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Potential Health Effects of Casino Development in Southeast Kansas

Kansas Health Impact Assessment Project

October 2012

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The Kansas Health Institute is a nonprofit, nonpartisan, independent health policy and research organization based in Topeka, Kansas. Established in 1995 with a multi-year grant from the Kansas Health Foundation, the Kansas Health Institute conducts research and policy analysis on issues that affect the health of Kansans.

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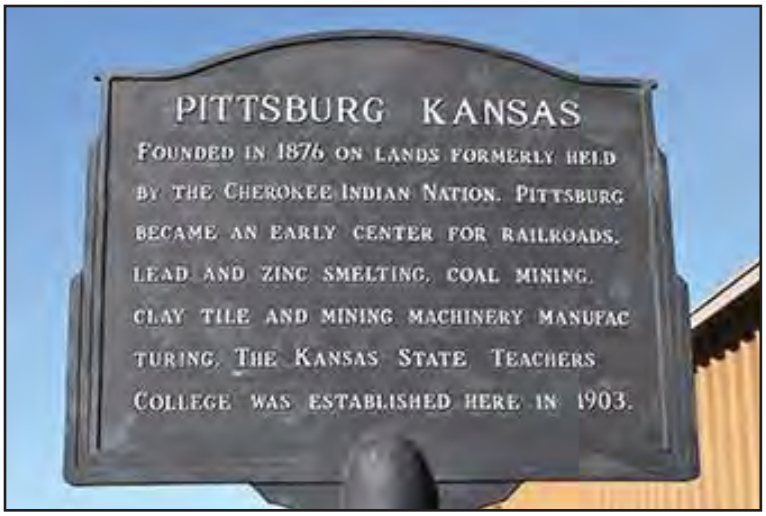
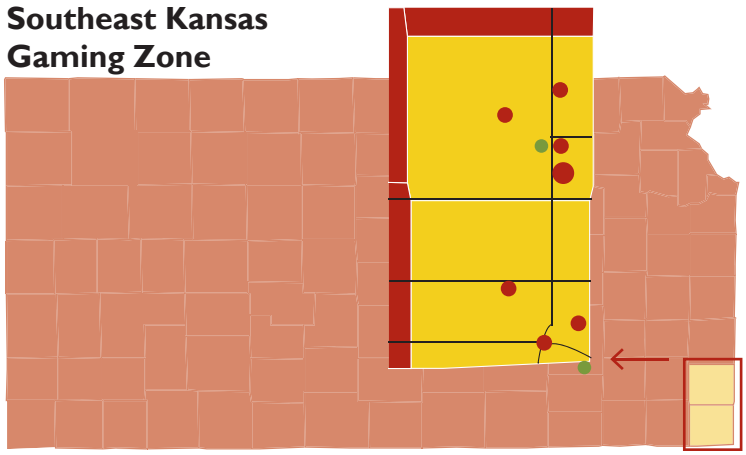
Big Brutus is in West Mineral, Kansas, in Cherokee County.



Southeast Kansas Gaming Zone



Southeast Kansas has a rich heritage of

Mining.

In the late 1800s, people started arriving in Southeast Kansas to work in the coal, lead and zinc mines. By the mid 1970s, the minerals were exhausted and most mines were closed.

ABOUT THE REPORT

The report is intended to be an accessible, informative resource for policymakers who need to assess potential positive and negative health implications of gaming-related legislation. The report also is intended to present the scope of the Kansas Health Impact Asssessment Project to a diverse audience, including local policymakers, community stakeholders, state agencies, state legislators, prospective SEKGZ casino managers and the general public.

Acknowledgements

This project is supported by a grant from the Health Impact Project, a collaboration of the Robert Wood Johnson Foundation and The Pew Charitable Trusts.

Over the course of the project, the Kansas Health Impact Assessment Research Team, further referred to as the HIA team, received valuable input and participation from a variety of stakeholders including: legislators and representatives of state agencies; city and county officials; representatives of economic development organizations; chambers of commerce; academia; faith-based organizations; hospitals; schools; and public safety organizations. We thank them for dedicating their time, energy and expertise to the project. We also extend a special thanks to members of the Kansas HIA Advisory Panel for their important involvement throughout the project.

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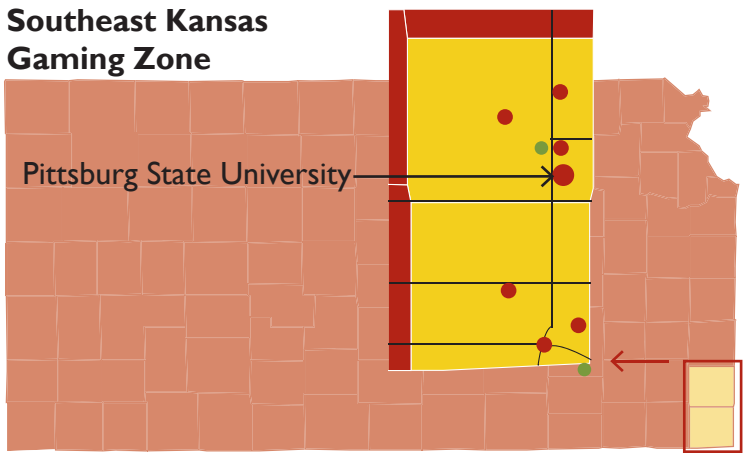
Disclaimer

The authors of this report are responsible for the facts and accuracy of the information presented. The views expressed are those of the author(s) and do not necessarily reflect the views of the Health Impact Project, the Robert Wood Johnson Foundation or The Pew Charitable Trusts.

Pittsburg State University is in Pittsburg, Kansas, in Crawford County.



Photos on this tab were taken at

Pittsburg State University.

PSU has an enrollment of approximately 7,000. It is in Crawford County.

EXECUTIVE SUMMARY

Decisions made in numerous sectors influence health. Choices about transportation, education and taxation are not made in what is typically thought of as the "health sector," and yet each of these has a profound influence on well-being and quality of life. Local and state policymaking processes require weighing and balancing a variety of scientific, political and economic considerations. Health impact assessments — or HIAs — offer a way to identify and address potential health risks and benefits associated with diverse policy decisions.

In January 2012, the Kansas Health Institute (KHI) launched its first HIA with the University of Kansas School of Medicine – Wichita (KUSM–Wichita) as a method to assess the risks, benefits and tradeoffs of proposed legislation to amend the Kansas Expanded Lottery Act (KELA). Several bills in the House and Senate proposed reducing the privilege fee and minimum investment required from managers to build and manage a casino in Crawford and Cherokee counties, which constitute the Southeast Kansas Gaming Zone (SEKGZ). The bill's sponsors are pursuing a casino as a way to create jobs and boost an economically depressed region of Kansas. The passage of any of these bills could increase the likelihood of the development of a casino in SEKGZ.

The Kansas HIA Project examined how the presence of a casino in a community might affect health, both positively and negatively. It looked at potential risks, such as exposure to secondhand smoke, traffic accidents, gambling addiction, divorce and suicide. It also investigated potential community benefits, such as job creation, tourism, state and local revenue increases, and health insurance. Previous discussions around the issue of casino development have been limited to potential economic benefits and pathological gambling; this study sought to bring additional health implications to the table, too.

It is important that all potential impacts of a casino be carefully considered, because the addition of a new casino may affect local communities that already face a variety of health risks, including poverty and unemployment. It is important to note, however, that Cherokee and Crawford counties are no strangers to casinos. Both counties fall into the "competitive area" of more than 50 casinos already operating in Oklahoma. The competitive area is defined as the region within 150 miles of a casino.[1] This HIA, in effect, examined the potential consequences of casino development in Southeast Kansas while acknowledging that casinos already operate just down the road.

Project Methods and Goals

This study used multiple data sources — including a review of relevant literature, interviews with key local and state leaders, stakeholder engagement meetings with community members and secondary data analysis — in order to project potential health impacts of casino development in the area. The secondary data analysis used information from state agencies to carry out analyses of selected social, economic and health indicators in Ford County, the Northeast Kansas Indian Gaming Area and SEKGZ. The HIA team chose Ford County as a control community because it hosts the Boot Hill Casino, a gaming facility comparable in size to any that could be built in SEKGZ. Pre- and post-intervention study designs have been used to measure the effect of the casino operation in Dodge City. The "pre-casino" period included all years before 2009 and the "post-casino" period included 2009 and after.

The Ford County analysis was supplemented by additional data analyses of five counties in Northeast Kansas — Atchison, Brown, Doniphan, Jackson and Nemaha — that house (or are directly adjacent to) four tribal casinos. In this case, the "pre-casino" period includes any year before 1996, the "casino development" phase is 1996–1998 and everything in 1999 or later is considered "post-casino."

Lastly, the HIA analysis focused on the expected impact of casino development in Southeast Kansas, the gaming zone considered in numerous state bills. Because stakeholders mentioned the need to consider a regional environment that included more than 50 nearby casinos in Oklahoma, the third HIA analysis tried to quantify the impact of these existing casinos and how the establishment of an additional venue in SEKGZ may or may not impact the area. In Southeast Kansas, the "pre-casino" period included everything before 2004, "casino development" stretched between 2005 and 2009, and everything in 2010 or after was counted as "post-casino."

The HIA project was designed around five core goals:

1. Introduce HIAs to Kansas policymakers and create demand for HIAs as a decision-making tool.
2. Increase awareness among stakeholders and decision-makers regarding multiple factors that can influence health.
3. Examine health effects of casinos within a larger framework of social, economic and physical factors.

4. Identify options and provide evidence-based recommendations to enhance the legislation's potential positive impacts on health and well-being and mitigate potential negative health impacts.

5. Build KHI and KUSM–Wichita organizational capacity in conducting HIAs.

The team also anticipated that the HIA would achieve a number of other results, including the consideration of HIA findings during the decision-making process around gaming and increased stakeholder involvement, specifically from multiple sectors.

Snapshot of SEKGZ: Cherokee and Crawford Counties

Cherokee and Crawford counties make up SEKGZ, which was created with three other gaming zones in the state by Senate Bill 66 in 2007, also known as the Kansas Expanded Lottery Act. According to the *2012 County Health Rankings*, both counties ranked among the 15 least healthy in the state.[2] SEKGZ population also has remained relatively flat since 2000. Between 2000 and 2010, Crawford County's population increased 2.3 percent and Cherokee County's population fell 4.4 percent, even though statewide population increased 6.1 percent.[3] In the SEKGZ, average annual earnings are about a quarter (22.4 percent in Crawford County) to a third (34.1 percent in Cherokee County) lower than the state average.[4] Based on 2008–2010 data, average full-time, year-round worker earnings are $32,826 in Cherokee County, $38,647 in Crawford County and $49,819 statewide.[5] The combined average unemployment rate for Crawford and Cherokee counties has remained consistently higher than the statewide rate since at least 2001. The unemployment rate for these counties has generally followed the statewide trend, however, with unemployment in Crawford and Cherokee counties reaching a peak of 8.8 percent in 2009, declining to 7.8 percent in 2011 and staying at 7.5 percent in 2012.[6] The Kansas unemployment rate peaked at 7.1 percent in 2009, declined to 6.6 percent in 2011 and increased to 7.0 percent in 2012.[7]

Key Decision-Makers and Stakeholders

Three bills — Senate Bill (SB) 241, SB 319 and House Bill (HB) 2426 — regarding a casino in SEKGZ were introduced in the House and Senate Federal and State Affairs committees at the beginning of the Kansas Legislature's 2012 session, and one more bill — SB 472 — was introduced during the legislative veto session that started April 25, 2012. This bill repackaged the main components of the three gaming bills described above. Initial HIA outreach efforts focused on informing members of these two committees. The HIA team also informed interested stakeholders from various sectors, including faith, energy, education, health care, business, local government, media, public safety, public health, charities and nonprofit organizations.

Key Findings

The potential health impacts of casino presence in a community are complex and difficult to assess because:

- Casinos often have indirect and cumulative health impacts.
- Casinos produce social impacts that are usually difficult to quantify.
- Some casino health impacts may only become apparent in the long-term.

The Kansas casino HIA results suggest that even after accounting for health impacts from existing casinos, the SEKGZ would likely experience some added positive and negative health impacts from a new casino. The HIA uncovered potential positive health impacts, such as reduced likelihood of premature death and increased quality of life and life expectancy associated with job creation. However, the project also identified several potential negative health consequences, which will mostly result from increased access to gambling. In particular, the community could observe increases in injury, obesity, depression, chronic fatigue, substance-impaired driving, child abuse and neglect, and domestic violence. Table 1 highlights the HIA findings, and provides recommendations to mitigate potential negative health impacts and maximize potential health benefits. Table 2 summarizes the health impacts of a proposed SEKGZ casino.

Table 1. Key HIA Findings and Recommendations

CASINO EMPLOYMENT	
The presence of a casino in Cherokee or Crawford County could increase local employment levels, specifically for the leisure and hospitality sector.	
FINDINGS	**RECOMMENDATIONS**

Jobs, insurance and income
• Casino employees will likely have better access to health services and improved health status when they have health insurance and higher incomes. Findings from Ford County suggest a casino in SEKGZ would create around 280 new casino positions. Depending on the casino's practices, those employees could be eligible for health insurance.
	Casino job benefit maximization
	• Casino manager should consider:
	  • Using local hiring practices.
	  • Partnering with local schools to create workforce development programs and educational opportunities.
	  • Providing health insurance to all full-time employees and cost-sharing arrangements to provide insurance to part-time workers.

Shift work
• Casino employees who work in shift positions face increased risk of morbidity and mortality due to interrupted sleep schedules and insomnia.
	Employee health
	• Casino manager should consider:
	  • Providing workplace wellness services, especially for late-shift employees.
	  • Keeping each worker on the same shift or, when shifts do rotate, rotating them forward, from day to evening to night, instead of backward.

Table 1 (Continued). Key HIA Findings and Recommendations

CASINO EMPLOYMENT (Continued)	
FINDINGS	**RECOMMENDATIONS**
Exposure to secondhand smoke • Occupational exposure to secondhand smoke increases the risk of lung cancer and cardiovascular disease as well as morbidity and mortality. A conservative estimate of direct medical costs that result from routine exposure to secondhand smoke among Kansas SEKGZ casino workers is $103 per year, per person.[A]	**Work environment safety**[B] • Casino manager should consider: • Eliminating smoking within and around casino.
Risk behaviors • Casino employees have higher rates of pathological gambling, smoking, alcohol problems and depression than the general adult population.	**Employee education** • Casino manager should consider: • Providing educational programs for new employee training on the prevention, formation and treatment of addictions and problem behaviors.
Public assistance benefits • Increase in earnings may make employees ineligible for public assistance benefits (e.g., child care subsidies, health care coverage, food stamps and others). This can further affect their ability to buy needed nutritious foods and health insurance, thus negatively affecting health.	**Workforce development and independence** • Casino manager should consider: • Providing training and employment programs for public assistance recipients in order to give them the tools to compete for semi-skilled casino positions that pay livable wages.
TOURISM	
Tourism can have a number of potential benefits for rural communities. The creation of revenue and jobs, above and beyond the casino, is often considered the most important benefit of tourism. Cherokee and Crawford counties may experience an 11 percent increase in overnight tourism and related transient guest tax receipts following the opening of a casino.	
FINDINGS	**RECOMMENDATIONS**
Tourism activity • The impact on SEKGZ tourist activity will depend upon the casino's size and location. Reducing the minimum privilege fee and investment required will likely result in a smaller casino. Small casinos are likely to be "casinos of convenience" rather than "destination casinos." They mainly serve local patrons, thus limiting tourist activity and potential economic benefit.	**Economic impact maximization**[C] • Casino manager, in collaboration with local businesses, should consider: • Ensuring that the casino functions as a destination attraction, drawing people from outside the region by creating an array of complementary attractions in cooperation with local businesses.

Notes:

A. Behan, D. F., Eriksen, M. P., & Lin, Y. (2005). *The Economic Effects of Environmental Tobacco Smoke.* Schaumburg, Illinois: Society of Actuaries. Their 2005 estimate of $80 was adjusted to 2012 dollars using the Medical Cost component of the Consumer Price Index - All Urban Consumers (CPI-U).

B. This issue also can be addressed through state legislative efforts.

C. This issue also can be addressed through state legislative efforts.

Table 1 (Continued). Key HIA Findings and Recommendations

TOURISM (Continued)	
FINDINGS	**RECOMMENDATIONS**

Crime
• Crawford and Cherokee counties may experience population increases of about 1,200 and 600 people, respectively. These residential changes may alter the community's social fabric and result in higher crime rates.
• Crime, resulting from social disruption and population increases, can have direct health impacts, including physical impacts such as injuries or psychological impacts such as post-traumatic stress disorder (PTSD).
	Community safety
	• Law enforcement, judicial and social services should consider:
	  • Collaborating to monitor and respond to any potential increases in crime.
	• Casino manager should consider:
	  • Securing parking lots and structure perimeters with transparent barriers, lighting and signs, and using video surveillance to address potential property crime.

Traffic volume
• Residents of casino communities may experience noise, parking problems and traffic-related hazards. In addition, higher traffic volume may contribute to reduced outdoor air quality and increased risk for adverse health effects, including asthma, bronchitis and cardiovascular disease.
	Air quality and safe driving
	• Casino manager, in collaboration with local health department officials and agencies responsible for local streets, roads and highways, should consider:
	  • Monitoring air quality.
	  • Ensuring safe casino entrances and exits, sufficient parking and connections to other community venues.

ACCESS TO GAMBLING	
Increased access to gambling may lead to problem or pathological gambling. Negative health consequences of pathological gambling include nicotine dependence, substance use, depression and insomnia.	
FINDINGS	**RECOMMENDATIONS**

Problem and pathological gambling
• Increased access to gambling may indirectly increase rates of child abuse and neglect, domestic violence, suicide, unsafe sex and alcohol (ab)use.
  • Abused and neglected children experience negative physical and psychological problems that may lead to cancer, obesity and sexually transmitted diseases.
  • Domestic violence, aside from physical injury, can lead to a variety of negative health effects including chronic fatigue, disturbed sleeping and eating, depression, anxiety and attempted suicide.
  • Unsafe sex, with multiple partners or without condoms, can lead to sexually transmitted diseases that have been linked to premature birth, low birth weight and infertility.
  • Alcohol use and abuse can result in chronic conditions like liver cirrhosis as well as alcohol-related motor vehicle accidents, which result in injury and death.
	Responsible gaming
	• Casino manager should consider:
	  • Implementing a tracking and exclusion system for gambling addicts.
	  • Using a "loss limit" strategy to prevent substantial financial losses among patrons within a 24-hour period.
	
	Addiction treatment and prevention
	• Local universities, colleges and schools, in collaboration with local coalitions on problem gambling, should consider:
	  • Educating students at local schools about problem gambling behaviors.
	• The Kansas Academy of Family Physicians (KAFP) and other primary care physician organizations should consider:
	  • Working through the accredited residency programs to train primary care physicians to screen for problem gambling behaviors.
	• The Kansas Department for Aging and Disability Services (KDADS) should consider:
	  • Strengthening local addiction services to treat and prevent gambling addiction and its comorbidities.

Table 1 (Continued). Key HIA Findings and Recommendations

ACCESS TO GAMBLING (Continued)	
FINDINGS	**RECOMMENDATIONS**

	State-level monitoring and treatment
	• The Kansas Department of Health and Environment (KDHE) should consider:
	  • Repeating questions regarding gambling behaviors in future Behavioral Risk Factor Surveillance System (BRFSS) surveys.
	• The KDADS should consider:
	  • Adopting a "warm handoff" practice to connect gambling hotline callers to services immediately.
	
	Community safety and health
	• KDHE should consider:
	  • Enhancing prevention and treatment programs for sexually transmitted diseases (STDs).
	• Law enforcement should consider:
	  • Enhancing Driving Under the Influence (DUI) enforcement on major roads leading to and from a casino.
	• Casino manager should consider:
	  • Operating a "safe ride" program for patrons and residents, in order to reduce DUIs and increase public transportation options.

REVENUE	
It is unclear whether casino revenue will have a net positive or negative effect on health. Revenue generated by a casino may be used to mitigate unintended negative consequences associated with the presence of a casino in the community. However, research suggests that those funds are more often used for economic development projects rather than direct health and social services.	
FINDINGS	**RECOMMENDATIONS**
Liquor tax revenue • A casino may increase annual liquor tax revenue by about $99,400. **Income and sales tax revenue** • It is unclear what effect a casino may have on these types of revenue.	**Health benefit maximization** • Local officials should consider: • Establishing a philanthropic agreement with the prospective casino manager to fund health-related initiatives with a small share of casino revenue.

Table 2. Summary Health Impacts of a Casino Presence in the Southeast Kansas Gaming Zone (SEKGZ)

				Based Primarily on Evidence From Literature				
Health Factor or Outcome	Expected Change Based on Literature	Observed Changes in Kansas (Based on Data)	Stakeholder Projections	Expected Health Impact	Magnitude of Impact	Likelihood of Impact	Distribution	Quality of Evidence
CASINO EMPLOYMENT								
Casino employment	Increase	Increase	Increase	Mixed	Low	Likely	Casino workers and their families	****
Unemployment rate	No change	No change	Decrease	No effect	None	None	No change	***
Health insurance	Increase	N/A	Mixed	Positive	Low	Likely	Casino full-time workers and their families	****
Income	Increase	N/A	Mixed	Positive	Low	Likely	Casino workers and their families	****
Shift work and sleep disturbance	Increase	N/A	N/A	Negative	Low	Likely	Casino workers and their families	**
Secondhand smoke exposure	Increase	N/A	Increase	Negative	Medium	Likely	Casino workers and patrons	****
Employee risk behaviors	Increase	N/A	Increase	Negative	Low	Possible	Casino workers	***
Public assistance benefits	Decrease	N/A	Mixed	Negative	Low	Possible	Public assistance recipients who become casino workers	**
TOURISM								
Tourist activity	Increase	Increase	Increase	Mixed	Medium	Likely	Community members	****
Leisure and hospitality industry jobs	Increase	Increase	Increase	Positive	Medium	Likely	Community members	****
Health insurance	Increase	N/A	Increase	Positive	Low	Likely	Leisure and hospitality workers and their families	***
Income	Increase	N/A	Mixed	Positive	Low	Likely	Leisure and hospitality workers and their families	***
Per capita income	Mixed	N/A	Increase	Positive	Medium	Uncertain	Community members	**
Population growth	Increase	Increase	Increase	Mixed	High	Likely	Community members	***

Table 2 (Continued). Summary Health Impacts of a Casino Presence in the Southeast Kansas Gaming Zone (SEKGZ)

				Based Primarily on Evidence From Literature				
Health Factor or Outcome	Expected Change Based on Literature	Observed Changes in Kansas (Based on Data)	Stakeholder Projections	Expected Health Impact	Magnitude of Impact	Likelihood of Impact	Distribution	Quality of Evidence
TOURISM (continued)								
Property crime	Mixed	Mixed	Increase	Negative	Medium	Possible	Community members	***
Violent crime	Mixed	Mixed	Increase	Negative	Medium	Possible	Community members	***
Traffic volume	Increase	No change	Increase	Negative	Medium	Possible	Community members	**
ACCESS TO GAMBLING								
Entertainment value	Increase	N/A	Increase	Positive	Low	Likely	Casino patrons	***
Problem and pathological gambling	Increase	Increase	Increase	Negative	Medium	Likely	Pathological gamblers, their families, employers	****
Child abuse and neglect	Increase	No change	Increase	Negative	Low	Possible	Pathological gamblers and their families	****
Domestic violence	Increase	Mixed	Increase	Negative	Low	Possible	Pathological gamblers and their families	****
Divorce	Increase	No change	Mixed	Negative	Low	Uncertain	Pathological gamblers and their families	**
STDs	Increase	Increase	N/A	Negative	Low	Possible	Pathological gamblers and their families	***
Alcohol (ab) use, alcohol-related motor vehicle injuries and fatalities	Increase	Increase	Increase	Negative	Medium	Likely	Casino patrons, pathological gamblers and other drivers	****
Suicide	Increase	No change	Mixed	Negative	Low	Possible	Pathological gamblers and their families	***

Note: See legend, page xvi.
Source: Kansas HIA Project, 2012.

