

Using the NODS-CLiP to screen for gambling problems in Ontario primary health care settings

Report prepared for the
Ontario Problem Gambling Research Centre

Matthew M. Young, Ph.D.
Maclaren Young Research & Consulting
94 Rochester St.
Ottawa, ON, Canada
K1R 7L8

Rachel A. Volberg, Ph.D.
Gemini Research, Ltd.
PO Box 1390
Northampton, MA, U.S.A.
01061

November, 2009

Table of Contents

INTRODUCTION.....	1
METHODS	2
LITERATURE REVIEWS	2
INTERVIEWS WITH SHCHC STAFF	3
LITERATURE REVIEWS	3
OPPORTUNISTIC SCREENING.....	3
THE NODS- CLiP	7
GAMBLING CO-MORBIDITY	9
THE SANDY HILL COMMUNITY HEALTH CENTRE	12
INTERVIEW FINDINGS	13
SCREENING DURING HEALTH ASSESSMENT.....	13
SCREENING AMONG CLIENTS WITH KNOWN CO-MORBID DISORDERS	15
SHCHC STAFF SUGGESTIONS REGARDING THE USE OF THE NODS-CLiP	15
DISCUSSION/RECOMMENDATIONS.....	16
MOVING FORWARD	19
REFERENCES.....	20
APPENDIX A: INTERVIEW GUIDE	24
APPENDIX B: HEALTH ASSESSMENT QUESTIONNAIRE	26

**APPENDIX C : SUGGESTED PROTOCOL FOR TESTING THE USE OF THE NODS-
CLIP AS AN OPPORTUNISTIC SCREEN AT THE SANDY HILL COMMUNITY**

HEALTH CENTRE 30

Introduction

Opportunistic screening is a proactive technique in which health care service providers screen for a disorder among the general health care client population (Coulton, Drummond, James, Godfrey, Bland, Parrott, & Peters, 2006). Opportunistic screening has been used to effectively screen for a wide range of physical and psychological conditions, including diabetes (Edelman et al., 2002; James, Turner, Broadbent, Vora, & Harding, 2000), cancer (Gustafsson et al., 1995), sexually transmitted diseases (Noone et al., 2004; Tobin, Aggarwal, Clarke, Chown, & King, 2001), depression (Pignone et al., 2002), hazardous alcohol consumption (Coulton, Drummond, James, Godfrey, Bland, Parrott, & al., 2006), and alcoholism (Dent, Weiland, Phillips, & Lee, 2008). This type of screening technique is also considered to be particularly useful in screening for disorders among low-treatment seeking populations (Coulton et al., 2008). Given the low rates of treatment-seeking behaviour among problem gamblers (e.g., Gupta & Derevensky, 2000; Rush, Moxam, & Urbanoski, 2002), it has promise as a technique to employ among this population. However, the use of this technique to screen for gambling related problems has been limited.

The purpose of the current study is to lay the ground work for a larger research project in which patients seeking primary health care will be screened for gambling problems. This report details the results of a preliminary investigation regarding how the National Opinion Research Center DSM-IV Screen for Gambling Problems - Loss of Control, Lying and Preoccupation (NODS-CLiP; Toce-Gerstein, Gerstein, & Volberg, 2009; Volberg, Munck, & Petry, 2008) might be integrated into existing practice at the Sandy Hill Community Health Centre (SHCHC), located in Ottawa, Ontario, to opportunistically screen for gambling problems among its primary health care clients. To this end, we review the literature regarding the application of opportunistic screening in other domains in order to guide the development of the larger research project. We also review the literature on the array of co-morbid disorders that would signal primary health care providers (i.e., physicians and

nurse practitioners) that gambling may be a problem for their clients. Finally, we present the results of interviews with staff from the Sandy Hill Community Health Centre (SHCHC), who have expressed interest in becoming involved in the larger research project.

Methods

Literature Reviews

The literature reviews were conducted through a variety of approaches, which included:

- electronic bibliographic indexes accessed via on-line database searches;
- specialist libraries accessed via web-based searches; and
- searches through the authors' personal collections.

Electronic Bibliographic Indexes. A search of a wide range of online databases available through the University of Chicago and Carleton University was conducted to locate potentially relevant literature. The searches were carried out in August and September 2009 utilizing a variety of keywords. Each literature search on each database yielded varying numbers of articles with substantial degrees of overlap. A full list of titles and/or abstracts was obtained from each search and, for titles or abstracts that appeared to be relevant to this project, full text publications were accessed electronically and reviewed.

Specialist Libraries. A growing number of gambling-related organizations and government departments have websites that include searchable databases and/or libraries, or which detail gambling-related publications and reports. These websites were searched for literature relevant to the project. Any material that appeared to be relevant was downloaded and reviewed. The authors also have access to substantial personal libraries on gambling and related subjects. These collections contain many reports that have not been published in mainstream literature as well as publications that are difficult to obtain. Where relevant, these materials were utilized for this project.

Interviews with SHCHC Staff

Interviews were conducted with six staff at SHCHC. These interviews were conducted between June 12 and August 25, 2009 with two administrators (the Director of Health Services and the Nursing team leader) and four health care providers (two physicians, one nurse practitioner, and one nurse). All meetings were scheduled and interviews conducted at the SHCHC. These interviews lasted from 30 minutes to 1 hour and 15 minutes.

To begin, the interviewer sought permission to make an audio recording of the interview. All those interviewed agreed. Next the interviewer provided a brief description of the purpose of the research including a discussion of the NODS-CLiP. After answering questions, SHCHC staff were asked about the centre's intake procedures. The first few interviews (which took place with the Director of Health services and a physician) were very general and included open-ended questions such as "Could you walk me through your intake procedures?" and "How would the NODS-CLiP be most effectively used to opportunistically screen for gambling problems?" As the interviews progressed, the questions became more focussed. Appendix A is included as an example of an iteration of the interview guide used. Note however, that although questions became more focussed over the course of the study, the interviews were still open and flexible enough that the researchers could follow informative/unexpected paths of inquiry when they arose.

Literature Reviews***Opportunistic Screening***

Opportunistic screening has been effectively employed to screen for physical illness, psychological disability and disorders, and substance abuse (primarily alcoholism). Screening for *physical* illnesses and disorders generally relies on routine laboratory tests. Positive results on standard screening tests are typically followed by a second and usually more expensive diagnostic test to determine if the result is accurate or whether it is a false positive. For example,

Edelman et al. (2002) collected blood samples from outpatients at a veterans' hospital and conducted laboratory tests on these samples to identify those at risk for diabetes. All of the patients who met a specific cut-off (i.e., received a positive result) were invited back for a second more comprehensive test in order to establish a diagnosis of diabetes. Similarly, in family planning clinics, urine tests followed by cell culture tests have been used to opportunistically screen and diagnose Chlamydia (Noone et al., 2004) and Pap smears, with subsequent physical examination, have been used to screen and diagnose cervical cancer among women receiving annual gynaecological examinations (Gustafsson et al., 1995).

