such an introduction.

This past year, the Division collaborated with Spectrum Gaming Group to produce a systematic review of literature related to gambling expansion, and the social impacts (in this case, gambling behavior and gambling-related problems) that gambling expansion has on population segments. We conducted a quantitative analysis of selected peer-reviewed and gray literature that we assessed for methodological quality, extent of gambling expansion, and extent of social impact.

We separated our review into two categories – peer review literature, articles appearing in peer reviewed publications, and grey literature, specifically statewide studies of gambling expansion. For the peer review literature, our search terms returned 308 articles. Of those 308, only 24 involved empirical studies about gambling expansion, and only 17 included multiple timepoints, one of our inclusion criteria. For the grey literature, we found 44 reports from 16 states that met our inclusion criteria.

We coded each study on multiple methodological categories to determine and report on methodological quality. Finally, we identified expansion events that occurred between each time point of each study and examined changes in gambling problem rates as they related to gambling expansion.

For our peer review literature analysis, our methodological quality scale scores could range from 0-13. Our coding indicated that the 17 available gambling expansion studies' methodological quality actually ranged from 1-10. Nine studies had scores of 5 or less, and 8 had

scores greater than 5. The study with the highest methodological quality (i.e., Jacques &
Ladouceur, 2006) examined a single gambling expansion event (i.e., opening one casino) and
indicated, across four waves of data collection, no overall changes in problem gambling or
gambling disorder in the target community compared to a control community. The study with the
highest gambling expansion score (i.e., Abbott et al., 2013) examined the introduction and
expansion of multiple types of gambling in multiple venues and indicated mixed results.
Specifically, they reported reductions in gambling participation, no changes in lifetime or past
year problem gambling, and increase in lifetime gambling disorder, but no change in past year
gambling disorder.

Of all the outcomes reported, regardless of study, quality, or outcome, 15 indicated no
overall statistically significant change in activity (e.g., participation or problems) after gambling
expansion, 5 showed a decrease in activity (excluding the gambling retraction study), and 10
indicated an increase in activity. There *was* an apparent positive association between level of
gambling expansion and change in gambling problem rates. However, the association was not
statistically significant because of the small number of comparisons and should be interpreted
with caution. Visual inspection of rates on which the associations were based indicates that more
expansion tended to be associated with slightly less decrease in rates across time, rather than
actual increase.

The available peer-reviewed literature does not provide conclusive evidence of a
relationship between gambling expansion and gambling-related problems. Currently, the findings
are mixed and vary by the type of outcome under consideration. Unfortunately, an association
between study quality and the amount of change reported further complicates and limits our
ability to interpret the extant literature. Some research suggests that expansion might instigate

problems; however, the majority of evidence indicates otherwise. Nonetheless, the number of findings that indicate expansion has no effect, or even a regressive long-term effect is too small to say definitively that no relationship exists between gambling expansion and gambling-related problems. The most cautious approach to this issue would be to collect additional original high quality prospective longitudinal data, to add to and clarify the existing body of literature.

For our grey literature analysis, methodological quality scale scores could range from 0-12. Our coding indicated that the 19 state report sets' methodological quality actually ranged from 2-6. Fifteen states had scores of 5 or less, and 4 had scores greater than 5. Our coding indicated that the 19 states' gambling expansion scores, calculated between each wave, ranged from 4-8.

Again, as with the peer review literature, findings were mixed and the majority of state report sets found no significant changes in gambling problems after expansion. There was some preliminary evidence that the extent of expansion related positively to gambling problem rates, but the set of studies was too small to draw any strong conclusions. As with the peer review literature, the most cautious approach to this issue would be to collect additional original high quality prospective longitudinal data, to add to and clarify the existing body of literature.

There a few plausible explanations for the lack of consistent findings across studies. One is that studies that are actually able to detect impact, are exceedingly rare in the gambling field. To assess impact, a study needs to be prospective, include multiple waves, and a large enough sample to identify a very low base rate disorder. This simply has not yet been accomplished.

Another explanation, however, is that exposure effects are not linear. Researchers have made use of a toxin analogy to hypothesize about the effects that social events, like gambling might have on the population. This has roots to McGuire's social inoculation theories, in which

he argued that certain social events are the social equivalents of exposure to germs. Exposure to those events can result in something like an "infection". If we conceptualize certain social events and technologies (e.g., gambling, advertising, internet) as the social equivalent of exposure to germs or infection, then we can treat gambling problems as an "infection."