Legend for Table 2

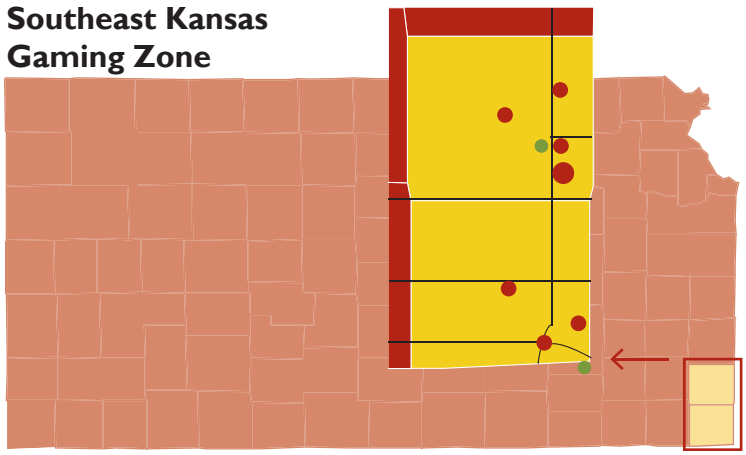
Expected Change Based on Literature	• No change — The literature achieves consensus that this indicator will likely remain unchanged. • Mixed — The literature lacks consensus about this indicator's potential impact. • Increase — The literature achieves consensus that this indicator will likely increase. • Decrease — The literature achieves consensus that this indicator will likely decrease. • N/A — There is no available literature on this indicator.
Observed Changes in Kansas (Based on Data)	• No change — Data analysis did not show any large changes. • Mixed — Data analysis from different regions showed opposite changes. • Increase — Data analysis showed this indicator will likely increase. • Decrease — Data analysis showed this indicator will likely decrease. • N/A — Data analysis was not possible or performed for this indicator.
Stakeholder Projections	• No change — Stakeholders did not anticipate any changes. • Mixed — Stakeholders were divided in their opinions. • Increase — Stakeholders anticipated seeing an increase. • Decrease — Stakeholders anticipated seeing a decrease. • N/A — Stakeholders did not express their opinions about this issue.
Expected Health Impact	• Positive — Changes that may improve health. • Negative — Changes that may worsen health. • Mixed — Changes can be positive as well as negative. • Uncertain — Unknown how health will be impacted. • No effect — No identified effect on health. Note: When findings from different sources (data, literature, stakeholder opinion) were not consistent, expected health impact was determined primarily based on findings from the literature because the HIA team determined it was the best available source of information.
Magnitude of Impact	• Low — Affects no or very few people (such as only certain groups of casino workers). • Medium — Affects larger numbers of people (such as casino workers and patrons). • High — Affects many people (such as the city of Pittsburg).
Likelihood of Impact	• Likely — It is likely that impacts will occur as the result of this proposal. • Possible — It is possible that impacts will occur as the result of this proposal. • Unlikely — It is unlikely that impacts will occur as the result of this proposal. • Uncertain — It is uncertain that impacts will occur as the result of this proposal.
Distribution	The population most likely to be affected by changes in the health factor or outcome. Determination was based on literature review, data analysis and expert opinion. • No change — Did not anticipate any changes.
Quality of Evidence	**** More than five strong studies. May also include data analysis and expert opinion. *** Five or more moderate studies. May also include data analysis and expert opinion. ** Five weak studies. May also include data analysis and expert opinion. * Fewer than five studies.

PICTURE OF SEKGZ

Pittsburg State University is in Pittsburg, Kansas, in Crawford County.

PICTURE OF SEKGZ

Southeast Kansas Gaming Zone



The **Southeast Kansas Gaming Zone** is made up of Crawford and Cherokee counties.

Crawford County has a population of 39,220. Average full-time, year-round worker earnings are $38,647.

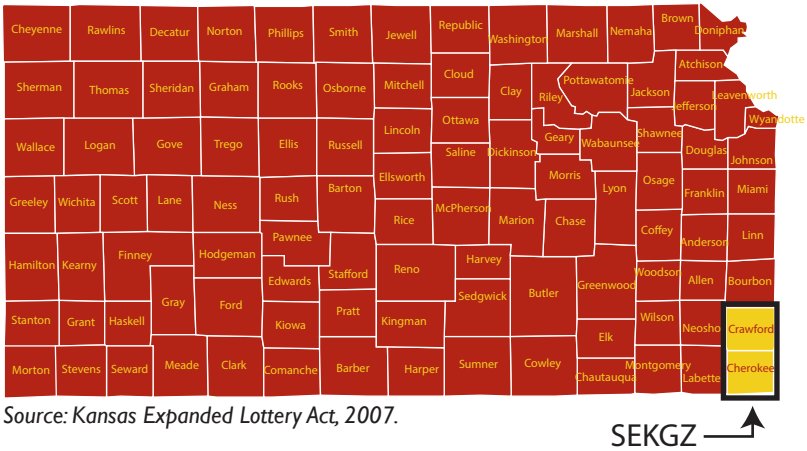
Cherokee County has a population of 21,385. Average full-time, year-round worker earnings are $32,826.

PICTURE OF THE SOUTHEAST KANSAS GAMING ZONE

Health Status of the Community

More than 27 percent of Southeast Kansas Gaming Zone (SEKGZ) children live in poverty, compared to 18 percent of all Kansas children. The region's teen birth rate is higher than the state's.[8] And the percentages of SEKGZ Kansans who are overweight and inactive are both higher than the state averages.[9] As the *2012 County Health Rankings* show, Crawford and Cherokee counties, which make up the SEKGZ (Figure 1), lag behind many other Kansas counties[10] (Table 3). The result is that many residents are sicker during their lifetimes and die younger than their counterparts in other areas of the state.

Figure 1. Southeast Kansas Gaming Zone (SEKGZ)



Source: Kansas Expanded Lottery Act, 2007.

Table 3. Selected Key Health Indicators for Cherokee and Crawford Counties

Indicators	Cherokee	Crawford	State Average
Percent of Adults Who Smoke	20%	21%	18%
Teen Birth Rate (Per 1,000 15- to 19-Year-Old Females)	59	47	43
Obesity (Percent of Adults with a Body Mass Index ≥ 30)	36%	35%	30%
Motor Vehicle Crash Death Rate (Per 100,000 People)	30	23	18
Unemployment (Percent of Population 16 Unemployed But Seeking Work, 2010 Data)	8.6%	8.2%	7%
Children in Poverty (Percent of Children Under Age 18)	28%	27%	18%

Source: 2012 County Health Rankings.

Cherokee County is in the state's extreme southeast corner, bordering Missouri and Oklahoma. Its largest town is Baxter Springs, which has a population of about 4,200. Cherokee County is among the five least healthy counties in the state, and its residents are two and a half times more likely to die prematurely than those in Kansas' healthiest county.[11] *The Rankings* reported only one primary care provider per 2,353 residents, while the state average is one provider per 857 residents.[12] Cherokee County struggles with a number of socioeconomic challenges, including poverty (17.5 percent) and unemployment (8.6 percent).[13] The county also ranked higher than the statewide average in several negative health behaviors. For example, the county's number of motor vehicle crash deaths per 100,000 population is 30, compared to the state average of 18.[14] Its teen birth rate is 59 births per 1,000 females age 15 to 19, as compared to the state average of 43.[15] Crawford County mirrors these problems.

Physical Environment

The built environment refers to human-made resources and infrastructure, such as buildings, roads and parks. Decreasing population levels and declining investments have combined to take a toll on the infrastructure in Southeast Kansas.

Other lifestyle and environmental factors affect the well-being of residents of Cherokee and Crawford counties. According to the *2012 County Health Rankings*, Cherokee County has one recreational facility for every 20,000 residents while in Crawford County and statewide there is an average of at least one such facility for every 10,000 residents.[16] Just more than 20 percent of Cherokee County residents and 24.9 percent of Crawford County residents are low-income and live more than a mile from a grocery store.[17]

Cherokee County has more liquor stores per capita (2.37 per 10,000 residents) than the state as a whole (2.2 per 10,000 residents),[18] while Crawford County has fewer liquor stores (1.8 per 10,000 residents).[19]

Columbus, Kansas.

Frontenac, Kansas.

Highway KS-7. Cherokee County.

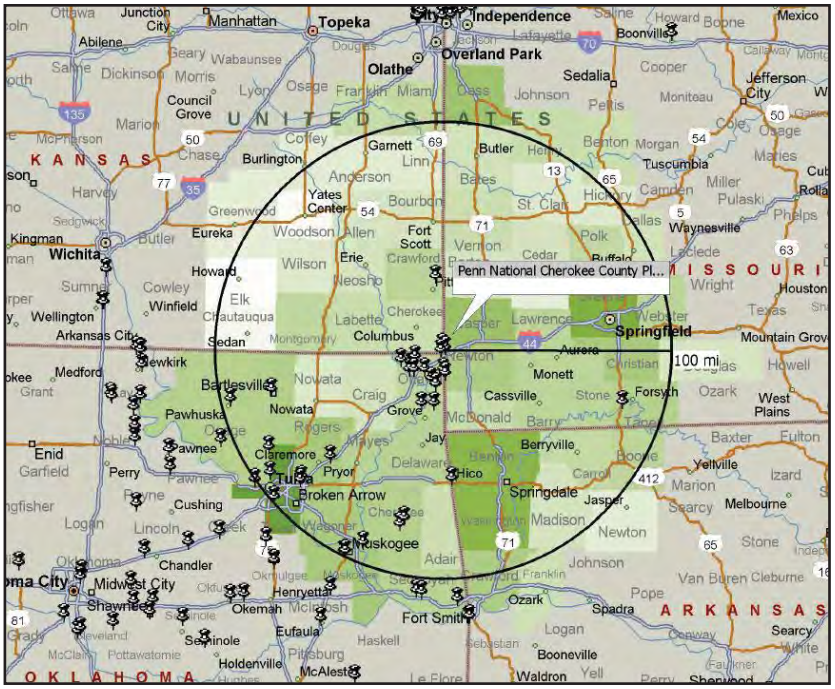
Socioeconomic Environment

The region's population has remained relatively flat since 2000. Between 2000 and 2010, Crawford County's population increased 2.3 percent and Cherokee County's population fell 4.4 percent while the statewide population increased 6.1 percent.[20] Average annual earnings in the

region are about a quarter to a third lower than the state average. Based on 2008–2010 data, average full-time, year-round worker earnings are $32,826 in Cherokee County, $38,647 in Crawford County and $49,819 statewide.[21]

The unemployment rate for Crawford and Cherokee counties combined has consistently been higher than the statewide rate since at least 2001. The unemployment rate for these counties has generally followed the statewide trend, with unemployment in Crawford and Cherokee counties reaching a peak of 8.8 percent in 2009, declining to 7.8 percent in 2011 and staying at 7.5 percent in 2012.[22] The statewide unemployment rate peaked at 7.1 percent in 2009, declined to 6.6 percent in 2011 and increased to 7.0 percent in 2012.[23]

Figure 2. Trade Area of Southeast Kansas Gaming Zone



Source: Wells Gaming Research. (2008). Project Specific Gaming Revenue Projections, Southeast Gaming Zone, Final Report.

Regional Environment

The SEKGZ casino trade area encompasses a 100- to 125-mile radius through Kansas, Missouri, Oklahoma and Arkansas (Figure 2), and already contains numerous casinos.[24] Specifically, Oklahoma has more than 20 American Indian-owned and operated casinos near the Kansas border.[25] The Downstream Casino, owned and operated by the Quapaw Tribe, is adjacent to the Kansas border, making it the casino closest to Kansas. Downstream Casino is the largest casino in Ottawa County, Oklahoma, and the sixth largest in that state.[26] Given that SEKGZ residents already have access to casinos in adjacent states, it is important to consider some of the health effects of existing casinos on the region. Thus, the HIA included

Table 4. Household Income Comparison: Cherokee and Crawford Counties Versus Kansas

	Total Households	Less than $10,000	$10,000–$24,999	$25,000–$49,999	$50,000–$74,999	$75,000–$99,999	$100,000 or more
Cherokee County	8,126	10.5%	21.3%	31.1%	20.6%	11.5%	4.9%
Crawford County	15,194	9.6%	26.5%	29.9%	15.5%	8.7%	9.8%
Kansas	1,106,198	6.7%	17.1%	26.7%	19.8%	12.4%	17.3%

Source: U.S. Census Bureau, American Community Survey 3-Year (2008–2010) Estimates, Table B19001.

an analysis of existing conditions for the selected areas and projections of the potential added health impacts on these areas of a proposed SEKGZ casino. The HIA results suggest that even after accounting for health impacts from existing casinos, the SEKGZ would likely experience some added health impacts (e.g., an increase in problem and pathological gamblers) from a new casino. These findings are discussed in further detail at the end of each of the *Analysis of Health Impacts* sections (pages 37, 52 and 66).

Recent Efforts to Improve Health

Regional Partnerships: Thrive Southeast Kansas

Regional health improvement efforts in Southeast Kansas began after the release of the *Kansas County Health Rankings 2009*.[27] These rankings showed that nine Southeast Kansas counties — Allen, Bourbon, Cherokee, Crawford, Labette, Montgomery, Neosho, Wilson and Woodson — ranked in the bottom quartile of Kansas counties, and seven of the nine counties ranked in the bottom 10 in the state.

Seeing these rankings as a call to action, Thrive Allen County, the Kansas Health Institute (KHI) and the Kansas Leadership Center co-hosted the first Southeast Kansas Health Summit in March 2010 in Iola. About 75 community leaders from the nine counties examined the severity of the region's health issues and discussed how to work together to tackle common challenges.

As a result of these discussions, Thrive Allen County established an affiliate organization, Thrive Southeast Kansas, to work with the Southeast Kansas Regional Health Coalition on health issues. Thrive SEK received a grant from the National Network of Public Health Institutes, provided through KHI, to develop a series of projects with partners from the nine counties using the Centers for Disease Control and Prevention's (CDC) Community Guide, which provides a road map for community health and wellness projects.

Project 17

Recently, four Southeast Kansas state senators — Pat Apple, Jeff King, Bob Marshall and Dwayne Umbarger — launched a health, economic development and leadership initiative called Project 17, named for the 17 counties in the region.[28] Project 17 is focused on four regional priorities identified by participants at a 2011 economic summit: (1) creating economic growth; (2) improving health outcomes; (3) promoting regional leadership; and (4) creating a permanent structure to ensure a long-term regional effort. In 2012, Project 17 received $1 million in leadership training through the Kansas Leadership Center's Academy for Team Leadership initiative.[29]

Entrance to Oklahoma's Downstream Casino as seen from Cherokee County, Kansas.

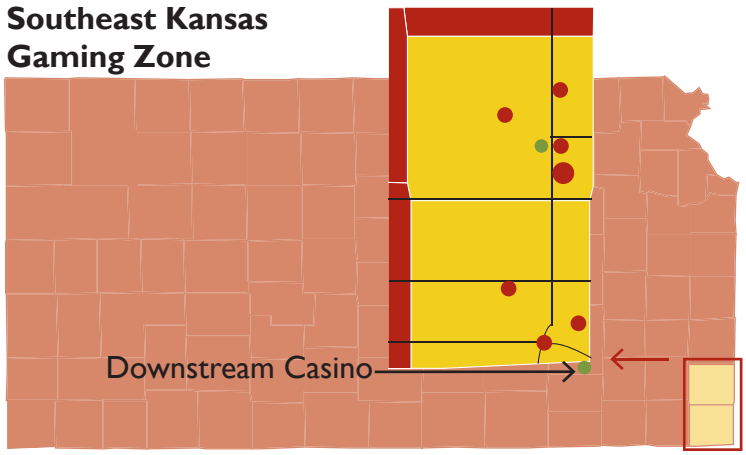
Oklahoma's Downstream Casino, courtesy of Google Maps.

Downstream Casino's parking lot, which is in Cherokee County, Kansas.

Hotel at Downstream Casino, as seen from the highway in Cherokee County, Kansas.

Downstream Casino in Quapaw, Oklahoma.

Southeast Kansas Gaming Zone



Photos on this tab were taken near

Downstream Casino.

Downstream Casino is in Quapaw, Oklahoma. A new SEKGZ casino could be built in Cherokee County, near this casino.

ADDRESSING CHALLENGES THROUGH HEALTH IMPACT ASSESSMENTS

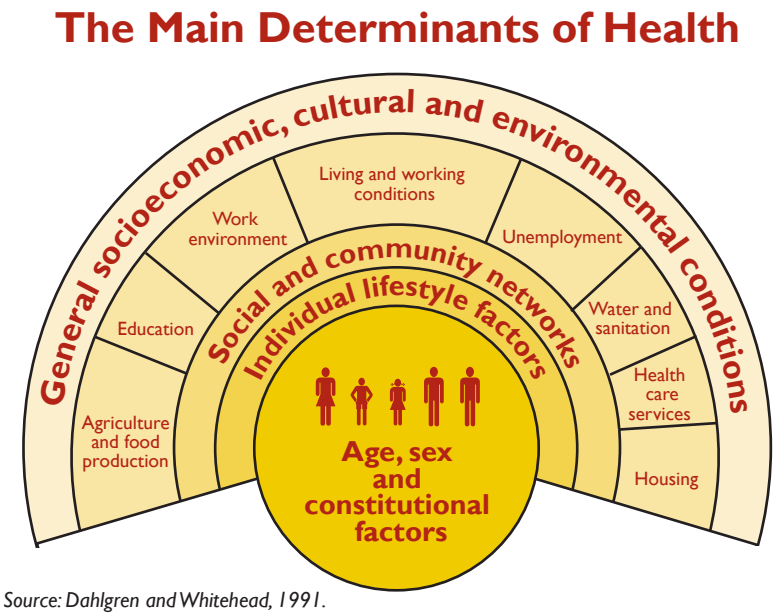
HIA in a Larger Context of the Health in All Policies Approach

Given the complexity of the relationships between social and economic conditions and poor health (Figure 3), there are no one-size-fits-all policy solutions to these issues.[30] The Health in All Policies concept is an innovative way of thinking about how policies outside the health sector can affect health in ways that aren't necessarily traditional or obvious. Endorsed by the CDC, Healthy People 2020 and other national health organizations, the concept is gaining national attention.

In 2009, KHI launched Children's Health in All Policies (CHAP) as a way to explore how the Health in All Policies concept can be used in Kansas to work within and across sectors to promote and improve the health of children. After the completion of this project, KHI continued exploring opportunities for implementing the Health in All Policies approach.

The 2012 gaming legislation aimed at revitalizing the economy of the rural southeast corner of Kansas presented KHI with an opportunity to expand its work in fostering and implementing the Health in All Policies approach by conducting a Health Impact Assessment (HIA), the first of its kind in Kansas.

Figure 3. Ecological Framework of Health



Source: Dahlgren and Whitehead, 1991.

Value of HIA

HIA is a fast-growing field that helps policymakers identify the potential health effects of proposed new laws, regulations, projects and programs. It offers practical recommendations for ways to minimize risks and maximize opportunities to improve health.

Selection of HIA Topic

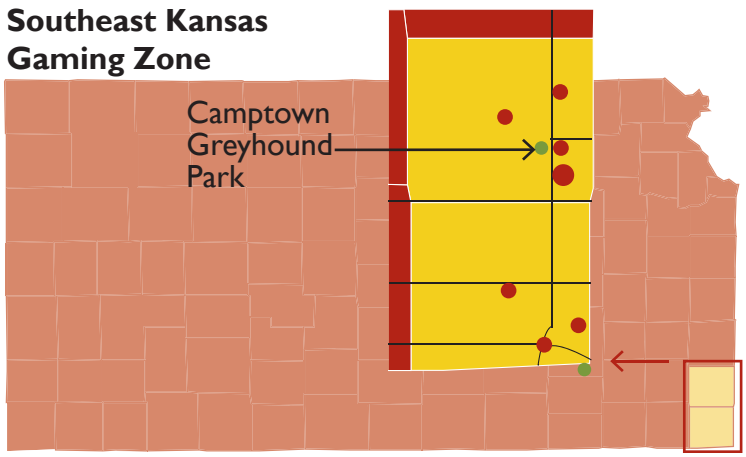
When considering possible HIA topics, KHI decided that an HIA on casino legislation could broaden the scope of discussion and provide novel insight on the potential health consequences and health benefits that could result from changing

gaming regulations. When gaming bills (Senate bills 237 and 241) were introduced during the 2011 legislative session, little attention was paid to the potential health effects of a casino on the community. The Kansas casino HIA focused on making health part of the policy considerations.

Notes

Camptown Greyhound Park is in Frontenac, Kansas, in Crawford County.

Map courtesy of Google Maps.



Photos on this tab were taken at

Camptown Greyhound Park.

Camptown Greyhound Park is in Frontenac, Kansas. It ceased operating several years ago and is one possible site for a new SEKGZ casino. It is in Crawford County.

HISTORY OF GAMING IN KANSAS

Gaming has long been a controversial issue in Kansas, as the Kansas Constitution historically prohibited lotteries. Over the last 40 years, however, the state has routinely eased its restrictions on different types of gaming. In 1974, for example, the Kansas Constitution was amended to allow for the regulation, licensing and taxation of bingo games.[31] In 1986, horse and dog racing and parimutuel wagering also were allowed, as well as state-owned and operated lotteries. One year later, the Legislature established the Kansas Lottery.[32]

Following the passage in 1988 of the Indian Gaming Regulatory Act, a federal law that governs the use of casinos as an economic development tool for tribes, Kansas entered into compacts with American Indian tribes for the development of gaming casinos in 1995. Currently, there are five tribal casinos in Kansas.[33] They vary in size from a small casino (White Cloud Casino in White Cloud) to a large destination casino (Prairie Band Casino in Mayetta). Table games offered at tribal casinos include blackjack, craps, roulette and three-card poker. In addition to table games, these casinos feature slot machines and video poker.

After much controversy during the 2007 session, Kansas legislators approved a bill that created four Kansas gaming zones. Known as the Kansas Expanded Lottery Act (KELA),[34] the bill passed by six votes in the House (64-58) and two in the Senate (21-19).[35]

The lottery act authorized one casino in each of four designated gaming zones:

- Northeast Kansas Gaming Zone — Wyandotte County.
  - The Hollywood Casino at Kansas Speedway opened in 2012. It has 40 table games and 12 poker tables, as well as 2,000 electronic machines and four restaurants.[36]
- South Central Kansas Gaming Zone —Sedgwick and Sumner counties.
  - The Kansas Star Casino opened in 2011. It has more than 1,300 slots and 32 table games.[37]
- Southwest Kansas Gaming Zone — Ford County.
  - The Boot Hill Casino opened in 2009. It has 584 slot machines and 12 gaming tables, plus a snack bar, casual dining restaurant with service for 150, saloon and general store.[38]
- Southeast Kansas Gaming Zone — Crawford and Cherokee counties.
  - No casino. Although managers showed interest, the casino was never built in the region.

According to the 2007 law, casino managers in the northeast, southeast and south-central gaming zones were required to invest $225 million in a casino and pay the state a $25 million fee. The statute set a different baseline for Southwest Kansas, requiring a $50 million casino investment and $5.5 million fee.[39]

SEKGZ has struggled to attract potential investors since a proliferation of tribal casinos on the Oklahoma border occurred a couple of years after approval of the Kansas Expanded Lottery Act. No managers have applied to build and manage the casino since 2009; in response, several state legislators proposed reducing the minimum privilege fee and investment required for SEKGZ. These bills didn't pass during the 2011 legislative session but were reintroduced in 2012. Table 5 provides highlights of bills introduced in the Legislature during the past three years that would encourage construction of a casino in SEKGZ.

Table 5. Recent Kansas Gaming Bills Regarding SEKGZ

Year Introduced	Description	Status
2009	**HB 2187** — Proposed to reduce the investment requirement in SEKGZ from $225 million to at least $50 million, reduce the operation privilege fee from $25 million to $5.5 million and allow the management of more than one gaming facility or racetrack by an entity.[A]	Unheard in Committee.
2010	**HB 2516** — Proposed to reduce the investment requirement in SEKGZ from $225 million to at least $100 million, reduce the operation privilege fee from $25 million to $11 million and use Expanded Lottery Act Revenue Fund (ELARF) revenue to support Kansas Public Employees Retirement System (KPERS).[B]	Unheard in Committee.
	SB 401 — Proposed to reduce the investment requirement in SEKGZ from $225 million to at least $100 million, reduce the operation privilege fee from $25 million to $11 million and use ELARF revenue to support KPERS.[C]	Portions inserted into Senate Substitute for HB 2180.
	S Sub for HB 2180 — Proposed to reduce the investment requirement in SEKGZ from $225 million to at least $100 million, reduce the operation privilege fee from $25 million to $11 million and use ELARF revenue to support KPERS. *HB 2180 originally concerned alcoholic beverages and licenses for drinking establishments. Amendments in Senate Committee replaced the original language with language from SB 401. The bill was then amended by the Senate Committee of the Whole to include provisions for a statewide smoking ban.* [D]	Failed to pass to the Senate floor for voting.
2011	**SB 237** — Proposed to reduce the investment requirement in SEKGZ from $225 million to at least $100 million, reduce the operation privilege fee from $25 million to $11 million and make it nonrefundable, and use ELARF revenue to pay for deferred maintenance of regents institutions and to support KPERS.[E]	Died in committee.
	SB 241 (Am.) — Proposed to reduce the investment requirement in SEKGZ from $225 million to at least $50 million, reduce the operation privilege fee from $25 million to $5.5 million, reduce lottery gaming facility revenue contributions to the Problem Gambling and Addictions Grant Fund (PGAGF) from 2 percent to 1 percent and create a provision for 1 percent of lottery gaming facility revenue to be dedicated to promoting tourism in Kansas.[F]	Died in committee.

Table 5 (Continued). Recent Kansas Gaming Bills Regarding SEKGZ

Year Introduced	Description	Status
2011 (cont.)	**HB 2002** — Proposed to reduce the investment requirement in SEKGZ from $225 million to at least $100 million in Southeast Kansas, reduce the operation privilege fee from $25 million to $11 million and make it nonrefundable, and use ELARF revenue to pay for deferred maintenance of regents institutions, instead of state infrastructure improvements, and to support KPERS.[G]	Died in committee.
	HB 2354 — Proposed to change Kansas' second gaming zone to encompass Crawford and Cherokee counties or Geary County (north-central Kansas), restrict the state from entering into contracts with lottery gaming facility managers in both gaming zones, reduce the investment requirement from $225 million to at least $50 million in either zone, reduce the operation privilege fee from $25 million to $5.5 million in either zone and make in nonrefundable, and use ELARF revenue to pay for deferred maintenance of regents institutions, instead of state infrastructure improvements, and to support KPERS.[H]	Unheard in committee.
2012	**HB 2426** — Proposed to change Kansas' second gaming zone to encompass Crawford and Cherokee counties or Geary County (north-central Kansas), restrict the state from entering into contracts with lottery gaming facility managers in both gaming zones, reduce the investment requirement from $225 million to at least $50 million in either zone, reduce the operation privilege fee from $25 million to $5.5 million in either zone and make it nonrefundable, and use ELARF revenue to pay for deferred maintenance of regents institutions, instead of state infrastructure improvements, and to support KPERS.[I]	Unheard in committee.
	SB 319 — Proposed to reduce the investment requirement from $225 million to at least $50 million in SEKGZ, reduce the operation privilege fee from $25 million to $5.5 million and allow managers of racetrack gaming facilities to also manage a lottery gaming facility in the same zone.[J]	Died in committee.
	SB 472 — Repackaged SB 319, SB 241 and SB 237. Proposed to reduce the SEKGZ investment requirement from $225 million to at least $50 million and the operation privilege fee from $25 million to $5.5 million.[K]	Died in committee.

