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Examining Gambling Issues From a Public Health Perspective

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Abstract

Public health has a tradition of addressing emerging and complex health matters that affect the whole population as well as specific groups. AIDS, environmental tobacco smoke and violence are examples of contemporary health concerns that have benefited from public health analysis and involvement. This article encourages the adoption of a public health perspective on gambling issues.

Gambling has been studied from a number of perspectives, including economic, moral, addiction and mental health. The value of a public health viewpoint is that it

examines the broad impact of gambling rather than focusing solely on problem and pathological gambling behavior in individuals. It takes into consideration the wider health, social and economic costs and benefits; it gives priority to the needs of vulnerable and disadvantaged people; and it emphasizes prevention and harm reduction.

This paper looks at the public health foundations of epidemiology, disease control and healthy public policy, and applies them to gambling. Major public health issues are analyzed within a North American context, including problem gambling trends amongst the general adult population and youth, and their impact on other specific populations. There is significant opportunity for public health to contribute its skills, methodologies and experience to the range of gambling issues. By understanding gambling and its potential impacts on the public's health, policy makers, health practitioners and community leaders can minimize gambling's negative impacts and optimize its benefits.

Introduction

Public health initiatives achieved remarkable successes in the last century, reducing morbidity and mortality from childhood infectious diseases such as diphtheria and measles; identifying modifiable risks associated with heart disease and cancer; and promoting healthy lifestyles and environments. At the beginning of this new millennium, public health has the opportunity to contribute understanding and solutions to a range of complex health and social issues that affect the quality of life of individuals, families and communities. The unprecedented expansion of legalized gambling is one such challenge that can benefit from a public health perspective.

In North America during the early part of the 20th century, most types of gambling were considered criminal, and legal gambling was highly restricted. Recently, an unprecedented expansion of legalized gambling has occurred within a new, expanded public policy framework. The primary driving force behind the explosion of gambling in North America is the economic necessity of states, provinces and local governments. Organizations in the United States promote the leisure and recreational aspects of gambling, whereas in Canada, the social benefits to charities, non-profit and community service agencies are emphasized ([Campbell & Smith, 1998](#)).

Historically, gambling has been understood from moral, mathematical, economic, social, psychological, cultural, and more recently, biological perspectives. Within the health care field, interest has come primarily from mental health and addiction professionals. Until recently gambling was not viewed as a public health matter.

(Wynne, 1996; [Productivity Commission, 1999](#); [Korn, 2000](#)). The value of a public health perspective is that it applies different lenses for understanding gambling behaviour, analysing its benefits and costs as well as identifying multilevel strategies for action and points of intervention. **note 1** Policy makers, researchers and practitioners in the gambling field can incorporate a public health framework to minimise harmful consequences, enhance quality of life and protect vulnerable people.

Why Use a Public Health Perspective?

A public health approach incorporates various elements that make it an attractive frame for addressing gambling issues. It offers a broad viewpoint on gambling in society —; not focusing solely on individual problem and pathological gambling. It conceptualizes a range of gambling behaviours and problems at points along a health-related continuum, which is similar to the approach taken in alcohol studies.

Public health goes beyond biomedical and narrow clinical models to address all levels of **prevention** **note 2** as well as treatment and recovery issues. It offers an integrated approach that emphasizes multiple strategies for action and points of intervention within the health system and community. A public health approach emphasizes **harm reduction** **note 3** strategies to address gambling-related problems and decrease the adverse consequences of gambling behaviour. It addresses not only the risk of problems for the gambler but also the **quality of life** **note 4** of families and communities affected by gambling.

Public health action reflects values of social justice and equity, and attention to vulnerable and disadvantaged people. Public health professionals often play an advocacy role or act as a bridge between local citizens and policy makers on particular issues such as environmental tobacco smoke. One example where they play a similar role is the issue of government gambling policy acting like a regressive tax on lower income socio-economic groups.

Public health agencies exist at municipal, regional, provincial or state and federal levels. They are well suited to developing surveillance systems to track trends in problem and pathological gambling as well as the indicators to monitor social and economic impacts of gambling on communities and population groups. A public health position recognizes both costs and benefits associated with gambling. By appreciating the health, social and economic dimensions of gambling, public health professionals can foster strategies that minimize the negative effects of gambling while recognizing its potential benefits.