Exposure can lead to "infection", but typical infection curves suggest that the process is not linear. Here is an illustration adapted from a paper on emerging infectious diseases. In this case, "Infection" leads to a shift in experience, behavior, and health. Exposure leads to a rapid increase of infection. The infection targets the most vulnerable. More exposure translates into a greater likelihood of "infection" for an increasingly larger segment of the population. However, then rates slow and people who are not yet infected are more resistant. People recover, and incidence rates decline.

This can be applied to gambling expansion. Following initial increases in adverse reactions to new environmental events, individuals in a population become resistant to those events. Potential sources of adaptation in this case include:

- Social learning

- Waning novelty effects

- Increases in harmful consequences

- Interventions

- New interests

So what is the evidence? Studies in Nevada have found two trends that fit the adaptation curve. First of all, newcomers to Nevada evidence higher rates of problems than those who have lived there for more than 10 years. Second, younger an newer employees at casinos, where

gambling problems are elevated, evidence higher rates of problems than older and longer term employees.

In more recent work, if we look at Bob Ladouceur's longitudinal study of casino expansion in a community in Quebec, he found that gambling problems increased from pre-test to one year follow-up, during which time the casino opened, but then decreased across the next three follow-ups.

Similarly, we found that in Missouri, rates of self exclusion, a reasonable indicator of gambling problems, increased initially when more casinos were introduced, but then leveled off.

Another explanation for the lack of consistent exposure findings has to do with what we're measuring. Often studies in the field use multi-wave cross sectional designs to identify changes in gambling problems. And often they find something like this. The prevalence rate from time 1 to time 2 to time 3 remains relatively stable, despite changes in the gambling landscape. However, it is important to note that this relatively stable seeming pattern could mask major changes at the individual levels. New cases could emerge and replace old cases that fall into remission. The fact is, gambling disorder is not a stable phenomenon. Studies show that individuals recover and worsen across time in dynamic fluctuating patterns. The only way to detect these kinds of changes is at the individual level through longitudinal cohort study.

Before I move onto responsible gambling programs, I want to highlight a few take-home points from this research. What we are finding in terms of gambling impact, is that the effects of exposure and expansion are not straightforward and linear. Exposure can increase rates of gambling problems, but adaptation also plays a role. In particular, expansion will likely have its greatest effect on those who are already vulnerable to the development of gambling problems and possibly those who are already highly involved in other forms of gambling.

Around the world, gaming is continuing to expand. One important way that key stakeholders have responded to this expansion is to require gaming operators to implement responsible gambling programs. And, these programs have been proliferating around the world.

I'm going to talk briefly now about applying a public health approach to responsible gaming efforts, and applying an empirically-driven scientific approach to evaluating those efforts. I will focus particularly on casino self-exclusion programs.

I'd like to begin with a few examples of harm minimization techniques not directly related to gambling. In the 1990s, airbags became a mandatory safety device in most cars. These devices are effective and certainly save lives. But research has also shown that they can cause injury and even kill small children. These findings have led to specific recommendations and new safety standards for airbags. The US has a minimum drinking age of 21 to protect youth from the harms of alcohol. Evidence suggests that this has steeply reduced drinking and driving fatalities among young adults. But there is some speculation that the limit might contribute to binge drinking and irresponsible behavior among young adults once they start drinking. (NIAAA). Finally, the campaign to reduce skin cancer has been hugely successful. The vast majority of the population is now aware of the risks of sun exposure and many apply sunscreen religiously, particularly to their children. However, it can be argued that an unanticipated side effect of that campaign has been an increasing incidence of Vitamin D deficiencies among recent generations due in part to lack of sun exposure.

In all of these cases, regulations, interventions, and safety devices, which in most cases are very effective harm minimization techniques, also have unanticipated consequences. Only through empirical research can we learn about the efficacy and side-effects of these techniques and improve them.

Researchers who study the impact of gambling on health and well-being often focus on individual risk for addiction. But decisions about gambling expansion and regulation are based on debates and assumptions about costs and benefits to whole communities and impacts on vulnerable groups.

A public health approach to research examines the distribution and determinants of phenomena across populations. A public health approach to prevention and intervention uses that research to inform decisions about who to target and how.

We use this public health approach as a framework in our work with casinos to develop responsible gaming programs. The primary objective of a responsible gaming framework is to prevent and reduce harm associated with gambling in general, and excessive gambling in particular, while respecting the rights of individuals who safely engage in recreational gambling.

