

Expanded Gambling & Addiction

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I'm going to organize my time today to answer two primary questions. The first question is, "How can gambling become an addiction?" The second question is, "What is the public health impact of expanded gambling?"

Primary Questions

- How can gambling become an addiction?
- What is the public health impact of expanded gambling?

To answer the **first question**, "How can gambling become an addiction," requires an understanding of the nature of addiction. Historically, people have argued that things like alcohol and other drugs cause addiction, and that people, consequently, suffer from

specific, yet different types of addiction...alcohol addiction being distinct and different from tobacco addiction, or gambling addiction, for example.

How can gambling become an addiction?

Today, researchers and treatment providers mostly hold a different perspective. Rather than many different types of addiction, experts suggest that addiction is a singular process that can be expressed in many different ways.

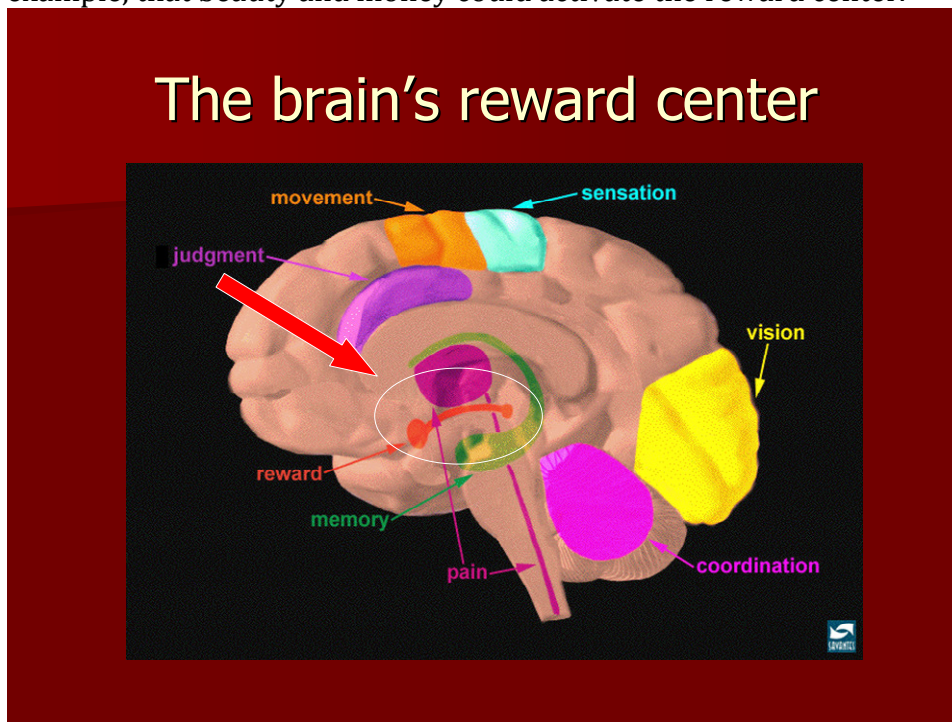
Consistent with this understanding, the American Psychiatric Association is considering a major revision of its Diagnostic and Statistical Manual of Mental Disorders that would provide a universal addiction-related diagnostic process rather than separate object-based diagnostic processes, as is the current procedure. This means that gambling-related disorder would be grouped with other expressions of addiction within a newly created categorization called, Addiction and Related Disorders.

The Addiction Syndrome model that my colleagues from the Harvard Medical School and I developed is the most contemporary model of addiction that is consistent with this idea. The Addiction Syndrome model suggests that people express their addictive disorder depending on people's risks, exposures, and experiences.

But, what is the evidence that addiction is a singular disorder? What has prompted this re-thinking of addiction? Evidence from a variety of scientific disciplines supports the notion that different expressions of addiction have more in common with each other than previously thought. The commonalities across expressions of addiction outweigh the differences and suggest the existence of a syndrome – which, in brief, is a collection of signs and symptoms that reflect an underlying disorder.