Notes:

A. Kansas Legislature. (2009). HB 2187. Retrieved February 13, 2012, from http://www.kansas.gov/government/legislative/bills/2010/2187.pdf

B. Kansas Legislature. (2010). HB 2516. Retrieved February 13, 2012, from http://www.kansas.gov/government/legislative/bills/2010/2516.pdf

C. Kansas Legislature. (2010). SB 401. Retrieved February 13, 2012, from http://www.kansas.gov/government/legislative/bills/2010/401.pdf

D. Kansas Legislature. (2010). HB 2180. Retrieved February 13, 2012, from http://www.kansas.gov/government/legislative/bills/2010/2180.pdf

E. Kansas Legislature. (2011). SB 237. Retrieved February 13, 2012, from http://www.kslegislature.org/li/b2011_12/measures/documents/sb237_00_0000.pdf

F. Kansas Legislature. (2011). SB 241. Retrieved February 13, 2012, from http://www.kslegislature.org/li/b2011_12/measures/documents/sb241_01_0000.pdf

G. Kansas Legislature. (2011). HB 2002. Retrieved February 13, 2012, from http://www.kslegislature.org/li/b2011_12/measures/documents/hb2002_00_0000.pdf

H. Kansas Legislature. (2011). HB 2354. Retrieved February 13, 2012, from http://www.kslegislature.org/li/b2011_12/measures/documents/hb2354_00_0000.pdf

I. Kansas Legislature. (2012). HB 2426. Retrieved February 13, 2012, from http://www.kslegislature.org/li/b2011_12/measures/documents/hb2426_00_0000.pdf

J. Kansas Legislature. (2012). SB 319. Retrieved February 13, 2012, from http://www.kslegislature.org/li/b2011_12/measures/documents/sb319_00_0000.pdf

K. Kansas Legislature. (2012). SB 472. Retrieved February 13, 2012, from http://www.kslegislature.org/li/b2011_12/measures/documents/sb472_00_0000.pdf

Source: HIA Casino Project, 2012.

Informing the 2012 Gaming Bills

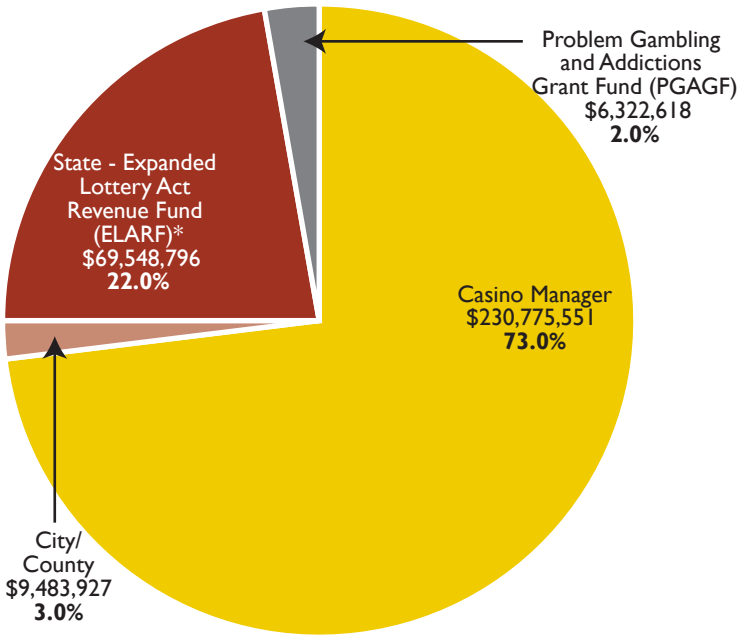
During the first part of the 2012 legislative session, the HIA aimed to inform three Senate bills (237, 241 and 319). All three bills, if passed, would lower the investment required for a casino in Southeast Kansas, making it easier for managers to build in Cherokee or Crawford counties. All three bills received a hearing at the beginning of the session, but no action was taken on these bills and they died in committee. However, at the beginning of the veto session, these three bills were repackaged into Senate Bill 472[40] and introduced to the Senate Committee on Federal and State Affairs. The HIA team's further efforts focused on informing SB 472.

Tribal Casinos vs. State-Owned Casinos: Health Implications for the Communities

Recent research has found some positive effects of tribal casinos on the income and health of local tribal members. It also noted the well-established link in the literature between low income and poor health as well as research that indicates changes in income are associated with changes in various health-related variables.[41] Based on a study of tribes across the country — both with and without casinos and comparisons before and after opening a casino — researchers suggest that casino-related increases in income lead to fewer risky behaviors, better physical health and increased access to health care for local tribe members.[42] Given the differences in distribution of state-owned and Kansas tribal casino revenue (Figures 4 and 5), it doesn't appear that Kansans living near a casino would experience the same health effects as their tribal counterparts. Kansans living near a state-owned casino wouldn't receive a direct distribution of casino revenue like the distributions many tribe members receive. The distribution of gaming revenue from a state-owned casino under the KELA is as follows:

- 22 percent is the statutory minimum for the state Expanded Lottery Act Revenue Fund (ELARF) share.

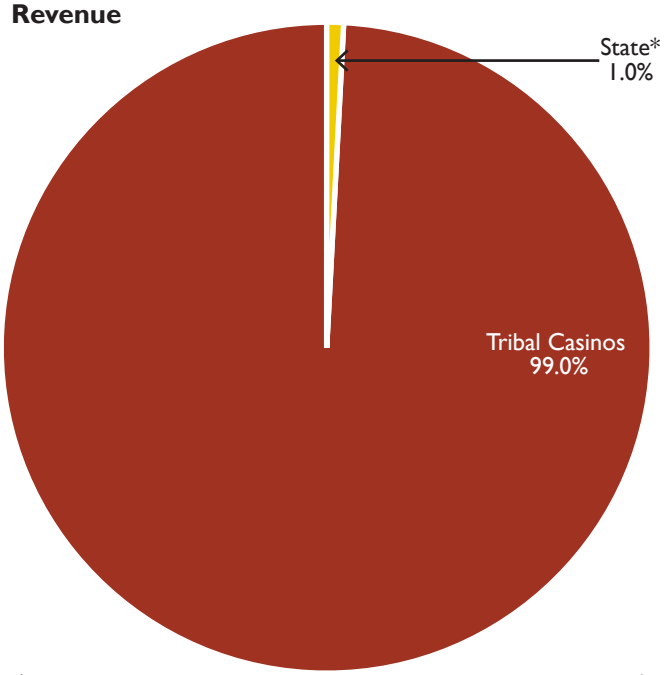
Figure 4. Statutory Distribution and Actual Net Gaming Revenue for State-Owned Casinos



*As of August 31, 2012; does not include $25 million in privilege fee revenue. Actual net gaming revenue from state-owned casinos since opening.

Source: Kansas Lottery Casino Gaming Revenue and Fund Distribution, http://www.kslottery.com/aboutus/expandedlottery.aspx

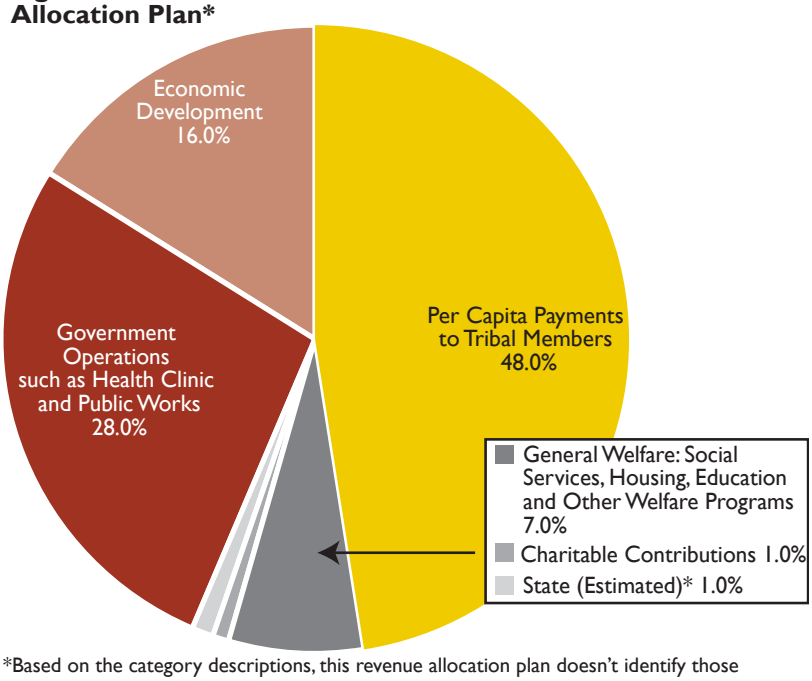
Figure 5. Distribution of Kansas Tribal Casino Net Gaming Revenue



*Under existing compacts, the state does not directly receive revenue from casinos except for expenses associated with its oversight activities. Financial information concerning the operation of the four casinos is confidential. State revenue from tribal casinos isn't known but is likely less than 1 percent of tribal casino net gaming revenue.

Source: KHI estimates based on existing compacts with tribal casinos, 2012.

Figure 6. Prairie Band Potawatomie Nation Casino Revenue Allocation Plan*



*Based on the category descriptions, this revenue allocation plan doesn't identify those portions of net gaming revenue used to pay casino employee salaries and wages or other casino operating expenditures.

Source: Prairie Band Potawatomie Nation Casino Revenue Allocation Plan http://www.pbpindiantribe.com/revenue-allocation-plan.aspx

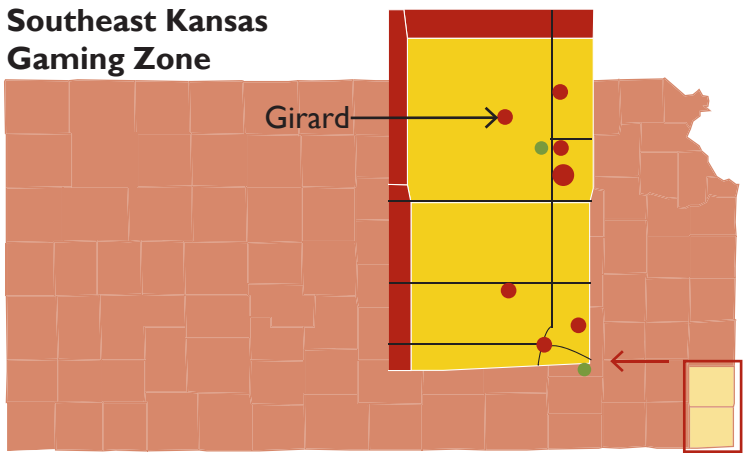
- At least 24 percent of state casino net gaming revenue is removed from the local community and sent to the state ELARF and Problem Gambling and Addictions Grant Fund (PGAGF).
- In addition to the 3 percent that goes to cities and counties, a portion of the casino manager's share of revenue also goes to the local community in the form of wages, salaries and local donations.
- FY 2011 ELARF revenues — $8.87 million in gaming revenues and $25 million in privilege fees — were transferred to the State General Fund.

In contrast to state-owned casinos, a large share of tribal casino revenue (Figure 6) goes to the local community, primarily in the form of casino salaries and wages, local tribal income and community development.

Notes

Girard, Kansas, is in Crawford County.

Southeast Kansas Gaming Zone



Photos on this tab were taken in

Girard, Kansas.

Girard has a population of 2,789. It is the county seat of Crawford County.

HIA METHODOLOGY

The HIA process, as defined by the National Research Council, includes six main steps:[43]

- Screening — Identify policy and determine the HIA purpose and value.
- Scoping — Identify potential health issues and research methods.
- Assessment — Analyze identified health impacts.
- Recommendations — Determine potential options to mitigate identified negative health impacts and maximize identified positive health impacts.
- Reporting — Share findings with stakeholders, including decision-makers.
- Monitoring and evaluation— Assess results and lessons learned.

The Kansas casino HIA included all six steps.

Step 1 — Screening

Screening determines whether an HIA is feasible, timely and would add value to the decision-making process.

In late 2011 KHI began exploring opportunities to conduct HIAs. In order to identify a state-level policy that could benefit from an HIA, KHI, in collaboration with the University of Kansas School of Medicine – Wichita, conducted an environmental scan at the end of the Kansas Legislature's 2011 session. The environmental scan included a review of bills introduced during recent legislative sessions and identification of potential issues for the 2012 session in consultation with the Kansas Legislative Research Department staff.

Added Value: The HIA team identified that it would be beneficial to conduct an HIA on the policy that could result in casino development in SEKGZ, given a number of factors. Casino development in rural areas is an issue with potentially broad-reaching health impacts that has been understudied. Other factors include the casino issue's relevance to the community and opportunities for informing Kansas policymakers and improving the health of Southeast Kansas residents.

Technical Feasibility: The HIA team determined that adequate scientific evidence and sufficient staff resources (e.g., time, relevant expertise) were available to conduct the HIA. Specifically, the team identified that both organizations, KHI and KUSM–Wichita, had assets that could contribute to the project, including: 1) expert staff with

decades of experience in public health, policy analysis, communications and finance; 2) extensive portfolio of work at the local, state and national levels, specifically in areas of legislative and community engagement; and 3) extensive communications infrastructure, including an editorially independent news service that has achieved a statewide reach through partnerships with other media. To ensure that the project got off to a strong start, the HIA team received a two-day training in Washington, D.C., conducted by the Health Impact Project staff as well as in-house training conducted by the Georgia Health Policy Center.

Timing: The proposed bills were introduced to the Senate and House Federal and State Affairs Committees at the beginning of the 2012 legislative session, which lasted 99 days. Although the HIA timeline was tight, the team planned to produce the HIA preliminary findings by the middle of the legislative session. This approach provided policymakers with the opportunity to consider HIA preliminary findings while these bills were debated.

Well-Defined Project Proposal: The HIA team was able to narrow the focus of the project by: a) concentrating on the casino portion of these bills and not on the provisions regarding dog and horse race tracks; and b) focusing on the potential health impacts of a casino operation versus its construction. The HIA team decided to focus on the casino portion of the bill because it appeared to be the primary concern of Kansas policymakers and community stakeholders. In addition, the preliminary screening showed that a casino development in SEKGZ had a variety of potential health implications. Although the HIA team recognized that the construction of a casino may have health implications, it limited the HIA focus to the casino operation due to the variety and magnitude of potential health implications.

Role of Stakeholder and Community Participation: During the screening stage, the HIA team collaborated with several stakeholder groups that had knowledge and experience working with Southeast Kansas communities to identify an issue that could benefit from the HIA process. In addition, the team reached out to several community members to solicit their opinion about the proposed HIA.

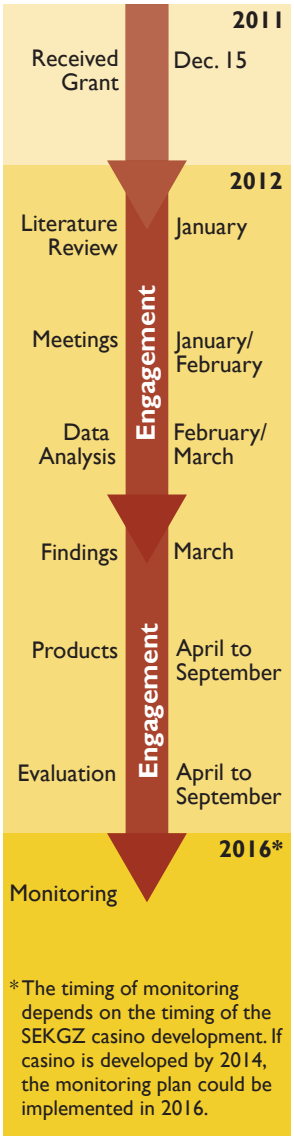
Step 2 — Scoping

Scoping determines what health impacts are going to be studied, which populations will be included in the study and the methods and data sources that will be used to conduct the HIA.

Roles: The core HIA team included eight staff members from two organizations: KHI and KUSM–Wichita. The team was responsible for developing and leading HIA

processes, collecting and analyzing data, conducting community and stakeholder engagement activities, drafting recommendations, and developing and implementing communication strategies. Roles of individual staff members were described in the detailed work plan. The project also created an HIA Advisory Panel. The panel members were selected from a pool of more than 100 people from across the state who participated in stakeholder engagement meetings in Topeka and Pittsburg. Participants in stakeholder events were asked if they would like to participate in the panel along with other engagement activities (Appendix F). The HIA Advisory Panel was developed to work closely with the HIA team during the project. Panel members were charged with providing critical input and working as active partners with the HIA project team to ensure that all perspectives were accurately represented in the assessment.

Figure 7. HIA Timeline



*The timing of monitoring depends on the timing of the SEKGZ casino development. If casino is developed by 2014, the monitoring plan could be implemented in 2016.

Timeline and Work Plan: The HIA began in January 2012 and was funded through September 2012. The HIA was guided by a detailed work plan to ensure its completion within the tight project schedule, as seen in Figure 7.

Priority Health Impacts: The Kansas HIA team identified that casino development in SEKGZ may have important health impacts. Using stakeholder input and literature review findings, the HIA team identified a variety of factors that were grouped into three proximal impacts: casino employment, tourism and access to gambling. Each of these proximal impacts included a number of social and economic determinants of health that are likely to be affected by the addition of a casino in the region. Several potential health effects (e.g., environmental) received less attention at the start of the scoping phase for various reasons, including limited available evidence and an aggressive project timeline.

Analytical Methods: In order to project potential health effects of a SEKGZ casino, the HIA team used qualitative and quantitative research methods. A detailed description of these methods is provided in *Step 3 — Assessment* section (page 17). The HIA health predictions were informed by evidence from scientific literature, stakeholder input and data analyses for Ford County, Northeast Kansas Tribal Area and SEKGZ.

Role of Stakeholder and Community Participation: At the beginning of the scoping process, the HIA team conducted several engagement activities, including a breakfast for legislators and other state policymakers and three meetings with community stakeholders. The meeting participants learned about the HIA tool and provided initial thoughts about potential health effects of a casino.

During the second part of the scoping step, the HIA team testified before the Senate Federal and State Affairs Committee, conducted interviews with a diverse array of

stakeholders in Cherokee and Crawford counties, engaged stakeholders in the in-house HIA training in Topeka and convened the HIA Advisory Panel.

- Testimony

  The testimony described the HIA purpose and scope and alerted committee members of opportunities to provide feedback and when to expect the results.

- Interviews

  The interviews provided additional opportunities to gather detailed input from stakeholders. The main goal of the interviews was to help the HIA team identify and focus on the subjects that matter most to the community regarding health and potential casino operation. For these interviews, the team created questions highlighting three areas:

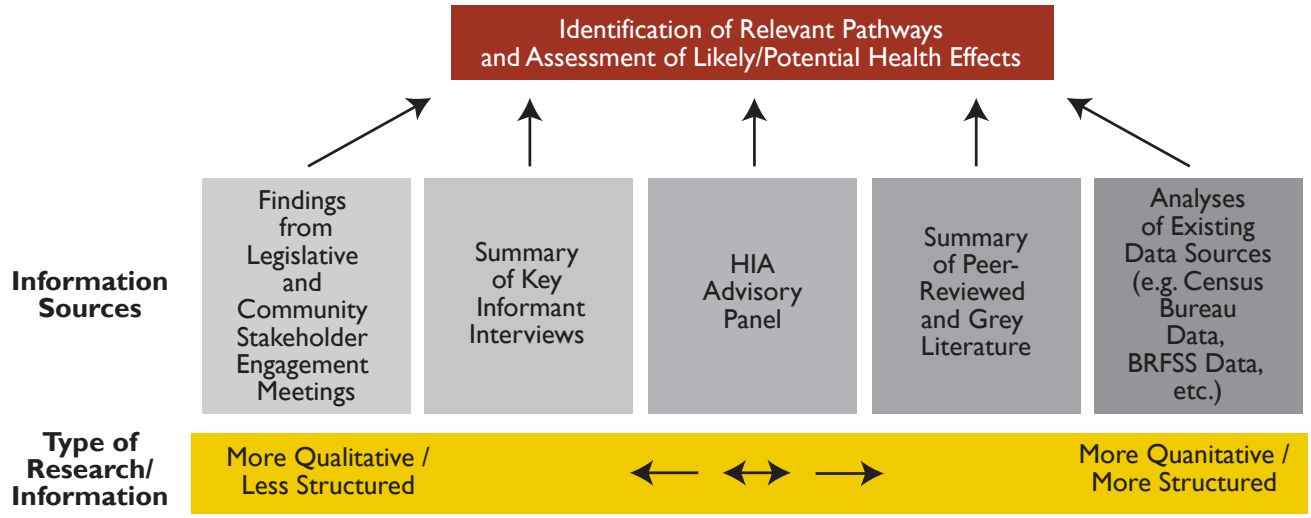
  - How could an HIA help inform the upcoming legislation?
  - What aspects are most important for creating a healthy community?
  - How would a new casino in the region affect health?

  Community members provided thoughtful and insightful comments like these:

  "I have seen firsthand the effects of gambling on families. Partners have no idea that their spouse is addicted, and it ruins people's lives."

  "[A casino] would provide additional employment and things in the area, and a lot of times if people are involved, they have access to health care and income to use it."

Figure 8. Overall Methodology for the Southeast Kansas Casino HIA



Source: HIA Casino Project, 2012.

- HIA Training

  During the first day of the in-house HIA training provided by the Georgia Health Policy Center and the Health Impact Project, the HIA team shared a draft flowchart (called a pathway diagram) that highlighted potential impacts of a casino with participants and solicited their feedback. The draft flowchart was built based on the preliminary literature review. The second day of the training included a facilitated brainstorming session on the potential additional impacts of a casino operation.

- The HIA Advisory Panel

  The HIA Advisory Panel also reviewed and edited a draft pathway diagram.

Step 3 — Assessment

The data were collected and analyzed during the assessment phase. This step is often done in two parts: creating a baseline and studying the effects of the topic. Additionally, this step usually includes qualitative and quantitative research.

The HIA team used qualitative and quantitative methods to conduct this project (Figure 8) in three stages that informed each other. First, the team conducted a systematic review of peer-reviewed literature and grey literature, which is published but not peer-reviewed. Second, in-depth interviews and stakeholder meeting discussions were conducted. The last stage included data analysis (Table 6).

Table 6. Quantitative Methodology Diagram for the Southeast Kansas Casino HIA

Type of Analysis	Gaming Zone	Core Counties in Market Area	Pre-Casino Opening	Post-Casino Opening
Primary	Southeast	Statutory gaming zone counties: Cherokee and Crawford	Data collected before March 2012	May be projected based on currently available data
Secondary, to assess regional environment	Southeast	Counties near Oklahoma casinos: Cherokee and Crawford	Data collected before March 2004	Data collected in 2010 or later
Secondary, to assess comparable casino	Southwest	Statutory gaming zone county: Ford	Data collected before casino opened on 12/15/2009	Data collected in 2010 or 2011
Secondary, to assess tribal casinos	Northeast	Counties with or directly adjacent to a tribal casino: Atchison, Brown, Doniphan, Jackson, Nemaha	Data collected before 1996	Data collected in 1999 or later

Source: HIA Casino Project, 2012.

In order to assess the potential effects of a casino presence on the SEKGZ, the HIA team used the Southwest Kansas Gaming Zone (Ford County) as a control community. In addition to having similar characteristics to SEKGZ such as population, median age, median household income and poverty rates, Ford County is home to the Boot Hill Casino, a gaming facility that would likely be comparable in size to one developed in Southeast Kansas. The minimum required investment and privilege fees for Ford County are similar to the lower amounts proposed for SEKGZ. The data were gathered on a broad range of effects (from alcohol-related accidents to jobs) for periods before and after the Boot Hill Casino opened in 2009 in Dodge City. The pre- and post-data were compared.

The Ford County analysis was supplemented by data analyses of five counties in Northeast Kansas — Atchison, Brown, Doniphan, Jackson and Nemaha — that house (or are directly adjacent to) four tribal casinos. In this case, the "pre-casino" period includes any year before 1996, the "casino development" phase is 1996–1998 and everything in 1999 or later is considered "post-casino."

Lastly, the HIA analysis focused on the expected effect of casino development in SEKGZ. Because stakeholders mentioned the need to consider a regional environment that includes more than 20 nearby casinos in Oklahoma, the third analysis tried to quantify the impact of these existing casinos and how the establishment of an additional venue in SEKGZ may or may not affect the area health-wise. In SEKGZ, the "pre-casino" period included everything before 2004, "casino development" stretched between 2005 and 2009 and everything in 2010 or after was counted as "post-casino."

However, this study had several limitations. The primary limitation of this type of study was that the health impacts in Southeast Kansas may not occur to the same extent as have been reported in the literature. Differences in underlying population demographics and pre-existing access to gaming establishments may influence the impacts of an additional casino in the region. For this reason, multiple sources of information were used to identify the potential impacts. A quality of evidence metric was created to explain the multiple sources of information which include the literature review, data analysis, and expert opinion.

Data Sources

The HIA team used a number of national and local data sources for analysis. National sources included the Census Bureau and Department of Labor. On the state level, KDHE, KDOT and the Kansas Department of Commerce also provided important information. A full list of sources can be found in Appendix G.

