

Piliwaiwai: Problem Gambling in Hawai'i

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Abstract

Gambling is illegal in Hawai'i, but it is accessible through technology (eg, the internet), inexpensive trips to Las Vegas, and illegal gaming such as lottery sales, internet gambling, and sports betting. Where there are opportunities to gamble, there is a probability that problem gambling exists. The social costs of gambling are estimated to be as high as \$26,300,000 for Hawai'i. Because no peer-reviewed research on this topic exists, this paper has gathered together anecdotal accounts and media reports of illegal gambling in Hawai'i, the existence of Gamblers Anonymous meetings operating on some of the islands, and an account of workshops on problem gambling that were provided by the author on three Hawaiian Islands. Through these lenses of gambling in Hawai'i, it is suggested that there are residents in Hawai'i who do experience problem gambling, yet it is unknown to what extent. Nonetheless, this paper argues that research and perhaps a public health initiative are warranted.

Keywords

problem gambling, at risk groups, public health

Introduction

Over the past four and a half decades gambling has proliferated throughout the United States,¹ increasing the prevalence of problem gambling. The current lifetime prevalence of problem gambling in the United States is 2.2%.² Problem gambling is defined as, "Persistent and recurrent problematic gambling behaviour, leading to clinically significant impairment or distress."³

Despite the illegal implications of gambling, gambling exists in Hawai'i and the increase of technology offers more access to gambling.⁴ This paper argues for more research on gambling and problem gambling in the state of Hawai'i, as well as a public health approach to address the current gambling.

Gambling in Hawai'i

According to the Hawai'i Revised Statutes §712-1220, it is illegal for a person to engage "in gambling if he stakes or risks something of value upon the outcome of a contest of chance or a future contingent event not under his control or influence, upon an agreement or understanding that he or someone else will receive something of value in the event of a certain outcome."⁵ This is distinguishable from social gambling, whereby an individual does not benefit financially,⁶ players compete on equal terms, and the activity is not conducted in a public place.

Problem Gambling in Hawai'i

Although there is a lack of empirical research on problem gambling in Hawai'i, the National Council of Problem Gambling estimated the social and financial damage from problem gambling in Hawai'i could be as high as \$26,300,000.⁷ Furthermore, each problem gambler can potentially cost society \$1,200 each year.⁸ In addition to these costs, problem gamblers often suffer from other addictions, mental illness, and medical problems,⁹

which place a high burden on the healthcare system.¹⁰ Although research is warranted, the Hawai'i House economic development committee rejected a resolution asking the state to study the potential social and economic effects of gambling in Hawai'i.¹¹ Consequently, we can only rely on anecdotal accounts to get a glimpse of problem gambling. The next section describes media reports on gambling problems related to arrests in Hawai'i.

Media Reports

Gambling related arrests have been reported in several local newspapers in Hawai'i. Gambling and crime, particularly problem gambling have been known to be linked.¹² Media reports in the local papers contained two types of gambling arrests in which a percentage are linked to problem gambling. The first type involved individuals who engaged in illegal gambling activities, for example, selling lottery tickets to make money from gamblers. The second type focused on problem gamblers who gamble frequently, lost their money, chased their losses, and resorted to illegal activities to fund this chase. Although the chase is about regaining the financial loss, it is also about the continuation of gambling with the hope that they can absolve feeling powerless and other negative effects.¹³ (see Appendix for a succinct summary).

More recently, local newspapers in Hawai'i featured a story on problem gambling around a recent Super Bowl football event in 2015.¹⁴ Correspondence with staff from a Hawai'i hotline confirmed a significant increase in the number of phone calls both before and after the Super Bowl. One informant noted that this increase was a normal occurrence with other related sports events in which bets were placed (personal communication, Gamblers Anonymous [GA] hotline, 2015). The media also reported that some people in Hawai'i were not aware that sports betting is illegal.¹⁵