Public Health Foundations for Gambling

1. Gambling and Health

Public Health embraces the World Health Organization (WHO) characterization of health as the extent to which an individual or group is able, on the one hand, to realize aspirations and satisfy needs and, on the other hand, to change and cope with their environment ([World Health Organization, 1984](#)). Health is viewed as a dynamic process and as a resource for living rather than an end in itself. It is a positive concept emphasizing social and personal resources as well as physical capacities. Building on this broad definition, gambling can be conceptualized as either *healthy* or *unhealthy*.

Healthy gambling entails informed choice, including an awareness of the probability of winning, a low-risk pleasurable experience (i.e. legal, safe, regulated) and wagering sensible amounts. Healthy gambling sustains or enhances a gambler's state of well-being. Conversely, unhealthy gambling refers to various levels of gambling problems. This terminology complements the notions of healthy people, families and communities.

2. Gambling and Public Policy

During roughly the same period that gambling was beginning to be seen as health issue in the 1980s and 1990s, there was a growing interest in *healthy public policy*. This expression was embedded in the WHO Ottawa Charter for Health Promotion in 1986, followed by the Adelaide Statement on Healthy Public Policy in 1988 ([World Health Organization, 1986](#); [World Health Organization, 1988](#)). Healthy public policy refers to the WHO's thrust that policy initiatives *in every sector* should promote health-sustaining conditions.

In Canada, gambling is regulated under federal law, the Criminal Code of Canada, adopted in 1892. Only governments can “manage and conduct” gaming ventures or authorize charitable gaming under license. Private sector ownership is prohibited. Over the years, periodic amendments to the sections on gambling have permitted its growth, but only since the 1970s have lotteries and casinos been operating legally. In 1985, computer, video and slot devices were legalized and the provinces were given exclusive control of gambling. Stakeholder and social policy groups have raised concerns about the role of government policy in encouraging gambling, while at the same time, protecting the public interest.

3. Gambling and Public Health Research

Public health is the study of the distribution and determinants of health, disease and mortality in a defined population and the of related public policy measures to prevent, eliminate or control its occurrence and spread. Epidemiology is its central empirical research tool. Prevalence estimates of gambling-related problems in the general adult population have been carried out in numerous North America jurisdictions. Fewer epidemiological reports have described the impact of gambling

on vulnerable and specific populations such as youth, women, older adults and Aboriginal people. To date, no Canadian national prevalence study of problem and pathological gambling has been commissioned. There remains a need for research on the incidence of pathological gambling and longitudinal studies on its natural history in gamblers.

A review of existing prevalence studies by the Harvard Medical School Division on Addictions revealed that 152 gambling prevalence studies have been conducted in North America as of 1997, including 35 in Canada ([Shaffer, Hall et al., 1999](#)). The estimated lifetime prevalence in the general adult population for problem and pathological gambling combined (levels 2 and 3 in Harvard study nomenclature) was reported at 5.5%. There were no significant differences in prevalence rates between the United States and Canada. Male sex, youth and concurrent substance abuse or mental illness placed people at greater risk of a gambling-related problem. Studies carried out by the United States National Research Council and the National Opinion Research Center at the University of Chicago as part of the National Gambling Impact Study Commission generally support these prevalence estimates ([National Gambling Impact Study Commission, 1999](#); [National Research Council, 1999](#)).

4. Gambling, Public Health Theory and Practice

The communicable disease control paradigm of public health is instructive to the gambling phenomenon. It describes the causal factors and interactions of host, agent and environment that contribute to a particular infectious disease, such as AIDS, and the strategies necessary to control its spread (see [Figure 1](#)). This model resembles the addictions paradigm of drug, set and setting that illustrates the interactions amongst these components which lead to a particular drug use experience and a range of possible outcomes ([Zinberg, 1984](#)).

As applied to gambling (see [Figure 2](#)), the model can describe the multiple determinants of gambling problems and their complex interrelationships ([Korn & Shaffer, 1999](#)). The host is the individual who chooses to gamble, and who may be at risk for developing problems depending on their neurobiology, genetics, mental health and behaviour patterns. The agent represents the specific gambling activities in which players engage (e.g., lotteries, slot machines, casino table games, bingo, horse race betting). The vector can be thought of as money, credit or something else of value. The environment is not only the gambling venue but also the family, socio-economic, cultural and political context within which gambling occurs (e.g., whether it is legal, its availability and whether it is socially sanctioned or promoted). This public health paradigm invites a broad range of prevention and treatment interventions directed at various elements in the model.