In 2004, Dr. Alex Blaszczynski, Bob Ladouceur, and Howard Shaffer, published the Reno Model, a science-based framework for responsible gambling programs. This highly influential paper laid out five principles that ought to be included in any responsible gambling program:

1) Commit to preventing and reducing gambling-related harms

2) Work collaboratively with fellow key stakeholders

3) Identify common short and long-term priorities

4) Use scientific evidence to guide policy

5) Monitor the impact of installed policies

A guiding principal of medical ethics is to do no harm. Most people think of this principal in terms of somatic medicine. For example, doctors often only offer untested treatments to people who are in extremely poor health and out of conventional treatment options. In behavioral health, however, many treatment systems offer to patients well-intentioned, but untested treatment plans.

Unfortunately, untested treatments, for both somatic and behavioral health care can pose significant individual and public health concerns.

Once a public health approach is adopted, a scientific approach is necessary to ensure that policies, interventions, or treatments are accomplishing what they seek to accomplish. Specific to gambling, interventions, whatever their intentions, can:

1) Decrease gambling related problems

2) Increase gambling related problems

3) Have no effect on gambling related problems

4) Influence gambling related problems indirectly through other factors

5) Have unanticipated consequences

Currently, how policymakers understand gambling and disordered gambling determines the policies they develop. And often this understanding rests upon public and private opinions, media sensationalism, and perceived threats to public welfare. Insufficient resources and infrastructure often prevent follow-up examination of the impact of policies and interventions; consequently, the efficacy of these policies and interventions remains unknown. Gambling policies would benefit if the policymaking process were science-based. We need science to tell us whether policies and interventions do what we think they do. Good intentions do not ensure good outcomes.

In reality, treatment has the possibility of having no effect, wasting time and resources, changing individuals' knowledge about a problem, but not their actual behavior, have a beneficial effect, reducing or eliminating whatever the problem is, have a harmful effect, aggravating a problem or have other unintended consequences. Two examples of this are popular reports that certain dopamine-related treatments for Parkinson's Disease can elevate individuals' risk for developing gambling-related problems and surgical obesity treatments elevating individuals' risk for developing a range of addiction-related problems. Solving one problem might actually facilitate the emergence of another.

Specific to gambling interventions, here are a couple of possibilities of intended and unintended consequences of harm minimization strategies. Some of these are adapted from a paper by Bernhard and Preston.

Maximum bet limit on slot machine play. (In other words, only allowing patrons to wager a certain amount per turn.)

-Anticipated consequence: less expenditure per turn, less money lost

-Potential unanticipated consequence: longer play to make up for smaller limits

Slowing Reel Speed on slot machines

-Anticipated consequence: play is slowed making gambling less problematic

-Potential unanticipated consequence: playing multiple machines to make up for slow speed

Requiring an entry fee to patronize a casino (a practice currently employed in Singapore)

-Anticipated consequence: Deter frequent visits to the casino by residents

-Potential unanticipated consequence: Deter healthy gamblers; those with gambling problems still gamble and end up spending more

Requiring casino patrons who self-exclude to undergo a screening for gambling problems

-Anticipated consequence: Facilitate entry into treatment for those who need help

-Potential unanticipated consequence: Deter people with gambling problems from using the self-exclusion program.

None of these examples is meant to imply that these are bad policies; only that we might not fully understand their effects.

Of the studies that have been done evaluating gambling interventions and policies, most are cross sectional (taking information at one point in time) and based on gamblers' opinions about how harm minimization techniques affect them. Ideally, research on gambling policy and interventions needs to be prospective. We want to follow a sample before and after a technique's implementation. Otherwise we can't tease apart cause and effect. Ideally, programs like employee training programs would have integrated into them some type of ongoing evaluation system that explores whether the programs are effective.

The figure here shows the steps needed to evaluate and improve responsible gambling programs. The first step is to develop and then implement the program. The next is to develop an outcome monitoring system. The next steps are to assess the penetration and impact of the program among BOTH patrons and employees, analyze them outcomes, and then recommend and implement changes according to the research findings. This is not a point-in-time evaluation but a continuous monitoring of the program and its effects.

Compared to policy, research often proceeds at a snail's pace. However, it is crucial to set up this type of monitoring prior to implementing a program so that the research can follow at whatever pace it takes.

I want to change gears here to share with you some information from our research on casino self-exclusion programs, one of the key components of a responsible gambling program devoted to assisting those with gambling problems.

The Crystal Casino in Manitoba was the first, in 1989, to adopt a formal self exclusion program. Casinos across Canada soon followed suit. British Columbia, Alberta, Saskatchewan, Ontario, and Nova Scotia all have province-wide programs. In the US, Missouri, Louisiana, Michigan, Mississippi, and New Jersey state governments run these programs. In the world, state-wide programs exist in Australia, the Netherlands, France, Poland, Sweden, Switzerland, and South Africa. Company-run self exclusion programs are available at some multi-national casinos and all American Gaming Association Casinos.