Role of stakeholder and community participation: During the assessment step, community input was solicited through bimonthly email updates about the project and the HIA Advisory Panel meetings. The email updates included results of the preliminary data analysis and asked recipients to provide feedback. The HIA team also reviewed and discussed the preliminary analysis with the HIA Advisory Panel. Their feedback helped the HIA team put the data into context.

Step 4 — Recommendations

Recommendations are a way to suggest actions that can enhance positive health outcomes and mitigate potential negative health outcomes related to the project, policy or topic in question.

The HIA team took several steps to create comprehensive and actionable recommendations.

Throughout the HIA assessment phase, the HIA team kept notes on items that may warrant a recommendation. Special emphasis was placed on ideas shared during the community engagement and training sessions. Suggestions from the engagement meetings were documented in notes and were brought up by team members during an advisory panel call that focused on HIA recommendations. During the call, advisory panel members were given a prompt, such as crime. The HIA team would bring up what the evidence so far had found on the prompt, and the advisory panel would discuss what actions could be taken to mitigate or enhance the casino health impact. After the advisory panel call, the HIA team met to discuss and flesh out these recommendations. During a final meeting, the HIA team went through every finding and aligned the recommendations to the findings.

Step 5 — Reporting

Reporting includes distribution of findings to decision-makers and others involved with the HIA. The HIA results were summarized in this formal report, which mainly was designed for policymakers, community stakeholders, HIA Advisory Panel, state agencies (e.g., KDADS, KDHE and other relevant organizations) and potential SEKGZ casino managers.

The dissemination process was conducted in two phases. The first phase included a dissemination of the executive summary of the report. A draft version of this document was shared with recipients of the HIA email updates and the HIA Advisory Panel to allow time for public input. The feedback period lasted two weeks. Their comments were considered, and many were incorporated into the report.

The second phase included dissemination of this full report, which has been reviewed by internal and external experts, including KHI staff members, KUSM-Wichita partners, trainers from the Georgia Health Policy Center and staff from the Health Impact Project. The report was distributed through multiple avenues, including mail and email, and posted on the KHI website. The release of this report was announced on listserves and the KHI Twitter and Facebook accounts.

Step 6 — Monitoring

Monitoring is an important step of HIAs because it helps determine the impacts of the study on the policy process, implementation and outcomes. This step also can help determine how the HIA affected the participants and the communities studied. This phase often uses evaluation as a tool for determining the effectiveness of the HIA process, the impacts of the HIA and what outcomes the HIA may have affected.

For the Kansas casino HIA, two types of evaluation were performed: process and impact. A process evaluation assesses how the HIA was carried out. The impact evaluation measures the multiple ways that an HIA informed policymakers and the community.

As part of continued monitoring of the casino HIA, the process evaluation assessed how closely the HIA adhered to its original timeline and objectives. The process evaluation also looked at the outreach efforts and how well those events and efforts reached the community, the degree to which relevant community sectors and key stakeholders were included in the process, overall community and participant satisfaction with the HIA, and the appropriateness of the time expended to conduct the HIA. The impact evaluation looked at capacity building for both KHI and the state of Kansas.

If a decision is made to build a casino in SEKGZ, the outcomes of the decision-making process should be monitored. A monitoring plan has been developed that would study a large number of casino-related variables (Table 7) to see if the predictions of the HIA align with the real-world data available after a casino is in place. The casino HIA focused on a number of potential casino health effects, and many of these will be included in the outcome evaluation, including changes in problem and pathological gambling, suicide, divorce, child abuse and neglect, STDs and alcohol-related traffic accidents.

Table 7. Monitoring Plan for the Kansas Casino Health Impact Assessment

Indicator	Monitoring Agency	Data Source	Timing*
CASINO EMPLOYMENT			
Casino jobs	KUSM-Wichita, KHI	Agencies: Kansas Department of Labor (KDOL); U.S. Department of Labor, Bureau of Labor Statistics (BLS) Data source: Quarterly Census of Employment and Wages, Leisure and Hospitality	2016
Unemployment rate	KUSM-Wichita, KHI	Agencies: KDOL; BLS Data source: Local area unemployment statistics	2016
Health insurance	KUSM-Wichita, KHI,	Agency: U.S. Census Bureau Data source: Current Population Survey, Annual Social and Economic Supplements	2016
Income	KUSM-Wichita, KHI	Agencies: KDOL; BLS Data source: Quarterly Census of Employment and Wages	2016
Shift work and sleep disturbance	KUSM-Wichita, KHI	Agency: KDHE Data source: Behavioral Risk Factor Surveillance System (BRFSS) survey question about sleep	2016
Secondhand smoke	KUSM-Wichita, KHI	Agency: KDHE Data sources: Planned statewide tobacco use survey; BRFSS survey questions about secondhand smoke	2016
Risk behaviors	KUSM-Wichita, KHI	Agency: KDHE Data source: BRFSS survey questions about risky behaviors such as alcohol consumption, smoking, etc.	2016
Public assistance	KUSM-Wichita, KHI	Agency: Kansas Department for Children and Families (DCF) Data source: DCF food and cash assistance program administrative data	2016
TOURISM			
Tourist activity	KUSM-Wichita, KHI	Agencies: Kansas Department of Wildlife, Parks and Tourism; Kansas Department of Revenue (KDOR) Data source: Transient guest tax receipts	2016
Leisure and hospitality industry jobs	KUSM-Wichita, KHI	Agencies: KDOL; BLS Data source: Quarterly Census of Employment and Wages, Leisure and Hospitality	2016
Income	KUSM-Wichita, KHI	Agencies: KDOL; BLS Data source: Quarterly Census of Employment and Wages	2016
Per capita income	KUSM-Wichita, KHI	Agencies: KDOL; U.S. Census Bureau Data source: American Community Survey	2016
Population growth	KUSM-Wichita, KHI	Agency: U.S. Census Bureau Data source: State and county population estimates	2016
Property crime	KUSM-Wichita, KHI	Agency: Kansas Bureau of Investigation (KBI) Data source: Property crime data	2016
Violent crime	KUSM-Wichita, KHI	Agency: KBI Data source: Violent crime data	2016
Traffic volume	KUSM-Wichita, KHI	Kansas Department of Transportation (KDOT) Data source: Daily vehicle miles traveled	2016

Table 7 (Continued). Monitoring Plan for the Kansas Casino Health Impact Assessment

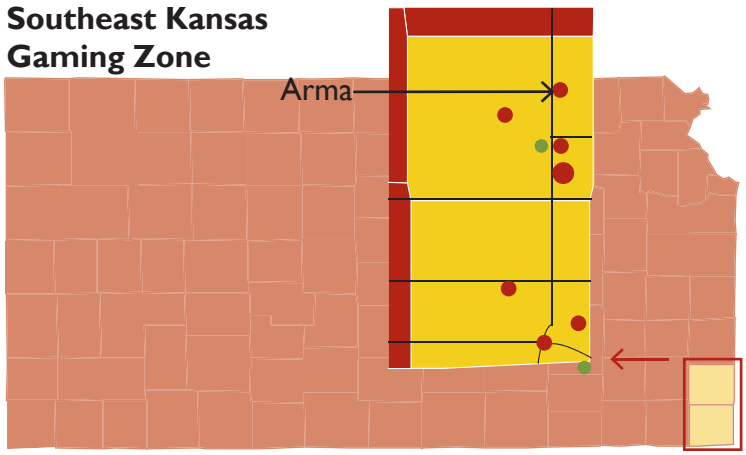
Indicator	Monitoring Agency	Data Source	Timing*
ACCESS TO GAMBLING			
Entertainment value	KUSM-Wichita, KHI	Data source: Primary data collection	2016
Problem and pathological gambling	KUSM-Wichita, KHI	Agencies: KDHE; KDADS Data sources: BRFSS survey questions about gambling; gambling hotline data	2016
Child abuse and neglect	KUSM-Wichita, KHI	Agency: DCF Data source: Substantiated child abuse/neglect data	2016
Domestic violence	KUSM-Wichita, KHI	Agency: KBI Data source: Domestic violence data	2016
Divorce	KUSM-Wichita, KHI	Agency: KDHE Data source: Vital statistics	2016
Unsafe sex and STDs	KUSM-Wichita, KHI	Agency: KDHE Data source: Kansas STD statistics	2016
Alcohol (ab)use	KUSM-Wichita, KHI	Agency: KDHE; KDOR Data sources: BRFSS survey questions about alcohol use; liquor tax data	2016
Alcohol-related motor vehicle injuries and fatalities	KUSM-Wichita, KHI	Agencies: KDHE; KDOT Data sources: BRFSS survey questions about drinking and driving; alcohol-related accident data	2016
OTHER			
Gambling hotline use	KUSM-Wichita, KHI	Agency: KDADS Data source: gambling hotline data	2016
Bankruptcy	KUSM-Wichita, KHI	Agency: Federal Bankruptcy Court Data source: Bankruptcy filings	2016
Physical activity	KUSM-Wichita, KHI	Agency: KDHE Data source: BRFSS survey questions about physical activity	2016
Pedestrian safety	KUSM-Wichita, KHI	Agency: KDOT Data source: Pedestrian-related vehicle accident data	2016
Stress	KUSM-Wichita, KHI	Agency: KDHE Data source: BRFSS survey questions about ratings of mental health	2016
Air quality	KUSM-Wichita, KHI	Agencies: KDHE; U. S. Environmental Protection Agency Data source: Air quality data (if available)	2016
Primary care access	KUSM-Wichita, KHI	Agency: KDHE Data source: BRFSS survey questions about access to care	2016
Poverty level	KUSM-Wichita, KHI	Agency: U.S. Census Bureau Data source: American Community Survey	2016

** The timing of monitoring depends on the timing of the Southeast Kansas casino development. If casino is developed by 2014, the monitoring plan could be implemented in 2016.*

Source: KUSM–Wichita Evaluation, 2012.

Arma, Kansas, is in Crawford County.

Southeast Kansas Gaming Zone



Photos on this tab were taken in

Arma, Kansas.

Arma, Kansas, has a population of 1,481. It is in Crawford County.

STAKEHOLDER ENGAGEMENT STRATEGIES

Stakeholder involvement was one of the core values of this HIA project. The HIA team developed a comprehensive engagement plan, which included multiple strategies and goals:

- Legislative breakfast
  - o Introduce the concept of HIA, provide useful examples from previous assessments, answer questions about the tool and gain feedback for the project.
- Community meetings
  - o Like the legislative breakfast, they aimed to introduce the concept, answer questions, solicit advice and feedback, and begin to help residents make the connection between casino development and health effects.
- Regular HIA email updates
  - o Provide information about the project progress and solicit feedback.
- Key informant interviews
  - o Enhance understanding of the HIA process among stakeholders, assess levels of satisfaction with the way the HIA was being conducted, determine key outputs stakeholders expected to see from the completed HIA and identify the key health concerns and considerations stakeholders had with proposed casino-enabling legislation.
- HIA Advisory Panel
  - o Provide critical input and work as active partners with HIA project staff.

All four engagement strategies were built on each other to provide a holistic picture. The information obtained through these sources informed and shaped the project's scope.

State Senator Pete Brungardt, Scott Brunner of KHI, Dennis Hodgins of the Kansas Legislative Research Department and Richard Petersen-Klein of the Kansas Racing and Gaming Commission discuss the potential of HIA as a policymaking tool. January 2012. Topeka, Kansas.

Stakeholder Engagement Meetings

1. Engaging Decision-Makers

   The legislative breakfast on Jan. 19, 2012, in Topeka included legislators and representatives of state agencies. KHI staff introduced the HIA as a tool, and attendees discussed how policymakers could use HIAs.

   Main points from the discussion were:

   - HIAs will help make health a factor in policy discussions.
   - HIAs are useful tools because of their neutral and evidence-based nature.
   - An HIA can be valuable as an information source for stakeholders beyond the legislative discussion.

2. Engaging Community Members

   The HIA team conducted three community meetings Jan. 30–31, 2012. Two of these meeting were at Memorial Auditorium in Pittsburg and the other was in Topeka as part of a Southeast Kansas group's visit to the Capitol. The meeting attendees included: city and county officials; representatives from economic development organizations; chambers of commerce; academia; faith-based organizations; hospitals; schools; and public safety organizations.

   All three meetings had the same format. Participants were asked to identify community health concerns and potential health impacts of a casino and provide their feedback on the HIA tool.

   Key findings include:

   - Community health concerns: Culture of poverty, drugs, smoking, poor nutritional behaviors, lack of health literacy, domestic violence and lack of health resources.

Duane Goossen of the Kansas Health Institute, center, discusses regional concerns with Southeast Kansas residents. The discussion was part of a dinner meeting about health impact assessments. January 2012. Topeka, Kansas.

- Potential impacts of a casino: Job creation, new businesses, property crimes, drugs, child neglect and secondhand smoking. Participants' opinions were divided on this issue.
    - Sample comment 1: *"Any impacts from the casino will likely exacerbate the problems already in existence."*
    - Sample comment 2: *"That 'bad' (health impact) was already there because of all the surrounding casinos. Without a casino, we are simply getting the chaff without any of the wheat."*
- Feedback on HIA: *"I think HIA can be useful. I'd never really tied in so many of our problems to health."*

Regular HIA Email Updates

During the project, the HIA team sent project updates using a web-based email service (Appendix E).

The bimonthly updates were designed to provide information and solicit feedback. They covered a variety of topics, such as findings from a systematic literature review, data, pathway diagram, demographic profile of Cherokee and Crawford counties and next steps. The updates were also a venue to answer questions from community members about the HIA project.

All stakeholders who attended any of the HIA meetings were invited to receive the updates, and more than 40 signed up.

Key Informant Interviews

Following the community engagement meetings and initial HIA Advisory Panel meeting, The HIA team researchers contacted people in SEKGZ for semi-structured interviews about HIAs in general as well the casino HIA. A total of 15 key informants provided feedback on the HIA process and the potential health impacts of a casino in Southeast Kansas. Themes and topics identified from those interviews are included below.

Overall, the community responses can be summed up with three terms: jobs, access to services and status quo. While many variations on these themes emerged, the respondents' prevailing opinions centered on a sense that the casino was important because of its tie to creating jobs and improving the region's economic conditions.

Few people raised "moral" objections to the casino. And even among those who were not as excited to see a new casino come to the region, the need for employment emerged repeatedly — either as a justification to trump other health issues or to help provide funding to mitigate some health issues.

A majority of respondents indicated that residents simply don't have access to things they need to become healthy: health care, healthy food, jobs and other lifestyle factors. Individual perspectives varied on the degree to which a new casino in the region might address those needs. But there was little variation in respondents' views that Southeast Kansas residents need better access to affordable health care and other ancillary factors related to health, such as healthy foods and social interaction.

Finally, respondents had varied thoughts on what actions might affect the region's status quo. There was a sense that the HIA will not create any challenges to proposed casino-related legislation. There was also a sense that the region's economic, physical and mental health situation was unacceptable and that steps were needed to alter it. Where respondents diverged somewhat was in their opinion of whether a new casino would bring health-related changes, with a fairly even split between those who believed that a new casino would positively affect the health of the community and those who thought it would do little.

Many of the issues raised in the key informant interviews are systemic. Thus, in making recommendations, it was important to consider a large spectrum of issues including unemployment, low socioeconomic status and intergenerational poverty as background information.

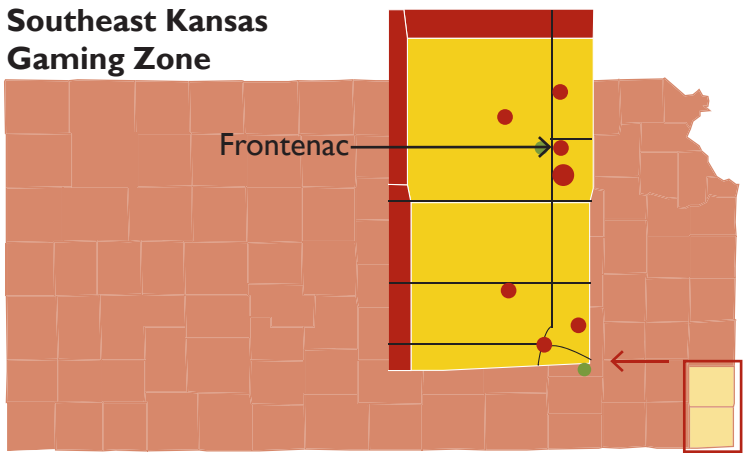
HIA Advisory Panel

The HIA Advisory Panel offered a group of invested stakeholders the opportunity to work closely with the HIA team during the project. Members of the HIA Advisory Panel included representatives from academia, public health, and energy sectors. For a list of HIA Advisory Panel members, see page vi.

The HIA Advisory Panel met five times during the project period and worked as active partners with the HIA team to ensure that a variety of perspectives were accurately represented in the assessment. Specifically, the HIA Advisory Panel provided input on the HIA findings from literature review and data analysis and helped develop the HIA recommendations.

Frontenac, Kansas, is in Crawford County.

Southeast Kansas Gaming Zone



Photos on this tab were taken in

Frontenac, Kansas.

Frontenac has a population of 3,437.
It is in Crawford County.

ANALYSIS OF HEALTH IMPACTS

A pathway diagram helps illustrate the complex interplay among factors that may affect health. In addition, a pathway diagram can serve as a focal point for integrating information from multiple qualitative and quantitative sources, including literature review, data and key informant interviews.

This HIA pathway diagram was designed to:

- Stimulate thinking about potential health impacts of a casino outside recognized or traditional connections.
- Suggest potential relationships between the presence of a casino and identified impacts.
- Capture current knowledge of health impacts of a casino.
- Shift from focusing on individual impacts toward a systems-level approach that reflects complex connections among the health impacts and their dynamic nature.

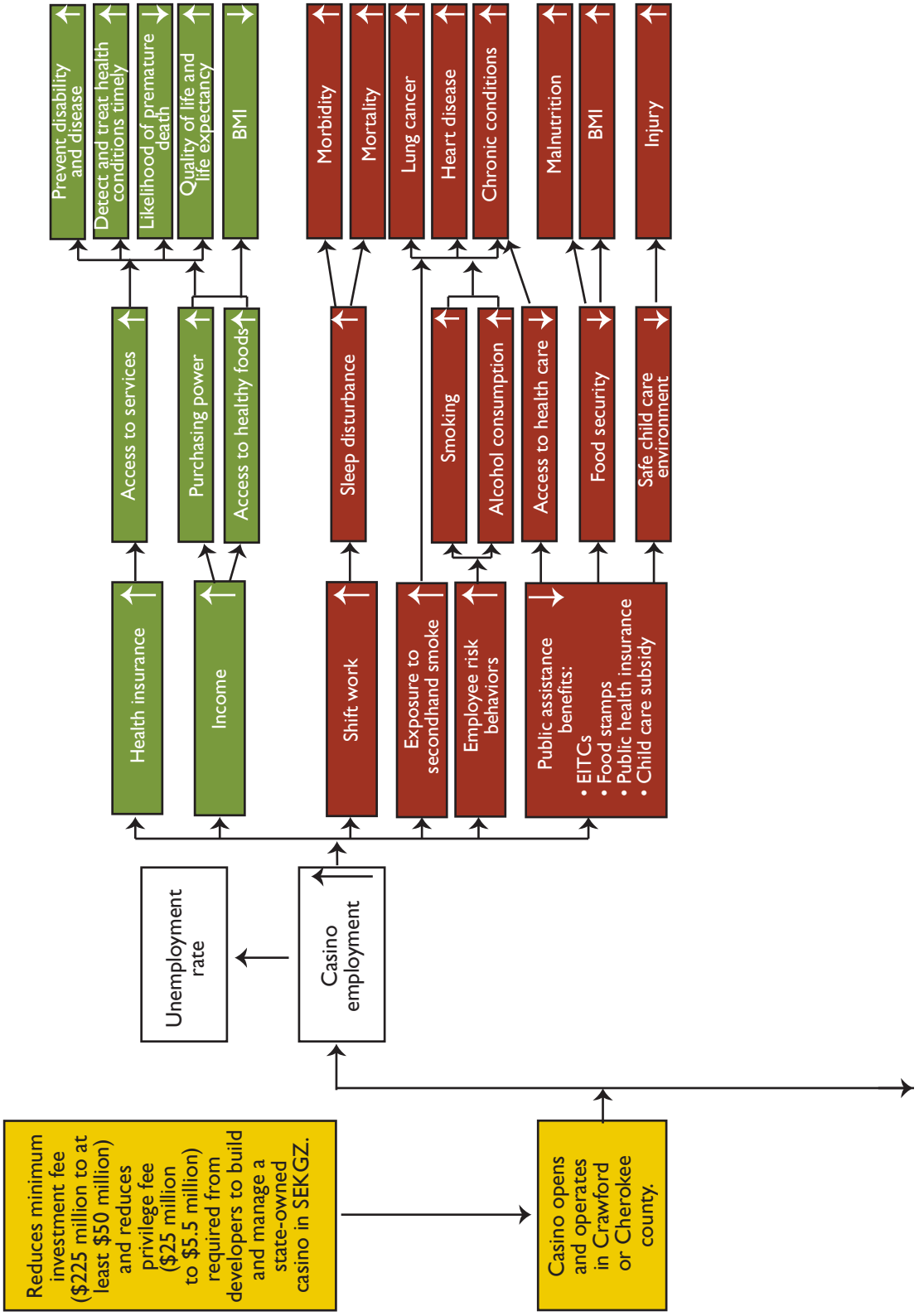
Drawing on the collective knowledge of the HIA stakeholders, a number of pathways were identified. The HIA team reviewed the findings and prioritized them based on the best available evidence and the level of stakeholder concern. For example, the team decided not to examine the environmental pathway due to limited scientific evidence regarding the extent of a casino's impact on waste and energy consumption.

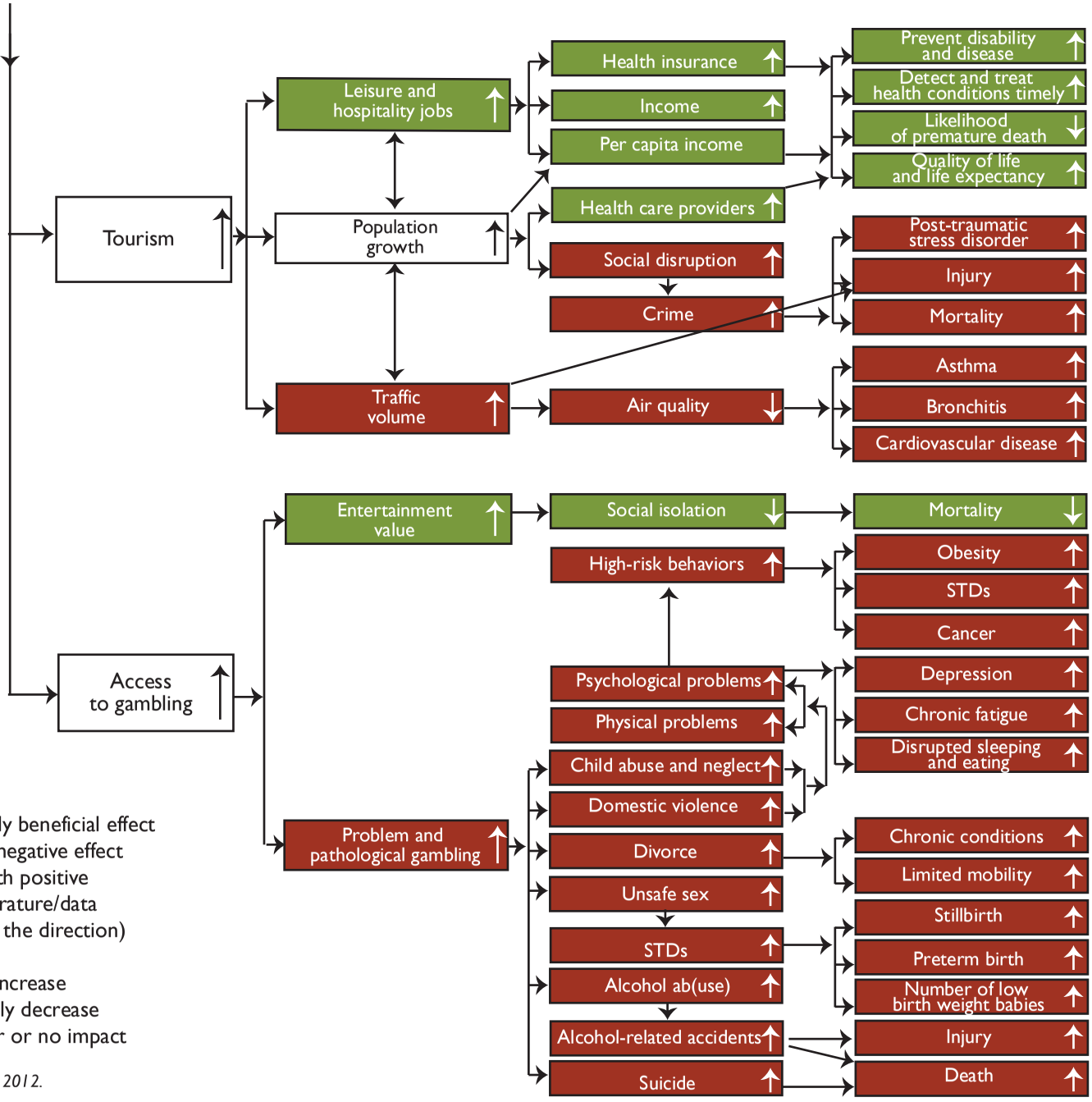
Figure 9. Three Proximal Impacts

Source: HIA Casino Project, 2012.