In addition to screening for a wide range of physical disorders, the United States Preventive Services Task Force (USPSTF), a leading independent panel of experts that makes recommendations about preventive services that should be incorporated routinely into primary medical care in the United States, recommends screening for a number of psychological disorders, including depression, suicide risk, and family violence as well as drug abuse, and problem drinking (U.S. Preventive Services Task Force, 1996). In terms of *psychological* disorders, the USPSTF found good evidence that screening improved the accurate identification of depression among patients in primary care settings and lowered the burden of illness from this widespread disorder (U. S. Preventive Services Task Force, 2002). The USPSTF also recommends screening for problem drinking and drug abuse. Widespread concerns about alcohol misuse have led to international acceptance of the need for screening and brief interventions to reduce alcohol consumption. General practitioners have been strongly encouraged to screen for problem drinking and provide brief interventions with patients whose alcohol consumption is either hazardous or harmful to their health (Babor & Higgins-Biddle, 2001). In 2004, the USPSTF found good evidence that patients whose levels or patterns of alcohol consumption placed them at risk could be accurately identified in primary care settings, and that brief behavioural counselling interventions produced reductions in alcohol consumption that were sustained over substantial periods of time (U.

S. Preventive Services Task Force, 2004). While many studies have examined the effectiveness and efficacy of such interventions (e.g., Dent et al., 2008; Wallace, Cutler, & Haines, 1988), little has been written about the implementation or effectiveness of the screening methods used.

Two recent meta-analyses examined the effectiveness of brief interventions for excessive alcohol use in general practice settings (Beich, Thorsen, & Rollnick, 2003; Bertholet, Daepfen, Wietlisbach, Fleming, & Burnand, 2005). These two reports include only brief mention of the screening methods used in the studies under consideration. Beich and colleagues (2003) note that all eight studies included in their analysis screened for harmful or hazardous alcohol use within a longer health questionnaire administered during consultation visits. Bertholet et al. (2005) report that five of the 19 studies included in their analysis used the four-item CAGE screen, three used the 10-item AUDIT screen, and 11 of the studies provided no information with respect to the screening instrument or implementation. These investigators note that finding optimal and practical ways to screen for alcohol misuse remains a major challenge in brief alcohol intervention. While many validated screening tools have been developed for research purposes, Beich et al. (2002) point out that these tools can be difficult to use in primary care settings because of doctors' concerns about the added workload, the potential effect on the doctor-patient relationship, and doctors' lack of confidence in their ability to counsel patients effectively on 'lifestyle' issues.

In 2004, the USPSTF found that while the 10-item AUDIT was the most studied screening tool for detecting alcohol-related problems in primary care settings, the four-item CAGE, supplemented by standardized questions on quantity and frequency, was the more popular screening test. In the U.S. studies that were reviewed, between 8% and 18% of patients in primary care settings scored "positive" on one or another of these screens, and about half of these patients remained eligible for primary care intervention after assessment, i.e., were found to be true positives (Whitlock, Polen, Green, Orleans, & Klein, 2004).

Clearly, screening is a common activity in primary health care settings that facilitates early detection of specific health conditions. Though opportunistic screening has been successful in case identification for a variety of disorders, including appetitive disorders such as alcohol and drug abuse, its use in screening for problem gambling has been limited¹. Goodyear-Smith and colleagues (2004) included a single item within a longer lifestyle screening tool to screen for gambling problems (“Have you sometimes felt unhappy or worried after a session of gambling?”) and administered the full screening tool to 2543 primary care patients in New Zealand. This questionnaire also screened patients for smoking, alcohol and drug misuse, depression, anxiety, abuse, anger, sedentary lifestyle, and weight issues. While the questionnaire appears to have been self-administered in the waiting room by patients attending primary health care clinics, details regarding exactly how this was done were unfortunately not described in the published report. The authors did note that when a risk factor was detected by the CHAT, patients were told, and asked whether they would like assistance. The researchers also noted that, among those patients indicating they would like assistance, physicians could either “deal with the problem at the time of the consultation, or schedule a later appointment” (p.3). In this study, 2.8% of respondents answered ‘yes’ to the screening question. The authors opted to employ the single question because there were no psychometrically validated questionnaires that were short enough to incorporate into their multi-item general practice questionnaire.

The initial study was followed by another study validating the screening tool, now dubbed the Case-finding and Help Assessment Tool (CHAT), among a

¹ As we were completing the current report we discovered a small study entitled “Opportunistic Screening and Intervention Strategies for Problem Gamblers in the Emergency Department: An Exploratory Study” (<http://www.abgaminginstitute.ualberta.ca/19.cfm>) funded by in 2001 by the Alberta Gaming Research Institute (AGRI). Although we were unsuccessful in acquiring the report or contacting the authors before submitting the final version of this report, we will continue our efforts to find out more about this study and its results.

sample of 1000 primary care patients (Felicity Goodyear-Smith et al., 2008). The description of the procedures employed in administering this questionnaire is identical to the description included in the earlier study. However, for the second study the researchers added a second question regarding gambling (“Does gambling sometimes cause you problems?”) and compared the rate at which participants answered yes to either question to their scores on the South Oaks Gambling Screen. While the specificity of the two-item screen in relation to the SOGS was high (97%), the sensitivity was found to be only 88% indicating that 12% of those with potential gambling problems went undetected. While this is a promising first step in opportunistically screening for problem gambling, we believe that screening for problem gambling in clinical populations such as primary care patients requires an instrument that is more sensitive to gambling problems and has been psychometrically tested in relation to the most current diagnostic criteria.

The NODS- CLiP

In 1998, the National Gambling Impact Study Commission contracted with the National Opinion Research Center (NORC) and partner organizations to undertake a national survey of problem and pathological gambling in the USA (Gerstein, Volberg, Harwood, & Christiansen, 1999). After reviewing the available screens, the research team elected to develop a new measure designed specifically for use in large population surveys. The National Opinion Research Center DSM-IV Screen for Gambling Problems (NODS) has 17 lifetime and 17 current (past 12 month) items. All of the items include binary (Yes/No) response options. Several items are only administered if a preliminary screening question is endorsed, and current items are only administered if the corresponding lifetime item is endorsed. In the original survey, the NODS was administered only to respondents who had spent \$100 or more on gambling in any past 12-month period. In subsequent surveys, the NODS has been administered to respondents who have ever gambled five or more times.

Prior to fielding the main study, a validation study was carried out with a sample of 40 individuals recently enrolled in gambling treatment programs in the

Western and Midwestern US. Based on its performance in the clinical sample, the lifetime NODS was found to have strong validity. The test-retest reliability of the NODS was examined in a split sample of 44 cases drawn equally from the clinical sample and a general population pilot sample. Both the lifetime and the past-year NODS were found to be highly reliable (Gerstein et al., 1999). Studies conducted by other investigators have since found that the NODS demonstrates high internal consistency as well as good concurrent and discriminant validity (Hodgins, 2002; Wickwire, Burke, Brown, Parker, & May, 2008). The NODS is increasingly being used in North American clinical settings as both an assessment tool and an outcome measure (Hodgins, 2002, 2004; Murray, Ladouceur, & Jacques, 2005; Petry, Weinstock, Ledgerwood, & Morasco, 2008; Wulfert et al., 2005).

Following the development of the NODS, Toce-Gerstein, Gerstein and Volberg (2009) used data from eight population surveys that included the screen to identify a subset of questions to which 99% of the NODS-classified pathological gamblers and 94% of the NODS-classified problem gamblers answered at least one in the affirmative. This new screen was dubbed the NODS-CLiP to remind users of the three criteria assessed using this screen (Loss of **Control**, **Lying** and **Preoccupation**). In this sample of 8,867 US adults, the NODS-CLiP demonstrated excellent sensitivity (96.2%) and acceptable specificity (90.2%). A subsequent study of data from a brief intervention for problem and pathological gambling (Petry et al., 2008; Petry, Weinstock, Morasco, & Ledgerwood, 2009) showed that the NODS-CLiP performed as well in a clinical sample as it did in the general population (Volberg et al., 2008).

