

COUNTY OF SONOMA  
BOARD OF SUPERVISORS

575 ADMINISTRATION DRIVE, RM. 100A  
SANTA ROSA, CALIFORNIA 95403

(707) 565-2241  
FAX (707) 565-3778



MEMBERS OF THE BOARD

PAUL L. KELLEY  
CHAIR

VALERIE BROWN  
VICE CHAIR

MIKE KERNS

SHIRLEE ZANE

EFREN CARRILLO

March 30, 2009

Mr. Brad Mehaffy  
NEPA Compliance Officer  
National Indian Gaming Commission  
1441 L Street, NW, Suite 9100  
Washington, D.C. 20005

Dear Mr. Mehaffy:

At its meeting of March 24, 2009, the Sonoma County Board of Supervisors and Board of Directors of the Sonoma County Water Agency formally approved the attached comments on the Final Environmental Impacts Statement ("FEIS") for the Federated Indians of Graton Rancheria Casino and Hotel Project ("proposed project"). Please include these comments in any Record of Decision for the proposed project.

The attached comments are intended to identify those areas in which the FEIS remains deficient and out of compliance with the National Environmental Policy Act ("NEPA"). Among other issues, the FEIS includes incorrect background information, including about the County General Plan; fails to analyze the impacts of necessary project components, including the widening of Wilfred Avenue west of the project site; and fails to properly mitigate the project's significant adverse impacts related to flooding and drainage, problem and pathological gamblers, and other resources.

The County hereby requests that the FEIS be revised to better address these issues. The County appreciates the efforts to date of the NIGC, EIS preparers, and the Tribe, and we remain committed to working with all parties to ensure that all impacts and alternatives are disclosed, analyzed, and fully mitigated before project approval.

Thank you in advance for your consideration of the County's comments. If you have questions or require additional information, please contact Jeffrey Brax, Deputy County Counsel, at (707) 565-2421.

Sincerely,

A handwritten signature in black ink that reads 'Paul L. Kelley'. The signature is written in a cursive style with a long, sweeping underline.

PAUL L. KELLEY, Chair  
Sonoma County Board of Supervisors  
Sonoma County Water Agency

## **County of Sonoma and Sonoma County Water Agency**

### **Comments on the Graton Rancheria Casino and Hotel Project Final Environmental Impact Statement (FEIS)**

The following comprises the comments of the County of Sonoma and Sonoma County Water Agency (collectively “County”) on the FEIS for the Graton Rancheria Casino and Hotel Project (proposed project). We acknowledge and appreciate the changes that were made to the Draft EIS, and to the Preliminary Final EIS (PFEIS), in response to our suggestions and the comments of others. We also appreciate the courtesy and cooperation of the both the National Indian Gaming Commission and the EIS preparers in providing copies of the document and information about issuance of the Record of Decision (ROD).

As detailed below, we believe the FEIS does not appropriately respond to several important comments on the Draft EIS, and does not meet the National Environmental Policy Act requirement that it take a “hard look” at the project’s impacts and mitigate them to a less-than-significant level. We respectfully request that the NIGC direct the revision of the FEIS as outlined below, and circulate the revised document for public review.

If the NIGC instead proceeds with the ROD, we hereby reiterate our agreement with the United States Environmental Protection Agency that the NIGC should approve Alternative H, the reduced intensity project, rather than Alternative A.

#### **I. Traffic**

##### **A. Local Roads**

###### **1. Wilfred Avenue**

The County has consistently and repeatedly commented that any project alternative located on Wilfred Avenue would create significant adverse traffic safety and capacity impacts on the roadway. As the FEIS acknowledges at p. 3.8-1, Wilfred Avenue is a rural two-lane roadway with open roadside ditches and no shoulders. It cannot safely accommodate any substantial increase in traffic without widening to three lanes from Stony Point Rd. to the Urban Growth Boundary (UGB).

The FEIS includes several project alternatives located on Wilfred Ave, including Alternative C, which is adjacent to Alternative A—immediately west of Langer Ave instead of immediately east. The FEIR correctly acknowledges that these alternatives would result in significant adverse impacts on Wilfred Avenue, and requires widening to three lanes from Stony Point Rd. to the UGB. (Pp. 5-38 and 42, fn. 4.)

The PFEIS incorrectly omitted a similar requirement for Alternative A, despite its location and generation of substantial traffic on Wilfred Ave. In conversations with the County, the EIS preparers stated that this was an inadvertent omission, and would be corrected in the FEIS. The error has not been corrected, however. The FEIS continues to require widening only for Alternatives B and C. (Pp. 5-38 and 42, fn. 4.)

This is a significant omission and, if not corrected, renders the FEIS deficient as a matter of law. The FEIS concedes that Alternative A would generate 18,261 new vehicle trips per day (p. 4.8-19), 15 percent of which would enter and 12 percent would exit using the County portion of Wilfred Avenue (Figures 4.8-4 and -5.) Those figures are likely understated, but even if accurate, they reveal that Alternative A would generate more than 4,930 new vehicle trips every day on a rural two-lane roadway with open roadside ditches and no shoulders. Wilfred Avenue cannot safely accommodate 4,930 new, daily vehicle trips without widening to three lanes with full 12' width lanes and full 8' width shoulders with turn lanes for intersecting roads. There is no legitimate basis for treating Alternative A differently than the immediately-adjacent Alternative C, or for declining to require widening of Wilfred Avenue from the project site to Stony Point Rd.

On p. 5-65, the FEIS states that if Wilfred Avenue is not widened to increase capacity, “it is recommended that” the Tribe pay a contribution to potential future roadway improvements. This measure is inadequate. No significant development is slated west of the project site, and the County has no plans to widen Wilfred Avenue. The proposed project alone would generate at least 4,930 new trips every day, from the first day it opens. A “recommended” fair share would not reduce the project’s adverse traffic capacity and safety impacts to a less than significant level.

## **2. Langner Avenue and Labath Avenue South of Wilfred Avenue**

As the County has previously commented, the FEIS requires only funding of the restructuring of these roads subsequent to project construction, and does not require any roadway improvements (such as widening) to mitigate traffic safety and capacity impacts resulting from project operation. As with Wilfred Avenue, these avenues are rural, two-

lane roadways with open roadside ditches and no shoulders. They cannot accommodate project construction, much less operations, without substantial improvement.

The FEIS should also identify whether these roads would remain in public ownership after the project opens, or whether the Tribe would petition the County to relinquish these roads from public ownership.

### **3. Roads North of Wilfred Ave (Millbrae Ave and its connectors to Wilfred Ave)**

As the County has previously commented, the FEIS requires only a fair share of a future traffic signal at the Stony Point/Millbrae intersection, and requires no measures to mitigate the project's operational traffic safety and capacity impacts on the roadways themselves. The County has consistently advised that project traffic will undoubtedly find its way onto those roads, which exhibit a variety of non-standard roadway features, including fragile pavement structure. Traffic safety concerns are exacerbated since project traffic would typically be non-local and typically unfamiliar with the roads' deficient conditions. The potential for project traffic to use these roads also would increase if the Tribe does not widen Wilfred Ave between Stony Point Rd to the UGB.

#### **B. Highway 101**

The FEIS continues to misstate the relevant threshold of significance. At page 3.8-7, the FEIS states that Level of Service (LOS) E is acceptable to Caltrans. In fact, Caltrans does not allow LOS D or lower to be made worse by development-generated traffic. Current LOS D or less must be maintained at present levels.

The failure to apply the actual threshold of significance is a fundamental problem that must be corrected before issuance of the ROD. The FEIS should be revised to disclose the correct threshold and mitigate traffic conditions that would fall below it upon project implementation.