From neurobiology, we know that people have an area of the brain that is involved in processing information related to reward. Scientists have referred to this area as the

reward center. Functional Magnetic Resonance Imaging studies show that anticipation of things like drugs can activate our reward center. Interestingly, non-drug experiences also can activate our reward center. One study by researchers from Mass General found, for example, that beauty and money could activate the reward center.



Other evidence in support of the idea that addiction is a syndrome includes:

- (1) patterns of comorbidity with other mental health problems and with other expressions of addiction

People with one expression of addiction are more likely than others to also deal with other expressions of addiction, and with other mental health problems.

- (2) There also are many observations of treatment non-specificity

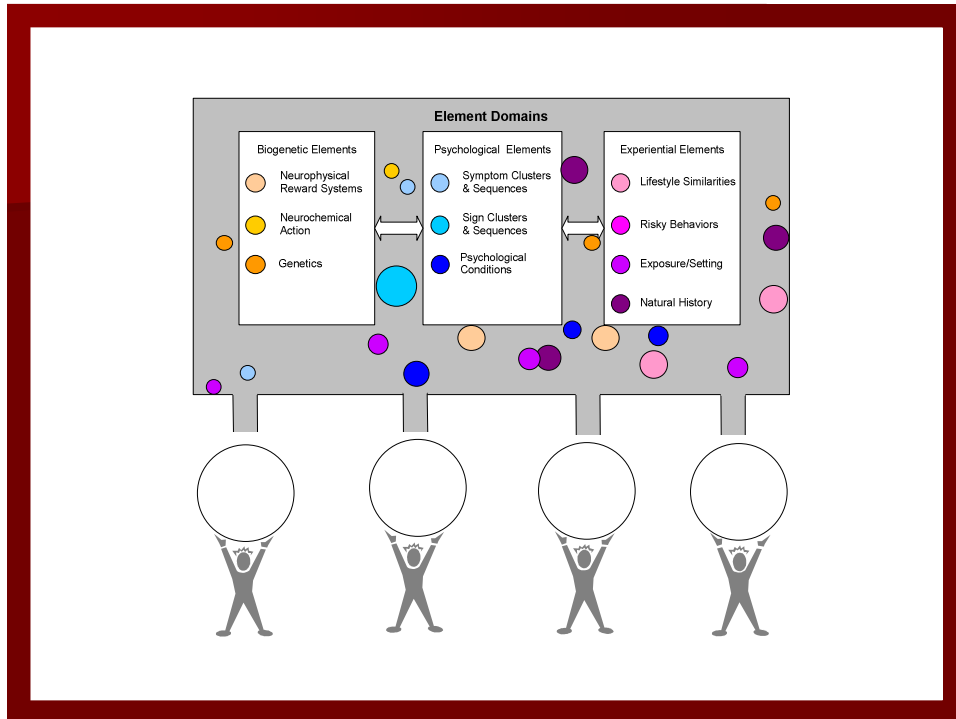
That is, evidence of a single treatment successfully addressing many different expressions of addiction. For example, topiramate for both alcohol and gambling. Or, Cognitive Behavior Therapy for all expressions of addiction.

- (3) And, finally, addiction hopping, or addiction substitution

When people stop engaging in one type of addictive behavior, they are at increased risk for adopting new and different types of addictive behavior. Think of over-eating as a replacement for stopping smoking, or increasing smoking after quitting alcohol.

Taken together, these instances of shared phenomena, as well as others I haven't mentioned, suggest that our early understanding of addiction needed revision. The objects to which an individual become addicted are a part of the picture, but the development and experience of addiction is much more than those objects.

In this series of SLIDES, you see an illustration of the Addiction Syndrome model. Different individuals face the world with different sets of vulnerabilities and resiliencies.