Major Public Health Issues

A public health issue goes beyond consideration of the individual and their personal health to matters that affect groups of people who share common characteristics, geography or interests. The recent, dramatic growth of legalized gambling and its widespread acceptance raises concerns about its impact on the public's health and well-being. There are a range of public health issues related to populations at risk for gambling problems, suffering from gambling disorders or affected by the gambling practices of others. In addition, public policy decisions on gambling have implications for communities.

1. Gambling Expansion and Problem Gambling Trends in the Adult Population

In the last decade before the millennium, an unprecedented expansion of government-sanctioned gambling occurred throughout North America. The dominant concern is the emergence of gambling addiction, which may be stimulated by increased availability and promotion of casinos, lotteries and VLTs. Currently, the estimated lifetime prevalence rates for problem and pathological gambling combined in the general adult population in both the United States and Canada is low; however, the Harvard meta-analysis of available studies shows that over the past 25 years there has been a rising trend.

The relationship between access to gambling and gambling problems is widely debated. A significant number of replication studies associated with the introduction of new gambling opportunities in states such as New York, Iowa, Minnesota and Texas demonstrate an increase in problem and pathological gambling ([Volberg, 1995](#); [Miller & Westermeyer, 1996](#); [Volberg, 1996](#); [Wallisch, 1996](#)). Research done in the United States shows a higher prevalence rate in states with higher per-capita lottery sales and in areas within 50 miles (80 km) of casinos ([Volberg, 1994](#); [Gerstein, Murphy et al., 1999](#)). These findings support the general conclusion that gambling expansion is associated with related to increases in problem and pathological gambling.

2. Youth and Underage Gambling

Youth is a development stage associated with experimentation, novelty and sensation seeking. However, the current youth generation is the first to grow up within a society where gambling is widely available and government sanctioned. The implication of this societal change for youth gambling behaviour and risk of developing gambling problems as adults is unclear.

Surveys in Massachusetts, Minnesota, Nova Scotia and elsewhere point to a high prevalence of problem and pathological gambling among youth, estimated to be

two to three times higher than in the general adult population ([Winters, Stinchfield et al., 1993](#); [Shaffer, LaBrie et al., 1994](#); [Poulin, 2000](#)). A meta-analysis showed that the estimated lifetime prevalence for both problem and pathological gambling in the adolescent study population was 13.3% (14.0% for the college population), a proportion that has been relatively steady over the past 25 years ([Shaffer, Hall et al., 1997](#)). This high prevalence of gambling and gambling-related problems among youth, including sports betting at colleges and universities, is cause for concern and invites innovative approaches to prevention.

3. The Impacts of Gambling on Special Populations

A number of special populations have been identified for focused attention because of their financial vulnerability, health status or distinct needs. This review of special populations examines people from lower income socio-economic groups, women, Aboriginal people and older adults, but it is not inclusive. Other groups that deserve consideration include ethnocultural minorities, incarcerated populations, substance abuse and mental health treatment groups and gambling industry employees. In general, gambling research within special populations is in an early phase, and these groups deserve further systematic study before conclusive statements can be made.

a. Socio-Economic Status

There has been considerable interest in the relation between gambling and socio-economic status. Recent Statistics Canada reports indicate that although gambling participation rates and actual expenditures tend to increase with household income, lower income households spend proportionately more than do higher income households ([Marshall, 1998](#); [Marshall, 2000](#)). For example, in households in which at least one person was involved in gambling, those with incomes of less than \$20,000 spent an annual average of \$296 on gambling pursuits. This sum represented 2.2% of total household income, whereas those with an income of \$80,000 or more spent \$536, only 0.5% of total income. Given the share of gambling revenue in Canada and elsewhere that goes to government, these data suggest that gambling expenditures may be regarded as a voluntary but regressive tax that has a proportionately greater impact on lower income groups.

2. Women

Women appear to have distinct gambling behaviours; and they are gambling more now than in previous years. In the United States, the percentage of women who have ever gambled rose between 1975 and 1998 from 22% to 82%. In the same period, the percentage for males increased from 13% to 86% ([Gerstein, Murphy et al., 1999](#)). Female gamblers prefer slot machines, VLTs and bingo to action table games and horse racing. Compared to males, females gamble more to escape,

reduce boredom or relieve loneliness than for excitement, pleasure or financial gain ([Coman, Burrows et al., 1997](#)).