The FEIS also continues to improperly rely on funding of the Hwy 101/Wilfred Avenue and other HOV projects as mitigation. As the County has repeatedly commented, those projects were developed to address existing conditions and planned growth in the region without the project. Indeed, the FEIS acknowledges at Table 4.8-1 that Hwy 101 operates already unacceptably in 2008 at LOS E. Caltrans did not account for additional project-generated traffic in performing modeling and operational analysis for the any of the Hwy 101 HOV projects. As a result, contributing to the HOV projects would not mitigate the project's significant traffic impacts.

It is especially inappropriate to claim credit for funding the Wilfred Project. The Wilfred Project has already been awarded and will start construction in spring of 2009. No further funding is necessary, and the FEIS should not claim to the contrary, much less pretend that a monetary contribution would mitigate the project's significant traffic impacts.

Instead, the FEIS should recognize that the project would add the equivalent of one entire traffic lane of volume to the entire Hwy 101 corridor from Rohnert Park southbound. The FEIS should disclose that the project would generate close to 1600 vph during peak traffic times, which Caltrans uses a LOS C volume for freeway segments.

The FEIS should be revised to discuss the actual measure that would be necessary to mitigate the project—the addition of another full lane to the entire Hwy 101 corridor south of Rohnert Park. If this measure is infeasible because of physical or economic constraints, the FEIS should pragmatically address the project's significant short- and long-term impacts to provide at least some positive traffic congestion relief. Specifically, the Central B Project HOV Project (Pepper Road to Old Redwood Hwy) will be 100% designed by late 2009, but is funded only through design. The funding shortfall for construction is approximately \$32 million.

The FEIS states that the Tribe “support(s) efforts related to the completion of the project (Wilfred Avenue to Old Redwood Hwy HOV projects) in a timely fashion (2008).” As a result, the FEIS should require the Tribe to contribute the entire cost of construction for the last remaining segment (Central B) of HOV lanes between Wilfred Avenue and Old Redwood Hwy as its fair share to all of the projects it counts as its mitigation. The \$32 million cost identified above is approximately the cost of one freeway lane of traffic between Wilfred Ave and Old Redwood Hwy—i.e. the cost to mitigate the increased freeway traffic generated by the project alone.

It would also be appropriate to require the Tribe to fund SCTA's administrative effort to seek and program funds for the completion of other HOV projects south of the project site, since 69% of project traffic would come from south of Rohnert Park. In particular, a “proportional share” for the Hwy 101 Marin-Sonoma Narrows (MSN) projects currently under design appears warranted, since the project would impact this portion of Hwy 101.

The FEIS should also be revised to identify the methodology to be used to calculate the Tribe's contribution to roadway improvements contemplated on page 5-37. For state highways, Caltrans uses the Method For Calculating Equitable Mitigation

Measures” outlined in the “Guide For The Preparation Of Traffic Impact Studies.” The formulas should be used when “a project has impacts that do not immediately warrant mitigation, but their cumulative effects are significant and will require mitigating in the future,” and when “[a] project has an immediate impact and the lead agency has assumed responsibility for addressing the improvements.”

The FEIS should also be revised to disclose whether the establishment of escrow accounts for project contributions would apply to Caltrans or SCTA as well as the County for both 2008 and 2020 mitigation.

### **C. Timing of Roadway Improvements.**

As the County has previously commented, all identified full-share road improvements should be constructed by the Tribe instead of simply being funded, as the FEIR indicates (2<sup>nd</sup> paragraph of Section 5.2.7, Mitigation for Intersections). The County’s standard practice in conditioning all other development projects requires the developer to construct road improvements necessary to mitigate project impacts. This developer should not be treated differently. Nor should the County be expected to incur the administrative and organizational burden of designing and constructing such developer-driven road improvements.

In addition, all full-share improvements listed must be constructed prior to project occupancy/operation start-up. This is necessary to ensure timely mitigation of the project’s significant traffic safety and capacity impacts.

### **D. Construction Traffic.**

In Appendix FF Section 2.11.13, Construction Impacts response, page 291, the FEIS seems to present the specious argument that the County and other public agencies have the responsibility to ensure that their roads have the structural ability to withstand traffic loads commensurate with road classifications. It would follow, then, that the FEIS intends to assess the project’s construction traffic impacts relative to that idealized condition. In fact, the County’s road classifications represent only the roads’ actual use, independent of whether they have been engineered and constructed to a particular standard. A case in point is Wilfred Avenue. The FEIS should therefore recognize that the project’s construction traffic impacts on the structural integrity of any affected roads must be analyzed and mitigated in direct response to the reasonably predicted and (ultimately) actual damage to the road given its existing condition.

The County has previously commented that the massive importation of fill required to construct the proposed project would destroy Wilfred Avenue and significantly impact other County roads. In previous conversations, the EIR preparers indicated they were willing to prohibit the use of County roads to import fill, and to specify exact routes for other construction traffic.

These measures do not appear to have been incorporated into the FEIS. Instead, the FEIS states that County roads will be used “whenever necessary.” This remains inappropriate. Wilfred Avenue in particular could not stand up to haul truck traffic and would need repeated and timely maintenance to provide on-going serviceability of the pavement, including but not limited to pothole patching, repair of distorted areas, and additional paving to maintain smoothness. The FEIS offers third party review of the pavement condition upon completion of the haul operation, but does not allow County approval of the consultant and does not specify the methodology to be used in assessing the degree of the final pavement mitigation. Absent further analysis and mitigation, the FEIS fails to meet its NEPA duty of taking a “hard look” at construction traffic impacts.

Page 5-64 states that lane closures are to be off-peak “when feasible.” In fact, lane closures must be prohibited for traffic congestion and safety reasons, and exceptions allowed only at the sole discretion of the County.

Page 5-65 states that importation of construction material shall be scheduled outside area-wide commute peak hours. In fact, the fill is scheduled for 10-hour days, 6 days a week, for several months (page 4.8-16). It is impossible to meet this schedule and still avoid commute hours. The County has previously identified this issue, but the EIS preparers have not addressed it.

#### **E. Specific Comments**

Page 3.8-6 should be revised to refer to SCT (Sonoma County Transit) and delete the word “Authority.” The FEIS also should be revised to update its information regarding the Sonoma Marin Area Rail Transit project. Measure Q passed in the November 2008 election with 68.5% of the vote, raising the sales tax by one quarter percent to pay for construction and operations of the project.

Page 3.8-8 should be revised to clarify that the Rohnert Park Expressway (RPX) SB ramp has been completed and in service for at least two years.

As the County has previously commented, Section 5.0 of the FEIS should be revised to clearly identify operational traffic impact mitigations for the various impacted

road segments. The FEIS contains a footnoted reference to the Wilfred Avenue segment (Table 5.7, Intersection Improvements) but no other segment improvements are noted. Cases in point include Langner and Labath Avenues.

Page 5-58 conditions the Tribe's proportional share contribution for the HOV projects between Wilfred Avenue and Old Redwood Hwy to "remaining costs (if any)." The FEIS thus appears to use state and local tax measure funding as mitigation for the project's significant LOS impacts to the Hwy 101 corridor. This is inappropriate. As discussed above, Caltrans did not account for project-generated traffic in its traffic operational analyses for the HOV projects. The HOV projects do not mitigate the project's traffic impact.

On page 5-61, Table 5-12 does not include a column for Alt. A Mitigated 2008 LOS.

## **II. Law Enforcement**

Similar to previous versions of the document, the FEIS fails to take a "hard look" at the project's impacts on law enforcement. The FEIS fails to present a detailed analysis of fiscal impacts, and instead repeatedly states that the Tribe will negotiate an agreement to compensate the County. This is entirely inappropriate. As the County has repeatedly commented, the sole purpose of an FEIS is to disclose, analyze, and mitigate impacts before project approval. Relying on a deferred negotiation is an inadequate substitute that does nothing to fill in the FEIS's analytical and mitigation gaps.