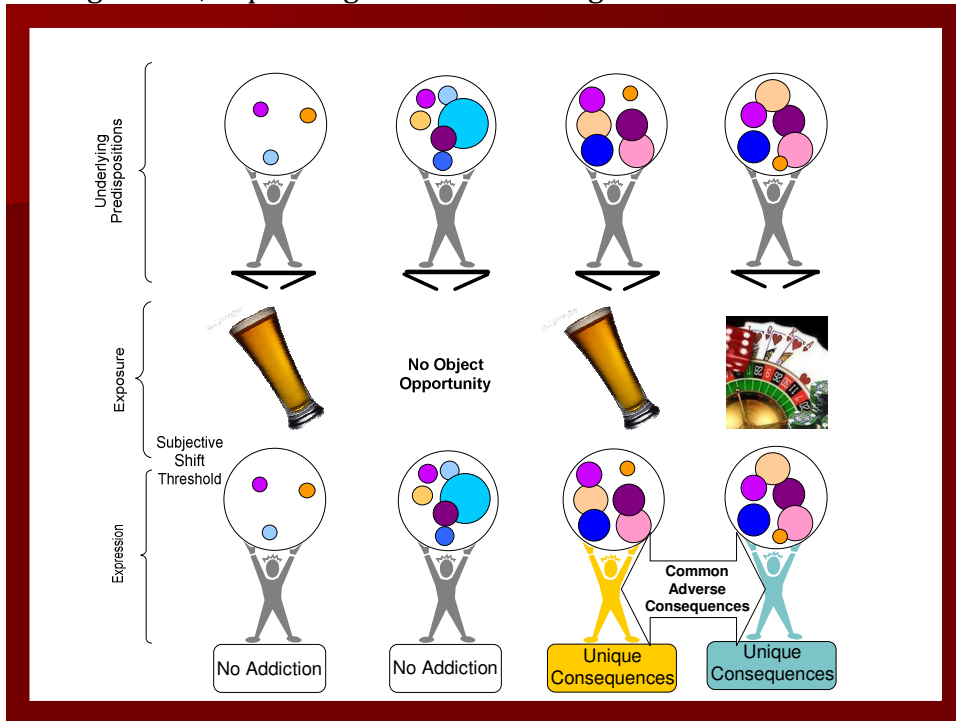


In their life, individuals also are exposed to different potential objects of addiction. Individuals who have little vulnerability are unlikely to develop addictive behavior - as are people who have no exposure. However, individuals who have much vulnerability are at risk for developing addictive behavior.

The type of behavior depends on what people are exposed to – for example, alcohol or gambling – and the response that they have to it. If the object generates a desirable subjective shift in experience, a high, it is a candidate for addiction.

Ultimately, when addiction develops people develop a number of shared experiences, like tolerance and withdrawal, as well as object-specific experiences, perhaps like bankruptcies

or lung cancer, depending on whether one gambles or smokes.