3. Aboriginal People

Aboriginal Peoples deserve attention because of the evolution of gaming policy and its potentially positive economic impact on Aboriginal communities through revenue generation and employment. At the same time, Aboriginal Peoples may be particularly vulnerable to the negative impacts of gambling for a variety of complex health and social reasons.

4. Older Adults

There has been considerable interest but little empirical research into the gambling behaviour of seniors who are a sizable and growing proportion of the adult population ([North American Training Institute, 1997](#); [Gerstein, Murphy et al., 1999](#); [McNeilly & Burke, 2000](#)). Seniors appear to be disproportionately represented at bingo halls, charitable gaming activities and day excursions to casinos. Although seniors are generally considered low risk-takers, there are concerns about their vulnerability to gambling problems springing from fixed incomes, social isolation and declining health. However, seniors may also receive health benefits from gambling activity and its impact on social connectedness. Research that examines the impact of gambling on depression, physical mobility and quality of life would enhance our understanding of the risks and benefits of gambling for seniors.

4. Effects of Gambling on Family Life

Gambling-related family problems deserve to be positioned centrally as important public health issues. A healthy family is integral to developing and sustaining individual self-worth, meaningful interpersonal relationships, mutual respect and personal resiliency. Robert Glossop of The Vanier Institute of the Family recently noted, “Families are perhaps the central determinant of health, the central influence in the lives of individuals that determine their health status and their chances of survival” ([Avard, 1999](#)). When family members are problem or pathological gamblers, they can adversely affect their relatives and significant others. To date, researchers in the gambling field have described a range of negative health and social consequences for family members associated with adult disordered gamblers. These effects have been identified in spouses ([Lorenz & Yaffee, 1988](#)), siblings ([Lorenz, 1987](#)), children ([Jacobs, Marston et al., 1989](#)) and parents ([Heineman, 1989](#); [Moody, 1989](#)). Family issues include dysfunctional relationships, loss of family income, neglect, violence and abuse. Both the general public and health professionals need to be better informed of these potential consequences and elaborate a full range of family support interventions.

5. Gambling Sites and Community Quality of Life

When jurisdictions face the opportunity to establish a gambling facility or expand gambling activities, there is often extensive, heated community debate regarding the social costs and economic benefits. Ideally, a community gambling assessment is shaped by consideration of local community needs, community values, strategic plans and research findings on community impact. Active participation of its citizens, involvement of key stakeholder groups and transparent decision-making are characteristics of a successful community process.

The outcome of this process should preserve or enhance the quality of community life; sustain or improve the overall health status of its members; and demonstrate local economic vitality as a result of either the presence or absence of gambling. Ongoing monitoring and impact analysis is necessary to evaluate the decision over time and to make appropriate adjustments.

6. Emerging Gambling Trends with Public Health Implications

The Internet provides a new and virtual environment for gambling. It has experienced explosive growth in the numbers of gambling Web sites, players and revenues ([Adiga, 2000](#)). It is unregulated in North America; operating offshore, it offers sports betting and casino-style gambling opportunities to individuals possessing a computer modem and a credit card. It attracts gamblers because it provides access to gambling activities at anytime in the privacy of their home or office. Underage gambling is difficult to monitor.

Technology has become a significant dimension of gambling in general. Concerns have been expressed about the wide availability and addictive potential of VLTs. On the positive side, computer- and Web-based technologies can incorporate personal risk assessment tools for gambling problems, and innovative prevention programs and monitoring instruments. One type of gambling that has received little attention to date is gambling that occurs in the financial world. Economic well-being is a significant determinant of population health. Thus, high risk or impulsive financial speculation, such as day trading, can have profound impacts on health status and social institutions.

Creating a Public Health Framework for Action

What is done to resolve a particular societal matter depends on how it is framed. Approaching gambling from a public health perspective offers a strategic vantage point to address its broad health challenges and inform related public policy.

Three primary principles guide and inform decision-making. The first is to ensure that preventing gambling-related problems is a community priority, along with the appropriate allocation of resources to primary, secondary and tertiary prevention initiatives. The second is to incorporate a mental health promotion approach to

gambling; one that builds community capacity, incorporates a holistic view of mental health (including its emotional and spiritual dimensions) and addresses the needs and aspirations of gamblers, individuals at risk of gambling problems and those affected by them. The third principle is to foster personal and social responsibility for gambling policies and practices.