The FEIS also fails to adequately respond to the County's previous comments regarding the annual payments necessary to mitigate general law enforcement impacts, detention and justice services, and County-wide special services including SWAT, Bomb, and Helicopter units. The FEIS argues only that since the latter were included in the overall County budget, they were already factored into the funding level proposed to mitigate fiscal impacts. This claim is insufficient to fully disclose and analyze the fiscal impacts to the Sheriff's Department.

In response to previous County comments, the FEIS has updated its references to jurisdictional authority. The FEIS now correctly states that assuming no agreements to the contrary between the Sheriff's Department and another agency, the Sheriff's Department would be the primary law enforcement service provider unless the project site is annexed by Rohnert Park. The FEIS should be further revised to actually analyze



the likelihood of such annexation, and the ways in which it would alter the provision of public services to the project.

Finally, the FEIS states that Creekside Middle School is served by Rohnert Park via a contract. In fact, the school was annexed by Rohnert Park in late 2006 or early 2007, and the City is directly responsible for providing services.

### **III. Fire and Emergency Services**

Although the FEIS offers proposed mitigations for the primary fire department responder, it fails to address the impacts that will be realized by other jurisdictions serving the area. An assessment of these service area impacts, with corresponding mitigations, requires the completion of a "Standards of Cover for Emergency Response" analysis consistent with a nationally recognized standard.

The analysis needs to emphasize the delivery of an effective firefighting force, with specific attention to the impacts upon regional resource draw down (especially in the Hwy 101 corridor) and the need to dynamically relocate resources as incidents occur. The analysis should include a remedy to the financial impacts associated with increased service delivery.

Absent this analysis, the FEIS fails to meet NEPA standards. It is not sufficient merely to state that the provider of primary services could be the Rohnert Park Department of Public Safety, and that the Tribe would enter an agreement that "could consider mutual aid services." Such statements fail to analyze and ensure mitigation of the project's direct impacts on fire services, much less its significant cumulative effects on regional fire services providers.

The FEIS also should be revised to update its information regarding the Sutter-Memorial Hospital transaction. In January 2007, Sutter Medical Center of Santa Rosa (SMCSR) and Santa Rosa Memorial Hospital (Memorial) announced they signed a letter of intent that included the transfer of certain HCAA obligations from SMCSR to Memorial. In March 2008, SMCSR and Memorial announced the termination of their negotiations. SMCSR is proposing a revised Business Plan to present to the Board of Supervisors to allow SMCSR to more efficiently comply with its HCAA obligations through 2021. SMCSR has indicated that the proposed revised Business Plan will include construction of a 70 bed hospital at the Wells Fargo Center for the Arts site. The hospital will include an ER, ICU, Medical/Surgical, Labor & Delivery, a Neonatal

Intensive Care Unit, and SMCSR will continue to serve the County's uninsured and underinsured through 2021.

SMCSR's proposed plan may be viewed on the County's website at [www.sonoma-county.org/county-sutter-proposal](http://www.sonoma-county.org/county-sutter-proposal). Additional information is available at [www.sonomacounty.org/health/admin/pdf/press\\_release\\_sutter\\_submits\\_proposed\\_plan\\_to\\_county\\_11\\_20\\_08.pdf](http://www.sonomacounty.org/health/admin/pdf/press_release_sutter_submits_proposed_plan_to_county_11_20_08.pdf).

#### **IV. Socioeconomics and Health Services**

##### **A. Problem and Pathological Gambling**

The FEIS errs by relying on information 11 years out of date, including outdated findings from the California Council on Problem Gambling (CCPG). The CCPG has made more recent findings regarding the need for formal intensive treatment, help lines, and public awareness and prevention campaigns targeting the public, gamblers, and casino employees. The CCPG also recommends youth education to address underage gambling utilizing web based resources, measures to prevent youth gambling-related health problems, and programs to protect vulnerable and at risk youth. The FEIS proposes inadequate funding to address these and other prevention and treatment options for Sonoma County residents.

The FEIS also fails to address increased prevalence among adolescents, older adults, ethnic and cultural, and other groups. The scientific literature, including the study attached hereto as Exhibit A, identifies a 13.3 percent prevalence rate for problem and pathological gambling by adolescents, and that men, the young, and those with concurrent substance abuse or mental illness are at greater risk of a gambling-related problem. (Exh. A at 62-63.) The FEIS should revise its estimates of new problem and pathological gamblers to identify these special populations, and require targeted treatment to mitigate impacts.

In addition, the FEIS errs by proposing funding calculation for treatment limited to problem and pathological gamblers who seek help. The FEIS proposes minimal to no public awareness and education campaign, which would serve to skew funding formulas by generating artificially low projections of gamblers needing problem and pathological gambling treatment services. Artificially reducing the number of problem and pathological gamblers affected by the project would in turn generate insufficient mitigation funding for prevention, education and treatment capacity.

The FEIS should be revised to include a neutral and frank evaluation of the project's potentially significant socioeconomic and related impacts, including its obvious community risk for developing problem and pathological gambling. The scientific literature notes that lower-income households spend proportionately more on gaming activities than higher-income households, and that gaming projects impose great costs to families in terms of dysfunctional relationships, violence and abuse, financial pressure, and disruption of growth and development of children. (Exh. A at 63.)

The FEIS should be revised to require mitigation including but not limited to:

- Requiring a determination of baseline gambling impact indicators and their current levels prior to opening. Participation in the Healthy Sonoma website to track community health impacts associated with the project.
- Incorporation of known successful employee training programs, including those listed in the American Gaming Association's 2004 publications listing casino properties in 14 states that participate in successful education programs about responsible gaming.
- Incorporation of problem gambling and domestic violence prevention education to be distributed through a community education media campaign including Healthy Sonoma website resources.
- Requiring ongoing tracking and monitoring for changes in indicators to inform the community Tribe, cities and County.
- Requiring funding for intervention and action when indicators/statistics move in the wrong direction.
- Requiring true-up of projected impacts with actual findings (data/statistics) over agreed upon timeframes.
- Periodic analysis of indicator changes and application of emerging CCPG research findings.

#### **B. Child Abuse and Neglect and Relationship to Domestic Violence**

The County has previously commented that the EIS did not include adequate mitigation for the significant project impacts of child abuse and neglect and domestic violence.

The FEIS has revised Section 5.2.6 to include a statement that the Tribe shall train employees to recognize domestic violence and sexual assault situations, display domestic violence hotline numbers, and work with local agencies in domestic violence and sexual assault situations. But the FEIS has not been revised to include any mitigation addressing child abuse and neglect. Appendix FF instead states that “Appendix N indicates that casino impact researchers did not find a remarkable relationship between casinos and child abuse.”

That statement is false. Information from the Department of Health and Human Services indicates that 53% of men involved in domestic violence also abuse their children. Since the FEIS correctly recognizes the nexus between casino operations and domestic violence, it should also recognize the secondary nexus with child abuse and neglect.

The FEIS should be revised to mitigate project impacts by requiring the Tribe, at a minimum, to train employees to recognize child abuse situations and respective reporting requirements, display the appropriate hotline number, and work with local agencies in child abuse prevention.

### **C. Substance Abuse**

The FEIS correctly notes in Appendix N that casinos generate a universal demand for substance abuse assistance from affected social service departments. But the FEIS does not yet provide adequate mitigation for the project’s increased demand for treatment. Access to treatment on demand for substance abuse is for the most part not available in Sonoma County. Currently there is insufficient capacity to absorb increased treatment on demand for services in the community without new funding. The FEIS should be revised to require the Tribe to work with local entities and fund treatment on demand for substance abuse, addiction and problem gambling.

### **D. Access by Vulnerable Adults**

The County has previously commented that the EIS should require the Tribe to adopt measures to limit access to vulnerable adults. The FEIS does not appear to respond to this comment, either in Appendix FF or Section 5.2.6. At a minimum, the FEIS should be revised to require the Tribe to train employees to recognize mental health issues and elder abuse situations, understand the relevant reporting requirements, display the appropriate hotline number, and work with local agencies to limit and prevent impacts.