In a self-exclusion program, individuals enter into an agreement with the casino banning them from entering the casino for a specified period.

Some programs are state-, province-, or company-wide; others are restricted to a single casino.

Some programs allow people to ban themselves only for life, others for a few years.

Some casinos enforce the ban with legal actions, others simply escort self-excluders out of the casino.

Some self-exclusion policies include forfeiture of winnings.

At the Division on Addiction, we conducted a study of participants in Missouri's statewide self-exclusion (SE) program who enrolled between 1997 and 2003.This was one of the first studies to assess long term (i.e., 4-10 years) self-exclusion experiences and outcomes.

Missouri's SE program was the first statewide self-exclusion program in the United States. It was created by the Missouri Gaming Commission in 1996. Applicants to the program add themselves to the **List of Dissociated Persons** for life. Each enrollee assumes responsibility for remaining off casino property. If an enrolled person returns to a casino, he or she can be arrested and charged with trespassing.

Our study included two phases. In the first, we examined the distribution of self excluders (SEs) across space and time. I won't review that here. In the second phase of this study, we conducted interviews with SEs 7-10 years after they enrolled in the program. It is important to note that this program involved a lifetime ban at the time. More than 5,000 people enrolled in the program between 1997 and 2003. We randomly targeted 419 of those SEs for interviews. Only 169 of the 419 had accurate contact information available. We completed interviews with 113 of those 169.

45% of participants were male, 81% were Caucasian, and their average age at enrollment was 45 years old.

96% of participants reported gambling in Missouri casinos prior to SE enrollment; after entering the SE program, only 9 participants reported gambling in Missouri casinos.

The proportion of participants who gambled in any non-Missouri location (i.e., non-Missouri casinos, other venues, the Internet) did not change significantly after entering the SE program.

Twenty-eight participants (24.8%) reported quitting all gambling and 20 participants (17.7%) reported quitting casino gambling after entering the SE program. However, 65 participants (57.5%) reported not quitting gambling after they signed up for the SE program.

Among the 28 participants who reported quitting all gambling upon entering the SE program, about half had gambled at some point since SE enrollment.

Among the 98 participants who reported gambling at any point after signing up for the SE program, most reported continuing to gamble only occasionally.

Finally, participants reported fewer gambling problems in the past 6 months than prior to SE enrollment.

Eighteen participants (16%) attempted to enter Missouri casinos after enrolling in the SE program. 1 reported more than 400 attempted entries. The other 17 tried to enter an average of 4.7 times. 9 of the 18 (50%) entered at some point without being caught. 10 of the 18 (56%) were caught at least once.

1 was fined.

1 was arrested.

7 experienced no consequences other than being asked to leave.

1 received a citation and had to take a class.

When we asked respondents about their satisfaction with the program, 68% reported being fully satisfied. Of the 32% who were not satisfied, some provided reasons. The most common reason was the permanence of the ban. Some respondents also reported that the program was not explained adequately to them upon sign-up.

For this slide, just focus on the second, highlighted row. More than 50% of participants reported receiving mental health treatment, and close to 40% indicated receiving gambling-specific treatment. As the figure shows, gambling treatments were the most frequently received treatments among participants. Gamblers Anonymous was the most popular form of gambling

treatment among participants (33.6%). Importantly, this gambling treatment was more likely to occur *after* SE than before it. This suggests that SE might serve as a gateway for treatment entry.

To conclude, self-exclusion programs appear to have promise. Their effectiveness may be due to their providing a straightforward first step for at-risk gamblers to begin to address their problems. The very act of enrolling may be the strongest part of the intervention.More longitudinal and prospective research is needed to determine longterm outcomes. Policies need to also reconsider the length of the self exclusion ban in light of SE satisfaction and empirical evidence. Importantly, self-exclusion was accompanied by other healthy initiatives and treatment seeking.

As a more general note on responsible gambling programs, they are only helpful if people can easily access them. These programs are not treatment, but they are gateways, tools and resources that people at risk for gambling problems can use to increase their awareness and begin to address their problems. The more visible and available they are, the more people they will reach. Responsible Gambling Programs and policies may work best if they are framed as a set of tools available to individuals experiencing problems. It is important to increase the visibility of these programs and remove any barriers to involvement. Within a venue, all employees, not just floor staff ought to be trained in the principles and practices of these programs.

I'd like to thank you again for your time and the opportunity to speak today. I'm happy to answer any questions. For those who won't have the opportunity to ask questions, this final slide lists a number of Division on Addiction resources related to gambling and addiction.