

Gambling on the Health of the Public: A Rapid Health Impact Assessment for an Urban Casino

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Abstract: State and local governments are increasingly looking towards casinos to compensate for budget deficits. The locations of these establishments are often determined by the path of least resistance and are thus frequently built in low-income/high-minority communities. While a breadth of research has examined proximal associations between casinos and health, such as the effects of secondhand smoke exposure among casino employees, few systematic analyses have employed a population-health perspective to explore the health impacts of casinos via more distal social determinants of health. The health impact assessment (HIA) provides a procedural framework to elucidate these potential casual pathways, both positive and negative, to inform the policy process, promote the equitable distribution of health risks, and maximize opportunities for health promotion.

This poster will present the findings from a rapid HIA for a slot casino that is under construction in a residential area of Philadelphia. A systematic review of literature and demographic/health data was conducted to identify potential proximal and distal health impacts with a focus on racial/ethnic minorities. The rapid HIA has identified five major pathways through which the casino could impact health—employment, traffic congestion, physical activity, problem gambling, and public health services. However, robust data are needed to measure the magnitude and direction of these pathways over time. This rapid HIA explores the amenability of HIA methods with casino projects and provides a framework to assess the local health impacts of casinos to inform the policy process and highlight potential disparities in outcomes among racial/ethnic sub-populations.

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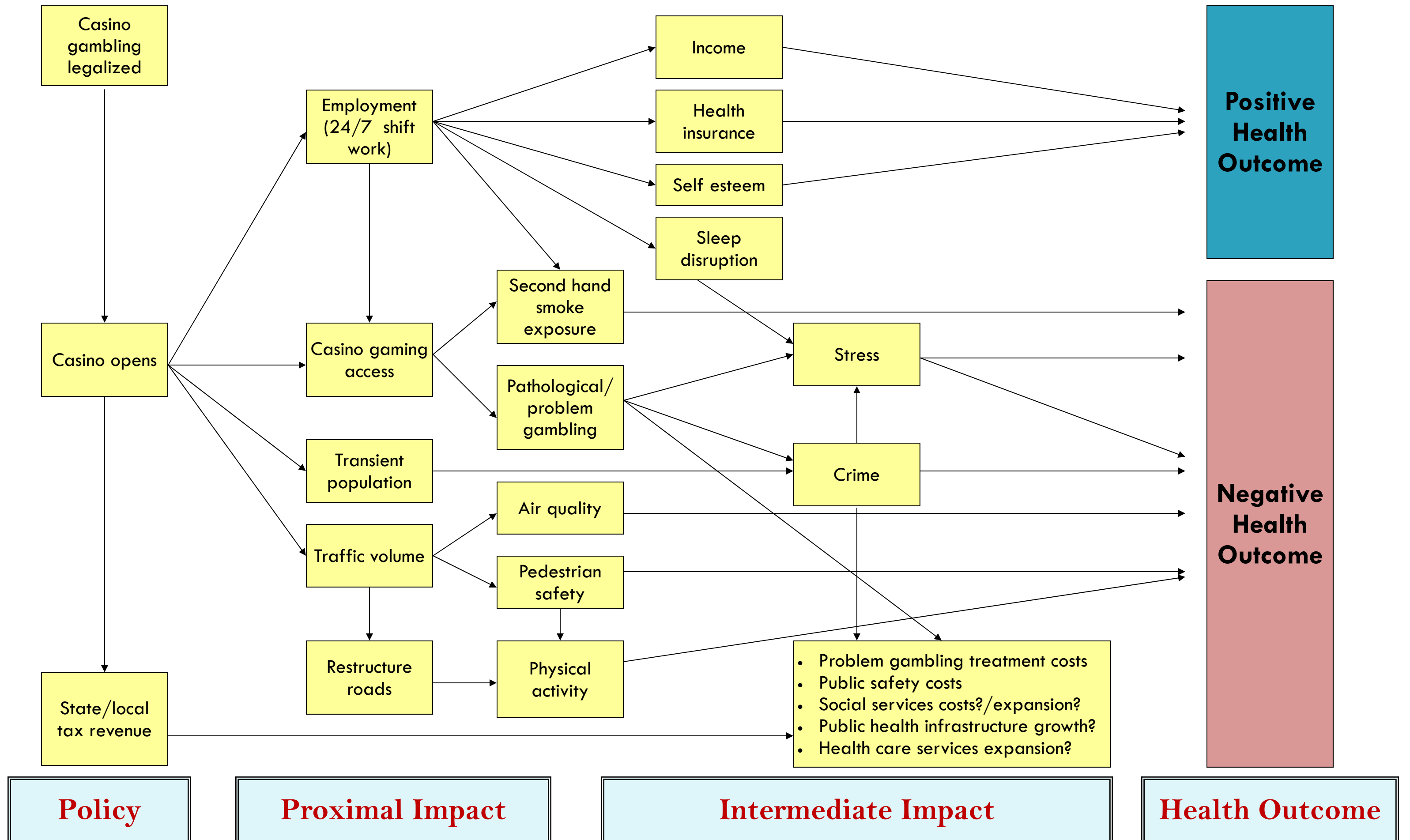