### **E. Public Assistance Costs**

The County previously commented that the EIS should use the full cost of public assistance in calculating annual service costs for the new service population, and not just the County share. The figures remain unchanged in the FEIS; there is no reference or response in the document explaining why it was not changed.

### **F. Drug Arrests and Diversion**

The FEIS cites Special Enforcement Unit (SEU) funding for enforcement efforts against gangs, drugs, and repeat offenders, but fails to address costs born by the County for diversion into treatment, particularly for repeat offenders with addiction disorders. The FEIS acknowledges that the project would result in a 95% increase in drug arrests, but fails to include adequate funding to address the resulting demand for diversion into substance abuse treatment.

### **G. Indoor Air Quality**

The FEIS proposes to mitigate indoor air quality impacts simply by providing optional segregation of smokers from non-smokers. This measure fails to address significant health risks associated with the project. The Surgeon General's June 2006 report on the issue found that there is no safe level of exposure to secondhand smoke, and the California Air Resources Board and CalEPA have labeled secondhand smoke as a Class A carcinogen. The EIS fails to protect public health in the proposed mitigation. The FEIS states "The Tribe shall ensure that comfort levels are acceptable to most occupants..." and ignores the impact of second hand smoke on patrons and employees including those who may be pregnant or living with breathing disorders.

The EIS mitigation should be revised to require that the project be developed, advertised, and promoted as a "smoke-free" environment, and prohibit the sale and use of tobacco products throughout the project footprint. Smoke-free tribal casinos exist in both California (Lucky Bear in Hoopa) and New Mexico, and smoke-free non-tribal casinos exist throughout the country. Smoke-free casinos report few difficulties with enforcement and document significant economic, health and safety benefits related to reduced rates of employee illness and absenteeism, lower cleaning and maintenance costs, and reduced insurance costs due to decreased fire risk.

Implementation of this policy would entirely prevent exposure to secondhand smoke. Costs would be negligible and, in fact, significant savings would be achieved

through the reduced rates of employee illness, reduced cleaning and maintenance costs, and reduced fire risk.

## **H. Mitigation Measures**

Measure F on page 5-33 should be revised to require, at a minimum, that the results of customer surveys be made available to city and County as well as state and federal officials.

Measures Q, U, and V on pages 5-68 and -69 state that employees will be trained to identify intoxicated and underage drinkers, but they do not require policies to limit or prevent patrons from becoming intoxicated in the first place. The FEIS should be revised to require policies addressing drink counting and pricing, serving sizes, and food service.

Measure W on page 5-69 should be revised to specify that the internal monitoring program would support enforcement of the Tribe's zero tolerance for underage drinking and parties involving minors.

Measure X on page 5-69 should be revised to specifically direct that on-site security work with law enforcement to prevent sexual assault, human trafficking and prostitution by reporting known registered sex offenders/predators. The measure should also require the Tribe to train employees in human trafficking recognition and partner with cities and the County in anti-human trafficking efforts.

Measure Y on page 5-69 should be revised to require the Tribe to collaborate with law enforcement by warning intoxicated patrons not to drive and dialing 911 to report drunk drivers.

## **V. Land Use, Agriculture, and Growth**

### **A. General Plan 2020**

The FEIS requires an overhaul to update its analysis of the project's consistency with the Sonoma County General Plan. In September 2008, the Board of Supervisors adopted the GP2020 update, which changed many of the goals, objectives, and policies of the General Plan. Among other changes, GP2020 includes a new Water Resources Element with many new policies on water quality, groundwater and public water systems; combines the Open Space and Resource Conservation Elements; designates more Biotic Habitat Areas and Riparian Corridors; and adds new policies in all elements. The FEIS should be revised to revise obsolete references, address the project's

consistency with new and revised policies, and impose mitigation measures to address significant inconsistencies and project impacts.

Among other changes, Table 4.8.3 should be revised as follows to reflect the current policy language in the Sonoma County General Plan:

- Change Policy LU-3c to read: “ Policy LU-3c: Avoid urban sprawl by limiting extension of sewer or water services outside of designated Urban Service Areas pursuant to the policies of the Public Facilities and Services Element.”
- Either following Policy LU-3 or under a separate heading for “Public Facilities and Services Element,” add summary of Policy PF-if to read: “Avoid extension of public sewer services outside of either a sphere of influence adopted by LAFCO or the Urban Service Area, except to resolve a public health hazard resulting from existing development, where a substantial overriding public benefit would result, or to allow an affordable housing project adjoining an urban service boundary. “
- Change reference from LU-5c to 5c & b.
- Change reference from Goal LU-8 to LU-9.
- Change reference from Objective LU-8.1 to Objective LU-9.1.
- Change reference from Objective LU-8.2 to Objective 9.2.
- Change reference from Goal LU-9 to Goal LU-10.
- Change reference from Open Space Element to Open Space and Resource Conservation Element and change all policy and figure references from “OS” to “OSRC.”
- Change reference from OS-1b to OSRC-1b & d.

## **B. Land Use**

The County previously commented that Section 2.13.2 incorrectly stated that “any development planned within the designated sphere of influence would be subject to approval by the City, while development outside of the sphere of influence would be subject to approval by Sonoma County.” In fact, regardless of any sphere of influence,

any development proposed on non-trust land outside City limits is subject to County approval. Development is subject solely to City approval only after annexation of the relevant parcel.

The FEIS continues to be in error. The relevant sentence on page 335 should be revised to read: “This important because any development planned within the designated sphere of influence would be subject to review and comment by the City but would not be subject to approval by the City until annexation took place, while development outside of the sphere of influence would be subject to approval by Sonoma County.”

The FEIS also should revise response 2.13.11, which incorrectly claims that the site’s future trust status renders it consistent with General Plan goals regarding intense development in the designated community separator. This claim is unavailing. Regardless of who owns the project site, the proposed project site is inconsistent with the General Plan, a significant impact.

The response also falsely states that “the appearance of the proposed development would be consistent with the commercial activities” to the east and is therefore consistent with a General Plan goal. In fact, the proposed project would be 10 stories, much taller than allowed by either the City or the County in the vicinity. The project’s appearance would not be remotely consistent with the commercial activities to the east.

The FEIS also should revise response 2.22.11, which incorrectly states that the project is consistent with Goals LU-5 and OS-1, which address the community separator open space designation. The project would not be consistent with these goals unless and until the City of Rohnert Park annexes the site. Since the FEIS does not propose annexation, the project lies outside of the City on lands that are designated for open space and agriculture and is not consistent with the County General Plan.

### **C. Agriculture**

The FEIS should revise Appendix FF response 2.20.4, which incorrectly claims that soil quality is the only relevant measure of a site’s agricultural potential. As the County has previously commented, this claim is incorrect. In Sonoma County in particular, many soil types that were thought to be marginal by NCRS or Storie Index are in productive and profitable use. The FEIS should acknowledge that the project would result in a cumulatively significant loss of potentially productive agricultural land.

The FEIS also should be revised to include mitigation measures to reduce the project’s significant land use compatibility impacts. These include:



- Redesigning the project layout and implementing construction techniques to reduce the impact of odors from neighboring farm operations on project patrons, particularly during the summer.
- Requiring the Tribe to accept responsibility for educating project customers regarding the types of agriculture that occur in the area and their potential impacts. This could be accomplished through brochures passed out during registration, signs in the halls, and training of staff regarding the nature of the operations and the County's Right to Farm protection.
- Requiring the Tribe to avoid referring to the County customer complaints about odors and other impacts from properly conducted farming operations in the vicinity of the project.

The County previously recommended all of these measures in comments to the EIS preparers, yet the FEIS continues to include no mitigation measures for effects on agriculture.

Finally, Page 3.8-50 and Table 3.8-8 should be revised to explain that the project site is considered "Farmland of Local Importance," in productive agricultural use, and designated for continued agricultural use by the County General Plan.