Some illegal gambling that occurs in Hawai'i is also done in so called "gambling" houses which attract other illegal activities, including drugs and prostitution.¹⁶ The treasurer of the non-profit Friends of Chinatown in Honolulu said, "Where there's gambling, there's also drugs around."¹⁷ One challenge to the police was that gambling operators often change venues. Also, the presence of internet gambling has decreased the need for gambling houses.¹⁸ Internet gambling now has 10% of the gambling business worldwide, growing globally at 17% annually.¹⁹ This shift will only make gambling more accessible. If there are more opportunities for less overt gambling, the prevalence of problem gambling is likely to increase.²⁰

Although the internet is taking a large chunk of gamblers away from the gambling houses, residents of Hawai'i are attracted to cheap package deals to Las Vegas. Approximately 700,000

trips are made every year from Hawai'i to Las Vegas and some travelers go more than once a year. Airline companies offer inexpensive travel packages with some deals, including complimentary gambling chips. These junkets are competitively priced to entice residents. In fact, hotels, restaurants, and stores cater to residents of Hawai'i so much so that Las Vegas is commonly called "the 9th island" (Hawai'i is comprised of eight islands). There is some evidence of residents experiencing problem gambling and ringing the national problem gambling helpline, but to what extent needs to be explored. Some of the queries from the helpline were: "Do you have anything for a gambler who lives in Hawai'i;" "I'm a social worker in Honolulu hospital and I'm trying to find a number to help a problem gambler;" or "we don't have GA in Kaua'i;" (personal communication, Louisiana Helpline for problem gambling, 2014). Therefore, the only potential support for problem gamblers in Hawai'i is GA and there are only a few groups on two of the islands.

Gamblers Anonymous

GA is a self-help group for problem gamblers which aligns its self-help framework to that of Alcoholics Anonymous.²¹ There are currently three GA meetings on O'ahu, including a Gam-Anon meeting for significant others affected by gamblers as well as a GA meeting available in Kona on the Big Island. The author attended a GA open meeting in Honolulu. It was a multicultural mix of 15 men. The primary form of problem gambling was sports betting (personal communication outside of the meeting, 2012). The stories told were confidential and anonymous, and therefore, the author is not able to disclose the specifics. However, the stories resonated with those told at other GA meetings the author had attended on the mainland. This indicated that there are people suffering from problem gambling. The facilitator of the group expressed a need for an organization for problem gambling, similar to the Councils for problem gambling on the mainland, which organize public health initiatives for professionals and the communities (Anonymous, oral communication, September 2012). However, the council for problem gambling is unable to fund a council in a state where gambling is not legal; this is because the gambling industry primarily provides the financial assistance for these councils (Director of California Council for Compulsive Gambling, oral communication, 2015).

Sabbatical Workshops

During the author's sabbatical at the end of 2012, the author held workshops for both staff and clients at mental health and/or substance abuse treatment facilities in Hawai'i to see if there was a need to learn about problem gambling. With this in mind, my experience suggested that problem gamblers would likely go for treatment for other issues than gambling.²² This may be more likely the case in Hawai'i where treatment for problem gambling is not freely advertised.

The author offered the workshops free of charge and the staff received educational credit for attendance. Consequently, the author was invited to conduct workshops on Moloka'i, O'ahu,

and Kaua'i. There were between 15 and 45 participants at each workshop and attendance alone suggested a need for more professional development in this area. Depending upon the timeframe limitations for the participants, the workshops were between 1.5 hours to 6 hours long. Therefore, each workshop was tailored to a specific time frame with lectures, discussions, and DVDs on problem gambling.

In general, the staff reported many concerns about problem gambling in the communities. Some of their clients believed that certain forms of gambling should be legal, stating, for instance, "cockfighting is part of our culture." Another client asked, "Is going to Las Vegas twice a month a gambling problem?" Data was not collected at these workshops because this was not a research study. At the initial start of each workshop, each participant introduced themselves and shared (if they felt comfortable) if there was any problem gambling in their personal or professional experience. There was concern about problem gambling in their communities.