As a result, the pathway diagram was narrowed to three main proximal impacts: casino employment, tourism and access to gambling (Figure 9). Each of these proximal impacts is also connected to additional "first" and "second" impacts. For example, the proximal impact "casino employment" is connected to health insurance and income, which are in turn connected to long-term impacts, including "improved quality of life and increased life expectancy" and "lower BMI." The impacts shown in each of these pathways are determinants of health or factors that can influence health as well as health outcomes. The *Assessment section* (page 17) outlines how a casino may affect health through each of these pathways.

Figure 10. Illustration of Pathways Through Which Casino Development in Southeast Kansas May Affect Health





LEGEND

Green color: Likely beneficial effect
Red color: Likely negative effect
White: Mixed (both positive and negative or literature/data are inconsistent on the direction)

Arrow up: Likely increase
Arrow down: Likely decrease
No arrow: Unclear or no impact

Source: HIA Casino Project., 2012.

Casino Employment

Employment and Health

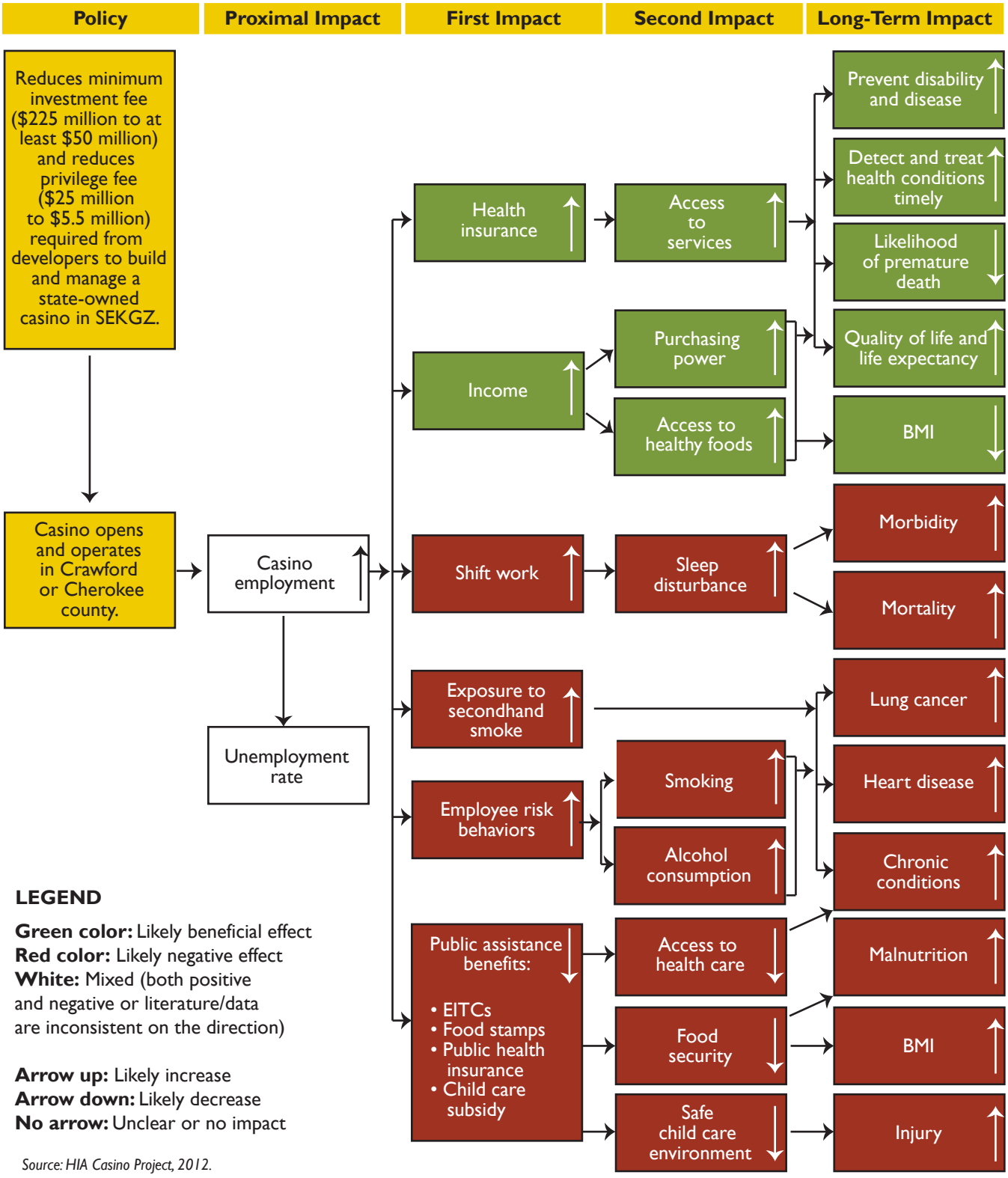
Overall, people who have better access to jobs enjoy better health and have slower declines in health status over time. The presence of a casino in Cherokee or Crawford counties could increase local employment levels. Tangible (e.g., health insurance, income) and intangible benefits (e.g., sense of meaning) of employment may have positive impacts on health.

- **Health insurance.** Having insurance increases access to health services, which in turn affects a person's health and well-being.[44] Regular and reliable access to health services also can prevent disease and disability, detect and treat health conditions, increase quality of life, reduce the likelihood of premature death and increase life expectancy.[45]
- **Income.** People with higher incomes are more likely to have longer life expectancies[46] and healthier body mass index (BMI).[47]

The extent of positive health effects associated with casino employment depends largely on multiple features of the physical (e.g., exposure to secondhand smoke), psychological (e.g., shift work) and social (e.g., economic adequacy) job environment. The following impacts that could result in negative outcomes have been associated with casino employment:

- **Shift work.** Shift and late-night work in casinos can interrupt sleep schedules and lead to insomnia.[48] As a result, shift workers experience an increased risk of morbidity and mortality.[49]
- **Secondhand smoke exposure.** Exposure to secondhand smoke occurs in casinos that don't ban smoking on their premises; such exposure has significant health consequences for non-smokers, such as lung cancer and increased risk of heart disease.[50] Indoor smoking bans that apply to casinos lead to improved air quality and decreased exposure to secondhand smoke, and lower rates of hospitalization for heart attacks.[51]
- **Risk behaviors.** Evidence indicates that casino employees have higher rates of pathological gambling, smoking, alcohol problems and depression than the general adult population.[52]
- **Public assistance.** Casino employment may provide new employees with opportunities to improve their income. However, there can be potential unintended consequences of increased earnings, such as loss of eligibility for public benefits (e.g., child care subsidies, health care coverage, food stamps and others).[53]

Figure 11. Potential Health Impacts of Casino Employment



LEGEND

Green color: Likely beneficial effect
Red color: Likely negative effect
White: Mixed (both positive and negative or literature/data are inconsistent on the direction)

Arrow up: Likely increase
Arrow down: Likely decrease
No arrow: Unclear or no impact

Source: HIA Casino Project, 2012.

As a result, employees can work and earn more income, but not enough to make up for the loss of these benefits. This can further affect their ability to buy needed nutritious foods and health insurance, thus negatively affecting health.[54]

What We Learned From the Community

Low socioeconomic status (SES) and its myriad of impacts on the health of the region seemed to be the overarching theme from the community respondents. Some mentioned poverty and low SES specifically, while others merely alluded to it in citing the poor overall health of Southeast Kansas residents, tied in part to low SES. Regardless of the weight that individual respondents gave to the impact of low SES and poverty, depressed economic conditions and their health impacts ran as a common theme among a vast majority of respondents. Here are some of their statements related to health, poverty and gambling:

- *"It would focus more on the income of people and what impact gaming has on discretionary income."*
- *"Using money that should be used for essentials to gamble."*
- *"Income levels [are a key factor in the health of a community.]"*
- *"The culture, social norms and income of an area [affect the health of the community]."*
- *"The financial condition of the family unit [affects the health of the community]."*
- *"The transfer of money from the family unit to the gaming industry undermines the well-being of the family unit."*
- *"Yes — we have to consider that [health data] pretty universally because of the socioeconomic status of our kids. So many things affect their health; we just have to keep that in mind."*
- *"There is enough to eat — you don't have three families living together."*
- *"Poverty has taken its toll on Southeast Kansas — I'm not sure it's reversible."*

"POVERTY HAS TAKEN ITS TOLL ON SOUTHEAST KANSAS — I'M NOT SURE IT'S REVERSIBLE."

Much like the common theme of poverty and its multitude of impacts on health, the issue of a casino and jobs emerged as the "yin" to poverty's "yang" in the community. As the respondents noted, jobs and the economy are important to any community:

- *"Employment potential for some folks — really hard to find a job in this area."*
- *"Jobs [are a key factor in the health of a community]."*
- *"It [the casino] would be great for the economy, but not for the health of the residents of*

"EMPLOYMENT POTENTIAL FOR SOME FOLKS — REALLY HARD TO FIND A JOB IN THIS AREA."

Southeast Kansas."

- *"Jobs, more money in the community."*
- *"Economic stability."*
- *"It [the casino] would provide additional employment and things in the area, and a lot of times if people are involved, they have access to health care and income to use it."*
- *"Miami, Oklahoma, may be a good model to study because they have seen so many collateral businesses come out of bringing in a casino. It really has made their town boom."*
- *"There was an expectation on environment or — you do want to see — the fact that you are in the poorest region of the state and the reality of poverty in the county. The last time we had the racetrack here, a majority of the employees were uninsured. Will those employees be insured? … You can't know that."*
- *"I suppose positive in the sense there might be a little more business support of the community with the casino."*
- *"Economically, it would help big time for our community."*

Several community members also identified smoking as a priority health concern in the region. One member said that the state "smoking ban needs to spread to casinos to mitigate the negative impact of smoking in casinos."

What We Learned From the Literature

Jobs and Unemployment

Often a casino is brought into a community to spur economic development. Baxandall's study on the effects of casinos across 26 states found that population levels in casino counties grew around 5 percent faster than non-casino counties.[55] These same counties saw an employment rate increase of 1.1 percent, although there was no significant difference in unemployment rates. This suggests that rises in employment were offset by the increase in population, meaning that there were more jobs dispersed among more people.[56] Wenz did not find a statistically significant increase in quality of life in casino counties.[57] The *Gambling Impact and Behavior Study* found that per capita income stays the same while unemployment rates decline.[58] This suggests that there are new jobs, but they are not necessarily better jobs. Long's look into rural casinos of Colorado and South Dakota found that jobs did increase in the area, but it was unclear how many local residents were employed by the casino.

Shift Work

Employment at a casino often results in late shift hours and interrupted sleep schedules, which can lead to insomnia.[59] Shift workers have an increased risk of morbidity and mortality.[60] Insufficient sleep is also related to a decrease in quality of life[61] and chronic conditions that are associated with insufficient sleep, such as diabetes, cardiovascular disease, obesity and depression.[62] Atlantis created a randomized control study of shift workers, and the researchers found that exercise interventions can significantly improve sleep quality.[63] Shift work or late-hour work impacts employees and their families. Strazdins found that nonstandard work schedules were associated with children's emotional and behavioral difficulties, which may have been due to more hostile and ineffective parenting, parental depression and poorer family functioning.[64,65] Marriages can also be affected by nonstandard work schedules; men with children who are married less than five years and work nights are six times more likely to become separated or divorced from their partner, while women who are married more than five years and work nights and have children are three times more likely to become separated or divorced.[66] When a married couple work nights but have no children, these effects are not seen.[67]

Exposure to Secondhand Smoke

Exposure to secondhand smoke is another concern for casino employees. If smoking is allowed in casinos, as is the law in Kansas, the casino employees are exposed to unhealthy levels of environmental tobacco smoke, which includes carcinogens.[68] These unhealthy levels of exposure can lead to lung cancer and heart disease.[69] Often people will suggest using air conditioning to "wipe away" the smoke from the area, but heating, ventilation and air-conditioning systems can actually distribute the smoke throughout a building.[70] Even conventional air cleaning systems will not properly clean the air: The system can remove the large particles, but the smaller particles or gases from the tobacco smoke will remain.[71] The surgeon general's report on secondhand smoke concluded that the only way to properly protect employees is to have a smoke-free workplace.[72]

Employee Risk Behaviors

Secondhand smoke is not the only way that casino employees can be harmed by tobacco products. Shaffer found that 39.3 percent of casino employees are regular smokers, a rate that is significantly higher than that of smokers in the general population (29.2 percent).[73] Working in a casino also may decrease the likelihood of quitting smoking. Chan found that employees at casinos that allow smoking thought

that it was harder to quit smoking when exposed to secondhand smoke at work.[74] Employees also thought that if they were in a smoke-free workplace, they may be more likely to try to quit.[75] Shaffer found that casino employees have higher rates of pathological gambling as compared to the general population, but their problem gambling rates are lower than the average American.[76] The same study found that alcohol problems, depression and smoking are more common among casino employees.[77]

Hing's review of the literature found that new employees may be more at risk for gambling problems but will learn to adapt to the constant gambling presence with time.[78] This study also found that alcohol consumption was high among casino employees, who drank as a way to relax after work.[79] The use of alcohol can increase risky gambling behavior, so drinking can potentially increase gambling among the casino employees.[80] Gambling can also be used as a way to de-stress after work, which can lead to habitual gambling.[81] Options to decrease staff gambling addiction include offering workshops on how to handle job stress, creating a supportive environment for non-gamblers, witnessing the negative effects of gambling addiction among casino patrons and seeing the losses incurred by gambling.[82]

Public Assistance/Public Assistance Benefits

The seminal example of Atlantic City has been studied to determine the impacts of a casino on public assistance, and it found that public assistance cases in the area dropped, partly due to the casino hiring public assistance recipients.[83] A survey of casino employees from 104 land-based, riverboat or tribally owned casinos found that 8.5 percent said their job at the casino allowed them to no longer receive public assistance payments and 9 percent said their casino-based job helped get them off food stamps.[84] Interestingly, being a public assistance recipient is a risk factor for problem and pathological gambling, according to a study done in Sweden.[85,86]

What We Learned From Data

Ford County & Boot Hill Casino Example

Employment at the Boot Hill Casino

According to casino officials, the Boot Hill Casino in Ford County currently employs about 300 workers (280 full-time equivalent workers) (Figure 12, page 36). All of those employees live in Kansas, and fewer than 20 relocated to Ford County to work at the casino. All full-time employees are eligible for health insurance coverage through the casino.

Overall Employment Levels

Since construction on the first phase of the casino began in 2009, overall employment in Ford County has been about 2.5 percent to 3.5 percent higher than it was in 2008, as shown in Figure 13. This equals about 480 more employed individuals each year (2009, 2010 and 2011) since construction began. Some of these additional jobs may end once construction of the casino's second phase is complete or may be unrelated to the development of the casino, so the HIA includes an estimate of the number of jobs using casino job creation multipliers reported in a south-central Kansas casino study.

Job multipliers indicate how many indirect jobs (i.e. jobs outside the casino) might be created as a result of the increased economic activity with the casino. Although different areas typically have different multipliers, the south-central Kansas casino multipliers were applied to the estimated number of full-time Boot Hill employees (280). Based on those calculations, an estimated 335 to 375 direct and indirect jobs related to the casino have been created in Ford County. The opening of a hotel next to the casino this year may generate additional casino-related employment.

Unemployment Rate

Despite increased employment levels in Ford County, the unemployment rate there

Figure 12. Profile of Boot Hill Casino in Dodge City, Ford County (2010).

BOOT HILL CASINO

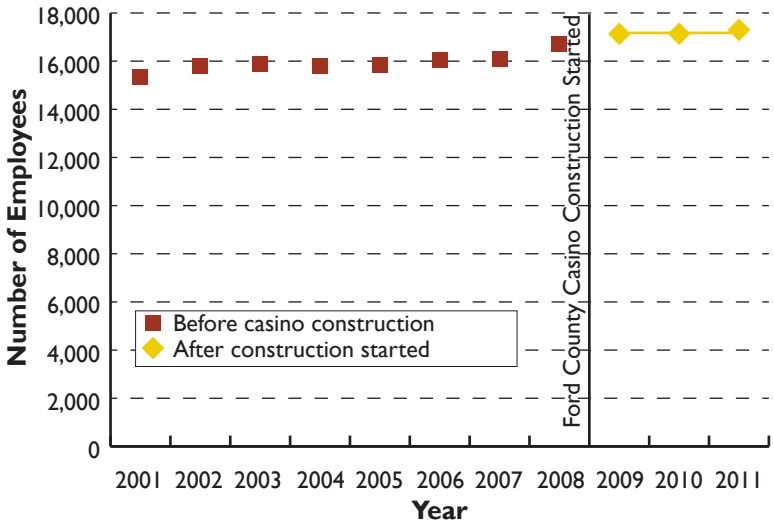
Casino Format	Land-based (state-owned)
Casino Employees	303
Casino Employee Wages	N/A*
Gross Casino Gaming Revenue	$37.79 million
Gaming Tax Revenue	$9.48 million
How Taxes Spent	State debt reduction, infrastructure improvements, property tax relief, problem gambling treatment
Legalization Date	2007
First Casino Opening Date	2009
State Gaming Tax Rate	22% state tax, 3% local government tax and 2% tax to fund problem gambling treatment
Mode of Legalization	Legislative action, local option vote
Visitor Volume	Data not available

2010 marked the first full year of operations at the country's only state-owned resort casino, and employment, gaming and tax revenue increased as the market in Kansas continued to mature.

*The AGA was unable to obtain employee wage data for Kansas.
Source: American Gaming Association (AGA). State of the States: The AGA Survey of Casino Entertainment, (2011 edition).

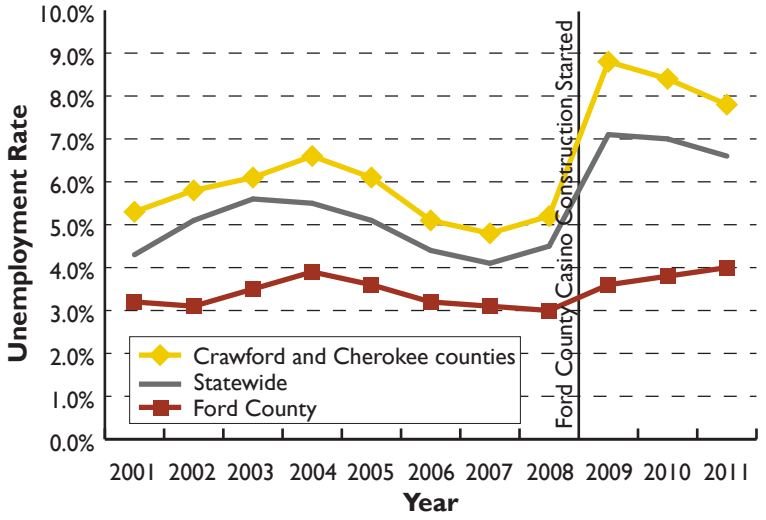
has grown from a low point of 3 percent in 2008 to a high point of 4 percent in 2011. Over the same time period (2001–2011), unemployment rates for the state and for Crawford and Cherokee counties have risen sharply, as seen in Figure 14. However, the sharp increase in unemployment seen in the statewide rate in 2009 isn't evident in Ford County. That could be a result of jobs created as part of casino construction (started in early 2009) and the subsequent opening of the Boot Hill Casino in December 2009.

Figure 13. Ford County Total Employment



Source: KHI Analysis of Bureau of Labor Statistics (BLS), Quarterly Census of Employment and Wages Data, 2001–2011.

Figure 14. Statewide and Local Unemployment Rates



Source: KHI Analysis of BLS, Quarterly Census of Employment and Wages Data, 2001–2011.

Health Disparities and Vulnerable Populations

Social or economic circumstances may make some population groups more vulnerable to the casino impacts. For the purpose of the HIA casino employment proximal impact (Table 8, page 39), vulnerable population groups include casino workers and/or individuals who are:

- Low-income
- Elderly
- Young adults (students)
- Shift workers, especially with children
- Individuals with substance use disorders
- Individuals who have mental illnesses
- Individuals who are uninsured

Health Implications for SEKGZ

Based on literature review and labor market data for Ford County (which has no nearby casinos) and the Northeast Kansas Gaming Zone, the addition of a SEKGZ casino is likely to increase local employment by 300 to 350 jobs. Furthermore, overall local employment levels can be expected to rise once casino construction begins. Literature review shows that building a casino in SEKGZ would

not likely result in a lower local unemployment rate because rises in employment are usually offset by an increase in population, meaning that there are more jobs dispersed among more people. In addition, the literature review shows that the impact of a casino on the local unemployment rate depends on the extent that newly hired employees relocate or commute from elsewhere, other changes in the local labor market or population, and how other economic conditions affect the local labor market.

In general, stakeholders noted that a casino could bring economic benefits, including "a little more business support of the community" and "jobs and money in the community." However, stakeholders were somewhat divided in their views about a casino's potential health impacts. Some stakeholders thought a casino would improve access to health care and result in health benefits associated with increased income. Other stakeholders raised concerns about the negative impacts of a casino on the financial stability of families if people spend their money on gambling rather than essentials. Stakeholders also noted a number of factors that are likely to influence the degree to which a SEKGZ casino actually improves the health of residents; for example, whether a casino provides health insurance for its employees and their families.

Based on findings from the literature review, data analysis and stakeholder opinion, new casino jobs may increase income for residents of Cherokee and Crawford counties as well as offer insurance to full-time employees. Increased income and access to health insurance may improve access to health care services and healthy foods, thus improving the health (e.g., reducing mortality and morbidity, increasing quality of life and life expectancy, reducing BMI) of SEKGZ casino employees and their families. As noted earlier, employment, insurance and income have strong, positive links to health. In order to achieve these positive health impacts, it is important to address potential negative effects of casino employment, such as shift work and exposure to secondhand smoke, which can lead to increased risk of morbidity and mortality, lung cancer and heart disease (Table 9).

Table 8. Potential Health Impacts of Casino Employment on Vulnerable Populations

Proximal Impact	Examined Health Factors	Examined Health Outcomes	Vulnerable Populations
Casino Employment	Income and health insurance, shift work and sleep disturbance, secondhand smoke exposure, risk behaviors, public assistance.	**Positive:** Lower rates of disability and disease, timely detection and treatment of health conditions, decreased likelihood of premature death, improved quality of life, increased life expectancy, lower BMI. **Negative:** Increased risk of morbidity and mortality, lung cancer, heart disease, chronic conditions, malnutrition, BMI and injury.	Low-income casino workers and their families; uninsured casino workers; casino shift workers, especially those with children; elderly; students; casino workers (e.g., young adults, individuals with mental illnesses, individuals with substance use disorders).

Source: Kansas HIA Project, 2012.

Table 9. Summary Health Impacts of a Casino Presence in SEKGZ: Casino Employment

				Based Primarily on Evidence From Literature				
Health Factor or Outcome	Expected Change Based on Literature	Observed Changes in Kansas (Based on Data)	Stakeholder Projections	Expected Health Impact	Magnitude of Impact	Likelihood of Impact	Distribution	Quality of Evidence
CASINO EMPLOYMENT								
Casino employment	Increase	Increase	Increase	Mixed	Low	Likely	Casino workers and their families	****
Unemployment rate	No change	No change	Decrease	No effect	None	None	No change	***
Health insurance	Increase	N/A	Mixed	Positive	Low	Likely	Casino full-time workers and their families	****
Income	Increase	N/A	Mixed	Positive	Low	Likely	Casino workers and their families	****
Shift work and sleep disturbance	Increase	N/A	N/A	Negative	Low	Likely	Casino workers and their families	**
Secondhand smoke exposure	Increase	N/A	Increase	Negative	Medium	Likely	Casino workers and patrons	****
Employee risk behaviors	Increase	N/A	Increase	Negative	Low	Possible	Casino workers	***
Public assistance benefits	Decrese	N/A	Mixed	Negative	Low	Possible	Public assistance recipients who become casino workers	**

Note: See legend, page 40.
Source: Kansas HIA Project, 2012.