#### **D. Growth-Inducing Impacts**

As the County previously commented, response 2.14.1 does not contain evidence supporting its claim that widening Wilfred Ave between the project site and Stony Point Rd would not induce growth. Land use planners have long recognized that road capacity improvements through rural agricultural areas cause growth pressures over time unless mitigation is provided at the outset. The FEIS should be revised to disclose and mitigate the growth pressures and development applications that would result from implementation of the proposed project.

The FEIS should also revise response 2.14.2, which incorrectly presumes that the project is similar in size and scope and has the same growth-inducing potential as the development contemplated by the Northwest Area Specific Plan. The proposed casino, hotel, restaurants, spa, conference rooms, and other tourist-driven amenities would receive far more visitors and vehicle trips that would have ever occurred under the City's plan for the area. As a result, the project would generate far more traffic along Stony Point Rd and Wilfred Ave, leading to greater growth pressures and developer interest along both roadways. The FEIS should be revised to include measures to mitigate these

pressures, rather than incorrectly claim that the project is really no different than the development contemplated by the Specific Plan.

## **VI. Water Resources**

The County has repeatedly and emphatically commented that the project should be revised to avoid proposed discharges to the Bellevue-Wilfred Flood Control Channel. The channel remains owned by the Sonoma County Water Agency (SCWA), which has discretion over the project's access and ability to use the channel. The channel is already impacted, and that any increase in discharge would be a significant adverse effect. The FEIS should be revised to require the Tribe to submit its detailed building plans to review under the updated SCWA *Flood Control Design Criteria* (FCDC), as any private developer would be required to do, and obtain an easement, license, or other entitlement to use the channel.

Response 2.5.44 falsely claims that the Tribe has the legal right to use SCWA property to convey stormwater and wastewater "as long as such use is reasonable and does not result in injury to others." It also incorrectly states that the Tribe need not submit to FCDC review to determine whether the proposed use is in fact reasonable or would result in injury, and that SCWA thus would have no oversight or approval authority over the discharges and their environmental impacts.

This response is unavailing. We note the Regional Board's previous comments that the Laguna de Santa Rosa is already impaired for nitrogen, phosphorous, sediment, low temperature, low dissolved oxygen, and mercury, and agree with the Regional Board that we "cannot support the introduction of a new discharge of impairing pollutants to this troubled watershed."

The FEIS also errs in its response to comments noting that one-third of the project site is located in a Zone X flood area, and the project would thus contribute to both localized drainage problems and a significant reduction in the flood-carrying capacity of the floodplain. The FEIS responds by noting that the Federal Emergency Management Agency (FEMA) does not regulate Zone X, which is beside the point. NEPA requires that the FEIS analyze all environmental impacts, regardless of whether affected resources are concurrently regulated another federal agency. The project site is designated Zone X because it floods during a 100-year event, and implementation of the proposed project would displace those waters and impact neighboring properties and the environment.

The FEIS should be revised to disclose and analyze the project's real drainage and stormwater impacts, both on neighboring parcels and the floodplain as a whole. In addition, the FEIS should mitigate impacts by requiring that the project implement additional detention facilities and other measures, sufficient to trap all stormwater and other discharges on the project site.

The FEIS should also be revised to fully address the impacts of placing a treatment plant on top of wetlands, as shown in Figures 2-6 and 2-7. The County previously commented that the EIS should be revised to indicate whether mitigation measures or a U.S. Army Corps of Engineers permit would be required to destroy wetlands. Appendix FF truncates the County's comment, and does not actually respond to either issue. It states only that a NPDES permit for wastewater discharges, which misses the point.

The FEIS should also be revised to provide additional information and justification for the monthly Irrigation Efficiency factors used in Appendix D, Attachment B, page 3 (labeled "p.2"). The attachment states at page 1 that "[t]he irrigation efficiency was assumed to vary throughout the year from 0.6 in the summer to 0.95 in the winter," but provides no additional information, much less a citation, calculation, or formula to check the presented data. The County has attempted to research the issue, but has not identified any methodology for deriving or validating the efficiency factors. The FEIS should be revised to explain how it derived the information used to justify the proposed wastewater discharges.

The FEIS should also be revised to disclose whether its Irrigation Efficiency calculations are based on a normal year of rainfall, which appears to be the case, rather than a wet or 100-year rainfall year. Appendix D, Attachment B, page 3 (labeled "p.2") identifies 6.3 inches as the "Peak Monthly Precip." Yet the chart on the previous page shows that 6.3 inches is close to the average precipitation in a normal January, and nowhere close to a peak monthly precipitation. The chart instead shows that peak precipitation would be 12.71 inches in January, 10.92 in December, and 10.60 in February, among others.

Wet and flood years are reasonably foreseeable in the project area, and the increased rainfall could drastically alter the irrigation efficiency of the proposed discharge site. The FEIS should be revised to clarify how the monthly irrigation efficiencies were developed, and make corrections to account for reasonably foreseeable rainfall years.

## VII. Air Quality

The FEIS indicates at pages 4.4-11 and 5-16 (see also Table 5-1) that ROG , PM10, and PM2.5 emissions would exceed daily and annual thresholds, and would therefore be considered significant environmental effects. The FEIS further notes at page 5-16 that implementation of Mitigation Measures A – V (FEIS pages 5-11 through 5-15) for construction and operational emissions would not reduce project ROG, PM10, or PM2.5 emissions to less than significant levels.

Accordingly, the FEIS includes a final air quality mitigation measure, Measure W, which actually includes seven possible measures (including the purchase of emission reduction credits), and which commits the Tribe to implementing one or more of these seven measures if and only if these new measures prove to be “cost and technologically feasible and appropriate mitigation programs are available within the air basin.” The FEIS goes on to note at page 5-16 that if Mitigation Measure W is not implemented, all project alternatives would result in significant and unavoidable impacts to air quality.

While it is encouraging to see the measures included in Measure W, reliance on this measure to mitigate project emissions of ROG, PM10, and PM2.5 emissions to less than significant levels is meaningless in the absence of a formal commitment to implement this measure. It is not appropriate to rely on non-binding measures that may not result in mitigation of significant impacts.

Finally, we note that the FEIS has added at page 4.4-2 a brief mention of potential project concerns related to Diesel Particulate Matter (DPM). However, without any apparent quantitative analysis the FEIS simply concludes that diesel emissions would be less than significant because the project area is sparsely populated, and construction-related emissions would be reduced by virtue of the implementation of Mitigation Measure B. At a minimum, the FEIS should be revised to include a screening level analysis of the potential health risk from DPM from both construction-related and operational emissions. If this analysis shows significant DPM impacts, the FEIS should be revised to include mitigation measures and commit to their implementation. Absent this analysis, it is inappropriate to claim that this impact has been reduced to a less than significant level.

## VIII. Noise

We recognize that the FEIS revised Chapter 3.10 to show the locations of noise monitoring and sensitive receptors, and explain the basis for the survey methods used to establish existing ambient noise levels at the representative sensitive receptor locations. We also recognize that Chapter 4.10 has been revised to include an analysis of noise from onsite sources with respect to hourly daytime and nighttime noise limits. While the analysis did not follow County guidelines, it at least provides a quantitative assessment of impacts from stationary noise sources and on-site vehicle circulation.

By contrast, the FEIS's assessment of construction noise continues to be qualitative rather than quantitative, and thus fails to properly disclose and mitigate impacts. The size, scope, and duration of the proposed construction would result in substantial noise, especially when viewed in connection with other reasonably foreseeable projects, such as the proposed commercial and residential development immediately east and north of the Wilfred site. A quantitative analysis is economically feasible, essential to a determination of whether direct and cumulative construction noise would significantly impact sensitive receptors, and necessary for informed public review under NEPA. It is not sufficient simply to state that worst-case average sound levels at sensitive receptors would be 79 ldn, a 24-hour day/night average noise level.