Based on this research, the NODS-CLiP appears to be a psychometrically valid problem gambling screen that requires minimal administration time and is easy to use and score without extensive training. While the NODS-CLiP was originally developed to minimize respondent burden and the expense of community studies, this brief screen also appears to be an ideal opportunistic screen for problem and pathological gambling in clinical settings (Toce-Gerstein et al., 2009; Volberg et al., 2008).

Gambling Co-Morbidity

In most of the opportunistic screening studies reviewed, patients completed self report questionnaires that included screens for particular disorders. However, opportunistic screening can also be done when a patient presents to their health care provider with known co-morbid disorders. This section briefly reviews the literature on gambling co-morbidity with an emphasis on health problems that are most closely associated with problematic gambling.

There is a large and growing body of research showing an association between problem/pathological gambling and physical, psychiatric, and addictive disorders.. Recent studies have included investigations of rates of substance use disorders, affective disorders, anxiety disorders and physical health problems among problem and pathological gamblers in both community and clinical populations as well as studies of rates of problem gambling among substance abusers recruited in the community and in treatment programs (Cunningham-Williams, Abdallah, Callahan, & Cottler, 2007; el-Guebaly et al., 2006; Erickson, Molina, Ladd, Pietrzak, & Petry, 2005; Kessler et al., 2008; B. Morasco & Petry, 2006; Petry, 2005; Petry, Stinson, & Grant, 2005). These studies have included data from large survey samples as well as smaller treatment samples and have consistently identified substantial rates of psychiatric and addictive disorders among problem gamblers as well as high rates of problem and pathological gambling among substance abusers and psychiatric clients.

While few studies have evaluated medical conditions among pathological gamblers, researchers have speculated that disorders with a stress-related component, such as hypertension and heart disease, may be more prevalent among problem and pathological gamblers (Pasternak & Fleming, 1999). Researchers have also speculated that the sedentary nature of gambling may be especially appealing to individuals with physically limiting disorders such as arthritis or obesity (Pietrzak, Morasco, Blanco, Grant, & Petry, 2006). Moving beyond speculation, a large-scale survey of California adults found that problem and pathological gamblers are more likely than others in the general population

to acknowledge a physical disability (including hearing problems, vision problems and mobility problems) (Volberg, Nysse-Carris, & Gerstein, 2006). The same survey found that problem and pathological gamblers are significantly more likely than others in the general population to rate their general health as poor. In a similar vein, Bergh and Kühlhorn (1994) found that pathological gamblers in Sweden had higher rates of fatigue, colds and influenza, headaches, gastric pain and nausea than others in the general population. In an analysis of data from the first wave of the National Epidemiologic Survey on Alcohol and Related Conditions (NESARC), Morasco and colleagues (2006) found that adult problem and pathological gamblers have elevated rates of tachycardia, angina, cirrhosis and other liver disease compared to the general population. This analysis also showed that problem and pathological gamblers have high rates of medical utilization and that pathological gamblers are more likely than others in the population to have been treated in the emergency room in the past 12 months. These effects remain significant even after controlling for demographic characteristics and risk factors such as body mass index, alcohol abuse, nicotine dependence, and anxiety disorders.

Clinical studies have consistently found that problem and pathological gamblers tend to have high rates of substance abuse disorders, including alcohol abuse and dependence (Sellman, Adamson, Robertson, Sullivan, & Coverdale, 2005), tobacco dependence (Petry & Oncken, 2002; Rodda, Brown, & Phillips, 2004), and marijuana use (Kausch, 2003). Population studies have also consistently found that problem gambling and other psychiatric disorders commonly co-occur. For example, McIntyre et al. (2007) analyzed data from the Canadian Community Health Survey (CCHS 1.2) and used multiple logistic regression modeling to investigate the relationship of problem gambling to major depression and bipolar disorder. A total of 36,984 individuals aged 15 and over participated in the study with 2.4% of the respondents screening positive for lifetime bipolar disorder, 10.7% screening positive for major depression and 3.8% screening positive for problem gambling ($\text{PGSI} \geq 3$). While the rate of problem gambling was not significantly higher amongst individuals who screened positive

for major depression compared with the general population, the researchers found that individuals who screened positive for bipolar disorder were more than twice as likely as the general population to score as problem gamblers. Comorbid alcohol dependence and illicit drug dependence each conferred an additional increased risk for problem gambling over and above a bipolar diagnosis. These findings led McIntyre et al. to conclude that opportunistic screening for problem gambling is warranted, particularly in persons with comorbid alcohol or substance dependence.

The National Epidemiologic Survey on Alcohol and Related Conditions (NESARC) was mentioned above in relation to physical ailments. This large representative survey of 43,093 US adults aged 18 and over also yielded information on the relationship between pathological gambling and a wide range of psychiatric disorders. Petry, Stinson and Grant (2005) found that adult problem and pathological gamblers are five times more likely than others in the general population to have co-occurring alcohol dependence, four times more likely to abuse drugs, three times more likely to be depressed, eight times more likely to have bipolar disorder, and three times more likely to experience an anxiety disorder.

In an analysis of data from the National Comorbidity Survey, another recent population study among US adults, Kessler et al. (2008) reported that the onset and persistence of pathological gambling was predicted by a variety of prior anxiety, mood, impulse-control and substance use disorders. In turn, pathological gambling predicted the subsequent onset of generalized anxiety disorder, post-traumatic stress disorder and substance dependence. Half of the pathological gamblers in this nationally representative survey had received treatment for a mental disorder although none had ever received treatment for gambling-related problems.

Both Petry et al. (2005) and Kessler et al. (2008) conclude that the onset and progression of pathological gambling could be prevented if clinicians improved and increased screening for this disorder and suggest that patients with

anxiety, mood and impulse-control disorders be routinely assessed for gambling-related problems.

In sum opportunistic screening for gambling problems is warranted among clients diagnosed with, or presenting symptoms indicative of the following disorders²:

- alcohol or other substance abuse disorders;
- anxiety disorders;
- post-traumatic stress disorder;
- disorders with a stress-related component (e.g., headaches, gastric pain, nausea, tachycardia, angina)
- bipolar disorder or depression;
- impulse control disorder; and
- physically limiting disorders such as arthritis or obesity, or a physical disability (including hearing problems, vision problems and mobility problems).

The Sandy Hill Community Health Centre

The Sandy Hill Community Health Centre (SHCHC; <http://www.sandyhillchc.on.ca/>) is one of 14 community Health Centres (CHCs) in the Ottawa area, and one of 54 centres in the province of Ontario. CHCs are non-profit organizations that work with individuals, families, and communities to provide primary health and health promotion programs (Ontario Ministry of Health and Long Term Care, 2009). These centres are unique as they not only provide primary health care but contribute to the development of healthy communities by taking an active role in health promotion initiatives in the community. CHC teams include physicians, nurse practitioners, nurses, counsellors, community workers and dietitians. Due to the degree of community involvement and the more comprehensive approach to providing primary health care, CHCs, along with

² Note. This list is not comprehensive, but is made up of the most common disorders found to co-occur with problem gambling in the studies reviewed above.

Family Health Teams, Primary Care Networks, Health Service Organizations, and Northern Physician Group Agreements are part of the Ontario Ministry of Health and Long Term Care's (MOHLTC) new model of primary health care delivery, and considered an important part of the Ontario government's plan to improve access to primary health care for Ontarians (MOHLTC, 2005). Accordingly, in 2006, the MOHLTC announced the creation of 39 new CHC sites in the province of Ontario (MOHLTC, 2006).