The professionals were relieved to be taught how their skills can be transferred to helping gamblers. Easy screens to administer was another resource provided in the workshops. Information about potential gamblers anonymous meetings in their areas was also welcomed. Providing services to those with gambling addictions places extra responsibility on the staff when many are already inundated with caseloads. The section on co-morbidity in the workshop was helpful for many, as participants learned that gambling may be an invisible addiction among clients in their existing caseloads. Participants came from clinics that specialize in treating those special populations that may be at-risk, for example, those who suffer from mental illness and/or substance abuse or both.²³

At-Risk Groups

The following is a summary of some groups that may be at greater risk to problem gambling. International research reported Asian cultures as well as indigenous cultures such as Pacific peoples,²⁴ Maori,²⁵ Inuits²⁷ and Aboriginals of Australia have a higher-than-expected incidence of gambling problems.²⁸ Hawai'i has a diverse ethnic population, including some of these groups: Native Hawaiian, Asian cultures, and Pacific Island groups, in particular,²⁹ many of whom could be vulnerable to problem gambling given that research.

Historically, Native Hawaiians practiced gambling in their culture, similar to some Native American tribes.³⁰ However, today's westernized forms of gambling have highly addictive properties (eg, continuous forms such as scratch cards and slot machines).³¹ To date, only one study explored gambling behavior in one ethnic community in Honolulu.³² It was reported that 33.2% (n=1,262) of Filipino Americans residing in Honolulu gambled within a 12 month timeframe. Although this study did not specifically identify problem gamblers or include other ethnic groups, it provided evidence that Filipino Americans in Hawai'i engage in gambling to a worrying extent.³³ Further research is needed to identify other ethnic groups in Hawai'i with problem gambling.

Another vulnerable group, the homeless, has been identified as struggling with problem gambling on the US mainland.³⁴ In one community center on the mainland, 18% of the homeless sample believed that gambling was a reason for their homelessness and 70% reported that gambling had limited their ability to enhance their lives.³⁵ The researchers also reported that 12.8% had subclinical levels of problem gambling and a further 5.5% were identified as having been diagnosed with pathological gambling which includes more symptoms of problem gambling and its severity.³⁶ This is of concern, considering Hawai'i's burgeoning homeless population. In 2014, more than 2,206 homeless were reported living in Hawai'i, a number which had increased by 24% from 2013.³⁷ Research showed that the more severe the gambling problem, the more likely individuals were to become homeless, get less treatment for substance abuse, and require more psychiatric treatment.³⁸ While there are many factors that contribute to homelessness besides gambling, and there are recognized limitations to generalizing findings from mainland data to Hawai'i, the study raises the issue that research has suggested an association between problem gambling and homelessness. Therefore, assessing whether gambling for some could be a result of, or have resulted in homelessness³⁹ would be an important undertaking in the islands.

The elderly are vulnerable to developing gambling problems,⁴⁰ which places them at risk for difficulties in both mental and physical health.⁴¹ A study done amongst older people playing electronic machines reported that single elderly and those who suffer a disability were more likely to utilize their savings to play electronic gaming machines which suggested they spend more than they can really afford to play.⁴² This research may be relevant to Hawai'i given that the proportion of those who were sixty years of age and older rose 139.8% from 1980 to 2010.⁴³ The higher the prevalence of this vulnerable group in the state of Hawai'i, the more likely the chances of society not being able to meet their specific needs, particularly in financial and medical areas, needs which are greater than other age groups. The specter of problem gambling should add to this concern.

College students are another vulnerable group at-risk of problem gambling.⁴⁴ College students have a higher prevalence (3-6% vs 0.04-1.9%) than the general population.⁴⁵⁻⁴⁷ It was reported that college students were, "four times more likely to place a bet via the internet" and this type of gambling was significantly linked with worse mental and physical health amongst college students compared to their adult counterparts in the general population.⁴⁸ Since the internet is ubiquitous and freely available day and night, the risk of problem gambling is increased in this group of highly computer-literate people.⁴⁹ Also, young adulthood is a time for people to engage in several types of risky behaviours, including gambling. Young people's brains are still maturing including the subcortical parts of the brain for processing reward. Yet, the subcortical area for motivation is mature which conflicts with the prefrontal cortical systems that regulate inhibitory control over these impulses. Consequently, this imbalance of maturity creates more of a challenge to resist behaviours such as substance use and more