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Logic Framework:^{*}

SugarHouse Casino Rapid Health Impact Assessment



* The logic framework above is not intended to oversimplify complex causal associations or suggest that statistical analysis was conducted to measure magnitude or significance of such relationships. Rather, based on existing research, the logic framework is intended to visually depict some of the potential pathways through which an urban casino project could impact population health in an attempt to generate specific research questions and inform decision making processes.

About the SugarHouse Casino:

SugarHouse Casino: Timeline			
Year	State Activity		Local Activity
2005	<i>Pennsylvania Race Horse Development and Gaming Act</i> legalizes slot casinos	Pennsylvania Gaming Control Board is established	Philadelphia Gaming Advisory Task Force is established to examine "quality of life" concerns associated with casinos
2008	<i>Pennsylvania Clean Indoor Air Act</i> bans smoking in most public places, BUT includes a loophole to exempt casinos		
2009			SugarHouse Casino construction begins
2010	State legislation is passed to permit table games in Pennsylvania casinos		SugarHouse Casino Opens on September 23, 2010

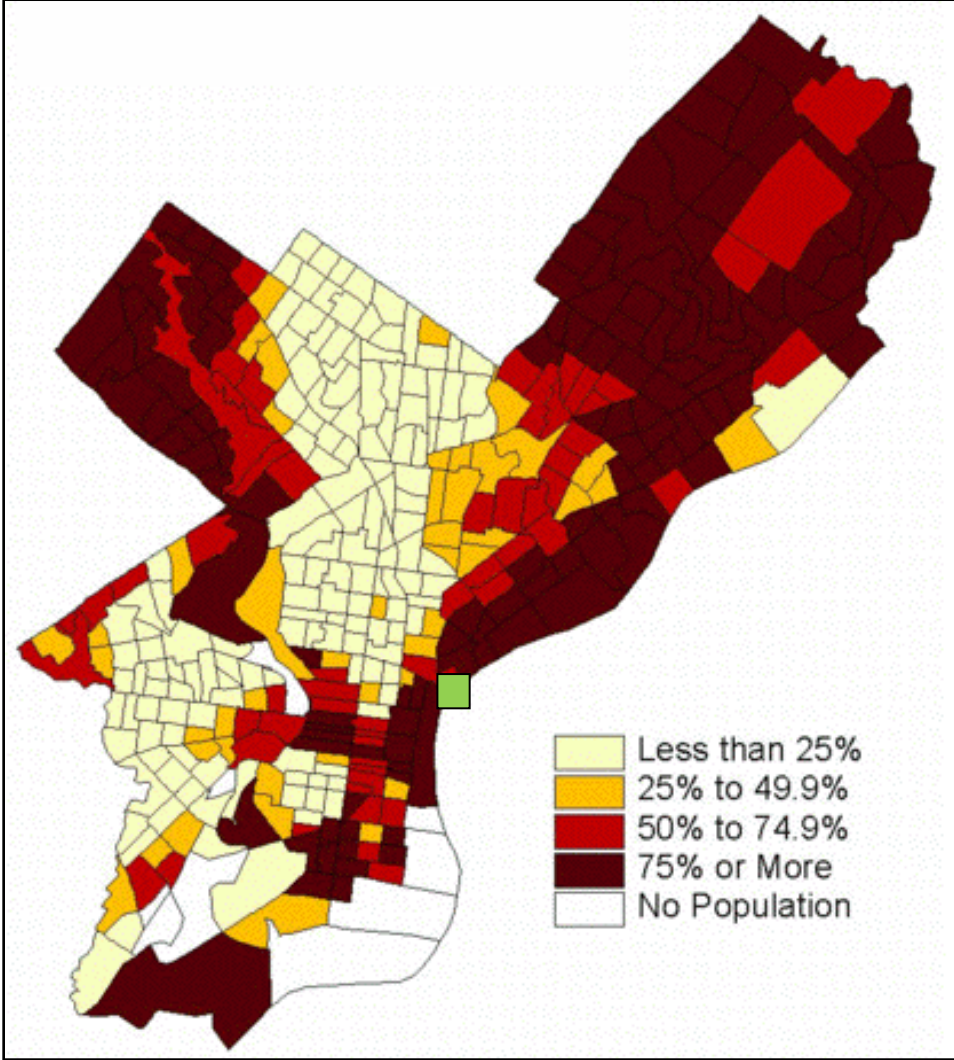
Minimal exploration of potential health impacts beyond