As part of its commitment to the advancement of a healthy community, the SHCHC offers a range of programs in addition to primary health care. These include social support services, a needle exchange program, and the Oasis program (a program providing primary health care and social support to disadvantaged people living with, or concerned about HIV and/or hepatitis C). The SHCHC also houses Addictions and Mental Health Services [AMHS; formerly Addictions and Problem Gambling Services of Ottawa (APGSO)], which is a designated treatment agency for problem gambling in Ontario. Accordingly, the SHCHC is an ideal location to pilot test the efficacy of the NODS-CLiP to opportunistically screen for problem gambling.

Interview Findings

Based on interviews with staff at the SHCHC, there are two points of contact between patients and staff when the NODS-CLiP may be most effectively used as opportunistic screen. These are: (1) when patients undergo a health assessment; and (2) when patients present a co-morbid disorder to their health care provider (HCP).

Screening during Health Assessment

The Health Assessment is akin to what is known generically as a 'physical'. However, because the SHCHC is concerned with the global well-being of their patients, this assessment is also designed to also gauge patients' social and psychiatric health. This is done via self-report assessment questionnaire, a physical examination, and discussion with the HCP. In general, health

assessments (and therefore the accompanying health assessment questionnaire) are conducted at new patient intake and then yearly thereafter.

When clients of the SHCHC are scheduled for a health assessment, they are asked to come to the clinic ½ an hour in advance of their appointment to complete paperwork. When they arrive at the clinic they are greeted at reception by the Health Service Intake (HSI) staff who provide paperwork to complete and a urine bottle. Patients are also asked to update their records (e.g., address, income, etc), and occasionally asked to take part in other studies with which the centre may be involved. It is during this time that they are asked to generate their urine sample. Following, the patient has a 15 minute, one-on-one private visit with a nurse. During this time the nurse collects the patient's vital signs (blood pressure, weight, etc.), notes any changes in medication, and any pressing health issues the client wishes to address with the doctor.

Following the meeting with the nurse, the client sees the HCP (either a physician or a nurse practitioner) for an interview and physical examination. This appointment typically lasts 45 minutes to one hour.

At the time of our interviews with staff, the SHCHC was in the process of implementing a new Health Assessment Questionnaire (see Appendix B). This self-report questionnaire is intended to be completed by capable (i.e., English literate) patients in the waiting room area before seeing the nurse, thus there is little privacy during completion of the health assessment questionnaire. This questionnaire screens for 'general safety', dental hygiene, stress management, physical activity and exercise, family health, smoking, alcohol, drug use, sexual behaviour, and diet. The HCPs interviewed noted that this would be an ideal place to incorporate the NODS-CLiP, specifically in the section titled 'Potential Risk Factors'. The version included in Appendix B includes the problem gambling opportunistic screen (in both French and English). We believe that developing (and later testing) use of the NODS-CLiP at the same time that the SHCHC is implementing their new questionnaire is ideal as it would permit a more seamless, less disruptive integration of the NODS-CLiP into the centre's new assessment procedures.

Screening among clients with known co-morbid disorders

The other time when the NODS-CLiP may serve as an opportunistic screen for problem and pathological gambling would be when the HCP sees clients with, or suspected of having, known co-morbid disorders.

All HCPs interviewed were very interested in seeing a list of co-morbid disorders. In order for HCPs to be made aware of these disorders and familiarized with the NODS-CLiP questions, physicians would require training. The HCPs noted that the best way to introduce the NODS-CLiP questions and the co-morbid disorders to the clinic staff would be a presentation at the clinic's regular Thursday morning meeting.

In terms of procedures surrounding the use of the NODS-CLiP, interviews with staff at the centre indicated that HCPs were comfortable asking the questions and would be most likely to opportunistically screen for problem gambling in their day-to-day practice if they were provided training on the disorders that have been found to co-occur with problem or pathological gambling as well as training on the use of the NODS-CLiP - how to score it and what the results mean. They could then take that information and decide how to incorporate it into the overall health plan for the individual client.

SHCHC staff suggestions regarding the use of the NODS-CLiP

HCPs noted that when they encounter a client who screens positive on the NODS-CLiP they have four different options, depending on the receptivity of the client. They could: (1) refer the client for treatment (and more thorough assessment); (2) schedule a follow-up appointment to discuss the issue (especially if there are more pressing issues during the immediate appointment); (3) give the client information about problem gambling (including help resources, etc.); (4) nothing/ monitor over time (this might be done if the patient appeared non-receptive).

Clinic staff raised several other interesting ideas to consider in implementing the NODS-CLiP as an opportunistic screen for problem and pathological gambling. One HCP suggested incorporating a second-gate question often used in his/her own practice with other behavioural disorders; for

example, “Have you ever considered this to be a problem?”. Another HCP suggested that the three questions should be used in public awareness campaigns; for example, on a poster in the waiting room (that would offer an opportunity for self-diagnosis). Finally, the HCPs wondered whether the NODS-CLiP could be used in a third-party manner to determine whether family members are more likely to complain to their HCP about another person’s gambling (e.g., spouse, sibling, etc.).

Discussion/Recommendations

Problem gambling is a disorder that has dire consequences for the both the individual (B. J. Morasco et al., 2006) and his/her family (Tepperman, 2009). Moreover, treatment seeking rates among problem gamblers are low (Slutske, 2006). One possible way to enhance treatment seeking rates among this population is through enhanced case identification using opportunistic screening among primary health care seekers. Potenza et al., (2002) note that the role of the primary care physician in caring for patients with substance use disorders has expanded in recent years. Reasons include increased recognition of the medical basis and harmful effects of addictive disorders, the development of effective and efficient methods for screening, the identification of promising new techniques for treatment, and the potential of brief interventions to reduce substance use problems. They argue that primary care physicians are in a unique position to recognize patients with addictive disorders because of their regular and long-term contact with patients and their ability to monitor response to treatment in these patients. Thus we recommend that the NODS-CLiP be tested as an opportunistic screen for problem gambling in a primary health care setting. To this end, drawing on the successes and failures of previous opportunistic screening programs as well as from our interviews with HCPs at the SHCHC, we next provide a series of recommendations regarding how the NODS-CLiP might be successfully integrated into a community health care setting.

As noted above, there are several published accounts of opportunistic screening programs designed to identify a range of physical and psychological

disorders in primary health care settings. While some have been successful (see Bertholet et al., 2005 for review), others have encountered difficulties (e.g., Dent et al., 2008; Jones & Kerr, 1997). Combining our review of the literature with the information acquired via interviews with staff at the SHCHC we recommend the following best practices when implementing an opportunistic screening program for problem gambling: (1) minimize the response burden to clients and added burden to staff; (2) make sure the staff support, and are part of the program; (3) understand current practices when designing the program.

Minimize the response burden to clients and added burden to staff.

In many of the programs reviewed, screening instruments were embedded within a larger self-report questionnaire assessing other behavioural health risks (e.g., Whitlock et al., 2004). Lengthy assessment questionnaires can become tiresome or intimidating for clients to complete – resulting in decreased completions and consequently decreased case identification. Because of this response burden to patients, whether or not routine screening for a disorder will be successful is in part a function of the brevity of the screening instrument. For example, many formal validated screening tools are available to identify depression in clinical settings. However, most include 20 or more items (e.g., Beck Depression Inventory, General Health Questionnaire, Zung Self-Depression Scale). The USPSTF has recommended the use of a two-item scale (Whooley, Avins, Miranda, & Browner, 1997) that has been shown to be as effective as the longer instruments in identifying depression (Pignone et al., 2002). Among the alcohol screening programs reviewed here, the four-item CAGE screen is more commonly used despite being less studied than other screens (e.g., AUDIT). This is likely due to the fact that it is shorter and easier to score than the alternatives.