specifically excessive gambling.⁵⁰ Hawai'i has 13 colleges and universities across the islands.⁵¹ The University of Hawai'i at Manoa alone has 19,507 students with 28% out of state and 6% international students. It has a multi-cultural student body with 36% Asian and 17% Hawaiian or Pacific Islander.⁵² These statistics alert us that there may be at-risk groups, suggesting the need for more research in this area. The statistics also suggest that 34% of this student population may be coming from an environment where they were exposed to gambling.

Lastly, the military are vulnerable to gambling problems.⁵³ Many military personnel also experience mental illness and other addictions inclusive of problem gambling.⁵⁴ Given this, they are vulnerable to psychiatric conditions which are usually related to military trauma.⁵⁵ One innovative study offered problem gambling treatment on an American military base in Japan.⁵⁶ The needs assessment for problem gambling was conducted because of the high prevalence of suicide and substance abuse problems on the military base; 20% of the cohort assessed were suicidal at some point and 38% of military personnel within the sample had received a diagnosis of substance abuse disorder. The assessment revealed a strong need for providing gambling treatment for the military, and resulted in treatment being implemented. Thirty-six self-referrals were made. Within this perspective, there are over 50,000 military personnel in Hawai'i.⁵⁷

Discussion

This paper provides examples, although anecdotal, of problem gambling in Hawai'i, illustrating clear gaps in gambling research in Hawai'i which need to be addressed. With the increase of specific population groups vulnerable to developing problem gambling such as the elderly and the homeless, priority should be given to discovering whether Hawai'i is following the trends identified by overseas research that consistently identified problem gambling within these populations. Prevalence studies would be a start. For example, although the GA group the author attended was multicultural in its membership as well as diverse in age (early 20s to 60s), no women attended. A prevalence study is imperative to answer queries regarding demography as highlighted in the at-risk group section of this paper. What are the demographic characteristics of problem gamblers in the islands? Is problem gambling more of a concern for certain islands? Do problem gamblers seek help? Where do they go if they don't attend GA?

Research on the need for public health initiatives is recommended. This effort may include, employing focus groups to explore gambling and problem gambling in select communities. Questions that elucidate the problem may be included, such as: Are they aware of persons in their communities affected by gambling problems? Are health disparities in one group (eg, Hawaiian or Asian) associated with gambling or problem gambling? Do they know people who travel to Las Vegas to gamble? How often? Do they know of anyone who has gambled in Las Vegas to the point that they couldn't afford to return home?

Another area to implement public health approaches is to make use of training opportunities among health professionals to discuss problem gambling, provide resources such as brief screening tools, as well as incorporate prevalence studies or audits into existing substance abuse treatment facilities.

If there is a need to address problem gambling within the community groups then the next way forward for a public health initiative would be to employ “low cost triage” approaches:

- (1) Establish protocols in treatment settings to assess high risk clients, such as substance abusers, for gambling problems.
- (2) Train a core group of certified substance abuse/mental health counselors in problem gambling to build rudimentary capacity for referral and treatment.
- (3) Add problem gambling questions or a brief screen to ongoing health and addictions surveys such as a brief biosocial screen. (Personal communication, Executive Director, Keith Whyte, of problem gambling council; Washington, D.C., 2012).

Conclusion

The anecdotal evidence presented in this paper suggests a need for research examining problem gambling amongst residents in Hawai'i. Although Hawai'i outlaws gambling, it appears that people continue to gamble illegally. Information from the media and that gathered from informational workshops on problem gambling further supports the existence of problem gambling on some of the Hawaiian Islands. Furthermore, identifying possible vulnerable groups such as those experiencing other addictions or mental illness as well as certain ethnic groups may provide awareness of groups who may be at-risk of developing a gambling problem.