No health impact assessment conducted

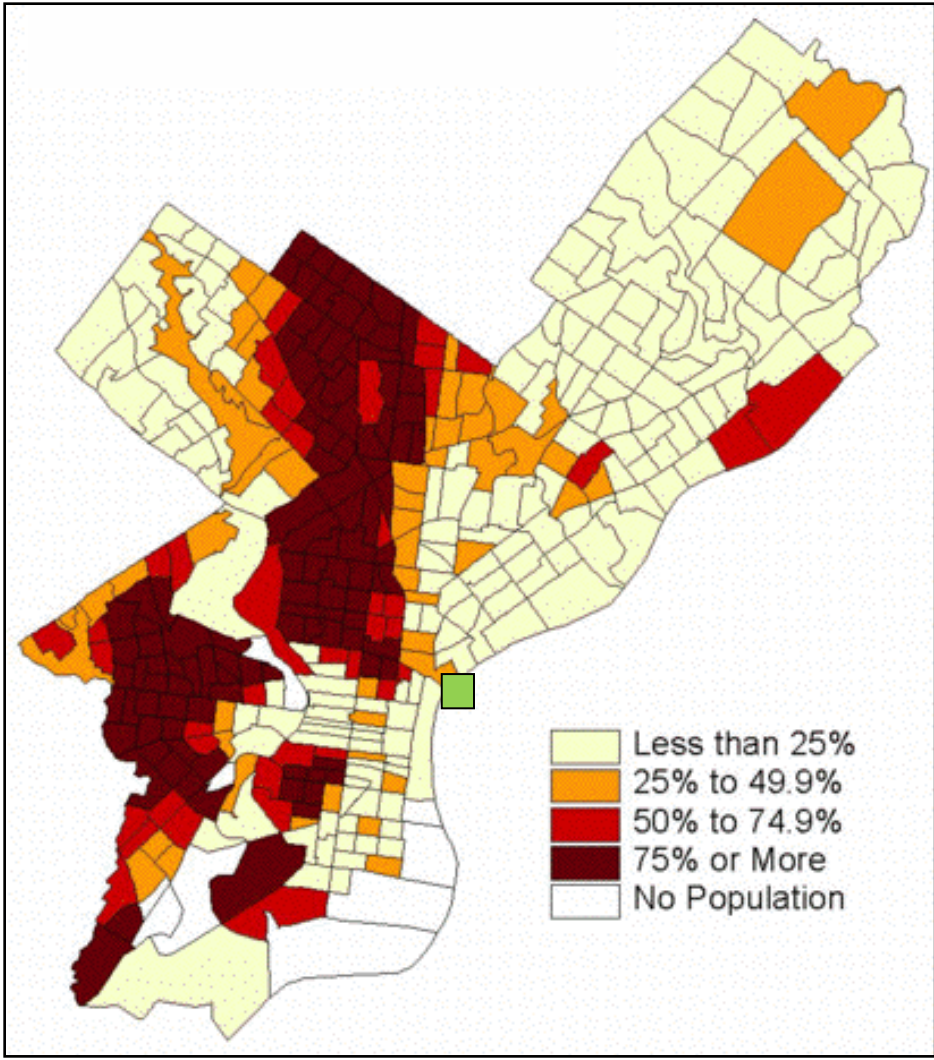
SugarHouse Casino Characteristics	
Opened:	23-Sep-10
Hours:	24/7
Gaming Area:	45,000 Sq. Ft
Games Offered:	<ul style="list-style-type: none"> ■ 40 table games ■ 1,602 slots
Smoking Permitted:	Yes
Alcohol Served:	Yes (24/7)
Projected Daily Visitors:	18,000
Jobs Created:	Approx. 800
Workforce Diversity Plan:	Yes
Projected Annual City Tax Revenue:	\$17.5 million
Projected Annual State Tax Revenue:	\$223 million