Brevity of a screening instrument also has the benefit of minimizing the added burden to staff. Shorter screens are not only easier and quicker for clients to complete; they are also quicker and easier for staff to score and interpret, thus reducing the burden that the screening procedure places on the health care provider. Staff providing primary health care services are extremely busy and

have very little extra time. Indeed, Danish doctors interviewed noted lack of time as a key barrier in implementing an alcohol screening and intervention program (Beich, Gannik, & Malterud, 2002). Time constraints on staff were noted in our interviews with SHCHC staff, and were considered responsible for low participation rates in an Australian study of opportunistic screening and brief intervention for high-risk alcohol use (Dent et al., 2008). In sum, an opportunistic screen for problem gambling will likely be successful to the extent that the burden on clients and primary health care staff is minimized.

Encourage staff support of the program. Perhaps the most important variable determining the success or failure of a screening program is staff support. Attempts to impose opportunistic screening in settings where there is staff resistance ultimately results in failure. For example, in attempting to implement an opportunistic screen for alcohol related problems in a UK emergency department, program effectiveness was affected by poor staff support; the nursing staff viewed the program as an imposition (Peters, Brooker, McCabe, & Short, 1998). In a meta-analysis of brief alcohol interventions in primary care, Bertholet and colleagues (2005) note that one of the challenges in implementing a successful opportunistic screening program is physician participation. In addition to the published accounts, interviews with HCPs at the SHCHC indicated that they appreciated being consulted during the early stages of the project, allowing them to be part of the planning process, rather than having a research protocol imposed upon them in their practice. Therefore we feel it is important for the staff to continue to be a part of the design and development of the research program as much as possible (respecting their limited available time as noted above).

Understand current practices when designing the program. In general, opportunistic screening programs appear to be successful to the degree to which they fit well into existing health centre practices. For example, Jones and Kerr (1997) describe the use of a checklist by general practitioners to opportunistically screen for commonly occurring health problems among patients with learning disabilities. This approach was found to have little effect, in part

because the increasing computerization of patient records occurring among primary health clinics in Britain at the time rendered this paper-based method obsolete. Importantly, a major variable contributing to the failure of the intervention was the researchers' insensitivity to the changing practices of the health care practitioners - in this case not taking into account the transition to computer-based record-keeping. Clearly any implementation of an opportunistic screen must be sensitive to the environment in which it will be used.

Thus it is important to understand current practice and procedure to integrate screening in as relatively a seamless way as possible. In interviews with researchers, general practitioners involved in alcohol screening programs noted that they found implementation awkward because it disrupted the 'normal flow' of a consultation which ultimately reduced program participation and effectiveness. Further, physicians felt that the screening protocol adversely affected the doctor-patient relationship and they resented the extra workload (Beich et al., 2002).

Moving forward

In the current paper we reviewed the literature on the implementation of opportunistic screening in other domains, and developed a list of best practices that will be used to guide the development of a larger research project. We also presented the results of interviews with SHCHC staff regarding how the NODS-CLiP might best be integrated into existing practice.

Using the information acquired in the current study, we propose conducting a research project that will implement a problem gambling opportunistic screening program at the SHCHC. A suggested protocol for testing the use of the NODS-CLiP as an opportunistic screen at the Sandy Hill Community Health Centre is included in Appendix C. In the proposed project, we will aim to identify possible problem gamblers to HCPs and track what is done with this information (i.e., how HCPs intervene), including the outcome of the intervention. We plan on applying for an Ontario Problem Gambling Level III research grant in order to carry out this project.

References

- Babor, T. F., & Higgins-Biddle, J. C. (2001). *Brief intervention for hazardous and harmful drinking: A manual for use in primary care*. Geneva: World Health Organization.
- Beich, A., Gannik, D., & Malterud, K. (2002). Screening and brief intervention for excessive alcohol use: Qualitative interview study of the experiences of general practitioners. *British Medical Journal*, 325, 870-875.
- Beich, A., Thorsen, T., & Rollnick, S. (2003). Screening in brief intervention trials targeting excessive drinkers in general practice: Systematic review and meta-analysis. *British Medical Journal*, 327, 536-542.
- Bergh, C., & K  hlhorn, E. (1994). Social, psychological and physical consequences of pathological gambling in Sweden. *Journal of Gambling Studies*, 10(3), 275-285.
- Bertholet, N., Daepfen, J.-B., Wietlisbach, V., Fleming, M., & Burnand, B. (2005). Reduction of alcohol consumption by brief alcohol intervention in primary care: Systematic review and meta-analysis. *Archives of Internal Medicine*, 165, 986-995.
- Coulton, S., Drummond, C., James, D., Godfrey, C., Bland, J. M., Parrott, S., et al. (2006). Opportunistic screening for alcohol use disorders in primary care: Comparative study. *British Medical Journal*, 335, 511-517.
- Coulton, S., Drummond, C., James, D., Godfrey, C., Bland, J. M., Parrott, S., et al. (2006). Opportunistic screening for alcohol use disorders in primary care: comparative study. *British Medical Journal*, 332, 511-517.
- Coulton, S., Watson, J., Bland, M., Drummond, C., Kaner, E., Godfrey, C., et al. (2008). The effectiveness and cost-effectiveness of opportunistic screening and stepped care interventions for older hazardous alcohol users in primary care (AESOPS) – A randomised control trial protocol. *BMC Health Services Research*, 8.
- Cunningham-Williams, R. M., Abdallah, A. B., Callahan, C., & Cottler, L. B. (2007). Problem gambling and violence among community-recruited female substance abusers. *Psychology of Addictive Behaviors*, 21(2), 239-243.
- Dent, A. W., Weiland, T. J., Phillips, G. A., & Lee, N. K. (2008). Opportunistic screening and clinician-delivered brief intervention for high-risk alcohol use among emergency department attendees: A randomized controlled trial. *Emergency Medicine Australasia*, 20, 121-128.
- Edelman, D., Edwards, L. J., Olsen, M. K., Dudley, T. K., Harris, A. C., Blackwell, D. K., et al. (2002). Screening for diabetes in an outpatient clinic population. *Journal of General Internal Medicine*, 17, 23-28.
- el-Guebaly, N., Patten, S. B., Currie, S., Williams, J. V., Beck, C. A., Maxwell, C. J., et al. (2006). Epidemiological associations between gambling behavior, substance use and mood and anxiety disorders. *Journal of Gambling Studies*, 22(3), 275-287.
- Erickson, L., Molina, C. A., Ladd, G. T., Pietrzak, R. H., & Petry, N. M. (2005). Problem and pathological gambling are associated with poorer mental and physical health in older adults. *International Journal of Geriatric Psychiatry*, 20(8), 754-759.
- Gerstein, D. R., Volberg, R. A., Harwood, H., & Christiansen, E. M. (1999). *Gambling impact and behavior study: Report to the National Gambling Impact Study Commission*. Chicago, IL: National Opinion Research Center at the University of Chicago.
- Goodyear-Smith, F., Arroll, B., Sullivan, S., Elley, R., Docherty, B., & Janes, R. (2004). Lifestyle screening: development of an acceptable multi-item general practice tool. *Journal of the New Zealand Medical Association*, 117(1205).