Legend for Table 9

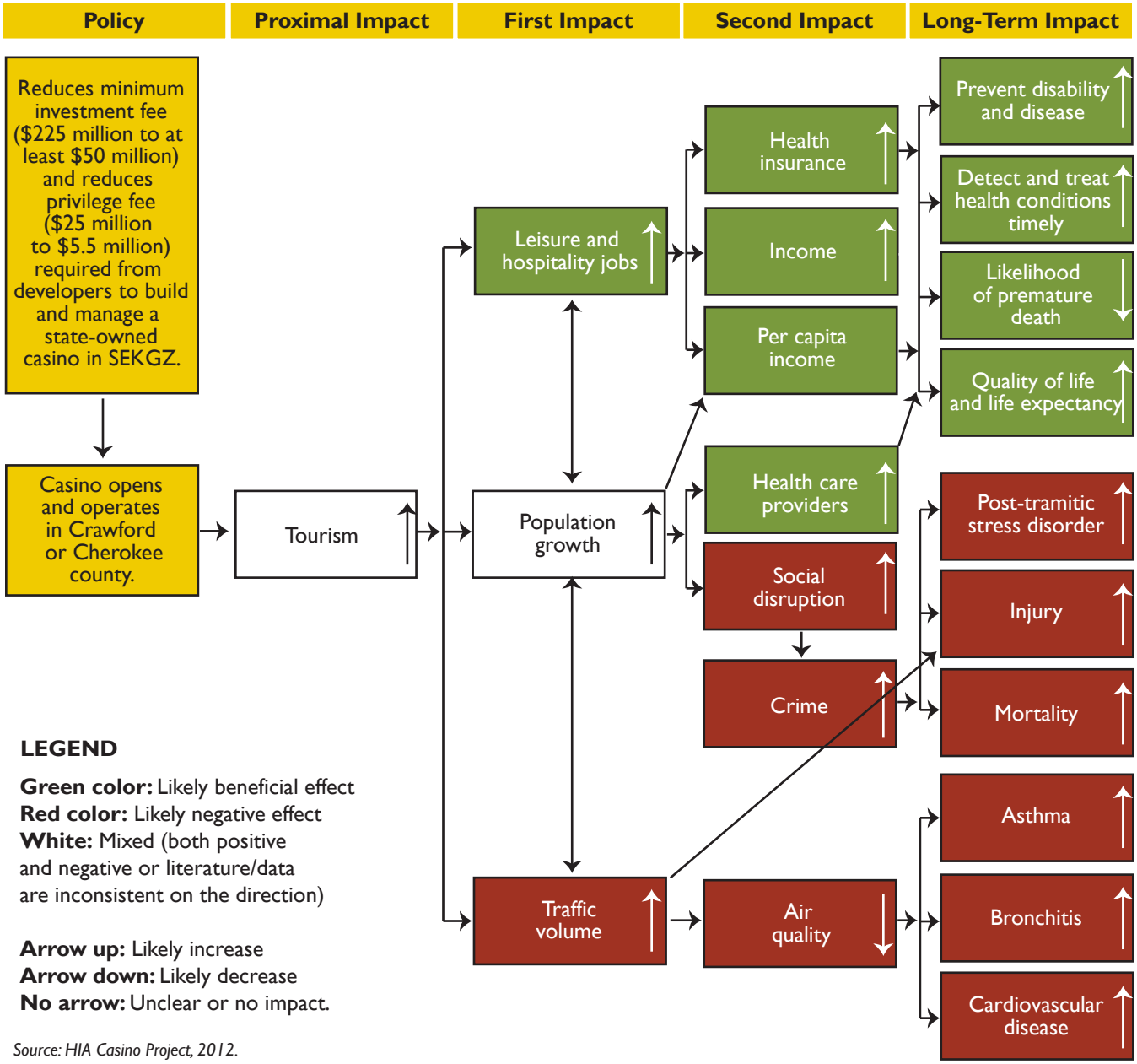
Expected Change Based on Literature	• No change — The literature achieves consensus that this indicator will likely remain unchanged. • Mixed — The literature lacks consensus about this indicator's potential impact. • Increase — The literature achieves consensus that this indicator will likely increase. • Decrease — The literature achieves consensus that this indicator will likely decrease. • N/A — There is no available literature on this indicator.
Observed Changes in Kansas (Based on Data)	• No change — Data analysis did not show any large changes. • Mixed — Data analysis from different regions showed opposite changes. • Increase — Data analysis showed this indicator will likely increase. • Decrease — Data analysis showed this indicator will likely decrease. • N/A — Data analysis was not possible or performed for this indicator.
Stakeholder Projections	• No change — Stakeholders did not anticipate any changes. • Mixed — Stakeholders were divided in their opinions. • Increase — Stakeholders anticipated seeing an increase. • Decrease — Stakeholders anticipated seeing a decrease. • N/A — Stakeholders did not express their opinions about this issue.
Expected Health Impact	• Positive — Changes that may improve health. • Negative — Changes that may worsen health. • Mixed — Changes can be positive as well as negative. • Uncertain — Unknown how health will be impacted. • No effect — No identified effect on health. Note: When findings from different sources (data, literature, stakeholder opinion) were not consistent, expected health impact was determined primarily based on findings from the literature because the HIA team determined it was the best available source of information.
Magnitude of Impact	• Low — Affects no or very few people (such as only certain groups of casino workers). • Medium — Affects larger numbers of people (such as casino workers and patrons). • High — Affects many people (such as the city of Pittsburg).
Likelihood of Impact	• Likely — It is likely that impacts will occur as the result of this proposal. • Possible — It is possible that impacts will occur as the result of this proposal. • Unlikely — It is unlikely that impacts will occur as the result of this proposal. • Uncertain — It is uncertain that impacts will occur as the result of this proposal.
Distribution	The population most likely to be affected by changes in the health factor or outcome. Determination was based on literature review, data analysis and expert opinion. • No change — Did not anticipate any changes.
Quality of Evidence	**** More than five strong studies. May also include data analysis and expert opinion. *** Five or more moderate studies. May also include data analysis and expert opinion. ** Five weak studies. May also include data analysis and expert opinion. * Fewer than five studies.

Tourism

Tourism and Health

Tourism can have a number of potential benefits for rural communities, especially revenue and job creation. The potential positive health impacts of employment have been discussed under the *Casino Employment Section* (page 30). The casino HIA found that SEKGZ may experience an 11 percent increase in overnight tourism and related

Figure 15. Potential Health Impacts of Tourism



Source: HIA Casino Project, 2012.

transient guest tax receipts following the opening of a casino there. However, tourism also can result in population growth that can have positive and negative health effects.

- **Population growth:** The population growth stimulated by a casino could help spur economic activity[87] and increase the community's socioeconomic status.[88] These changes can result in increased access to health care and healthy foods, reducing the likelihood of premature death and increasing quality of life and life expectancy. Although there are health benefits to having a larger population, there are also negative health impacts due to potential increases in crime.
- **Crime:** Crime can have direct effects on health, including physical impacts such as injuries[89] or psychological impacts such as post-traumatic stress disorder.[90]
- **Traffic volume:** Increase in traffic volume reduces outdoor air quality and increases risk for adverse health effects, including asthma, bronchitis and cardiovascular disease.[91]

What We Learned From the Community

Stakeholders cited a need for better roads, particularly improvements to the highway between Pittsburg and Fort Scott, as well as increased opportunities for tourists to spend more time and money in their communities.

Meetings with residents in Southeast Kansas also revealed a high interest in crime rates and their connection to casino development. Residents repeatedly expressed concern that crime in the area would increase, especially methamphetamine use and property crimes associated with drug and gambling addictions.

What We Learned From the Literature

Tourism Activity

The impact of a casino on community revenue often depends on how many patrons are drawn from outside the area. According to research by Rephann, rural areas are more likely to pull from outside the area because the casino cannot depend on the local community as its only source of revenue.[92] Existing recreational services combined with the casino can help attract potential tourists to the area.[93] A casino that draws consumers from outside the area generates revenue that would not have been spent in the community if the casino was not present. This destination model is often seen as the most profitable to the casino's community, and any actions that can be taken to create that model may positively impact a casino's community.[94,95]

The literature on a casino's health impact is mixed in more ways than one. Charting how a casino will affect the economic and social structure of a community is multifaceted, and the peer-reviewed literature reflects that complexity.

For a broad view of how casinos affect local economies, the National Gambling Impact Study Commission looked at effects on revenue and found the following:

> *There is a statistically significant casino effect on per capita casino spending; on 4 of 5 employment measures and on 7 of 16 income earnings measures. This analysis also found that there is a marked decrease in the percentage of the labor force that is unemployed; a slight increase in construction earnings; an increase in actual per capita construction earnings; and a substantial percentage increase in earnings in hotel and lodgings and recreation and amusements industries.*[96]

According to a 1996 *U.S. News & World Report* article, an analysis of 55 counties that added casinos from 1990 to 1992 suggested that casinos do not create significant economic expansion. The increase in new businesses in these counties — about 4 percent — matched the rest of the nation. Restaurant growth lagged slightly in counties with casinos, while employment rates were a bit higher.

The same article cites the author of a study for the Illinois Economic and Fiscal Commission as saying:

> *"Most places overestimate the amount of tourism they eventually get. Most gambling appears to be by local people. In that case, you're moving money around in the economy, rather than bringing in new money."*

This phenomenon is known as "substitution theory," which is the transfer of money to one economic event while subtracting from a business that was already in the community.[97] This displacement is often seen as a negative event, but it can be seen as a normal occurrence in a flexible economy.[98] Consumers often shift their spending to a more preferred good or service. This shift represents an economic development when consumers increase their spending in the process.[99] The issue with casinos is that each "new" job or "new" dollar may represent a shift from another sector of the community. However, some industries, such as construction, transportation, public utilities and tourism-based companies, could gain revenue due to a new casino.[100]

Leisure and Hospitality Jobs and Income

Often a casino is brought into a community to spur economic development. Casinos can attract more residents and boost employment.[101] But the increase in employment often does not outpace the increase in population, which means that the unemployment rate may not change.[102] Or, if the unemployment rate does change, per capita income may not change due to the lack of new high-quality jobs. In other words, there are new jobs but not necessarily better jobs.[103] Also, the new jobs

created by the casino may not go to community members but instead to people drawn from outside the area.[104,105] These factors may explain why a study did not find an increase in quality-of-life indicators for counties with casinos.[106]

Health Insurance

Casinos are often established in a community to help develop the local economy by bringing jobs to the area. Casinos usually provide full-time workers with benefits that include health insurance, retirement plans and vacation time.[107] For example, in Wyandotte County, the establishment of the Hollywood Casino created jobs in gaming operations, food and beverage, accounting and finance, and surveillance and facilities. The casino offers employees benefits such as health insurance and flexible hours.[108] Although a casino can bring health insurance to some individuals, such as casino workers, it can also result in loss of employment and health insurance for pathological gamblers. According to the research, one-fourth to one-third of gamblers in treatment in Gamblers Anonymous report the loss of their jobs and health insurance due to gambling.[109] Due to the various factors surrounding the gaming industry, it appears that a casino establishment does not directly correlate to a higher health insurance coverage rate in the local area.

Population Growth

Although some research indicates that the quality of the jobs created by a casino may not be high, the population growth stimulated by a casino could help spur economic activity and benefit the community.[110] Positive health outcomes are associated with an increase in a community's socioeconomic status.[111] People with low socioeconomic status face more barriers to health care, including poorer quality of care and inadequate access to care.[112] Large populations are more likely to attract service providers, so if a casino attracts more residents to Southeast Kansas, access to care may increase.[113]

A larger Southeast Kansas population also could attract other industries to the area based on the growth cycle of increased population leading to increased jobs and vice versa.[114] Population growth spurred by a casino is another way to increase socioeconomic status. Because food-related businesses are attracted to higher population areas, stores specializing in fresh produce may come to the area.[115]

A larger population also can decrease social isolation and its negative impacts.[116,117] Social isolation is a strong predictor of future reduced health; people who are socially isolated have a mortality risk that is 1.9 to 5 times higher than their socially connected peers.[118] Social isolation is particularly a problem for aging populations, and

rural areas like Southeast Kansas often have a higher percentage of older residents. A community's health can improve when a higher percentage of young, healthy people move to the area.[119]

Social Disruption and Crime

Although there are health benefits to having a larger population, there are also negative health impacts, including crime. Peer-reviewed research has many views on casinos and crime, ranging from no net impact to an increase in crime. Social disruption in rapid-growth communities[120] could cause an increase in crime.

Even if a casino does not bring an initial increase in population, by its nature a casino may cause an increase in crime. Differences in crime levels between casino counties and non-casino counties may be attributable to the 24-hour nature of casinos[121] or an increase in tourism, as higher crime rates are found in any tourism-related industry.[122] Some studies found that there was no initial increase in crime after a casino opens, but over time crime levels in the area increase. This may be because when a casino opens, law enforcement agencies are able to increase their staffing, but the resources decrease as time passes.[123]

Many studies indicate that the surrounding community has a large influence on crime. As described in Stitt's study on the presence of a casino and crime, when casinos are built with the approval and support of the community, crime is less likely to rise.[124] This may be because the casinos are located in more "desirable" areas and are tightly regulated.[125]

Researchers have not come to consensus on the effects of casinos on their surrounding community. As stated by Kang in his research on the long-term impacts of casinos on Colorado, "The negative impacts projected by some … simply have not occurred and residents seem to have adjusted to the new economic, physical, and social environments of their current community."[126]

Traffic Volume

An increase in traffic on rural roads has been documented in rural casino development. Traffic doubled in the year after a rural casino opened in South Dakota.[127] This led to noise, parking problems and traffic hazards. Eventually town officials had to improve existing infrastructure to allow for the increase in activity within the community.[128] People who live near casinos commonly cite the traffic increase as one of the negative impacts.[129]

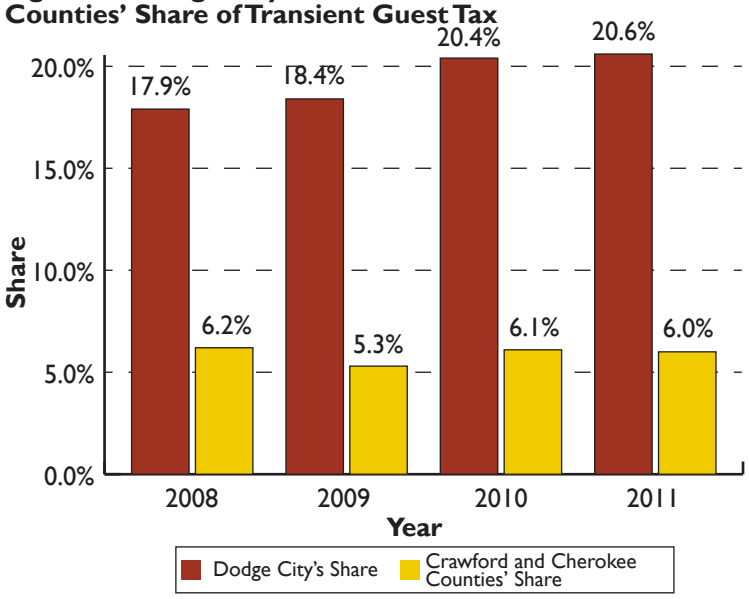
What We Learned From Data

Ford County and Boot Hill Casino Example

Tourism Activity

Based on Dodge City's transient guest tax receipts from visitors to local hotels and motels, it appears tourism in Dodge City was about 13 percent higher in 2010–2011 than in the two years prior to the casino's opening (2008–2009). While this estimated increase is based on Dodge City's increased share of transient guest taxes, not all of the increase is necessarily related to the building of the casino. Some of the increase is likely attributable to tourism that is not directly related to the casino, such as events at the nearby United Wireless Arena that opened in February 2011. Comparing transient guest tax receipts for 2009 and 2010 only — before and after the casino opened but before the arena opened — reveals an 11.4 percent increase in Dodge City's share of those taxes (Figure 16). Over the same time periods, the combined share of guest tax receipts for Crawford and Cherokee counties was flat.

Figure 16. Dodge City Versus Crawford and Cherokee Counties' Share of Transient Guest Tax



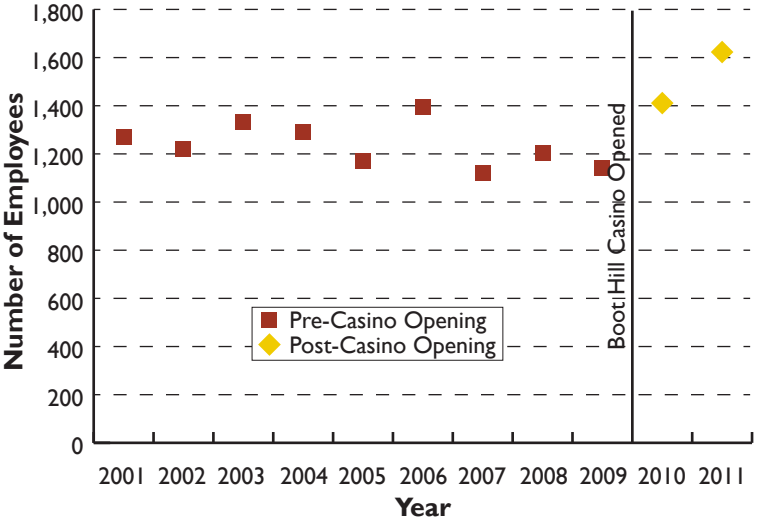
Note: Share of transient guest taxes (out of the total receipts for 11 cities/counties where guest tax rates haven't changed since at least 2008).

Source: KHI Analysis of Kansas Department of Revenue, Transient Guest Tax Receipt Data, 2008–2011.

Leisure and Hospitality Industry Employment

The Bureau of Labor Statistics (BLS) Quarterly Census of Employment and Wages was used to evaluate employment levels in Ford County before and after the Boot Hill Casino opened in December 2009. Since the Dodge City casino opened, leisure and hospitality[130] employment in Ford County increased 22.5 percent, or by about 280 jobs — from about 1,240 jobs in this sector before 2010 to almost 1,520 jobs on average in 2010 and 2011 (Figure 17).

Figure 17. Ford County Leisure and Hospitality Industry Employment Levels

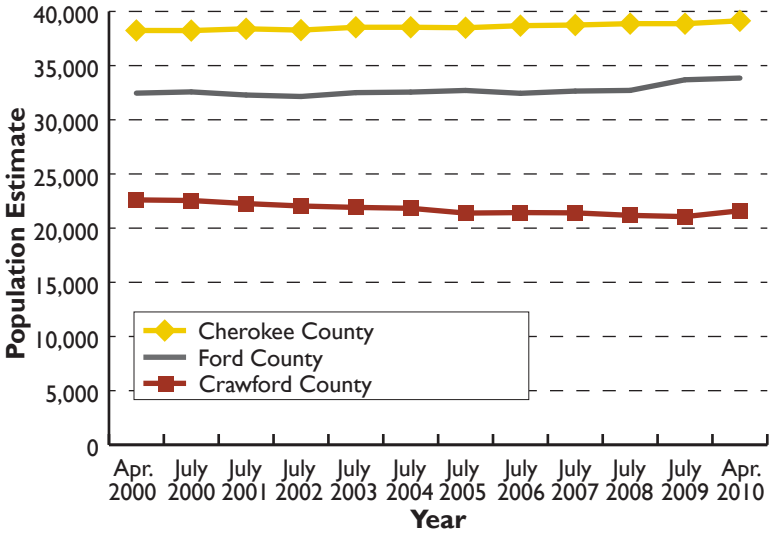


Source: KHI Analysis of BLS Quarterly Census of Employment and Wages Data, 2001–2011.

Population Growth

Based on the Census Bureau's county-level population estimates and 2010 Census data, the overall population of Ford County increased about 3 percent between July 2008 and July 2009 (Figure 18). The population of children increased about 3.4 percent while the adult population increased about 2.76 percent during that same time period. That growth rate is greater than prior years and is greater than the annual increases in Crawford and Cherokee counties. Much of that growth may be attributed to the construction and opening of the casino and the resulting jobs.

Figure 18. County Population Growth, 2000–2010



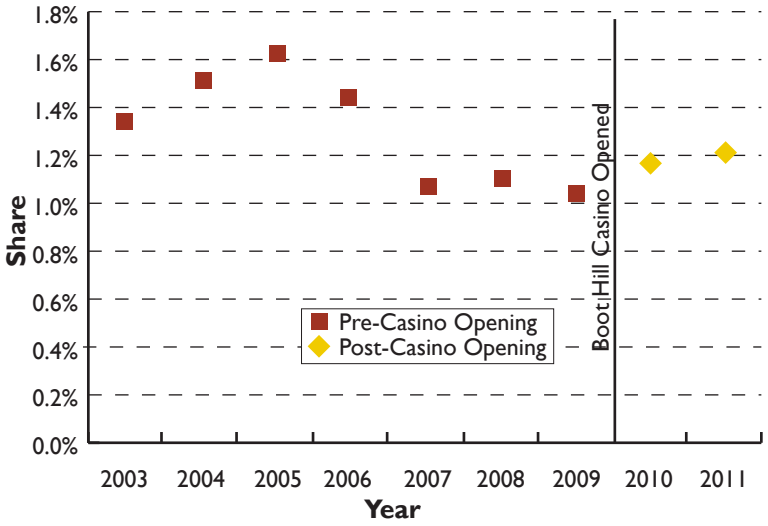
Source: KHI Analysis of Census Data and Census Bureau Intercensal Estimates, 2000 and 2010.

Changes in Property Crime

For this indicator, we examined the number of property crimes (burglary, theft and motor vehicle theft) reported to Ford County law enforcement units and tracked by the Kansas Bureau of Investigation (KBI). Property crime was a topic of concern among stakeholders due to its potential connections to money loss from problem gambling, substance use and social disruption.

Contrary to community expectation and relevant literature, our analysis yielded no conclusive connection between the crime rate and casino development (Figure 19).

Figure 19. Ford County's Share of All Property Crime Statewide



Source: KHI Analysis of Kansas Bureau of Investigation Data, 2003–2011.

Changes in Violent Crime

Violent crime was also a topic of interest for numerous stakeholders due to its gravity and myriad potential connections to changes in the community caused by casino development. Similar to property crime, this indicator measured incidents of murder, rape, robbery and aggravated assault that were reported to Ford County law enforcement units and tracked by the KBI.

Analysis of seven years before Boot Hill Casino's opening and one year after did not

indicate an increase in violent crime (Figure 20). It is important to note, however, that a few years after the casino opening is not enough time to fully capture Ford County's population change or the social disruption it may have caused. Based on results from our literature review, it is possible that Ford County will see its crime rate change as time progresses.

Changes in Traffic

According to the estimated number of daily vehicle miles traveled in Ford County and Ford County's share of the statewide total vehicle miles, vehicle traffic hasn't increased since the casino opened in December 2009 (Figures 21 and 22).

Northeast Tribal Gaming Area Example

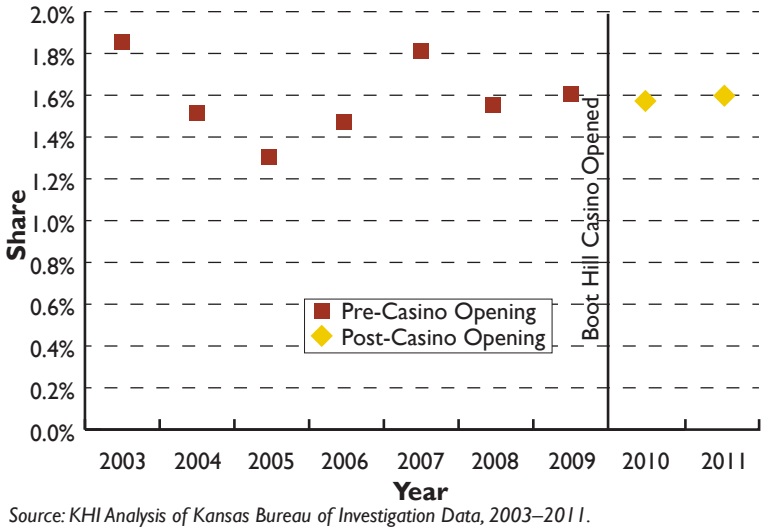
Several indicators were examined for the Northeast Tribal Gaming Area in order to inform data analysis on indicators that were of particular interest to stakeholders or yielded mixed findings in the literature review. Several indicators were not examined, including tourism activity, population growth and transient guest tax receipts.

Changes in Property Crime

For this indicator, we examined the number of burglaries, thefts and motor vehicle thefts reported to law enforcement units and tracked by the KBI in Atchison, Brown, Doniphan, Jackson and Nemaha counties. To control for statewide trends during that same period, property crime in Northeast Kansas was expressed as a proportion of the state total.

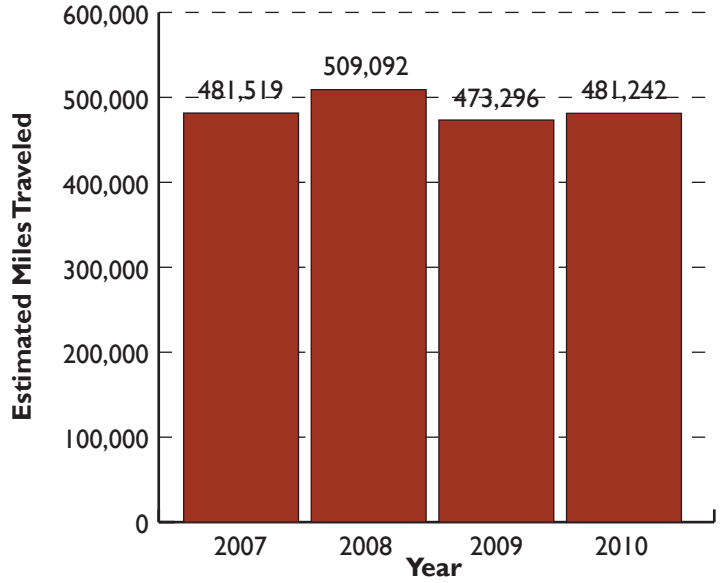
Due to changed methods of recording and collection, reliable crime statistics were not available for 1995–1999, when four tribal casinos opened in Northeast Kansas. Using data from nine years before the development of any tribal casinos (1986–1994) and nine

Figure 20. Ford County's Share of All Violent Crime Statewide



Source: KHI Analysis of Kansas Bureau of Investigation Data, 2003–2011.

Figure 21. Ford County Daily Vehicle Miles Traveled

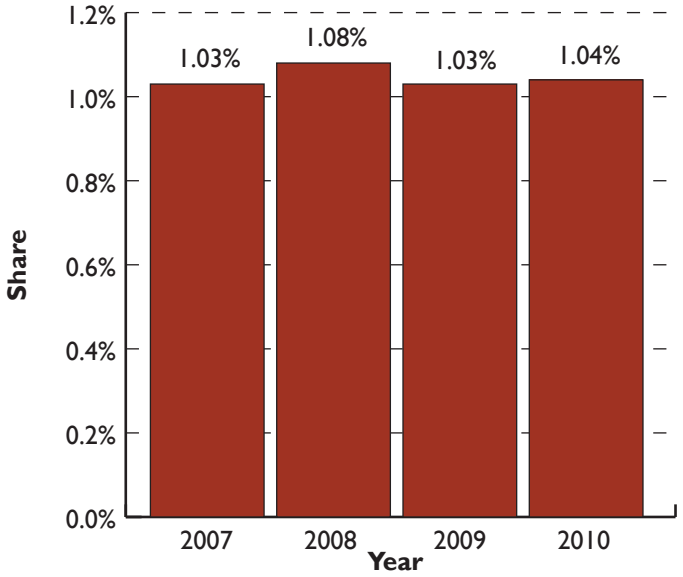


Source: KHI Analysis of Kansas Department of Transportation Data, 2007–2010.

years after all of the area's tribal casinos were up and running (2000–2008), analysis revealed an increase in property crime (Figure 23).