Racial/Ethnic Composition of Population Surrounding SugarHouse Casino

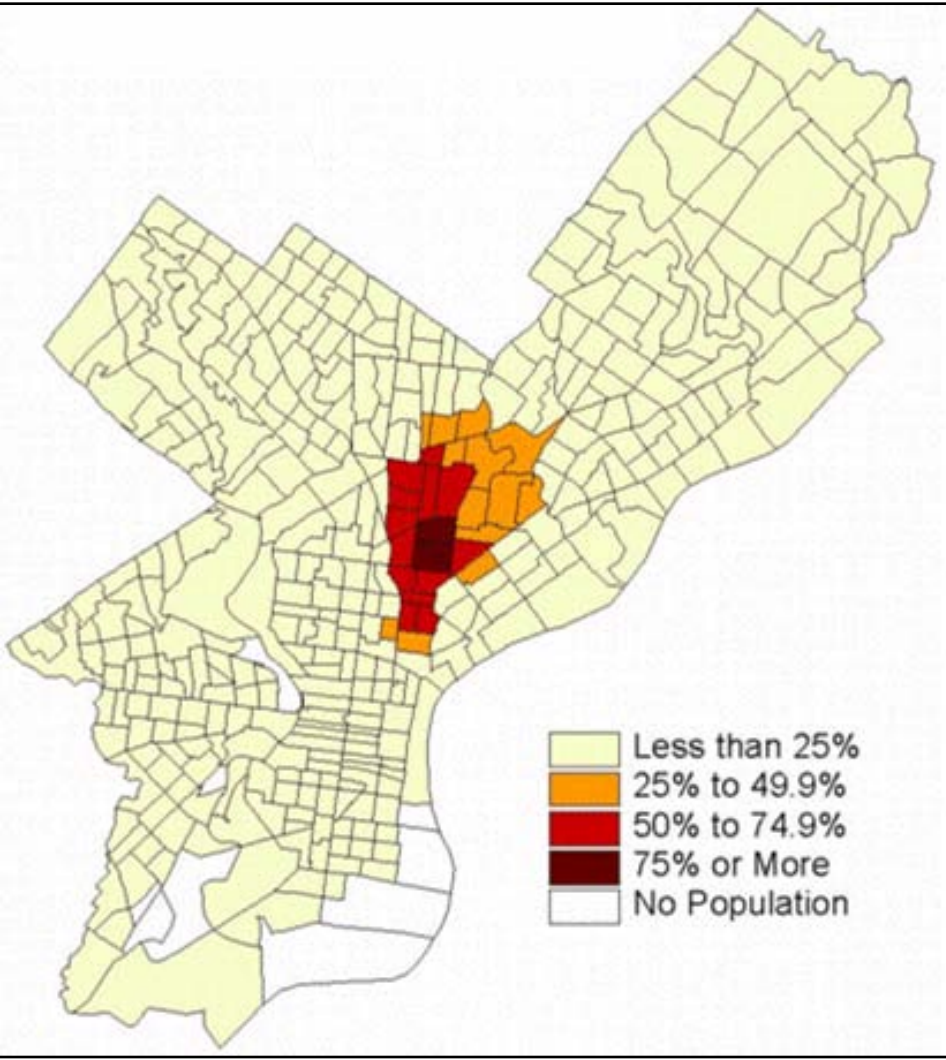
Percent Population Non-Hispanic White



Percent Population African American



Percent Population Hispanic/Latino



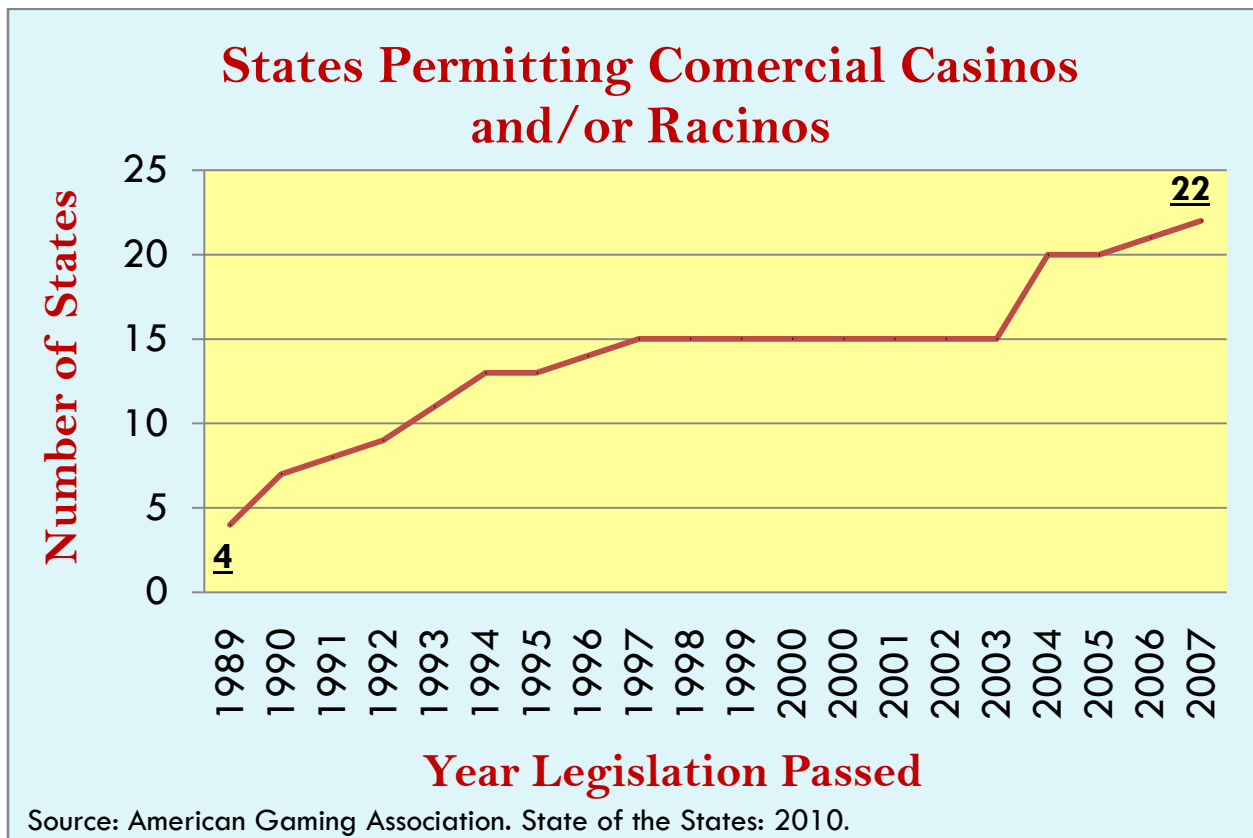
 = SugarHouse Casino

Source: Philadelphia Planning Commission. 2000 Census Data.

The Issue:

An increasing number of states have passed legislation to permit casino gambling as a strategy for economic development.¹ While a breadth of research has examined social and economic issues associated with casino development, few analyses have explored these issues as determinants of health. Health impact assessment (HIA) provides a procedural framework to examine existing evidence and elucidate potential causal pathways to health outcomes associated with a project, program, or policy. Using the newly constructed SugarHouse Casino in Philadelphia as an example, this rapid HIA served to:

- Examine the value of conducting a full HIA for casino projects;
- Explore the potential impacts of casinos on community health; and
- Identify priority areas for assuring health equity through activities related to the SugarHouse Casino in Philadelphia.



¹ American Gaming Association. State of the States: 2010. The AGA Survey of Casino Entertainment.

Method:

- Conducted ISI Web of Knowledge, LexisNexis Academic, PubMed and Web-based searches for “casino impact” and “casino” + “impact” to identify the broad range of outcomes associated with casino projects.
- Conducted PubMed searches for major outcomes identified to be associated with casino projects to examine potential causal pathways to proximal and distal health impacts.
- Examined the specific characteristics of the SugarHouse Casino within the context of findings.
- Reviewed Philadelphia area demographic data to explore health equity issues that may be associated with the project.