- Goodyear-Smith, F., Coupe, N. M., Arroll, B., Elley, C. R., Sullivan, S., & McGill, A.-T. (2008). Case finding of lifestyle and mental health disorders in primary care: validation of the 'CHAT' tool. *British Journal of General Practice*, 58, 26-31.
- Gupta, R., & Derevensky, J. L. (2000). Adolescents with gambling problems: From research to treatment. *Journal of Gambling Studies*, 16, 315-342.
- Gustafsson, L., Sparén, P., Gustafsson, M., Wilander, E., Bergström, R., & Adami, H. O. (1995). Efficiency of organised and opportunistic cytological screening for cancer in situ of the cervix. *British Journal of Cancer*, 72(2), 498-505.
- Hodgins, D. C. (2002). Using the NORC DSM Screen for gambling problems (NODS) as an outcome measure for pathological gambling: Reliability and validity. *National Association for Gambling Studies Journal*, 14(1), 9-17.
- Hodgins, D. C. (2004). Using the NORC DSM Screen for gambling problems as an outcome measure for pathological gambling: Psychometric evaluation. *Addictive Behaviors*, 29(8), 1685-1690.
- James, M., Turner, D. A., Broadbent, D. M., Vora, J., & Harding, S. P. (2000). Cost effectiveness analysis of screening for sight threatening diabetic eye disease. *British Medical Journal*, 320, 1627-1631.
- Jones, R. G., & Kerr, M. P. (1997). A randomized control trial of an opportunistic health screening tool in primary care for people with intellectual disability. *Journal of Intellectual Disability Research*, 41(5), 409-415.
- Kausch, O. (2003). Patterns of substance abuse among treatment-seeking pathological gamblers. *Journal of substance Abuse Treatment*, 25, 263-270.
- Kessler, R. C., Hwang, I., LaBrie, R. A., Petukhova, M., Sampson, N. A., Winters, K. C., et al. (2008). DSM-IV pathological gambling in the National Comorbidity Survey Replication. *Psychological Medicine*, 38, 1351-1360.
- McIntyre, R. S., McElroy, S. L., Konarski, J. Z., Soczynska, J. K., Wilkins, K., & Kennedy, S. H. (2007). Problem gambling in bipolar disorder : Results from the canadian community health survey. *Journal of affective disorders*, 102, 27-34.
- Morasco, B., & Petry, N. M. (2006). Gambling problems and health functioning in individuals receiving disability. *Disability and Rehabilitation*, 28(10), 619-623.
- Morasco, B. J., Pietrzak, R. H., Blanco, C., Grant, B. F., Hasin, D., & Petry, N. M. (2006). Health problems and medical utilization associated with gambling disorders: Results from the National Epidemiologic Survey on Alcohol and Related Conditions. *Psychosomatic Medicine*, 68(6), 976-984.
- Murray, V., Ladouceur, R., & Jacques, C. (2005). Classification of gamblers according to the NODS and a clinical interview. *International Gambling Studies* 5(1), 57-61.
- Noone, A., Spiers, A., Allardice, G., Carr, S., Flett, G., Brown, A., et al. (2004). Opportunistic screening for genital Chlamydia trachomatis infection and partner follow-up in family planning clinics in three Scottish cities. *Journal of Family Planning and Reproductive Health Care*, 30(2), 84-85.
- Ontario Ministry of Health and Long Term Care. (2009). *Community Health Centres*, from http://www.health.gov.on.ca/english/public/contact/chc/chc_mn.html
- Pasternak, A. V., & Fleming, M. F. (1999). Prevalence of gambling disorders in a primary care setting. *Archives of Family Medicine*, 8, 515-520.
- Peters, J., Brooker, C., McCabe, C., & Short, N. (1998). Problems encountered with opportunistic screening for alcohol-related problems in patients attending an Accident and Emergency department. *Addiction*, 93, 589-594.
- Petry, N. M. (2005). *Pathological gambling: Etiology, comorbidity, and treatment*. Washington, DC: American Psychological Association.

- Petry, N. M., & Oncken, C. (2002). Cigarette smoking is associated with increased severity of gambling problems in treatment-seeking gamblers. *Addiction*, 97, 745-753.
- Petry, N. M., Stinson, F. S., & Grant, B. F. (2005). Comorbidity of DSM-IV pathological gambling and other psychiatric disorders: Results from the National Epidemiologic Survey on Alcohol and Related Conditions. *Journal of Clinical Psychiatry*, 66, 564-574.
- Petry, N. M., Weinstock, J., Ledgerwood, D., & Morasco, B. (2008). A randomized trial of brief interventions for problem and pathological gamblers. *Journal of Consulting and Clinical Psychology*, 76(2), 318-328.
- Petry, N. M., Weinstock, J., Morasco, B., & Ledgerwood, D. M. (2009). Brief motivational interventions for college student problem gamblers. *Addiction*, 104(9), 1569-1578.
- Pietrzak, R. H., Morasco, B. J., Blanco, C., Grant, B. F., & Petry, N. M. (2006). Gambling level and psychiatric and medical disorders in older adults: Results from the National Epidemiologic Survey on Alcohol and Related Disorders. *Journal of Geriatric Psychiatry*, 14, 1-13.
- Pignone, M. P., Gaynes, B. N., Rushton, J. L., Burchell, C. M., Orleans, T. C., Mulrow, C. D., et al. (2002). Screening for depression in adults: A summary of the evidence for the U.S. Preventive Services Task Force. *Annals of Internal Medicine*, 136, 765-776.
- Rodda, S., Brown, S. L., & Phillips, J. G. (2004). The relationship between anxiety, smoking and gambling in electronic gaming machine players. *Journal of Gambling Studies*, 20, 71-81.
- Rush, R., Moxam, R. S., & Urbanoski, K. A. (2002). Characteristics of people seeking help from specialized programs for the treatment of problem gambling in Ontario. *eGambling*, 6.
- Sellman, D. J., Adamson, S., Robertson, P., Sullivan, S., & Coverdale, J. (2005). Gambling in mild-moderate alcohol-dependent outpatients. *Substance Use and Misuse*, 32, 199-213.
- Slutske, W. S. (2006). Natural recovery and treatment-seeking in pathological gambling: Results of two U.S. national surveys. *American Journal of Psychiatry*, 163(2), 297-302.
- Tepperman, L. (2009). *Betting Their Lives: The Close Relations of Problem Gamblers*. New York, NY: Oxford University Press.
- Tobin, C., Aggarwal, R., Clarke, J., Chown, R., & King, D. (2001). Chlamydia trachomatis: opportunistic screening in primary care. *British Journal of General Practice*, 468, 565-566.
- Toce-Gerstein, M., Gerstein, D. R., & Volberg, R. A. (2009). The NODS-CLiP: A rapid screen for adult pathological and problem gambling. *Journal of Gambling Studies*, Published online: 15 July 2009.
- U. S. Preventive Services Task Force. (2002). Screening for depression: Recommendations and rationale. *Annals of Internal Medicine* 136, 760-764.
- U. S. Preventive Services Task Force. (2004). Screening and behavioral counseling interventions in primary care to reduce alcohol misuse: Recommendation statement. *Annals of Internal Medicine*, 140, 554-556.
- U.S. Preventive Services Task Force. (1996). *Guide to clinical preventive services, 2nd edition*, from <http://odphp.osophs.dhhs.gov/pubs/guidecps/pcpstoc.htm>
- Volberg, R. A., Munck, I. M., & Petry, N. M. (2008). *A brief clinical screen for problem gambling: Report on the performance of the NODS-CLiP and the NODS among*