The FEIS should be revised to estimate direct and cumulative construction noise levels at the most affected receptors, and compare the levels to existing ambient levels and other appropriate criteria for speech, activity, and sleep disturbance. The FEIS should further mitigate construction noise impacts by, at a minimum, prohibiting noise-generating construction activities during nighttime and early morning hours. Currently only two mitigation measures address construction noise (at p. 5-71). One calls for project construction to be limited, to the extent feasible, to the period 7:00 AM to 10:00 PM, and the other calls for pile driving (if needed) to be limited to the period 9:00 AM to 5:00 PM. It is not appropriate to rely on measures that would be implemented only when deemed "feasible" by the Tribe. In addition, the FEIS makes no attempt to quantify either the effect of these measures or, more importantly, the mitigation required to reduce construction noise to less than significant levels.

The FEIS also should be revised to correct its assumption that nighttime (10:00 p.m. to 7:00 a.m.) traffic would constitute just 13 percent of the daily total. Traffic noise modeling commonly assumes an 87 percent/13 percent split between daytime and nighttime traffic, and this assumption is appropriate for determining the baseline. It does not appear appropriate for assessing project impacts, however, because the proposed

project would be a 24-hour operation and would generate traffic at all hours. It is incorrect for the FEIS and Appendix R to assume that noise levels during the quiet nighttime hours would fall as low as 35 dBA, 15 to 20 decibels lower than noise levels during the peak hours that correspond to the Ldn. The project would instead generate substantial traffic noise during nighttime hours, and result in substantially higher increases in noise levels than those presented in Table 4.10-4. The FEIS does not respond to previous comments on this issue, and does not provide decision-makers or the public with an adequate description of the effects on the noise environment.

Finally, the FEIS has been correctly revised to include at pages 5-56 and -57 quantitative goals for noise levels from HVAC equipment or other stationary sources. Mitigation measures remain vague and open-ended, however, and the FEIS does not commit the Tribe to mitigate noise to achieve the quantitative limits. It is still not possible to know whether measures such as sound rated windows and other building sound insulation treatments, or the construction of berms or walls, constitute feasible mitigation that would result in a substantial reduction in noise.

## **IX. Visual Resources**

Response 2.22.1 in Appendix FF correctly acknowledges that the project would be larger than any single commercial building in the vicinity. Indeed, the project would be substantially larger than any other commercial building, because Rohnert Park limits structures to 65 feet in height. The fact that this regulation would not apply on trust land is beside the point; the building would greatly exceed the General Plan and zoning regulations of both the County of Sonoma and City of Rohnert Park, and exceed the significance criteria stated in the FEIS.

Specifically, the structure would introduce physical features that would be substantially larger than planned development to the north and east, and substantially out of character with the limited development to the south and west. It would also significantly alter the natural landscape, dominate the view, and appear as a substantial, obvious, and disharmonious modification of the overall scene, which includes rural uses and much smaller commercial development.

The FEIS should be revised to mitigate the project's visual impacts to a less-than-significant level. Alternative H demonstrates that it is possible to reduce the height of project structures while still meeting the Tribe's economic needs and producing a feasible project. Reducing the height would allow the project to match other planned development in the City and significantly mitigate visual impacts.

# **EXHIBIT A**

# Expansion of gambling in Canada: implications for health and social policy

David A. Korn

## Abstract

CANADA EXPERIENCED A DRAMATIC INCREASE IN LEGALIZED GAMBLING IN THE 1990s, primarily because of governments' need to increase revenue without additional taxation. This article examines gambling from a public health perspective. The major public health issues include gambling addiction, family dysfunction and gambling by youth. Debates have emerged about the health, social and economic costs and benefits of gambling. Stakeholder and social policy groups have expressed concern about the impact of expanded gambling on the quality of life of individuals, families and communities. Epidemiological studies show that the prevalence of gambling in the general adult population is low but increasing. Of particular concern is the high though steady prevalence of gambling among youth. New technologies have been linked to gambling-related problems such as addiction to gambling by video lottery terminals. Gambling by means of the Internet represents another emerging issue. The article concludes with recommendations for health and social policy related to gambling. These recommendations incorporate a broad public health approach to create a strong research program and to balance risks and benefits.

**G**ambling is as old as human history. Yet, as we move into the third millennium, Canada is experiencing a new phenomenon — the dramatic expansion of government-owned legal gambling. This shift in government policy is based on the intent to generate additional revenue without increasing taxation, to stimulate economic development primarily in the leisure and entertainment sector, and to strengthen support for charitable gaming.<sup>1</sup> Other factors contributing to increased participation in gambling include the rise of new technologies (e.g., video lottery terminals), mega-lotteries and Internet gambling (e.g., online cypercasinos).

Until recently, gambling has not been framed as a public health matter.<sup>2</sup> A public health perspective on this problem will balance risks and benefits and will encourage full community participation and involvement of medical practitioners. But the examination of the health, social and economic impacts of the rapid expansion of gambling is still in its infancy. There is a need to enhance awareness within the medical profession about gambling-related problems and to develop effective strategies to prevent and treat pathological gambling.<sup>3</sup>

## An evolving health interest

In 1972 Dr. Robert Custer, a psychiatrist working at a Veterans' Administration hospital in Ohio, first proposed a medical syndrome associated with gambling, which he termed "compulsive gambling."<sup>4</sup> His efforts brought the problems associated with gambling into the health care arena. In 1980 the American Psychiatric Association included "pathological gambling" in its *Diagnostic and Statistical Manual of Mental Disorders (DSM)*, categorizing it as an impulse disorder.<sup>5</sup> Since then, psychiatry has accepted severe problems associated with gambling as constituting a legitimate disorder. The essential feature of pathological gambling is persistent and recurrent maladaptive gambling behaviour. The psychiatric definition focuses on impaired ability to control gambling-related behaviour; adverse social consequences that disrupt personal, family or vocational pursuits; and tolerance (need to gamble with increasing amounts of money to achieve the desired excitement) and withdrawal. The diagnosis is not made if the gambling behaviour can be better accounted for by a manic

## Review

## Synthèse

Dr. Korn is a health and addictions consultant and a faculty member of the Department of Public Health Sciences, University of Toronto, Toronto, Ont.

*This article has been peer reviewed.*

CMAJ 2000;163(1):61-4



episode. To be eligible for a *DSM-IV* diagnosis of pathological gambling, a person must satisfy at least 5 of the 10 criteria described in the current edition of the manual.<sup>4</sup> In the late 1980s Lesieur and Blume developed a clinical screening tool, the South Oaks Gambling Screen, to assist clinicians in identifying this disorder.<sup>7</sup> This tool has become the main instrument used to study the prevalence of problem and pathological gambling in communities.

The first Canadian group of Gamblers Anonymous, a self-help and mutual support fellowship rooted in the 12-step movement, was established in Toronto in 1964 to assist people who identified themselves as having a gambling addiction. The Canadian Foundation on Compulsive Gambling (Ontario) was founded in 1983 to advocate for health services for compulsive gamblers and to enhance public awareness of the problems associated with gambling.

The federal legal framework for gambling in this country is the Criminal Code of Canada. A 1985 amendment gave provinces exclusive control of gambling and of legalized computer, video and slot devices. Provincial governments now own and operate a wide variety of gambling products. The 1990s saw a dramatic growth in the numbers of casinos, slot machines and video lottery terminals across Canada, associated with significant increases in revenues for provincial governments. There are now more than 50 permanent casinos (in 7 provinces), 21 000 slot machines, 38 000 video lottery terminals, 20 000 annual bingo events and 44 permanent horse race tracks in Canada.<sup>8</sup> By 1997 Canadians were wagering \$6.8 billion annually on some form of government-run gambling activity, 2.5 times the amount in 1992, with casinos and video lottery terminals accounting for almost 60% of government revenue from gambling. During the same period, profits for provincial governments from this source also rose dramatically: in 1997 gambling accounted for at least 3% of total government revenue in all provinces.<sup>9</sup>

Only recently has attention become focused on the health and social policy agenda. Beginning in 1993, provincial governments, led by New Brunswick and Alberta, began to fund services for people with gambling problems. By 1997/98, every province except Prince Edward Island was allocating monies specifically for such services, with expenditures totaling about \$15 million.<sup>10</sup> The public ownership model thus places provincial governments in the position of carrying out multiple roles and responsibilities: regulator, owner-operator and service provider for gambling-related problems. Concerns have been raised by stakeholder and social policy groups such as the National Council of Welfare<sup>11</sup> and the Canada West Foundation<sup>10</sup> about the role of governments in encouraging gambling and at the same time protecting the public interest.