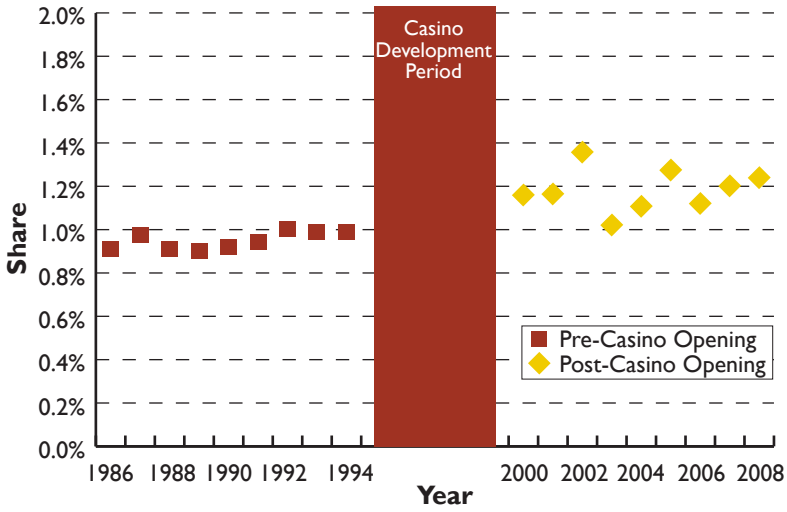
Before the operation of any tribal casino in the area, the five combined counties accounted for about 0.9 percent of the annual number of reported property crime incidents in Kansas. After the casinos opened, this increased to an annual average of 1.2 percent of reported property crimes in Kansas.

Figure 22. Ford County's Share of Statewide Daily Vehicle Miles Traveled



Source: KHI Analysis of Kansas Department of Transportation Data, 2007–2010.

Figure 23. Northeast Kansas Share of All Property Crime Statewide



Source: KHI Analysis of Kansas Bureau of Investigation Data, 1986–1994 and 2000–2008.

Changes in Violent Crime

Analysis of violent crime in Northeast Kansas (Atchison, Brown, Doniphan, Jackson and Nemaha counties) focused on incidents of murder, rape, robbery and aggravated assault that were reported to law enforcement units and tracked by the KBI.

It is worth noting that similar to property crime, data for this indicator was only available before (1986–1994) and after (2000–2008) the construction of four tribal casinos in the area. Analysis of available data revealed an increase in violent crime. (Figure 24, page 50).

Southeast Kansas Gaming Zone Example

Changes in Property Crime

This analysis aimed to gauge a couple of phenomena. First, it attempted to capture any changes in property crime that may have occurred in Cherokee or Crawford counties from 2004 to 2010 due to the proliferation of tribal casinos in Oklahoma near the border, just across from SEKGZ.

Second, it tried to predict the effect a state-owned casino in SEKGZ may have on the community, using data from Northeast Kansas.

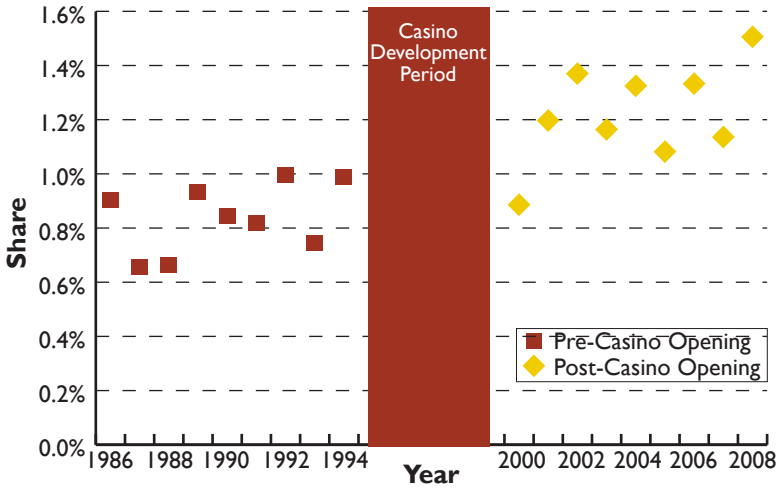
Looking at the regional environmental analysis, it is important to note Southeast Kansas' statewide proportion of property crime for 2002. For the most part, that year appears to be an outlier that diverges from the overall Southeast Kansas level of 2 to 3 percent (Figure 25).

Trying to forecast the effect of a state-owned casino in SEKGZ on average property crime levels is a bit more difficult. Because four tribal casinos of different sizes were built and opened in Northeast Kansas in a small area in short succession, it is difficult to isolate the effect that only one casino had on the surrounding community. In order to calculate the effect that only one casino with an investment requirement of $50 million would have on SEKGZ, we used slot machines as a proxy for size and adjusted our projections accordingly.

The four tribal casinos in Northeast Kansas have a total of 3,050 slot machines, while the Boot Hill Casino in Ford County has 875 slots, or 28.7 percent as many. Boot Hill also had a state-mandated manager investment requirement of $50 million — the threshold that likely will apply to SEKGZ.

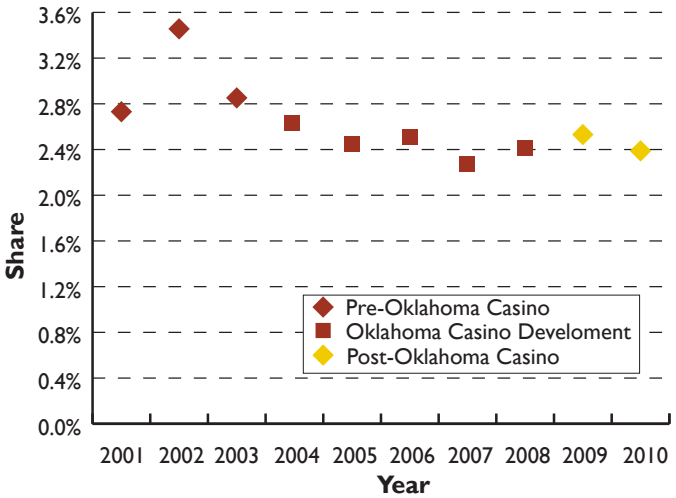
Analysis of Northeast Kansas revealed a .25 percentage point increase in the area's share of all property crime statewide in the nine years after casinos were opened (2000–2008) compared to the nine years (1986–1994) before casinos opened. If we divide the .25 percentage point increase by 3.49 — the ratio of Northeast Kansas slots to Boot Hill slots — we arrive at an estimated increase in property crime of .07 percentage points for a casino comparable in size to Boot Hill. After accounting for the larger number of slot machines in Northeast Kansas (3.5 times more slot machines than the number at Boot

Figure 24. Northeast Kansas Share of All Violent Crime Statewide



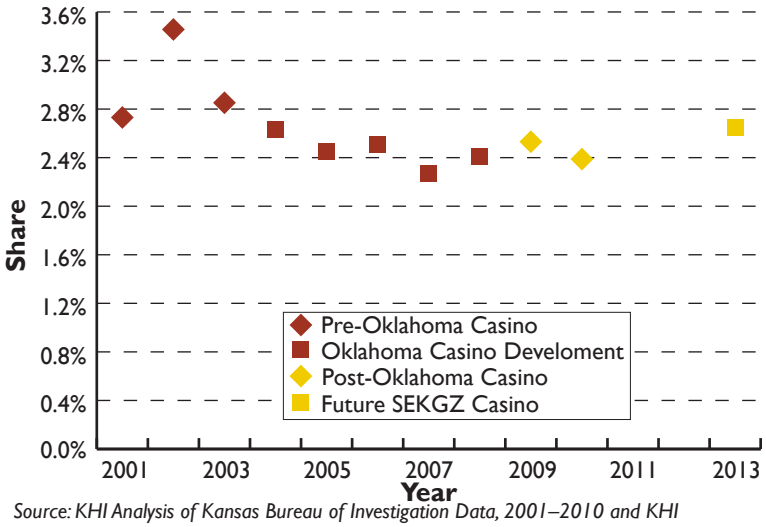
Source: KHI Analysis of Kansas Bureau of Investigation Data, 1986–1994 and 2000–2008.

Figure 25. Southeast Kansas Share of All Property Crime Statewide



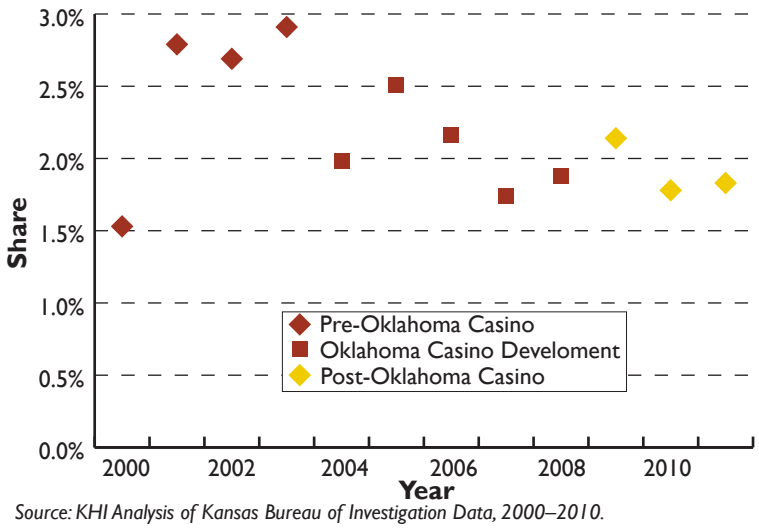
Source: KHI Analysis of Kansas Bureau of Investigation Data, 2001–2010.

Figure 26. Southeast Kansas Share of All Property Crime Statewide with Projection



Source: KHI Analysis of Kansas Bureau of Investigation Data, 2001–2010 and KHI Projections Based on KBI Data.

Figure 27. Southeast Kansas Share of All Violent Crime Statewide



Source: KHI Analysis of Kansas Bureau of Investigation Data, 2000–2010.

Hill or a comparable casino in Southeast Kansas), we would expect to see around a 7.6 percent increase in the average annual property crime rate in Southeast Kansas within a few years of a casino opening (Figure 26).

Changes in Violent Crime

Analysis of violent crime data between 2000 and 2011 identified no large increase in the SEKGZ proportion of murder, rape, robbery and aggravated assault incidents in Kansas among each of the three casino development periods (Figure 27).

Health Disparities and Vulnerable Populations

For the purpose of the HIA tourism proximal impact (Table 10), HIA vulnerable population groups include workers and/or individuals who are:

a. Low-income
b. Elderly
c. Children
d. Individuals with chronic conditions

Table 10. Potential Health Impacts of Tourism on Vulnerable Populations

Proximal Impact	Examined Health Factors	Examined Health Outcomes	Vulnerable Populations
Tourism	Leisure and hospitality jobs (health insurance, income), per capita income, population growth (health care providers, social disruption, crime), traffic volume (air quality).	**Positive:** Decreased rate of disability and disease, timely detection and treatment of health conditions, decreased likelihood of premature death, improved quality of life and increased life expectancy. **Negative:** Post-traumatic stress disorder, injuries, mortality, asthma, bronchitis and cardiovascular disease.	Low-income workers and individuals; children; elderly and individuals with chronic conditions.

Source: Kansas HIA Project, 2012.

Health Implications for SEKGZ

Analysis of data for Ford County found that transient guest tax receipts and overnight tourism increased roughly 11 percent after the casino opened. A review of the literature shows that there are a number of considerations — such as casino location, casino type and existing infrastructure — that influence the degree to which this is likely to occur. Stakeholders also noted a number of factors that could influence the degree to which a casino actually increases tourism, such as improved roads and other opportunities (e.g., shopping, restaurants and recreational facilities) for tourists.

Given that Cherokee and Crawford counties have some demographic similarities with Ford County and that any casino built in the SEKGZ is expected to be comparable in size to the Ford County casino, the operation of a casino in SEKGZ is likely to result in some increase in overnight tourism and the related transient guest tax receipts (about 11 percent). Among other factors that could contribute to an increase in tourist activity is the proximity of the Downstream Casino (to Cherokee County in particular) in Oklahoma and the availability of lodging there.

On the other hand, any potential increase in tourism in SEKGZ may be diminished by the lack of tourism-specific infrastructure in this region, and a modest increase in tourism activity would not likely increase per capita income. As noted earlier in the discussion of tourism and health, an increase in per capita income and population growth may attract new health care providers and improve access to health care services, reducing the likelihood of premature death, improving quality of life and increasing life expectancy. SEKGZ might experience some of this benefit due to population growth. However, population growth in SEKGZ may also lead to social disruption, which may result in injuries, mortality and post-traumatic stress disorder due to potential increases in crime. Additionally, traffic volume may increase and result in lower air quality and increased risk of asthma and bronchitis in the community (Table 11).

In order to increase tourism in the region and achieve potential positive health impacts associated with this increase, the proposed SEKGZ casino should function as a destination attraction so it draws people outside the area. In addition, potential negative health effects of increased tourism, like injuries or post-traumatic stress disorder associated with property and violent crimes and higher traffic volume, need to be addressed as they could diminish the positive health effects associated with an increase in tourism.

Table 11. Summary Health Impacts of a Casino Presence in SEKGZ: Tourism

				Based Primarily on Evidence From Literature				
Health Factor or Outcome	**Expected Change Based on Literature**	**Observed Changes in Kansas (Based on Data)**	**Stakeholder Projections**	**Expected Health Impact**	**Magnitude of Impact**	**Likelihood of Impact**	**Distribution**	**Quality of Evidence**
TOURISM								
Tourist activity	Increase	Increase	Increase	Mixed	Medium	Likely	Community members	***
Leisure and hospitality industry jobs	Increase	Increase	Increase	Positive	Medium	Likely	Community members	***
Health insurance	Increase	N/A	Increase	Positive	Low	Likely	Leisure and hospitality workers and their families	***
Income	Increase	N/A	Mixed	Positive	Low	Likely	Leisure and hospitality workers and their families	***
Per capita income	Mixed	N/A	Increase	Positive	Medium	Uncertain	Community members	**
Population growth	Increase	Increase	Increase	Mixed	High	Likely	Community members	***
Property crime	Mixed	Mixed	Increase	Negative	Medium	Possible	Community members	***
Violent crime	Mixed	Mixed	Increase	Negative	Medium	Possible	Community members	***
Traffic volume	Increase	No change	Increase	Negative	Medium	Possible	Community members	**

Note: See legend, page 54.
Source: Kansas HIA Project, 2012.

Legend for Table 11

Expected Change Based on Literature	• No change — The literature achieves consensus that this indicator will likely remain unchanged. • Mixed — The literature lacks consensus about this indicator's potential impact. • Increase — The literature achieves consensus that this indicator will likely increase. • Decrease — The literature achieves consensus that this indicator will likely decrease. • N/A — There is no available literature on this indicator.
Observed Changes in Kansas (Based on Data)	• No change — Data analysis did not show any large changes. • Mixed — Data analysis from different regions showed opposite changes. • Increase — Data analysis showed this indicator will likely increase. • Decrease — Data analysis showed this indicator will likely decrease. • N/A — Data analysis was not possible or performed for this indicator.
Stakeholder Projections	• No change — Stakeholders did not anticipate any changes. • Mixed — Stakeholders were divided in their opinions. • Increase — Stakeholders anticipated seeing an increase. • Decrease — Stakeholders anticipated seeing a decrease. • N/A — Stakeholders did not express their opinions about this issue.
Expected Health Impact	• Positive — Changes that may improve health. • Negative — Changes that may worsen health. • Mixed — Changes can be positive as well as negative. • Uncertain — Unknown how health will be impacted. • No effect — No identified effect on health. Note: When findings from different sources (data, literature, stakeholder opinion) were not consistent, expected health impact was determined primarily based on findings from the literature because the HIA team determined it was the best available source of information.
Magnitude of Impact	• Low — Affects no or very few people (such as only certain groups of casino workers). • Medium — Affects larger numbers of people (such as casino workers and patrons). • High — Affects many people (such as the city of Pittsburg).
Likelihood of Impact	• Likely — It is likely that impacts will occur as the result of this proposal. • Possible — It is possible that impacts will occur as the result of this proposal. • Unlikely — It is unlikely that impacts will occur as the result of this proposal. • Uncertain — It is uncertain that impacts will occur as the result of this proposal.
Distribution	The population most likely to be affected by changes in the health factor or outcome. Determination was based on literature review, data analysis and expert opinion. • No change — Did not anticipate any changes.
Quality of Evidence	**** More than five strong studies. May also include data analysis and expert opinion. *** Five or more moderate studies. May also include data analysis and expert opinion. ** Five weak studies. May also include data analysis and expert opinion. * Fewer than five studies.

Access to Gambling

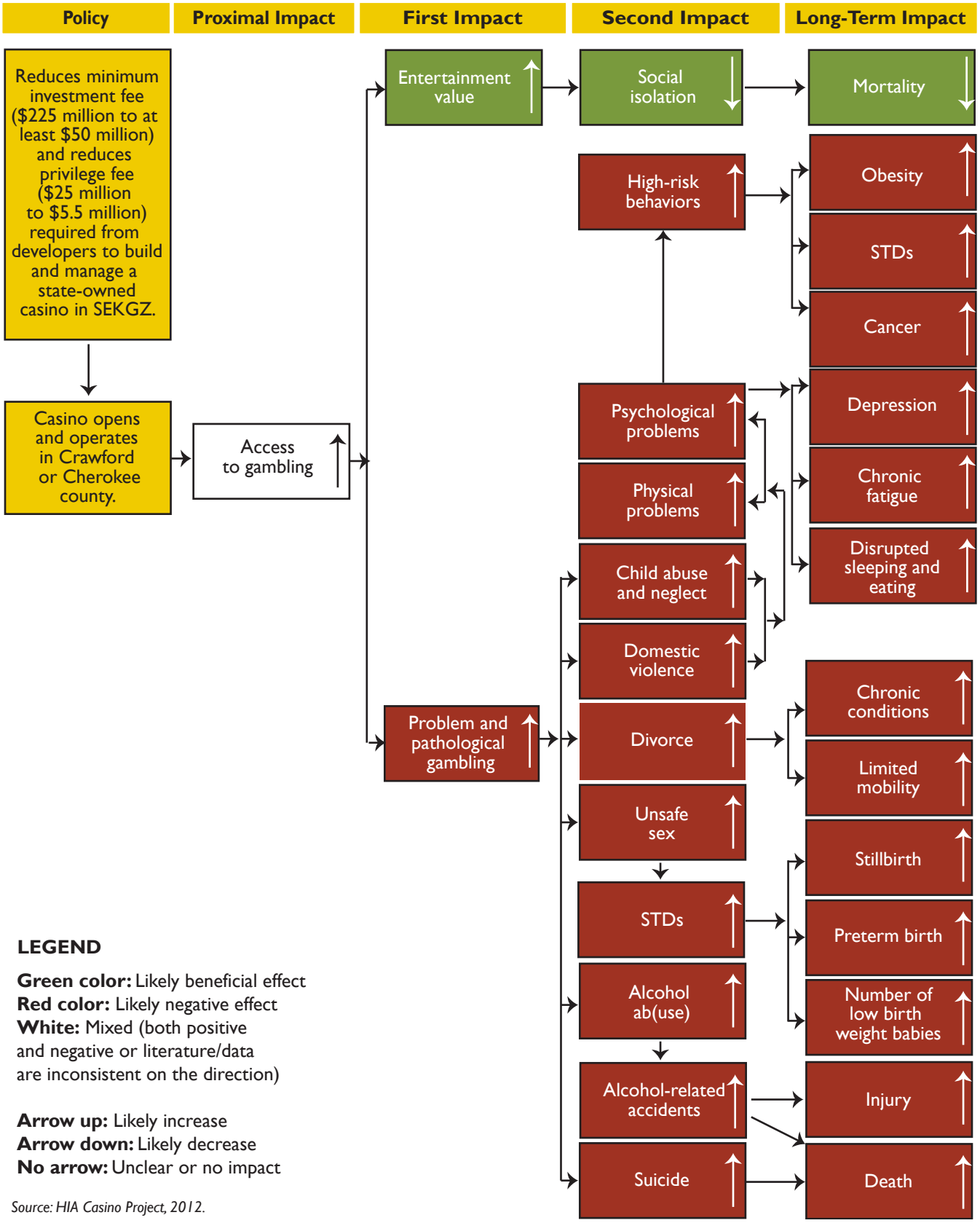
Access to Gambling and Health

Access to gambling can lead to problem or pathological gambling. Adverse health consequences of pathological gambling include nicotine dependence, substance use, depression and insomnia. Additionally, pathological gambling has been associated with higher rates of child abuse and neglect, domestic violence, unsafe sex and divorce.

Here are some indicators associated with access to gambling and how a new casino in SEKGZ could affect residents:

- **Entertainment value:** The entertainment that casinos provide can be considered a social benefit that gives adults a place to congregate and be socially connected. As mentioned before, social isolation is tied to negative health outcomes, including lower quality of life.[131]
- **Child abuse and neglect:** Child abuse and neglect can cause physical as well as psychological problems (e.g., cognitive delays or emotional difficulties).[132] Psychological problems often result in high-risk behaviors, including smoking or alcohol/drug use.[133] High-risk behaviors can lead to cancer, obesity and sexually transmitted diseases (STDs).[134]
- **Domestic violence:** Domestic violence can lead to a variety of health effects, including injury, chronic fatigue, disturbed sleeping and eating, depression, anxiety and attempted suicide.[135] Domestic violence also increases vulnerability to illnesses.[136]
- **Divorce:** Among several negative health consequences of divorce are chronic conditions and limited mobility.[137]
- **Unsafe sex:** Unsafe sex can lead to STDs, which have been linked to preterm birth, low birth weight and an increased risk of stillbirth.[138]
- **Alcohol (ab)use:** Alcohol use can result in alcohol-related motor vehicle accidents. The main health effects of traffic accidents are injuries and deaths.[139]
- **Suicide:** Suicide is the tenth leading cause of death in the United States for people age 10 and older.[140]

Figure 28. Potential Health Impacts of Access to Gambling



LEGEND

Green color: Likely beneficial effect
Red color: Likely negative effect
White: Mixed (both positive and negative or literature/data are inconsistent on the direction)

Arrow up: Likely increase
Arrow down: Likely decrease
No arrow: Unclear or no impact

Source: HIA Casino Project, 2012.

"I GUESS I WOULD LIKE TO SEE THE AMOUNT OF SUPPORT A POTENTIAL CASINO WOULD GIVE AUTOMATICALLY TO HEALTH-RELATED PROBLEMS. FOR INSTANCE, PROBLEM GAMING OR WHATEVER THE PIECE IS. I KNOW THEY WOULD AUTOMATICALLY RECEIVE SOME AMOUNT TO GAMBLING ANONYMOUS OR SOMETHING LIKE THAT, AND I'D LIKE TO SEE THAT."

What We Learned From the Community

Problem and Pathological Gambling

Multiple stakeholders expressed specific concerns about the negative effects of problem and pathological gambling on individuals and families in their community as well as the community as a whole. Specific concerns included:

- The financial consequences of problem and pathological gambling in a community that already has a high poverty rate.
- The existing, as well as anticipated, increase in the burden on public and private sources of assistance for families living in poverty.
- The relationship between problem or pathological gambling and related addiction or mental health issues.

Other stakeholders voiced concerns that the community already suffers many of the negative aspects of a casino without seeing any of the benefits. These community members cited the proximity of numerous casinos in Oklahoma, including the Downstream Casino that opened within the past three years about 35 miles from Pittsburg.

Comorbid Problems

Stakeholders expressed concern regarding the potential negative implications of casino development on the safety and stability of Southeast Kansas households. Worries regarding child abuse and neglect, domestic violence and divorce were mentioned repeatedly by stakeholders. In particular, stakeholders worried that pathological gambling could lead to financial instability that could provoke violence aimed at the gambler's partner, spouse or children. Additionally, stakeholders feared that a preoccupation with gambling could deprive children of proper care and attention or cause marriages to fail.

Stakeholders also repeatedly expressed concern that problem and pathological gambling stemming from casino development could precipitate a fall in mental health, leading to drug and alcohol dependencies or even suicide. This decline in mental health seemed particularly troublesome to stakeholders due to a perceived lack of adequate mental health services in the area.