- treatment-seeking problem gamblers*. Guelph: Ontario Problem Gambling Research Centre.
- Volberg, R. A., Nysse-Carris, K. L., & Gerstein, D. R. (2006). *2006 California problem gambling prevalence survey: Final report*. Sacramento, CA: Office of Problem and Pathological Gambling.
- Wallace, P., Cutler, S., & Haines, A. (1988). Randomised controlled trial of general practitioner intervention in patients with excessive alcohol consumption. *British Medical Journal*, 297, 663–668.
- Whitlock, E. P., Polen, M. R., Green, C. A., Orleans, T., & Klein, J. (2004). Behavioral counseling interventions in primary care to reduce risky/harmful alcohol use by adults: A summary of the evidence for the U.S. Preventive Services Task Force. *Annals of Internal Medicine*, 140, 557-568.
- Whooley, M. A., Avins, A. L., Miranda, J., & Browner, W. S. (1997). Case-finding instruments for depression. Two questions are as good as many. *Journal of General Internal Medicine*, 12, 439-445.
- Wickwire, E. M., Burke, R. S., Brown, S. A., Parker, J. D., & May, R. K. (2008). Psychometric evaluation of the National Opinion Research Center DSM-IV Screen for Gambling Problems (NODS). *American Journal on Addictions*, 17, 392-395.
- Wulfert, E., Hartley, J., Lee, M., Wang, N., Franco, C., & Sodano, R. (2005). Gambling screens: Does shortening the time frame affect their psychometric properties? *Journal of Gambling Studies*, 21(4), 521-536.

Appendix A: Interview Guide

“Thanks for meeting with me etc....”

“I am not sure what you know about the project, so I thought I’d give you a little information....”

“Do you mind if I record our interview?”

“In other interviews we have conducted it is suggested that the most convenient times to inquire about a patients gambling behaviour would be:

- at the patient’s annual health assessment.*

AND

- when a patient presents themselves to their health care provider with symptoms associated with problem gambling”*

“Does this approach sound reasonable to you? Do you have any questions/comments?”

Note if they see problems with this approach. If this approach sounds reasonable, then ask about each of the screening opportunities individually

Health Assessment

“Could you please tell me what happens at a patient’s yearly physical? Could you walk me through the procedure”

“Do you have a series of questionnaires/checklists that you or the patient fills out during this appointment?”

If there is a paper checklist see if a photocopy can be obtained.

“Where do you think the gambling questions would fit best?”

Presenting with known co-morbid symptoms

“When a patient sees you for a specific reason, how do you typically assess that patient?”

- Do you follow a formalized protocol*
- Do you rely on your experience?*

“Does it ever occur to you to ask a client if they gamble?”

“If you were provided a list of symptoms that are known to accompany problem gambling, would it be more likely to occur to you to ask patients if they gamble?”

Other questions:

“When/how might be the best time/manner to provide practitioners such as yourself training/information on how/when to use the NODS-CLiP”

- *As part of continuing education?*
- *Etc???*

“In your experience as a health care practitioner, what do you typically do when you encounter an individual that you suspect has a substance abuse disorder or other behaviour that is causing the patient significant problems?”

“When we integrate the gambling questions into the intake and yearly physical, what do you think is the most appropriate procedure to follow if the results of the NODS-CLiP indicate the patient may suffer from gambling related problems?”

End off with :

“Thanks,

Can I contact you if I would like further clarification.

- *If yes then how email, phone etc?”*

Appendix B: Health Assessment Questionnaire

Preventive Health Questionnaire for adolescents and adults

Please answer to the best of your ability. If you have any questions, we will be happy to assist you.

Potential Risk Factors		Family History	
Do you smoke?	Yes No	Has there been any change in your family's health within the last year?	Yes No
How many cigarettes per day?	_____/day	Has anyone in your immediate family such as a mother, father, sister or brother suffered a heart attack or stroke?	Yes No
If yes, would you like to quit?	Yes No	Diet Do you eat three meals a day? Yes No Are you concerned about your weight gain / loss within the last year? Yes No Do you eat 6-10 servings of fruits and vegetables every day? Yes No Do you pay attention to the amount of fat, cholesterol and salt in your diet? Yes No Do you eat 6-8 serving of grains, such as cereals, whole grain bread, pasta and / or rice every day? Yes No Do you eat 3-4 servings of calcium rich foods such as soy or milk products every day? Yes No Would you like to see a dietitian? Yes No Referred	
Do you drink alcohol?	Yes No		
How much alcohol do you drink in a week? _____ beer _____ wine _____ other			
Do you play cards for money, buy lottery tickets, bet on sports, on line gaming or engage in other gambling activities?	Yes No		
If you answered yes , please answer the following: Have there ever been periods lasting 2 weeks or longer when you spent a lot of time thinking about your gambling experiences or planning future gambling ventures or bets?	Yes No		
Have you ever tried to stop, cut down, or control your gambling?	Yes No		
Have you ever lied to family members, friends, or others about how much you gamble or how much money you lost on gambling?	Yes No		
Do you use recreational drugs, including marijuana?	Yes No		
Do you feel guilty about your alcohol or drug use?	Yes No		
Do you feel annoyed when someone mentions your drinking or drug use?	Yes No		
Are you sexually active?	Yes No	Dental Hygiene Do you brush your teeth with fluoride toothpaste at least twice a day? Yes No Have you seen a dentist or hygienist in the last year? Yes No	
If yes, do you take precautions to prevent unplanned pregnancy?	Yes No		
How many sexual partners have you had in the last year?	#		
General Safety		Physical Activity & Exercise	
Do you wear a seat belt when in a motor vehicle?	Yes No	Do you get at least 30 to 60 minutes of exercise a day? (could be 3 x 10 minutes)	Yes No
Do you wear a helmet when it is required?	Yes No	Would you like to see a fitness counselor?	Yes No Referred
Do you have a smoke detector on each floor of your home?	Yes No		

Do you test the smoke detectors regularly?	☐ Yes ☐ No	Stress Management Have you recently felt sad, helpless or hopeless? Has your pleasure or interest decreased recently? Would you like to see a counselor?	☐ Yes ☐ No
Do you wear hearing protection if you are exposed to loud noise?	☐ Yes ☐ No		☐ Yes ☐ No
Do you wear sun protection?	☐ Yes ☐ No		☐ Yes ☐ No
Are you worried about being at risk for falls?	☐ Yes ☐ No		☐ Yes ☐ No

Questionnaire préventif pour adolescents et adultes

Veuillez répondre au meilleur de vos habiletés, si vous avez des questions nous serons heureux de vous aider