The Canadian Public Health Association (CPHA) has been engaged in this issue since the early 1990s. In 1993, the CPHA passed a resolution at its annual general meeting calling for a national assessment of the health impacts of regulated gambling.<sup>12</sup> Rather than pursuing funding for the national assessment at that time, the CPHA decided to

gather information on the rising number of health-related initiatives underway across the country. It reported in the *CPHA Health Digest* the information it gathered on provincial and territorial initiatives related to the health impacts of gambling, and made it available to its membership upon request.<sup>13</sup> The CPHA continues to monitor the evolution of gambling across Canada; in 1999, a second resolution related to video lottery terminals was approved.<sup>14</sup>

The Canadian research literature on the health aspects of gambling is limited but growing. *CMAJ* has published only one article on the subject of gambling, a cover story in 1996, in which Kezwer<sup>15</sup> solicited opinion from physicians and gambling experts on the impact of gambling. Also in 1996 the Canadian Centre on Substance Abuse National Working Group on Addiction Policy produced its first examination of the issue, a policy discussion paper on problem gambling.<sup>16</sup> This document expanded the scope of interest in addiction to gambling to incorporate the concept of a continuum of gambling behaviour. It also included a broad definition of problem gambling: "a progressive disorder characterized by a continuous or periodic loss of control over gambling; a preoccupation with gambling and with obtaining money with which to gamble; irrational thinking; and a continuation of the behavior despite adverse consequences." In the area of epidemiological research, the Canadian Centre on Substance Abuse is currently developing a new survey instrument, the Canadian Problem Gambling Index, for use in population studies.<sup>17</sup> The survey instrument, to be completed in fall 2000, will place greater emphasis than existing prevalence tools on measuring the social impacts of gambling on family, coworkers and the community at large.

Most provincial studies on the prevalence of gambling-related problems in the general adult population were undertaken in the mid-1990s.<sup>18-20</sup> In addition, several epidemiological reports have described the impact of gambling in vulnerable and special populations such as youth, women, older adults and aboriginal people.<sup>21-23</sup> A recent meta-analysis<sup>24</sup> revealed that, as of 1997, 152 prevalence studies had been conducted in North America. More than half of these studies had been released since 1992, which reflects recent strong interest in the topic.

The Division on Addictions at Harvard Medical School completed a landmark meta-analysis of these available studies, including 35 Canadian prevalence estimates.<sup>24</sup> This study showed that over the previous 25 years, the estimated prevalence of gambling problems in the general adult population had been low but rising, whereas among youth and people living in institutions it had been high but steady. The estimated lifetime prevalence in the general adult population for problem and pathological gambling combined (levels 2 and 3 of the Harvard nomenclature) was reported at 5.5%. A similar combined prevalence estimate for the adolescent study population was 13.3%. There were no significant differences in prevalence rates between the United States and Canada. Male sex, youth, and concurrent substance abuse or mental

illness placed people at greater risk of a gambling-related problem. Research done in the United States has indicated a higher prevalence rate in states with high per-capita lottery sales<sup>25</sup> and in areas within 50 miles (80 km) of casinos.<sup>26</sup> There have been no Canadian national prevalence studies of problem and pathological gambling.

Primary care providers have not yet embraced screening for gambling as part of their routine practice pattern. However, these matters are beginning to change. For instance, in 1997 the CMA carried out a needs assessment for physician practice in the area of problem gambling as the first phase of a project to develop office resources.<sup>27</sup> Clinicians seeking resources to assist with the detection and management of patients with gambling-related problems might best contact their provincial health ministry, help line or addiction agency.

### A public health matter

A public health approach to gambling is valuable because it offers a broad perspective on the gambling phenomenon and does not focus solely on the more specific area of gambling addiction. It recognizes that there are health, social and economic costs and benefits for individuals, families and communities, and that intervention strategies must provide a balance between these costs and benefits.<sup>2</sup> This perspective on gambling incorporates current views on the socioeconomic and behavioural determinants of health, while acknowledging that there are population groups vulnerable to its harm.

There has been considerable interest in the relation between gambling and socioeconomic status. Recent Statistics Canada reports are instructive.<sup>9,28</sup> These reports indicated that participation rates in general increased with household income, a trend that held for the purchase of government lottery tickets, spending at casinos and use of slot machines. Bingo was the only gambling activity studied for which there was an inverse correlation with income. In terms of actual expenditures, high-income households spent more than low-income households on gaming activities (specifically lotteries, casinos, slot machines, video lottery terminals and bingo). Of note, however, is the finding that lower-income households spent proportionately more than higher-income households. For example, among households in which at least one person was involved in gambling, those with incomes of less than \$20 000 spent an annual average of \$296 on gambling pursuits, which represented 2.2% of total household income, whereas those with an income of \$80 000 or more spent \$536, only 0.5% of total income. Given that gambling revenue goes to the government, these data suggest that gambling expenditures may be regarded as a voluntary regressive tax that has a proportionately greater impact on people with lower incomes.

A number of public health issues associated with gambling expansion deserve attention. The dominant concern is the emergence of gambling addiction that appears to be

stimulated by increased availability and promotion of casinos and lotteries. Several populations are vulnerable to the impacts of gambling, in addition to lower socioeconomic groups. The cost to families in terms of dysfunctional relationships, violence and abuse, financial pressure, and disruption of growth and development of children can be great.<sup>29,30</sup> The high prevalence of gambling and gambling-related problems among youth, including betting on sports at colleges and universities, is cause for concern and invites innovative approaches to prevention.<sup>31,32</sup> Other financially vulnerable and marginalized populations such as older adults, various ethnocultural groups and individuals with substance use and mental health disorders<sup>30</sup> may be negatively affected by the expansion of gambling and deserve further study as to the health, social and economic impact.

Technology has become a significant dimension of gambling. Emerging health issues are linked to computer-based innovations and their effect on the frequency, accessibility and types of gambling. Concerns have been raised about the wide availability and addictive potential of video lottery terminals, as well as the dramatic rise of unregulated casino-style gambling Web sites. Although not traditionally defined as gambling, stock speculation and day trading in financial markets represent an important area of activity that can have a profound impact on individuals and social institutions.

### Policy implications

Five recommendations are made to strengthen health and social policy regarding gambling.

**Balance the public interest:** In 1985 provinces were given exclusive control over gambling. All provinces now own a variety of gambling products, receive significant revenue from gambling and fulfill several roles related to gambling, including regulation of the industry and provision of services to those with gambling problems. Policy-makers at all levels of government should regularly monitor and assess the public owner-operator models now in place, to ensure that there is a responsible balance between encouraging gambling as entertainment and protecting the public from gambling-related harm.

**Monitor gambling advertising:** Public guardians and government regulatory bodies should scrutinize the scope of gambling advertising and, in particular, the messages to youth, lower socioeconomic groups and vulnerable populations. Health officials should advocate in this area and, where possible, ensure that owners and operators prominently display the odds of winning and losing for each of their gambling activities.

**Assess the impact on quality of life:** Policy analysts should assess the impact of the expansion of gambling on the quality of life of individuals, families and communities. Quality of life encompasses the interplay among social, health, economic and environmental conditions.<sup>33</sup> To better inform policy, government should fund a credible scientific body to develop a standard methodology to estimate

the health, social and economic costs and benefits of gambling and related problems. Key stakeholders should be involved in building consensus, and public health expertise should be represented in this activity.