Results:

- Research on the impact of casinos is mixed and often highly contested by commercial interests. There is also a paucity of research that examines the long-term impacts of casino projects.
- However, a solid body of evidence suggests that casinos are likely to have social and economic impacts that are known to be associated with both positive and negative health outcomes

Conclusion:

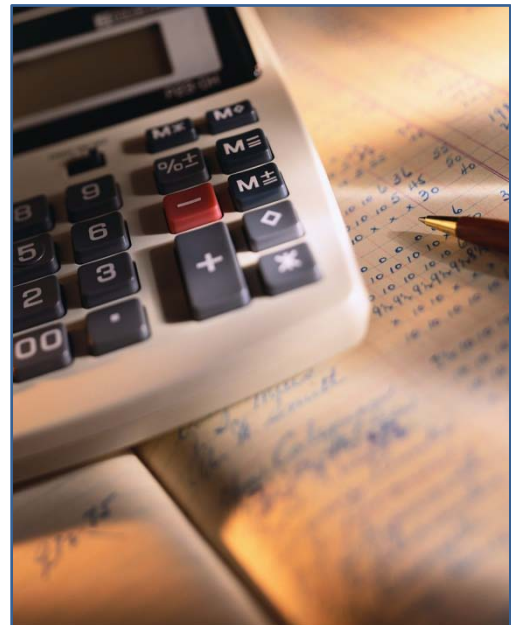
- Full HIA should be conducted for casino projects. This process would:
 - Infuse often contentious policy making processes with a research-informed public health perspective;
 - Provide affected communities and stakeholders with an opportunity to voice concerns;
 - Inform preventive interventions and guide the allocation of limited resources ; and
 - Promote health benefits and reduce health costs associated with casino projects.

Health Impact Assessment...

- Is a structured, yet flexible, process which utilizes a combination of procedures, methods, and data to systematically determine the potential effects of a policy or project on population health and makes recommendations in accordance with these findings.
- Is multidisciplinary and looks at the economic, political, psychological, social, and environmental factors that determine health.
- Is a prospective process (i.e., conducted before a project or policy is implemented).
- Varies in method and depth according to the specifics of the policy/project in question and resources available.
- Infuses decision-making process in non-health sectors with a public health perspective.^{2, 3}

Rapid Health Impact Assessment...

- Is carried out relatively quickly with limited resources
- Includes brief investigation of health impacts
- Is conducted to:
 - Determine if a full HIA is warranted;
 - Raise awareness among policy makers regarding potential health issues associated with a project/policy.⁴



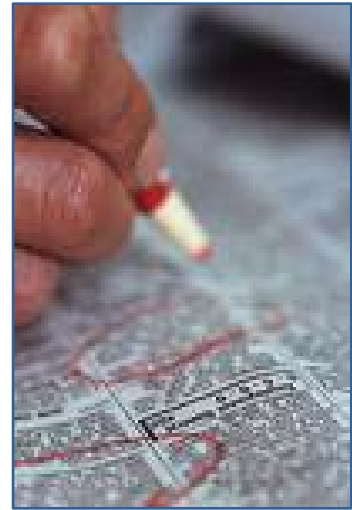
² Cole, BL., Fielding, JE. (2007). Health impact assessment: a tool to help policy makers understand health beyond health care. *Annual Review of Public Health*, 28:393-412.

³ Quigley, R., den Broeder, L., Furu, P., Bond, A., Cave, B., Bos, R. (2006). Health impact assessment international best practice principles. Fargo, ND: International Association for Impact Assessment. 2006:1. Special Publication Series 5.

⁴ National Association of City and County Health Officials. (2000). Health impact assessment: Quick guide.

Employment:

- **Generally, employment is associated with positive health outcomes. Unemployment, however, has been found to increase risk for:**
 - Depression;
 - Anxiety;
 - Suicide;
 - Cardiovascular diseases; and
 - Overall excess mortality/morbidity. ⁵
- **Secondhand smoke exposure increases risk for heart disease, lung cancer, and other adverse health outcomes.**
 - Secondhand smoke-induced heart disease and lung cancer will cause an estimated 6 Pennsylvania casino workers' deaths annually per 10,000 at risk.⁶
- **Casino employees have been found to have higher prevalence of:**
 - Past pathological gambling behavior;
 - Problem drinking;
 - Depression; and
 - Smoking.⁷
- **Nightshift work can disrupt the circadian rhythm, sleep, and increase risk for adverse health-related outcomes; including:**
 - Physical health problems;
 - Mental health problems;
 - Social/domestic problems; and
 - Accidents (e.g., motor vehicle).⁸



⁵ Jin, RL, Shah, CP, Svoboda, TJ. (1995). The impact of unemployment on health: a review of the evidence. *CMAJ*. 153(5): 529–540.