A proactive public health approach is suggested to minimize harm from gambling that appears to be already present among residents of Hawai'i. Such an approach would include initiatives such as publicizing existing GA meetings on O'ahu and the Big Island, creating GA meetings on other islands, educating about the risks of problem gambling on college campuses, and incorporating gambling information and brief screening as part of workforce development.

Conflict of Interest

The author identifies no conflict of interest.

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References

1. Williams RJ, Volberg RA & Stevens, RMG. *The Population Prevalence of Problem Gambling: Methodological Influences, Standardized Rates, Jurisdictional Differences, and Worldwide Trends*. 2012. Ontario Problem Gambling Research Centre and the Ontario Ministry of Health and Long Term Care.
2. Williams RJ, Volberg RA, Stevens RMG. *The Population Prevalence of Problem Gambling: Methodological Influences, Standardized Rates, Jurisdictional Differences, and Worldwide Trends*. 2012. Ontario Problem Gambling Research Centre and the Ontario Ministry of Health and Long Term Care.
3. American Psychiatric Association. *Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition*. Washington, DC: American Psychiatric Association, 2013.
4. Korn D, Shaffer HJ. Gambling and the health of the public: adopting a public health perspective. *J of Gamb Stud*. 1999;15,(4):1-77.
5. Humphrey C. Hawaii Gambling Laws: Hawaii statutes. Available at: <http://www.gambling-law-us.com/State-Laws/Hawaii/>. Retrieved April 25, 2015.
6. Humphrey C. Hawaii Gambling Laws: Hawaii statutes. Available at: <http://www.gambling-law-us.com/State-Laws/Hawaii/>. Retrieved April 25, 2015.
7. National Council on Problem Gambling 2009. Available at: <http://www.ncpgambling.org/files/Help%20By%20State%20Fact%20Sheets/Hawaii%20Fact%20Sheet.pdf>. Assessed April 11, 2015.
8. National Council on Problem Gambling 2009. Available at: <http://www.ncpgambling.org/files/Help%20By%20State%20Fact%20Sheets/Hawaii%20Fact%20Sheet.pdf>. Assessed April 11, 2015.
9. Petry NM, et al. Comorbidity of DSM-IV pathological gambling and other psychiatric disorders: Results from the national epidemiologic survey on alcohol and related conditions. *J of Clin Psych*. 2005;66:564-574.
10. Morasco BJ, Pietzak RH, Blanco C, Hasin D, Petry NM. Health problems and medical utilization associated with gambling disorders: results from the National Epidemiologic Survey on Alcohol and Related Conditions. *Psychosom Med*. 2006;68(6):976-84.
11. Hofschneider A. House panel rejects gambling study. *Star Advertiser*. March 23, 2013. Available at: http://www.staradvertiser.com/news/20130323__House_panel_rejects_gambling_study.html?id=19966013. Accessed January 23, 2015.