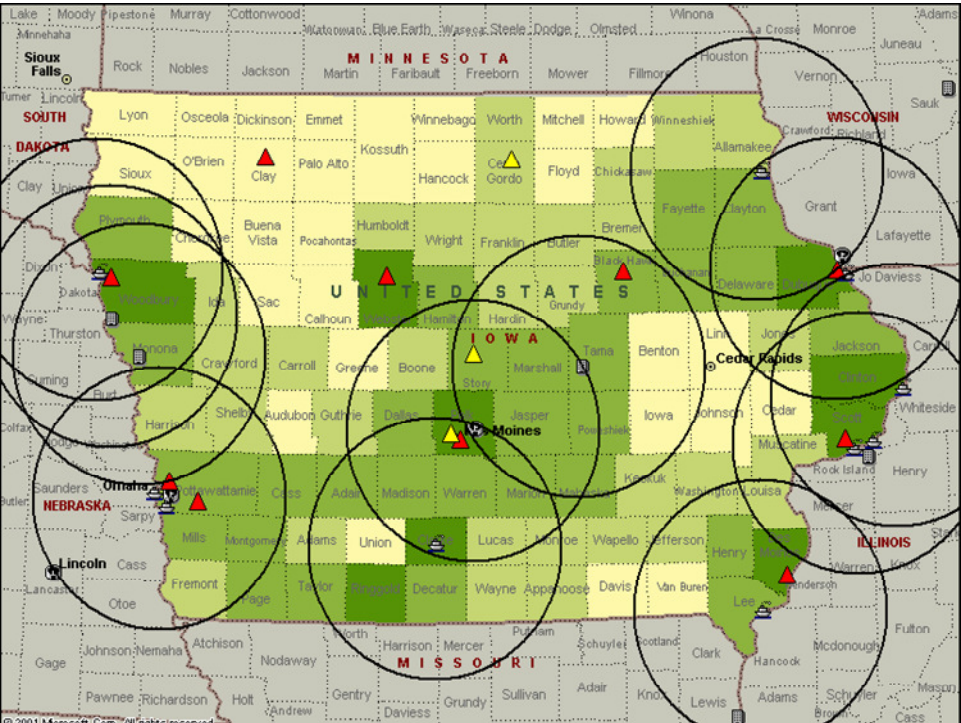
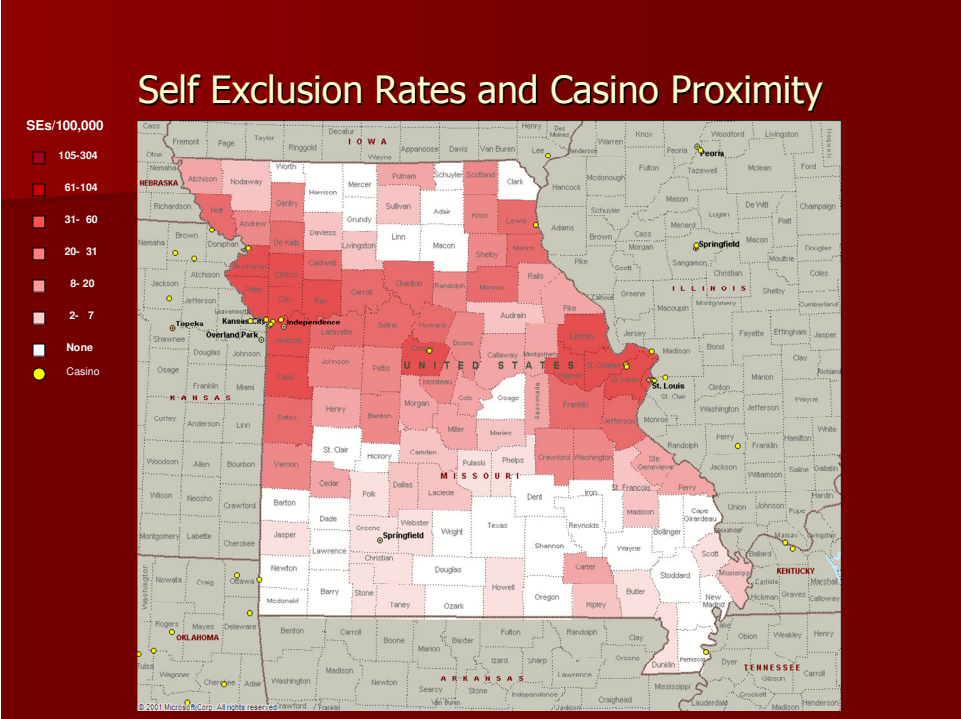
So, any object to which an individual is exposed and with which they interact holds the potential to become an object of addiction, if the person has sufficient risk and the object provides reliable desirable subjective shifts in experience.

This leads to the **second question** that I would like to discuss today, "If exposure is a key component to the development of addiction, then what is the public health impact of expanded gambling?"

What is the public health impact of expanded gambling?

Many studies suggest a relationship between increases in gambling opportunities and increases in gambling and gambling-related problems.

For instance, 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 illustrates an association between the presence of gambling opportunities and self-exclusion rates in Missouri and helpline calls in Iowa.



However, more recent research reveals that these and similar studies only tell part of the story. In fact, exposure effects like these vary depending on a number of different things.

Exposure effects depend on location. Adding a casino in Las Vegas will impact the community differently than adding a casino where gambling opportunities are limited.

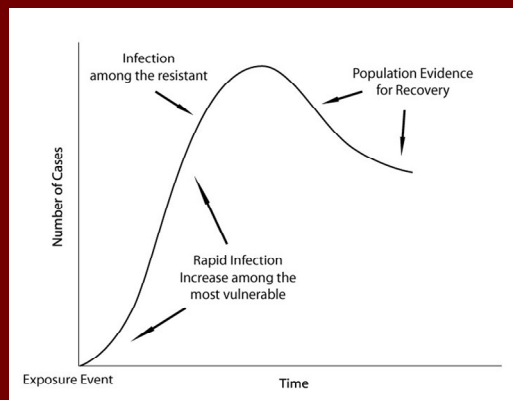
Exposure effects depend on populations. Some communities are more vulnerable than others, and therefore the presence of a casino is likely to affect those communities differently than more resilient communities.