⁶ Repace JL. (2009). Secondhand smoke in Pennsylvania casinos: a study of nonsmokers' exposure, dose, and risk. *American Journal of Public Health*. 99(8):1478-85.

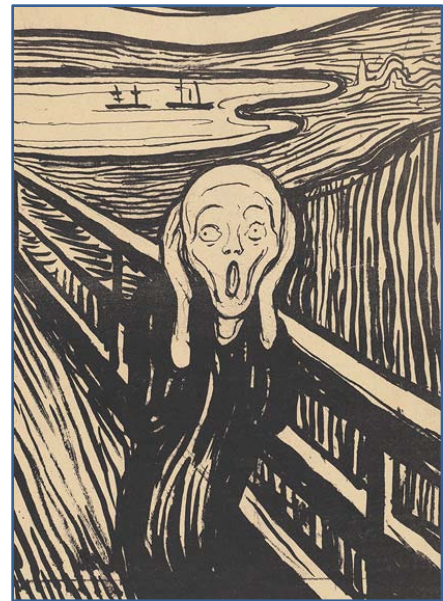
⁷ Shaffer HJ, Vander Bilt J, Hall MN. (1999). Gambling, drinking, smoking and other health risk activities among casino employees. *American Journal of Industrial Medicine*. 36(3):365-78.

⁸ Barton J, Spelten E, Totterdell P, Smith L, Folkard S. (1995). Is there an optimum number of night shifts? Relationship between sleep, health and well-being. *Work Stress*. 9(2-3):109-23.

Pathological/Problem Gambling:

- **Pathological/problem gambling has increasingly been recognized as a public health problem as it is associated with numerous adverse health-related outcomes; including:**

- Family violence;
- Child neglect/ abuse;
- Financial problems;
- Suicide;
- Drug/alcohol abuse; and
- Crime.^{9, 10}



- **The presence of a casino increases pathological/problem gambling risk.**
 - Individuals who live within 10 miles of a casino are twice as likely to be pathological/problem gamblers than those who do not,¹¹ other studies have found the same association for those residing within up to 50 miles of a Casino.¹²
- **Pathological/problem gambling disproportionately affects low-income communities:**
 - The prevalence of pathological/problem gambling in disadvantaged neighborhoods is up to times higher than that of non-disadvantaged neighborhoods (10.0% Vs 0.8%).¹³

⁹ Korn, DA., Shaffer, HJ. (2009). Gambling and the health of the public: Adopting a public health perspective. *Journal of Gambling Studies*, 15(4): 289-365.

¹⁰ Marshall, D. (2009). Gambling as a public health issue: The critical role of the local environment. *Journal of Gambling Issues*, 23: 66-80.

¹¹ Welte JW, Wieczorek WF, Barnes GM, Tidwell MC, Hoffman JH. (2004). The relationship of ecological and geographic factors to gambling behavior and pathology. *Journal of Gambling Studies*, 20(4): 405-23.

¹² Reith, G., Scottish Centre for Social Research (ScotCen). (2006). Research on the Social Impacts of Gambling. Scottish Executive Social Research.

¹³ Welte JW, et al. (2004).

Health Services:

- **Casino-general tax revenues are likely to have little impact on public health services/infrastructure.**
 - The presence of casinos has been found to have minimal impact on neither public health spending, nor improvements in population health.¹⁴

- **Casinos increase demand for emergency medical services¹⁵**
 - Daily visitors to the SugarHouse casino will create the need for an estimated 3 additional ambulance-to-hospital trips per week.¹⁶

- **Pathological/problem gambling strains health and human service systems.**

Estimated Annual Health/Human Services Costs of Additional Pathological/Problem Gamblers Associated with SugarHouse Casino*				
Type of Gambler	Estimated annual social cost per gambler[±]	Estimated prevalence in population[±]	Estimated <u>new</u> pathological/problem gamblers in Philadelphia (age 21 +)^α	Estimated annual health/human service cost of <u>additional</u> pathological/ problem gamblers^β
Problem	\$935	1.5%	16,580	\$15,503,136
Pathological	\$1,570	1.2%	13,264	\$20,825,604
Total	N/A	2.7%	29,844	\$36,328,470

* Adapted from: Community Research Partners. (2010). *The Social Impact of Casinos: Literature Review and Cost Estimates*.