**Foster a research agenda:** The health research establishment, such as the new Canadian Institutes for Health Research, should support an agenda for gambling that incorporates population health, neurobiological and behavioural research, and health services research. Such knowledge would greatly enhance our understanding of the determinants of gambling-related problems, the relation of gambling to substance abuse and other mental illness, and gambling's health, social and economic costs and benefits. This research would result in more effective primary and secondary prevention programs, as well as lead to more innovative interventions, including brief treatments and pharmacological strategies.

**Adopt harm reduction:** Health authorities should adopt harm-reduction strategies directed toward minimizing the adverse health, social and economic consequences of gambling behaviour for individuals, families and communities. These strategies would include healthy-gambling guidelines for the general public<sup>34</sup> (similar to low-risk drinking guidelines<sup>35</sup>) and creative approaches to the early identification of gambling problems, as well as the incorporation of moderation and abstinence goals for problem gamblers, offered in a nonjudgemental fashion.

## Conclusion

There is a need for enhanced awareness on the part of health care professionals about the potential impact of gambling on vulnerable, at-risk individuals and special populations. The rapid expansion of gambling represents a significant public health concern that challenges our values, quality of life and public priorities. A broad research agenda is required to better inform a range of questions and solutions. Because gambling is in the public domain in Canada, our health, social policy and political leaders have a special responsibility to make informed and wise choices about costs and benefits and to demonstrate public accountability.

I express my appreciation to my colleagues Dr. Howard Shaffer, Director, Division on Addictions, Harvard Medical School, and Dr. Harvey Skinner, Chair, Department of Public Health Sciences, University of Toronto, for their support, collaboration and interest in my work on gambling.

Competing interests: None declared.

## References

- Campbell CS, Smith GJ. Canadian gambling: trends and public policy issues. In: Frey JH, editor. *Gambling: socioeconomic impacts and public policy*. Thousand Oaks (CA): Sage Publications; 1998. p. 22-35.
- Korn DA, Shaffer HJ. *Gambling and the health of the public: adopting a public health perspective*. Boston: Harvard Medical School; 1999.
- National Research Council (US). *Pathological gambling: a critical review*. Washington: National Academy Press; 1999.
- Custer RL, Custer LF. Characteristics of the recovering compulsive gambler: a survey of 150 members of Gamblers Anonymous [lecture]. Fourth Annual Conference on Gambling; 1978 Dec; Reno (NV).
- American Psychiatric Association. *DSM-III: diagnostic and statistical manual of mental disorders*. 3rd ed. Washington: The Association; 1980.
- American Psychiatric Association. *DSM-IV: diagnostic and statistical manual of mental disorders*. 4th ed. Washington: The Association; 1994.
- Lesieur FR, Blume SB. The South Oaks gambling screen (SOGS): a new instrument for the identification of pathological gamblers. *Am J Psychiatry* 1987;144(9):1184-8.
- Azmier J. *Canadian gambling behavior and attitudes: summary report*. Calgary: Canada West Foundation; 2000.
- Marshall K. The gambling industry: raising the stakes. *Perspect Labour Income* 1998;10(4):7-11.
- Azmier J, Smith G. *The state of gambling in Canada: an interprovincial roadmap of gambling and its impact*. Calgary: Canada West Foundation; 1998.
- National Council of Welfare. *Gambling in Canada*. Ottawa: The Council; 1996.
- Canadian Public Health Association. Resolutions and motions. *CPHA Health Dig* 1993;17(2). Special insert.
- Canadian Public Health Association. Studies regarding gambling and its impact on health. *CPHA Health Dig* 1995/96;19(4):6.
- Canadian Public Health Association. Resolutions and motions. *CPHA Health Dig* 1999;23(2):3-4.
- Kezzer G. Physicians say government-approved love affair with gambling sure bet to cause problems. *CMAJ* 1996;154(1):84-8. Abstract available: [www.cma.ca/cmaj/vol-154/0084a.htm](http://www.cma.ca/cmaj/vol-154/0084a.htm)
- Topp J, Sawka E, Room R, Poulin C, Single E, Thompson H. *Policy discussion paper on problem gambling*. Ottawa: Canadian Centre on Substance Abuse; 1998.
- Ferris J, Wynne H, Single E. *Measuring problem gambling in Canada: final report — phase I*. Ottawa: Canadian Centre on Substance Abuse; 1999.
- Ferris J, Stripe T. *Gambling in Ontario: a report from a general population survey on gambling-related problems and opinions*. Toronto: Addiction Research Foundation; 1995.
- Angus Reid Group. *Problem gambling survey 1996: final report*. Vancouver: British Columbia Lottery Corporation; 1996.
- Baseline Market Research. *Final report: prevalence study: problem gambling*. Fredericton: New Brunswick Department of Finance; 1996.
- Nechi Training Research and Health Promotions Institute. *Spirit of bingo: a study of problem gambling among Alberta native people*. Edmonton: the Institute; 1994.
- Derevensky JL, Gupta R. Pathological gambling problems among a population of delinquent adolescent [lecture]. National Conference on Compulsive Gambling; 1998 June; Las Vegas (NV).
- Drug Dependency Services Division. *Nova Scotia student drug use, 1998: high-lights report*. Halifax: Nova Scotia Department of Health; 1998.
- Shaffer HJ, Hall MH, Vander Bilt J. *Estimating the prevalence of disordered gambling behavior in the United States and Canada: a meta-analysis*. Boston: Presidents and Fellows of Harvard College; 1997.
- Volberg RA. The prevalence and demographics of pathological gamblers: implications for public health. *Am J Public Health* 1994;84(2):237-41.
- Gerstein D, Murphy S, Toce M, Hoffmann J, Palmer A, Johnson R, et al. *Gambling impact and behavior study: report to the National Gambling Impact Study Commission*. Chicago: National Opinion Research Center, University of Chicago; 1999.
- Rowan MS, Galasso C, Colbran-Smith M. *Substance use and pathological gambling disorders: final needs assessment report* [unpublished report]. Ottawa: Canadian Medical Association; 1998.
- Marshall K. Update on gambling. *Perspect Labour Income* 2000;12(1):29-35.
- Lorenz V. Family dynamics of pathological gamblers. In: Galski T, editor. *The handbook of pathological gambling*. Springfield (IL): Charles C Thomas; 1987. p. 71-88.
- Crackford DA, el-Guebaly N. Psychiatric comorbidity in pathological gambling: a critical review. *Can J Psychiatry* 1998;43:43-50.
- Winters K, Stinchfield R, Fulkerson J. Patterns and characteristics of adolescent gambling. *J Gambling Stud* 1993;9:371-86.
- Shaffer H, Hall M. Estimating the prevalence of adolescent gambling disorders: a quantitative synthesis and guide towards standard gambling nomenclature. *J Gambling Stud* 1996;12(2):193-214.
- Shookner M. *The quality of life in Ontario*. Toronto: Ontario Social Development Council and Social Planning Network of Ontario; 1998.
- Svensen R, Griffin T. *Gambling: choices and guidelines*. Anoka (MN): Minnesota Institute of Public Health; 1998.
- Bondy SJ, Rehm J, Ashley MJ, Walsh G, Single E, Room R. Low-risk drinking guidelines: the scientific evidence. *Can J Public Health* 1999;90(4):264-70.

Reprint requests to: Dr. David Korn, Department of Public Health Sciences, McMurrich Building, University of Toronto, Toronto ON M4S 1A8; fax 416 489-3359; [david.korn@utoronto.ca](mailto:david.korn@utoronto.ca)

Copyright of *CMAJ: Canadian Medical Association Journal* is the property of Canadian Medical Association and its content may not be copied or emailed to multiple sites or posted to a listserv without the copyright holder's express written permission. However, users may print, download, or email articles for individual use.