These principles in turn inform a set of public health goals:

- to *prevent* gambling-related problems in individuals and groups at risk of gambling addiction
- to *promote* informed and balanced attitudes, behaviours and policies towards gambling and gamblers both by individuals and by communities
- to *protect* vulnerable groups from gambling-related harm.

An action agenda based on these public health goals and principles has been proposed. **note 5**

In conclusion, this public health perspective on gambling issues offers policy makers, researchers, health practitioners and community leaders a focus for public accountability and the opportunity to minimize gambling's negative impacts while balancing its potential benefits.

References

- Adiga, A.. (2000). Online gambling poses societal challenges. *Third Harvard International Conference on the Internet and Society*, 2, 9.
- Avard, D.. (1999). What does it take to be healthy? *Families Health*, 1, 1-2.
- Campbell, C.S.. Smith, G.J.. (1998). Canadian gambling: Trends and public policy issues. *Annals of the American Academy of Political and Social Science*, 556, 22-35.
- Coman, G.J.. Burrows, G.D.. Evans, D.J.. (1997). Stress and anxiety as factors in the onset of problem gambling: Implications for treatment. *Stress Medicine*, 13, 235-244.
- Gerstein, D.. Murphy, S.. Toce, M.. Hoffmann, J.. Palmer, A.. Johnson, R.. Lariso, C.. Chuchro, L.. Buie, T.. Engelman, L.. Hill, M.A.. (1999). *Gambling Impact and Behavior Study. Report to the National Gambling Impact Study Commission*. Chicago, IL: University of Chicago, National Opinion Research Center.
- Heineman, M.. (1989). Parents of male compulsive gamblers: Clinical issues/treatment approaches. *Journal of Gambling Behavior*, 5 (4), 321-333.
- Jacobs, D.F.. Marston, A.R.. Singer, R.D.. Widaman, K.. Little, T.. Veizades, J.. (1989). Children of problem gamblers. *Journal of Gambling Behavior*, 5 (4), 261-267.
- Korn, D.A.. (2000). Gambling expansion in Canada: Implications for health and social policy. *Canadian Medical Association Journal*, 163 (1), 61-64.
- Korn, D.A.. Shaffer, H.J.. (1999). Gambling and the health of the public: Adopting a public health perspective. *Journal of Gambling Studies*, 15 (4), 289-365.
- Lorenz, V.. (1987). Family dynamics of pathological gamblers. In Galski, T.. (Ed.) *The Handbook of Pathological Gambling* (pp. 71–88). Springfield, IL: Charles C. Thomas.