Habitudes		Histoire familiale	
Fumez-vous?	Oui Non	Dans la dernière année, y a-t-il eu des changements dans la santé de votre famille?	Oui Non
Combien de cigarettes par jour?	_____/jour	Y a-t-il un membre immédiat de votre famille (mère, père, sœur ou frère) qui a eu une crise cardiaque ou accident cérébro-vasculaire dans la dernière année?	Oui Non
Si oui, voulez-vous arrêter?	Oui Non		
Prenez-vous de l'alcool?	Oui Non		
Combien d'alcool prenez vous par semaine ? _____ bière _____ vin _____ autre		Diète Prenez-vous trois repas par jour?	
Jouez-vous aux cartes, jeux en ligne, achetez des billets de loterie ou vous engagez dans tout autres jeux de hasard ?	Oui Non	Avez-vous des craintes au sujet d'un gain/perte de poids dans la dernière année?	Oui Non
Si vous avez répondu oui , répondre aux suivantes : Y a-t-il eu des périodes de 2 semaines ou plus où vous avez beaucoup pensé à vos expériences passées ou avez fait des plans futurs de jeux?	Oui Non	Prenez-vous 6-10 portions par jour de fruits et légumes?	Oui Non
Avez-vous essayé de réduire, cesser ou contrôler votre jeu?	Oui Non	Surveillez-vous le montant de gras, cholestérol et sel dans votre diète?	Oui Non
Avez-vous menti à un ami, membre de votre famille ou autres au sujet de vos habitudes de jeu ou du montant d'argent perdu?	Oui Non	Prenez-vous 6-8 portions par jour de grains comme les céréales, grains entiers, pâtes et/ou riz?	Oui Non
Utilisez-vous des drogues récréationnelles incluant la marijuana?	Oui Non	Prenez-vous 3-4 portions par jour d'aliments riches en calcium comme le soja ou lait?	Oui Non
Vous sentez-vous coupable au sujet de votre consommation d'alcool ou de drogue?	Oui Non	Voulez-vous rencontrer la diététicienne?	Oui Non Référé
Êtes-vous ennuyé lorsque quelqu'un fait un commentaire à ce sujet?	Oui Non		
Êtes-vous actif sexuellement?	Oui Non		
Si oui et si applicable, prenez-vous des précautions afin d'éviter une grossesse? Lequel ? _____		Hygiène Dentaire Brossez-vous vos dents avec un dentifrice au fluorure au moins 2 fois par jour?	Oui Non
Combien de partenaire sexuel avez-vous eu dans la dernière année?	#	Avez-vous visité un dentiste ou hygiéniste dentaire dans la dernière année?	Oui Non

Sécurité Générale		Activité physique & exercice	
Portez -vous votre ceinture de sécurité en voiture?	☐ Oui ☐ Non	Faites- vous au moins 30 à 60 minutes d'exercices chaque jour? (peut être 3 x 10 minutes)	☐ Oui ☐ Non
Portez- vous un casque de sécurité lorsque requis?	☐ Oui ☐ Non	Voulez- vous rencontrer un conseiller en activité physique?	☐ Oui ☐ Non ☐ Référé
Vous assurez- vous régulièrement du bon fonctionnement des détecteurs de fumée ?	☐ Oui ☐ Non		
Portez- vous une protection en présence de bruits forts?	☐ Oui ☐ Non	Gestion du Stress Vous êtes-vous récemment senti(e) triste, démuni (e) ou sans espoir?	☐ Oui ☐ Non
Utilisez -vous une protection solaire?	☐ Oui ☐ Non	Est-ce que votre niveau de plaisir ou intérêt a diminué récemment?	☐ Oui ☐ Non
Etes- vous inquiets d'être à risque pour des chutes?	☐ Oui ☐ Non	Voulez -vous rencontrer un thérapeute ou conseiller?	☐ Oui ☐ Non

Appendix C : Suggested protocol for testing the use of the NODS-CLiP as an opportunistic screen at the Sandy Hill Community Health Centre³

Based on the research presented in this report, there are two circumstances when the NODS-CLiP may be most effectively used as an opportunistic screen at the SHCHC: (1) when clients undergo their yearly health assessment; and (2) when clients are diagnosed with, or present to their health care provider with symptoms indicative of, a disorder found to be co-morbid with problem gambling.

The project would begin with a training session/focus group conducted with Sandy Hill Community Health Centre (SHCHC) health care providers (HCPs; physicians and nurse practitioners), nursing staff, and representatives from Addictions and Mental Health Services (ADMS; the onsite problem gambling treatment facility). During the first part of this session, researchers would provide staff an overview of the pilot project, provide information regarding the NODS-CLiP screen (i.e., its properties, how it is scored, etc.), and a list of disorders that have been found to co-occur with problem gambling. Staff would also be provided clinical practice options when encountering a client who screens positive for the disorder. Based on the current report, these clinical options include: (1) referring the client for treatment (in the case of the SHCHC, to the onsite problem gambling treatment clinic); (2) scheduling a follow-up appointment to discuss the issue; (3) giving the client information about problem gambling (help resources, etc.); and (4) monitoring the situation/condition over time (if the client appears non-receptive). To reach a consensus regarding the circumstances under which each of these actions should be taken and to ensure that all of the HCPs at SHCHC follow the same procedures, we suggest conducting a focus group during the second half of the training session. This

³ This experimental protocol was included in a Level III grant application for the November 2009 solicitation. After initial review, we have been invited to prepare a full proposal that will be considered for funding in early 2010.

focus group would be moderated by a professional facilitator and would include HCPs and representatives from ADMS. The goal of the focus group would be to arrive at a comprehensive set of clinical practice guidelines when encountering a client who screens positive on the NODS-CLiP. The results of the focus group would be documented (as an interim report) and presented to staff at a subsequent training session. During this subsequent session, researchers would explain in more detail exactly what is expected of staff (i.e., the detailed procedure) and answer any question/address any concerns they may have.

Once the interim report has been completed and information provided to the HCPs, the NODS-CLiP would be incorporated into both French and English versions of the centre's health assessment questionnaire. We would then begin collecting data on which clients screen positive for problem gambling. Health assessment questionnaires are initially completed at new client intake, and then (ideally) during each yearly 'physical' thereafter.

Upon completing the health assessment questionnaire, clients see the nurse who would review the three NODS-CLiP questions. If clients did not complete the screen, the nurse would note the reason (e.g., not enough time, language barriers, literacy barriers, privacy concerns, mental impairment prohibiting completion, etc.). If the nurse encounters a positive screen (i.e., one or more endorsed items), the nurse would circle the question in order to bring it to the attention of the physician (or nurse practitioner), and mark the client's chart to indicate a positive screen. When the client sees his/her health care provider (HCP), the HCP would use his/her discretion on how best to address the positive screen (informed by the clinical practice guidelines emerging from the focus group), and note in the client's file the action taken in response to this positive finding. In circumstances where clients are diagnosed with, or present with, a condition known to be co-morbid with problem gambling, HCPs will verbally administer the NODS-CLiP. In these instances, HCPs will mark the client's chart, note the results of the screen, and any action taken in response in the clients file.

Data collection would continue for at least 12 months, after which the charts of clients who screen positive for problem gambling would no longer be marked (note, however, that staff should be encouraged to continue the pilot practice if found to be beneficial). Beginning one month after the start of data collection, client charts would be examined monthly (in the same chronological order they were marked). SHCHC staff would redact any identifying information and provide the anonymized charts to the research team. In addition to clients' responses on the NODS-CLiP, demographic information (age, gender, etc.) would be collected as well as HCP action in response to the positive screen, any co-occurring disorders the client has, and follow-up by HCP (i.e., If referred to treatment, did the client go? Did client and HCP meet again to discuss gambling?, Etc.) This data would permit researchers to determine: a) which item(s) of the NODS-CLiP are endorsed most frequently among clients; b) how HCPs make use of the information from the NODS-CLiP; c); whether clients screening positive have co-morbid disorders similar to those described in the problem gambling literature; and d) whether a client takes immediate steps to address his/her gambling problem.

At the end of the data collection period, HCPs, nurses, and administrative staff would be interviewed regarding their experiences using the screen. Following the interviews, the results would be compiled, analysed, and documented. The results of the proposed study would then be disseminated through a final report to OPGRC, In addition the testing protocol outlined here would permit us to develop a manual to aid other primary health care centres that wish to use the NODS-CLiP as an opportunistic screen.