Exposure effects depend on timing. During the rest of my time today, I will show how the short-term effects of the presence of gambling opportunities are different from the long-term effects.

What you see in this slide is a prototypical exposure and adaptation curve drawn from public health. Typically used to illustrate population-level effects of biological and environmental toxins, like viruses or lead paint, the Division has found that this curve also can be applied to potential social toxins, like gambling.

Typical Course of Infection

- Exposure leads to a rapid increase of infection
 - Viruses target the most vulnerable
- Rates slow
 - People who are not yet infected are more resistant
- Decline evident
 - People recover, incidence rate declines

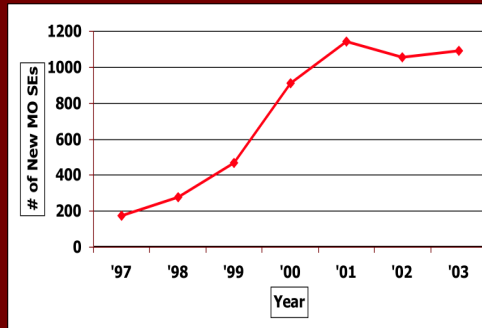
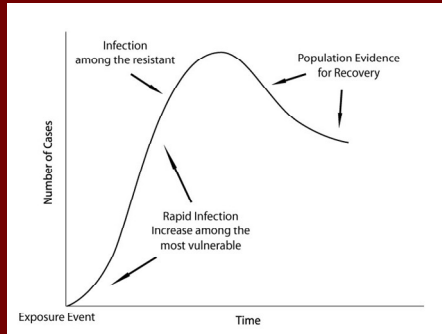


In brief, this curve suggests that the immediate consequences of new exposures result in increases in problems, like disease. However, in most cases those initial increases reach a peak, indicating that the most vulnerable already have succumbed and the rest of the population is more resilient. After this peak, people and society adapt, and the original problem tends to return to earlier levels.

Although most studies concerning gambling exposure are not longitudinal, a few studies can provide insight into how exposure impacts populations over time. For instance, an examination of self-exclusion patterns over time suggests that Missouri's enrollment rates have changed from the early period of the program to the later in a way that is consistent

with public health exposure and adaptation modeling.

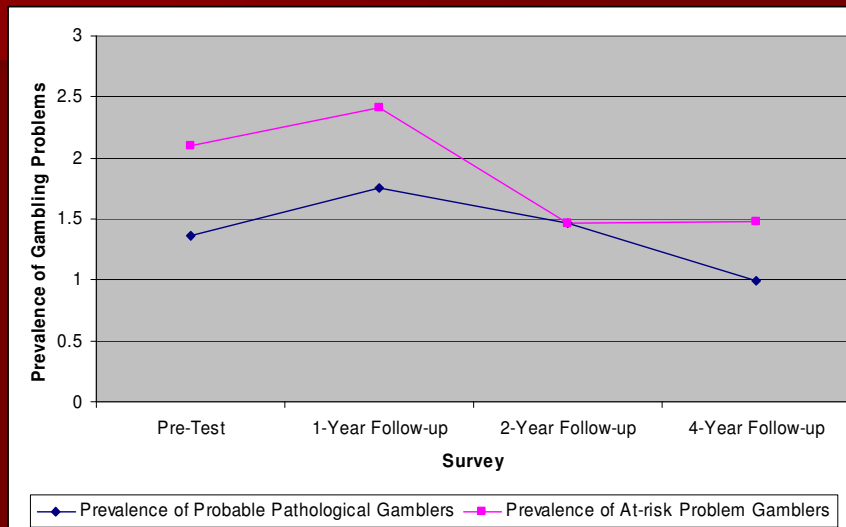
Enrollments by Time



LaBrie et al. (2007)