12. Ashcroft J, Daniels DJ, Hart SV. Gambling and crime among arrestees: exploring the link *U.S. Dept of Justice*. 2004; National Institute of Justice. Washington: DC.
13. Rugle LC. It's not about the money. Clinical reflections. *J of Gamb Stud*. 2014;10, doi: 10.4309/jgi.2004.10.11. retrieved July 13, 2015.
14. Gutierrez B. For gambling addicts, Super Bowl wagers could bring ruin. *HawaiiNewsNow*. (January 31, 2105). Available at: <http://www.hawaiinewsnow.com/sotry/27990718for-gambling-addicts-super-bowl-wages-could-bring-ruin>. Accessed January 31, 2015.
15. Boylan P. Gambling arrests increase on O'ahu. *Honolulu Advertiser*. April 10, 2006. Available at: <http://the.honoluluadvertiser.com/article/2006/Apr/10/In/FP604100331.html>. Accessed December 24, 2014.
16. Knowles G J. Gambling, drugs, and sex: new drug trends and addictions in Honolulu, Hawaii. *Socio Prac: A J of Clin and Appl Socio*. 1999;1(1):45- 69
17. Pang GYK. China town Raids. *Star Advertiser*. September 18, 2010. Available at: http://www.staradvertiser.com/news/20100918_chinatown_raids.html?id=103196199. Retrieved September 2015.
18. Pang, GYK. China town Raids. *Star Advertiser*. September 18, 2010. Available at: http://www.staradvertiser.com/news/20100918_chinatown_raids.html?id=103196199. Retrieved September 2015.
19. Gainsbury SM, Russell A, Hing N, Wood R, Luman D, Blaszcznski A. How the internet is changing gambling: Findings from an Australian prevalence Survey. *J Gamb Stud*. 2005;31:1-15.
20. Gainsbury SM, Russell A, Hing N, Wood R, Luman D, Blaszcznski A. How the internet is changing gambling: Findings from an Australian prevalence Survey. *J Gamb Stud*. 2005;31:1-15.
21. Ferentzy P & Skinner W. Gamblers Anonymous: A critical review of the literature. *J of Gamb Issues*. 2003;9.
22. Petry NM, Stinson FS, Grant B F. Comorbidity of DSM-IV pathological gambling and other psychiatric disorders: Results from the national epidemiologic survey on alcohol and related conditions. *J of Clin Psych*. 2005;66:564-574.
23. Petry NM, Stinson FS, Grant BF. Comorbidity of DSM-IV pathological gambling and other psychiatric disorders: Results from the national epidemiologic survey on alcohol and related conditions. *J of Clin Psych*. 2005;66:564-574.
24. Sobrun-Maharaj A, Rossen F & Shiu Kei Wong A. *Final Report: The impact of gambling and problem gambling on Asian families and communities in New Zealand*. New Zealand: University of Auckland, 2013.
25. Fong T, Campos M, Rosenthal R, Brecht M, Schwartz B, Davis A & Chung B. Problem gambling knowledge and perceived community impact among Asian Pacific Islanders and Non Asian-Pacific Islanders. *J of Immigr Minor Health*. 2010;12,173-178.
26. Lin EJ, Casswell S, Huckle T, Quan You R, Asiasiga L. Does one shoe fit all? Impacts of gambling among four ethnic groups in New Zealand. *J of Gamb Issues*. 2011;26:69-88.