- Lorenz, V., Yaffee, R. (1988). Pathological gambling: Psychosomatic, emotional and marital difficulties as reported by the spouse. *Journal of Gambling Behavior*, 4 (1), 13-26.
- Marshall, K. (1998). The gambling industry: Raising the stakes. *Perspectives on Labour and Income*, 10 (4), 7-11.
- Marshall, K. (2000). Update on Gambling. *Perspectives on Labour and Income*, 12 (1), 29-35.
- McNeilly, D. P., Burke, W. J. (2000). Late life gambling: The attitudes and behaviors of older adults. *Journal of Gambling Studies*, 16 (4), 393-415.
- Miller, M.A., Westermeyer, J. (1996). Gambling in Minnesota. *American Journal of Psychiatry*, 153, 845.
- Moody, G. (1989). Parents of young gamblers. *Journal of Gambling Behavior*, 5 (4), 313-320.
- National Gambling Impact Study Commission. (1999). *National Gambling Impact Study Commission Report*. Washington, D.C.: Author.
- National Research Council. (1999). *Pathological Gambling: A Critical Review*. Washington D.C.: National Academy Press.
- Nechi Training Research and Health Promotions Institute. (1994). *Spirit of Bingoland: A Study of Problem Gambling among Alberta Native People*. Edmonton, AB: Nechi Training Research and Health Promotions Institute.
- North American Training Institute. (1997). *Gambling Away the Golden Years*. Duluth, MN: North American Training Institute.
- Poulin, C. (2000). Problem gambling among adolescent students in the Atlantic provinces of Canada. *Journal of Gambling, Studies* 16 (1), 53–78.
- Productivity Commission. (1999). *Australia's Gambling Industries: Final Report*. Canberra, ACT: AusInfo.
- Shaffer, H.J., Hall, M.H., Vander Bilt, J. (1999). Estimating the prevalence of disordered gambling behavior in the United States and Canada: A research synthesis. *American Journal of Public Health*, 89 (9), 1369-1376.
- Shaffer, H.J., Hall, M.H., Vander Bilt, J. (1997). *Estimating the Prevalence of Disordered Gambling Behavior in the United States and Canada: A Meta-analysis*. Boston, MA: Presidents and Fellows of Harvard College.
- Shaffer, H.J., LaBrie, R., Scanlan, K.M., Cummings, T.N. (1994). Pathological gambling among adolescents: Massachusetts Gambling Screen (MAGS). *Journal of Gambling Studies*, 10 (4), 339-362.
- Shookner, M. (1998). *The Quality of Life in Ontario*. Toronto, ON: Ontario Social Development Council and Social Planning Network of Ontario.
- Single, E., Conley, P., Hewitt, D., Mitic, W., Poulin, C., Riley, D., Room, Sawka E., Topp, J. (1996). *Harm Reduction: Concepts and Practice*. Ottawa, ON: Canadian Centre on Substance Abuse.
- Volberg, R.A. (1994). The prevalence and demographics of pathological gamblers: Implications for public health. *American Journal of Public Health*, 84 (2), 237-241.
- Volberg, R.A. (1995). *Gambling and Problem Gambling in Iowa: A Replication Study*. Report to the Iowa Department of Human Services. Roaring Springs, PA: Gemini Research.
- Volberg, R.A. (1996). *Gambling and Problem Gambling in New York: A 10-Year Replication Survey, 1986 to 1996*. Report to the New York Council on Problem Gambling. Roaring Springs, PA: Gemini Research.
- Wallisch, L.S. (1996). *Gambling in Texas: 1995 Surveys of Adult and Adolescent Gambling Behavior*. Austin, TX: Texas Commission on Alcohol and Drug Abuse. Executive summary available at: <http://www.tcada.state.tx.us/research/gambling/1995/>

Winters, K., Stinchfield, R., Fulkerson, J.. (1993). Patterns and characteristics of adolescent gambling. *Journal of Gambling Studies*, 9 (4), 371-386.

World Health Organization. (1984). *Report of the Working Group on the Concepts and Principles of Health Promotion*. Copenhagen: WHO Regional Office for Europe.

World Health Organization. (1986). Ottawa Charter for Health Promotion. First International Conference on Health Promotion, Ottawa, 21 November 1986. Copenhagen: WHO Regional Office for Europe. Available at: <http://www.who.int/hpr/docs/ottawa.html>

World Health Organization. (1988). Healthy Public Policy. The Adelaide Recommendations. Conference statement of the Second International Conference on Health Promotion, Adelaide, South Australia, 5-9 April 1988. Adelaide, SA: WHO. Available at: <http://www.who.int/hpr/docs/adelaide.html>

Wynne, H.J.. (1998). *Gambling as a Public Policy Issue*. Occasional Paper. Edmonton, AB: Wynne Resources.

Zinberg, N.E.. (1984). *Drug, Set and Setting: The Basis for Controlled Intoxicant Use*. New Haven, CT: Yale University Press.

Figures

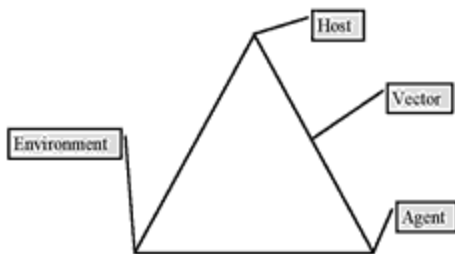


Figure 1: A Public Health Model of Communicable Disease

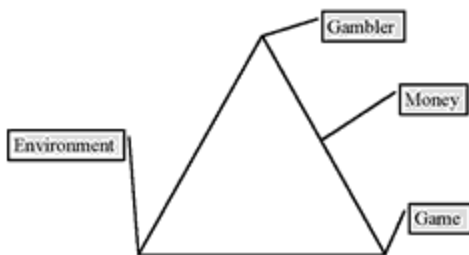


Figure 2: A Public Health Model of Gambling

Article Categories:

- Feature

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