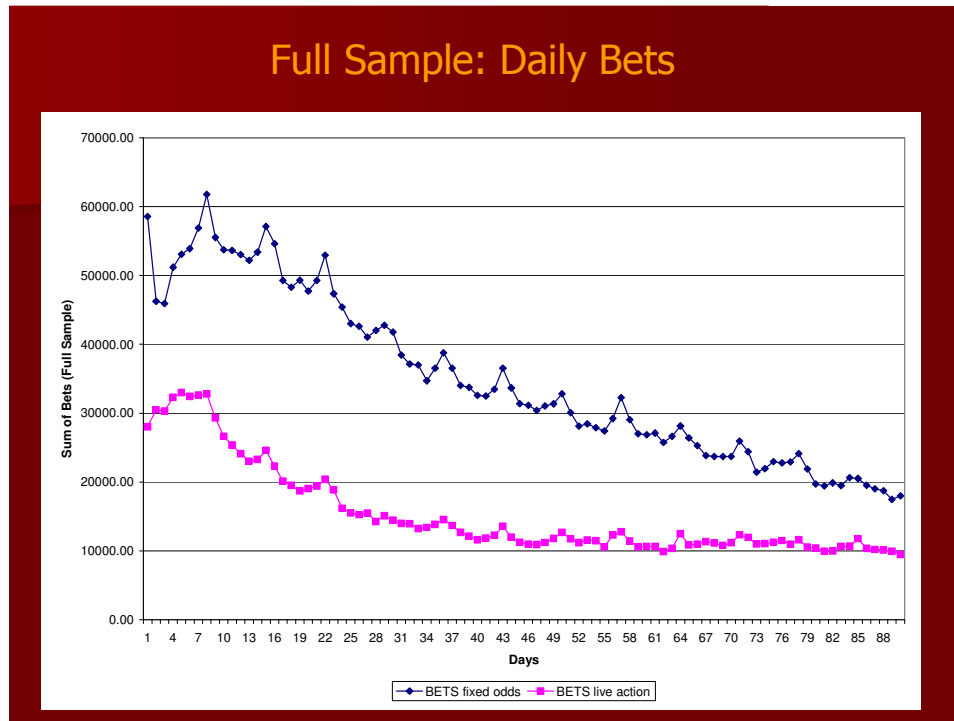
Similarly, one longitudinal study conducted in Canada showed that gambling-related problems did not escalate linearly following the addition of a new casino in the region. Rather, rates of problems increased in the short run, but later returned to pre-casino levels.

Rates of Disorder by Time



Jacques & Ladouceur (2006)

Finally, in some of our own work involving Internet gambling, we observed among more than 40,000 people that new subscribers to an Internet gambling service also followed a similar pattern. Initial increases in activity, following new exposure, and later evidences of adaptation.



Taken altogether, these findings and others that I have not had time to mention, suggest that exposure effects are not as straightforward as many people assume. Instead, exposure effects vary depending on many different characteristics. Most specifically, exposure effects seem to be of limited duration.

This pattern suggests that different processes will be needed over time to deal with gambling-related problems. For example, it might be that in the short term – more widespread intensive intervention and prevention is necessary. But, in the longer term – people who have problems will be more difficult to find and their problems might be more entrenched, so intervention and prevention efforts might need to be more targeted and precise.

The exact approach that Massachusetts will need to take is not yet clear, and effective contemporary research methods that allow for ongoing and efficient monitoring of gambling and gambling-related problems should guide the process.

Later today, my colleague, Dr. Sarah Nelson is going to talk about the importance of empirical evaluation and evidence-based intervention. For now, I'd like to thank you again for your time and the opportunity to speak today. I'm happy to answer any questions at the end, as I'm sure are the other panelists. For those who won't have the opportunity to ask questions, this final **slide** lists a number of Division on Addiction resources related to addiction.

Resources

■ Information

- divisiononaddictions.org
- basisonline.org
- thetransparencyproject.org
- expressionsofaddiction.com

■ Self-help

- http://www.basisonline.org/selfhelp_tools.html

■ Brief Assessment & Intervention

- https://divisiononaddictions.org/bbqs_new/

■ info@divisiononaddictions.org