27. Larsen CVL, Curtis T, & Bjerregaard P. Gambling behavior and problem gambling reflecting social transition and traumatic childhood events among Greenland Inuit: A cross-sectional study in a large indigenous population undergoing rapid change. *J Gamb Stud*. 2013;29:733-748.
28. Scull S & Woolcock G. Problem gambling in non-English speaking background communities in Queensland, Australia: A qualitative exploration. *Intern Gamb Stud*. 2005;5(1):29-44.
29. Eleakai Publishing, LLC. To Hawaii.com Hawaii travel guide. Available at: <http://www.to-hawaii.com/population.php>. Accessed April 22, 2015.
30. Culin S. Hawaiian Games. *American Anthropol*. 1(2);201-24:1899.
31. Dowling N, Smith D, Thomas T. Electronic gaming machines: are they the 'crack-cocaine' of gambling? *Addict*. 2005;100:33-45.
32. Kim W, Kim I, Nochajski TH. Predictors of gambling behaviors in Filipino Americans living in Honolulu or San Francisco. *J of Gamb Stud*. 2012;28(2):297-314.
33. Kim W, Kim, Nochajski TH. Predictors of gambling behaviors in Filipino Americans living in Honolulu or San Francisco. *J of Gamb Stud*. 2012;28(2):297-314.
34. Sebastian JC. Homelessness: a state of vulnerability. *Fam and Comm Health*. 1985;8:11-24.
35. Shaffer HJ, Freed CR, Healea D. Gambling disorders among homeless persons with substance use disorders seeking treatment at a community center. *Psych Serv*. 2002;53(9):1112-1117.
36. Shaffer HJ, Freed CR, Healea D. Gambling disorders among homeless persons with substance use disorders seeking treatment at a community center. *Psych Serv*. 2002;53(9):1112-1117.
37. Statewide Homeless Point-in-Time Count. *Methodology and Results. The State of Hawaii, Department of Human Services, Homeless Programs Office of the City & County of Honolulu, Department of Community Services*. 2014; Available at: <http://humanservices.hawaii.gov/bessd/files/2014/06/2014-Statewide-PIT-Report-Rev-CP-5-91.pdf>. Accessed April 11, 2015.
38. Shaffer HJ, Freed CR, Healea D. Gambling disorders among homeless persons with substance use disorders seeking treatment at a community center. *Psych Serv*. 2002;53(9):1112-1117.
39. Holdsworth L, Tiyce M. Untangling the complex needs of people experiencing gambling problems and homelessness. *Int J of Ment Health and Addiction*. 2012;11:186-198.
40. Tse S, Hong SI, Wang CW, Cunningham-Williams RM. Gambling behavior and problems among older adults: a systematic review of empirical studies. *J of Geron Sers B: PsychSci and Soc Sciences*. 2012;67(5): 639-652.
41. Erickson L, Molina CA, Ladd, GT, Pietrzak R, Petry NM. Problem and pathological gambling are associated with poorer mental and physical health in older adults. *Int J of Ger Psych*. 2005;20:754-759
42. Southwell J, Boreham P, Laffan W. Problem gambling and the circumstances facing older people. *J Gamb Stud*. 2008;24:151-174.
43. Executive office of Aging. *Hawaii's state plan on aging*. 2013; Available at: <http://health.hawaii.gov/eoa/files/2013/07/Hawaii-State-Plan-On-Aging.pdf>. 1-126. Accessed April 12, 2015.
44. Gerstein DR, Volberg RA, Toce MT, et al. Gambling impact and behaviour study: *Report to the National Gambling Impact Study Commission*. 1999; Chicago, Ill: National Opinion Research Center.
45. Petry NM, Stinson FS, Grant BF. Comorbidity of DSM-IV pathological gambling and psychiatric disorders: results from the National Epidemiologic Survey on alcohol and related conditions. *J of Clin Psych*. 2005;66:564-574.
46. Shaffer HJ, Hall MN, Vander Bilt J. Estimating the prevalence of disordered gambling in the United States and Canada: a research synthesis. *Amer J of Pub Health*. 1999;89:1369-1376.
47. Petry NM, Winstock J. Internet gambling is common in college students and associated with poor mental health. *The Amer J on Addiction*. 2007;16:325-330.
48. Shaffer HJ. Understanding the means and objects of addiction: technology, the internet, and gambling. *J of Gamb Stud*. 1996;12(4):461-469.
49. Petry NM & Winstock, J. Internet gambling is common in college students and associated with poor mental health. *The Amer J on Addiction*. 2007;16:325-330.
50. Verdejo-Garcia A, Lawrence AJ, Clark L. Impulsivity as a vulnerability marker for substance-use disorders: Review of findings from high-risk research, problem gamblers and genetic association studies. *Neuro and biobehav Rev*. 2008;32(4):777-810.
51. The National Database of Scholarship. 2009. Available at: <http://www.free-4u.com/Colleges/Hawaii-Colleges.html>. Accessed May 4, 2015.
52. University of Manoa. 2010. Available at: <https://manoa.hawaii.edu/about/>. Accessed November 29, 2105.
53. Daghestani AN, Elenz E & Crayton JW. Pathological gambling in hospitalized substance abusing veterans. *J Clin Psychiatry*. 1996;57:360-3.
54. Agha Z, Lofgren RP, Van Ruiswyk JV, Layde PM. Are patients at veterans affairs medical centers sicker? *Arch intern med*. 2000;160:3252-3257.
55. Agha Z, Lofgren RP, Van Ruiswyk JV, Layde PM. Are patients at veterans affairs medical centers sicker? *Arch Intern Med*. 2000;160:3252-3257.
56. Kennedy CH, Cook JH, Poole DR, Brunson CL, Jones DE. Review of the first year of an overseas military gambling treatment program. *Military Med*. 2005;683-687.
57. Governing: The states and localities. 2015. Available at: <http://www.governing.com/gov-data/military-civilian-active-duty-employee-workforce-numbers-by-state.html>. Accessed September, 2015.