[±] National Opinion Research Center, University of Chicago. April 1999. *Gambling Impact and Behavior Study*. Report to the National Gambling Impact Study Commission. Inflation adjusted to 2010 dollars using Bureau of Labor Statistics Consumer Price Index calculator.

^α American Community Survey. 2009. Philadelphia City estimate.

^β Includes services such as mental health, substance abuse, welfare, and gambling addiction treatment.

¹⁴ Honoré PA, Simoes EJ, Moonesinghe R, Wang X, Brown L. (2007). Evaluating the ecological association of casino industry economic development on community health status: a natural experiment in the Mississippi delta region. *Journal of Public Health Management and Practice*. 13(2): 4-22.

¹⁵ The Abaris Group. (2005). *Casino San Pablo Public Health & EMS Impact Study*.

¹⁶ Arbon P, Bridgewater FH, Smith C. (2001). Mass gathering medicine: a predictive model for patient presentation and transport rates. *Prehospital and Disaster Medicine*, 16(3):150-158.

Traffic Volume/ Physical Activity:

- **Increases in traffic volume reduces outdoor air quality and increases risk for adverse immediate and long-term health effects; including:**

- Asthma;
- Bronchitis;
- Cardiovascular disease; and
- Overall excess mortality/morbidity.¹⁷



- **Elevated levels ambient noise pollution have been found to be associated with adverse health outcomes; including**
 - Cardiovascular disease¹⁸;
 - Hypertension¹⁹; and
 - Elevated levels of stress in children.²⁰
- **High traffic volume, speed, and pedestrian intoxication increase risk for pedestrian injury and fatality.²¹**
- **Neighborhood walkability is a strong predictor of level of physical activity.²²**
- **Perceptions of traffic safety are associated with physical activity.²³**

¹⁷ Künzli N, et al. (2000). Public-health impact of outdoor and traffic-related air pollution: a European assessment. *Lancet*. 356(9232): 795-801.

¹⁸ Selander J, Nilsson ME, Bluhm G, Rosenlund M, Lindqvist M, Nise G, Pershagen G. (2009). Long-term exposure to road traffic noise and myocardial infarction. *Epidemiology*. 20(2): 272-279.

¹⁹ Bodin T, Albin M, Ardö J, Stroh E, Ostergren PO, Björk J. (2009). Road traffic noise and hypertension: results from a cross-sectional public health survey in southern Sweden. *Environmental Health*, 10: 8:38.

²⁰ Evans GW, Lercher P, Meis M, Ising H, Kofler WW.. Community noise exposure and stress in children. *J Acoust Soc Am*. 2001 Mar;109(3):1023-7.

²¹ Retting RA, Ferguson SA, McCartt AT. (2003). A review of evidence-based traffic engineering measures designed to reduce pedestrian-motor vehicle crashes. *American Journal of Public Health*, 93(9):1456- 1463.

²² Lovasi GS, Hutson MA, Guerra M, Neckerman KM. (2009). Built environments and obesity in disadvantaged populations. *Epidemiology Review*, 31:7-20.;

Frank LD, Saelens BE, Powell KE, Chapman JE. (2007). Stepping towards causation: do built environments or neighborhood and travel preferences explain physical activity, driving, and obesity? *Social Science & Medicine*, 65(9):1898-914.;

Berke EM, Koepsell TD, Moudon AV, Hoskins RE, Larson EB. (2007). Association of the built environment with physical activity and obesity in older persons. *American Journal of Public Health*.

97(3):v486-92.

²³ Saelens BE, Sallis JF, Black JB, Chen D. (2003). Neighborhood-based differences in physical activity: an environment scale evaluation. *American Journal of Public Health*. 93(9):1552- 1558.;

Wendel-Vos W, Droomers M, Kremers S, Brug J, van Lenthe F. (2007). Potential environmental determinants of physical activity in adults: a systematic review. *Obesity Reviews*. 8(5):425- 440.