Appendix

- In 2000 it was reported that former city housing supervisor Michael Kahapea was sentenced to 50 years in prison for stealing \$5.8 million in public funds. Kahapea spent the money to travel to Las Vegas to gamble due to his gambling addiction (Source: Pang GYK. Casino official outlines Kahapea gambling debt. Pang. Honolulu Starbulletin. <http://archives.starbulletin.com/2000/06/14/news/story5.html>. retrieved January 13, 2015)
- In 2002 Banker Sukanto Sia was sentenced for bankruptcy and wire fraud. He owed \$13.5 million to Las Vegas casinos (Source: Waite D. Banker may face more prison time. Honolulu Advertiser. February 10, 2004. <http://the.honoluluadvertiser.com/article/2004/Feb/10/In/In03a.htm>. Accessed January 13, 2015.
- In 2006 cockfighting, cards, and casinno quadrupled in Honolulu over a three year period. (Source: Boylan P. Gambling arrests increase on O'ahu. Honolulu Advertiser. April 10, 2006, <http://the.honoluluadvertiser.com/article/2006/Apr/10/In/FP604100331.html>. Accessed December 24, 2014.
- In 2009 Kaua'i police confiscated more than 100 roosters and \$70,000 in cash in 2009 whilst raiding a cockfighting operation north of Kapa'a. (Source: Leone D. Kaua'i police consider charges after major cockfight bust .Honolulu Advertiser. March 19, 2009. <http://the.honoluluadvertiser.com/article/2009/Mar/19/In/hawaii903190335.html>. Accessed December 24, 2014.
- In 2012 police arrested five men in cockfighting in Ka'u on the big Island. (Source: Burnett J. Gambling raids net more than \$17,000. Hawaii Tribune. August 5, 2012. <http://hawaiitribune-herald.com/sections/news/local-news/gambling-raids-net-more-17000.html>. Accessed December 24, 2014.
- In 2012 Honolulu police seized confiscated 77 video machines from six Winner's Zone arcade locations. (Source: Dooley J. Police seize video 'sweepstake' machines. Hawaii Reporter. September 28, 2012. <http://www.hawaiireporter.com/police-seize-video-sweepstakes-machines>. Accessed January 13, 2105).
- In 2012 two Thai women were questioned by the FBI for operating an illegal lottery business. (Source: Lottery vendors reveal details of illegal gambling network operating in Chinatown, throughout O'ahu. Hawaii Reporter. May 16, 2012. <http://www.hawaiireporter.com/lottery-vendors-reveal-details-of-illegal-gambling-network-operating-in-chinatown-throughout-oahu>. Accessed December 24, 2104).
- In 2013 Police in O'ahu made arrests at three gambling parlours taking 33 illegal gambling machines and Five months later more arcades were found to have illegal gambling machines. (Source: Burnett J. Undercover Sting led to Gambling Bust. Tribute Herald. August 9, 2013. <http://hawaiitribune-herald.com/sections/news/local-news/undercover-sting-led-gambling-bust.html>. Accessed. January 13, 2015).
- In 2013 a 61 year old man from Ka'u man has been indicted on charges stemming from a 2013 cockfight in a Pahala macadamia nut orchard. (Source: Associated Press. Big Island man indicted on cockfighting charge. Star Advertiser. October 17, 2014. <http://www.staradvertiser.com/breaking-news/big-island-man-indicted-on-cockfighting-charge-2/>. Retrieved January 1, 2016).
- In 2014 a former member of the Kaua'i police commission was arrested for operating an illegal sports gambling business which was reported in 2014. (Source: Kelleher JS. Ex-Kaua'i police commission member admits gambling ring. Star Advertiser. June 16, 2014. http://www.staradvertiser.com/news/breaking/20140616_exkauai_police_commission_member_admits_gambling.html?id=263379651. Accessed January 13, 2015).