What We Learned From the Literature

Entertainment Value

As for positive outcomes on health, the often-neglected theory of "adult play" states that casinos provide adults with a leisure activity. Under this view, patrons of casinos

view gambling as a consumption good and know that they may lose a few dollars but are there to have fun.[141] This is supported by the finding that more than half of total U.S. casino revenues stem from people who lose less than $500 a year.[142] As stated by Shaffer in his review of gambling through the lens of public health, "In addition to providing fun and excitement, some forms of gambling can enhance coping strategies by building skills and competencies such as memory enhancement, problem solving through game tactics, mathematical proficiency, concentration, and hand-to-eye physical coordination."[143] Older adults are one of the fastest-growing casino patron groups. When asked why they gamble, older adults most often say for relaxation, to relieve boredom, to pass the time and to get away for the day.[144] Gambling provides a link to the community and gives this group a form of entertainment and improved self-esteem through socializing.[145,146]

Problem and Pathological Gambling

Problem gambling describes excessive or destructive gambling, while pathological gambling describes the most severe patterns of excessive or destructive gambling behavior and has formal diagnostic criteria in the Diagnostic and Statistical Manual of Mental Disorders for the American Psychiatric Association.[147] Problem gambling rates have been increasing over the last several decades in the United States, with problem gamblers at 3.8 percent of the population and pathological gamblers at 1.6 percent.[148] There are a number of risk factors that make people more prone to problem gambling, including being younger than 29 years of age, male, African American or Hispanic, unemployed or on public assistance.[149]

The Ladouceur study looked at the prevalence rates of pathological gamblers before and after an increase in lottery terminals and the addition of three casinos. It found that the presence of a gambling venue increases the number of pathological gamblers by 75 percent.[150] From these and other numbers it seems as though it would be clear that the presence of a casino would cause more problem gambling, but determining a causal relationship is controversial. As stated by Shaffer: "Investigators for the National Gambling Impact Study Commission reported in a combined patron and telephone survey that the availability of a casino within 50 miles is associated with double the prevalence rates of problem and pathological gamblers. However, it is not possible to determine if (a) the availability of gambling caused this inflated prevalence rate, (b) more people with gambling problems settled in areas closer to major opportunities to gambling, (c) casinos locate in areas that already have a high rate of disordered gambling or (d) casinos locate in areas with a disproportionately vulnerable population."[151]

The addition of gambling opportunities is especially important when looking at the many comorbid disorders in problem and pathologic gamblers. As stated by Lorains, the highest mean prevalence of comorbidities with problem and pathological gambling was for nicotine dependence (60.1 percent), followed by a substance use disorder (57.5 percent), any type of mood disorder (37.9 percent) and any type of anxiety disorder (37.4 percent).[152]

Child Abuse and Neglect

In 1989, Lesieur's study of the children of Gamblers Anonymous members revealed that pathological gamblers were more likely to abuse their children than parents in the general population.[153] More recently, researchers such as Afifi have associated pathological gamblers with child abuse.[154] It's important to note, however, that the direction of this relationship is unclear, as other studies have indicated that perhaps child abuse leads to gambling addiction problems.[155,156,157] Although studies in the literature support a link between gambling addiction and abuse, the *Gambling Impact and Behavior Study*, published in 1999, did not find a connection between casino development and child abuse.[158] This may mean that rates of increase of child abuse in the general population are not high enough to show a significant difference or that further study is needed in this area.

Domestic Violence

Similar to child abuse and neglect, increases in domestic or interpersonal violence also have been associated with problem gamblers. The *Gambling Impact and Behavior Study* found that between a quarter and half of spouses of problem gamblers were abused. Koman and Muelleman likewise found statistically significant increased risks of interpersonal violence among problem gamblers and their partners.

Divorce

When looking at divorce, however, the picture becomes substantially murkier. The *Gambling Impact and Behavior Study*, for example, found that problem gamblers have about a 27 percent higher divorce rate than those without gambling problems.[159] Lorenz's 1988 study on problem gamblers and marital discord, however, found that although almost all spouses of those with gambling difficulties thought about leaving the marriage, only 29 percent actually sought separation.[160] Furthermore, many couples that include problem gamblers who do divorce later reconcile and reunite.[161]

According to the *Gambling Impact and Behavior Study*, problem gamblers have divorce rates of "39.5 percent, compared to a rate of 31 percent expected for persons otherwise similar without gambling problems."

Unsafe Sex (STDs)

STDs are the final indicator of interest associated with problem gambling behaviors. According to Petry's 2000 study, "Compared to non-problem gamblers, problem gamblers reported more sex partners and less frequent use of condoms with casual and paid sex partners."[162] Additionally, studies suggest that risky sex behaviors may be tied to addictive behaviors generally, as those with problem gambling behaviors and substance use disorders are more likely to engage in risky sex than those who only abuse substances.[163] According to Martins' 2004 research, risky sex behaviors are more pronounced among men than women.[164] Based on the available scientific evidence, it is possible that risky sex or compulsive sex behaviors may be a comorbid disorder that accompanies gambling addiction.

Alcohol (Ab)Use and Alcohol-Related Accidents

Driving under the influence is another possible ill effect of casinos. A recent article by Cotti found that rural or moderately sized counties with casinos saw an increase in alcohol-related fatalities, while urban counties saw a decrease. Urban counties may have seen a decrease because the casino was a substitute for a venue that was farther away and the drinker therefore didn't drive as far.[165] This effect is seen especially with destination-style casinos, which pull people from farther locations.[166] Research indicates that mitigation efforts such as reduced tolerance of driving under the influence are effective in decreasing traffic fatalities.[167]

Suicide

Some studies have suggested that having a casino in a community may correlate to an increase in suicide,[168] but no causal link has been established.[169,170] A possible increase in suicides may be due to an increase in visitors who have suicide risk factors, which include gambling addiction.[171] Newman looked at pathological gambling and found evidence that it may be connected to attempted suicide. As he pointed out, this may not be so much due to the gambling as the mental health of the person and how that instability could lead to suicide attempts.[172]

What We Learned From Data

Ford County and Boot Hill Casino Example

Problem and Pathological Gambling

County-level data from the 2009 BRFSS provide estimates of the percentage of adults who have gambled in the past 12 months (Table 12). These rates are much lower than those reported in the literature. Based on a telephone survey of a sample of the total

U.S. adult population, 52 percent reported past-year lottery gambling as part of the *Gambling Impact and Behavior Study*. A 1996 study found that 63 percent of Canadians reported gambling in the last year.

The BRFSS rates are lower than those reported in the national literature despite the broad definition:

> *In the last 12 months have you played the lottery, bingo, card games, slot machines or any other betting games for money or something else of value? This activity could be at the casino, over the phone, on the computer, at the track, on the street, at home or any other place.*

Statewide, only about 0.8 percent to 1.0 percent of those who said they gambled in the past 12 months reported financial problems and/or family, work or personal life problems related to gambling (Table 13). That rate is lower than the annual prevalence rate for pathological gambling (1.1 percent) and the annual prevalence rate for problem gambling (2.8 percent).

Child Abuse and Neglect

Ford County's share of substantiated child abuse and neglect cases was lower in 2010 than 2008–2009. However, the 2010 share of these cases was higher than in 2005–2007 (Figure 29, page 62).

Table 12. Gambling Prevalence in Kansas (2009)

	Southeast Kansas Gaming Zone		Southwest Kansas Gaming Zone	Statewide
County	**Crawford**	**Cherokee**	**Ford**	**All**
Percentage of adults who have gambled in the past 12 months.	35.8%	38.0%	20.8%	38.4%

Source: Behavioral Risk Factor Surveillance System Survey, 2009.

Table 13. Problem Gambling in Kansas (2009)

Questions:	Percent of Adults Who Reported They Gambled in the Past 12 Months	Percent of All Adult Kansans
Has the money you spent on gambling led to financial problems?	1.0%	0.38%
Has the time you spent on gambling led to problems in your family, work or personal life?	0.8%	0.31%

Source: Behavioral Risk Factor Surveillance System Survey, 2009.

It is important to note that these analyses reflect cases of abuse or neglect that have been substantiated by staff from the Kansas Department for Children and Families (formerly SRS). In order to meet the qualifying threshold, "the facts and circumstances [must] provide clear and convincing evidence to conclude the alleged perpetrator's actions or inactions [met] the Kansas Statutes Annotated and Kansas Administrative Regulations definition of abuse or neglect." In this case, actions that result in death or physical injury; require hospitalization, surgery, or medical treatment; result in the abandonment or desertion or a child, or involve sexually related interaction with a child are all examples of conduct that meet the definition of abuse or neglect.

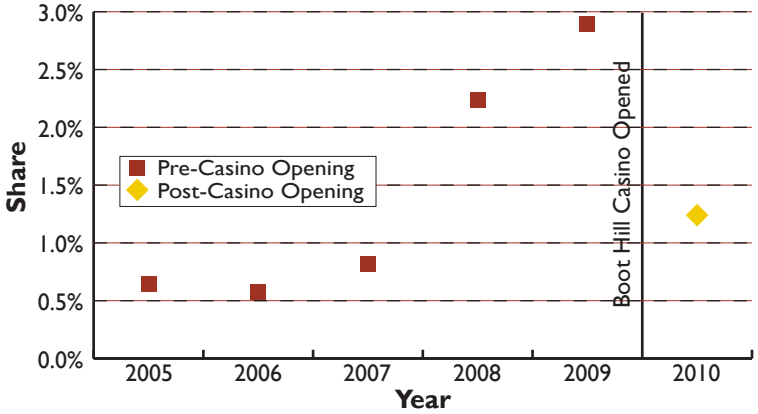
Domestic Violence

Domestic violence incidents reported to law enforcement units in Ford County were slightly elevated in 2010 as compared to 2005–2009 but do not indicate a departure from previous years. An analysis of KBI data shows no large increase between the number of domestic violence incidents reported before the Boot Hill Casino's opening in December 2009 and in 2010 (Figure 30).

Divorce

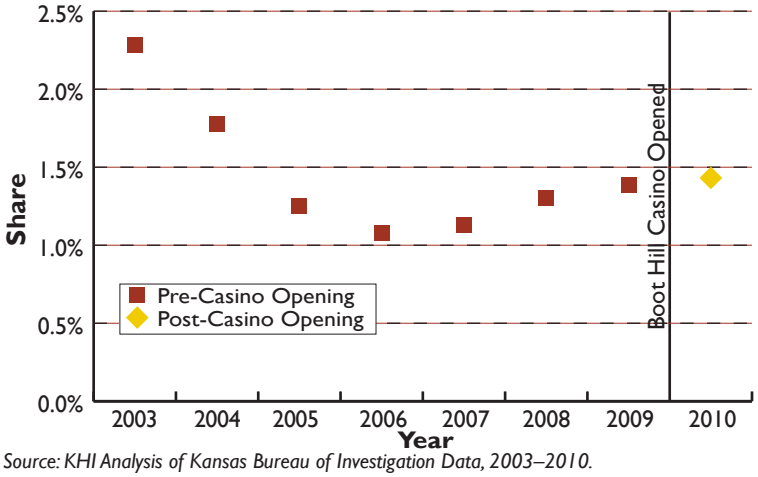
Based on data from the KDHE Annual Summary of Vital Statistics report, no large differences in the prevalence of divorces could be detected in Ford County before and after the casino's opening (Figure 31).

Figure 29. Ford County's Share of All Substantiated Child Abuse and Neglect Statewide



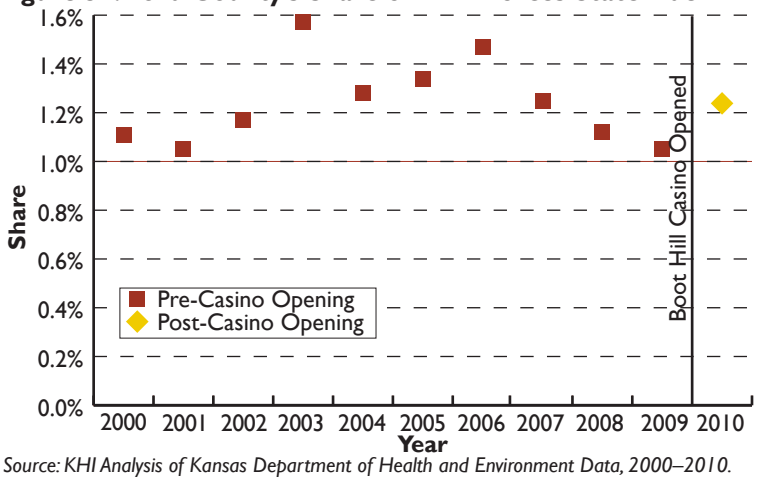
Source: KHI Analysis of Kansas Department of Social and Rehabilitation Services Data, 2005–2010.

Figure 30. Ford County's Share of All Domestic Violence Statewide



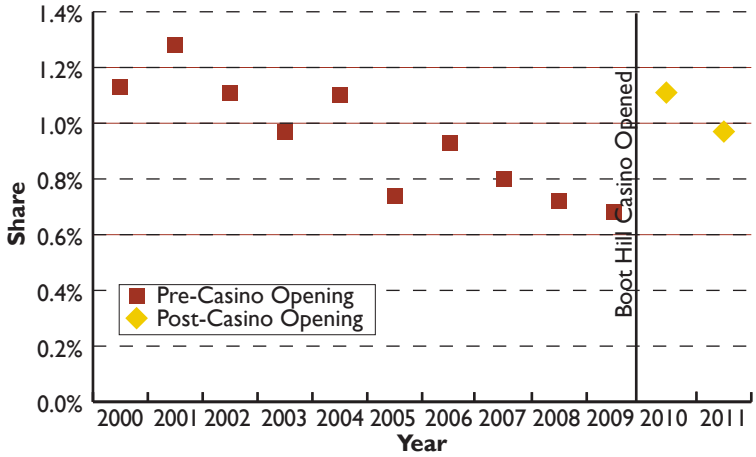
Source: KHI Analysis of Kansas Bureau of Investigation Data, 2003–2010.

Figure 31. Ford County's Share of All Divorces Statewide



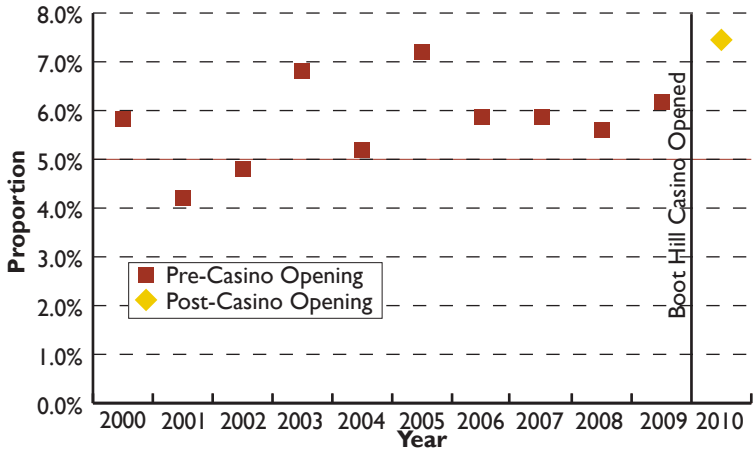
Source: KHI Analysis of Kansas Department of Health and Environment Data, 2000–2010.

Figure 32. Ford County's Share of All Chlamydia and Gonorrhea Cases Statewide



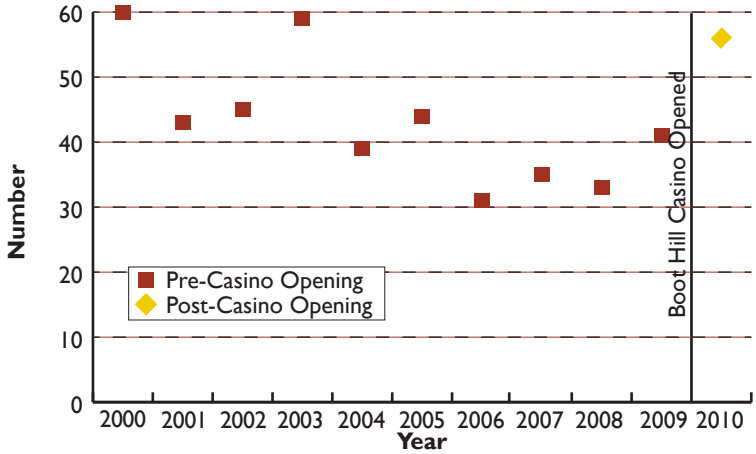
Source: KHI Analysis of Kansas Department of Health and Environment Data, 2000–2011.

Figure 33. Proportion of Alcohol-Related Motor Vehicle Accidents in Ford County



Source: KHI Analysis of Kansas Department of Transportation, Motor Vehicle Accident Data, 2000–2010.

Figure 34. Number of Alcohol-Related Accidents in Ford



Source: KHI Analysis of Kansas Department of Transportation, Motor Vehicle Accident Data, 2000–2010.

We compared the number of marriage dissolutions in the county per year to the number of divorces in the state in order to account for any overall fluctuations in the divorce rate. Although Ford County divorces in 2010 seemed to reverse a downward trend, they do not indicate a substantial departure from previous years.

Unsafe Sex (Sexually Transmitted Diseases)

Using information from the KDHE STD surveillance office and evidence collected through the literature review, KHI examined whether casino development may influence risky sexual behaviors, as indicated by infection rates for chlamydia and gonorrhea. Data analysis of SEKGZ and the state found an increase in the number and statewide proportion of STDs in Ford County after the casino's opening (Figure 32). This means that even when controlling for state trends, Ford County's proportion of all STD cases in Kansas rose after the casino's opening.

Alcohol-Related Accidents

Both the number and proportion of all alcohol-related accidents were higher in 2010 after the Boot Hill Casino opened than before the casino opened in December 2009 (Figures 33 and 34).

Suicide

Incidents of suicide recorded by KDHE in the *Kansas Annual Summary of Vital Statistics* indicate no large increase in the number of suicides reported in 2010. As shown in Figure 35 (page 64), however, the data shift

from year to year, and in 2004, Ford County experienced an unusually high number of suicides (five). This likely represents an unusual occurrence that happened over a limited period of time.

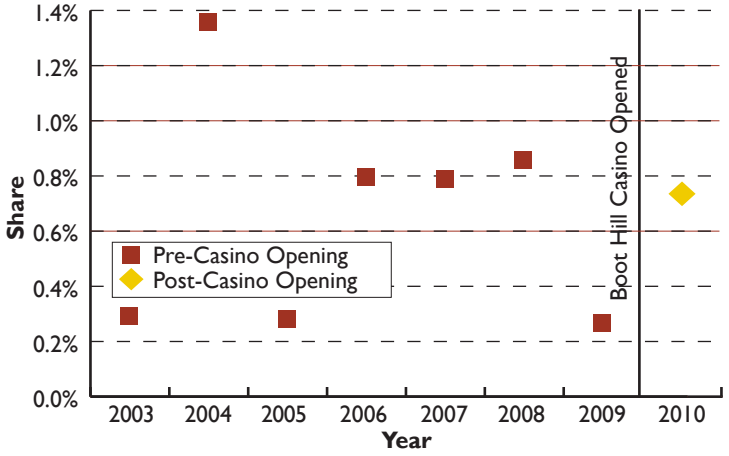
Northeast Tribal Gaming Area Example

Domestic Violence

Data collected by law enforcement units in Atchison, Brown, Doniphan, Jackson and Nemaha counties and tracked by the KBI, indicate an increase in domestic violence in Northeast Kansas after the tribal casinos opened (Figure 36). Specifically, between 1994 and 1998, Northeast Kansas accounted for an average of 1.20 percent of the state's domestic violence incidents; between 1999 and 2006, however, after all four casinos had opened, it accounted for 1.43 percent of domestic violence incidents in the state.

It is worth noting, however, that three data points during 2002–2004 represent a large departure from the trend demonstrated by other data. As shown in Figure 36, data for 2002 lies outside the trend as compared to other years. These three years (and 2002 in particular) should be treated with caution before they are judged to be associated with casino development.

Figure 35. Ford County's Share of All Suicides Statewide

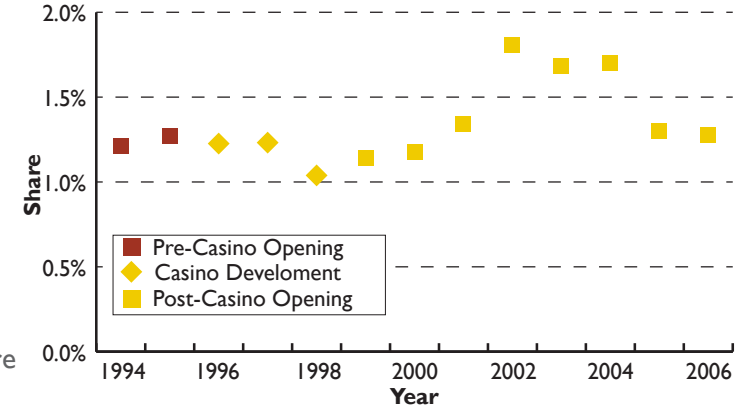


Source: KHI Analysis of Kansas Department of Health and Environment Data, 2003–2010.

Divorce

Analysis of divorce data from KDHE indicates no overall difference between the number of people divorced before, during or after the construction of tribal casinos in and around Atchison, Brown, Doniphan, Jackson and Nemaha counties (Figure 37). These findings support the mixed results found in the HIA's review of relevant literature.

Figure 36. Northeast Kansas Share of All Domestic Violence Statewide

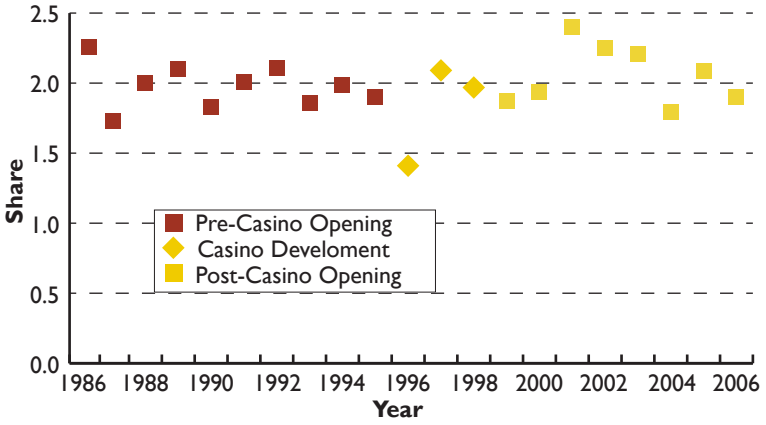


Source: KHI Analysis of Kansas Bureau of Investigation Data, 1994–2006.

Unsafe Sex

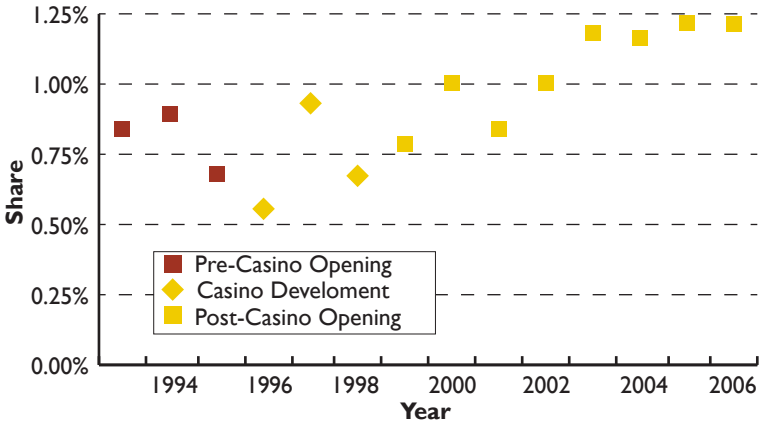
A review of relevant literature indicated that problem and pathological gambling behaviors are

Figure 37. Northeast Kansas Share of All Divorces Statewide



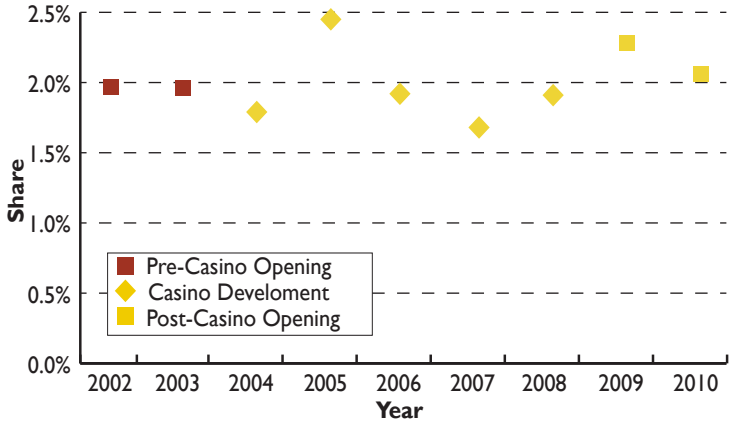
Source: KHI Analysis of Kansas Department of Health and Environment Data, 1986–2006.

Figure 38. Northeast Kansas Share of All Chlamydia and Gonorrhea Cases Statewide



Source: KHI Analysis of Kansas Department of Health and Environment Data, 1993–2006.

Figure 39. Southeast Kansas Share of All Domestic Violence Statewide



Source: KHI Analysis of Kansas Bureau of Investigation Data, 2002–2010.

associated with increased risk behaviors such as unsafe sex. Data from Atchison, Brown, Doniphan, Jackson and Nemaha counties bolster this research. Analysis of chlamydia and gonorrhea cases indicates an increase in that area's proportion of STDs in Kansas after the tribal casinos opened (Figure 38). This means that even when controlling for statewide trends, Northeast Kansas still experienced an independent increase in unsafe sex that resulted in STDs.

Before the tribal casinos opened, Northeast Kansas accounted for an average of 0.81 percent of STDs in Kansas. During casino construction, this dropped to 0.72 percent. After all four casinos were open and operating, however, Northeast Kansas' average proportion of the state's STD rate climbed to 1.05 percent.

Southeast Kansas Gaming Zone Example

Domestic Violence

Data analysis of domestic violence rates between 2002 and 2010 revealed no large differences in the SEKGZ's proportion of Kansas incidents (Figure 39). This analysis compared before a casino was built in Oklahoma, during the Oklahoma casino development and after the casino was built.

Divorce

Analysis of divorces between 1996 and 2010 found no large differences in SEKGZ's proportion of all marriage dissolutions in Kansas between each of the three casino development periods (Figure 40).

Unsafe Sex

Analysis of chlamydia and gonorrhea cases indicates an increase in the combined proportion of Kansas STDs for Cherokee and Crawford counties (Figure 41). This increase is most evident when all years before 2003 are considered pre-casino and those after 2004 are considered post-casino. This approach combines the development and opening of casinos in Oklahoma adjacent to SEKGZ, including the Downstream Casino across the border from Cherokee County.

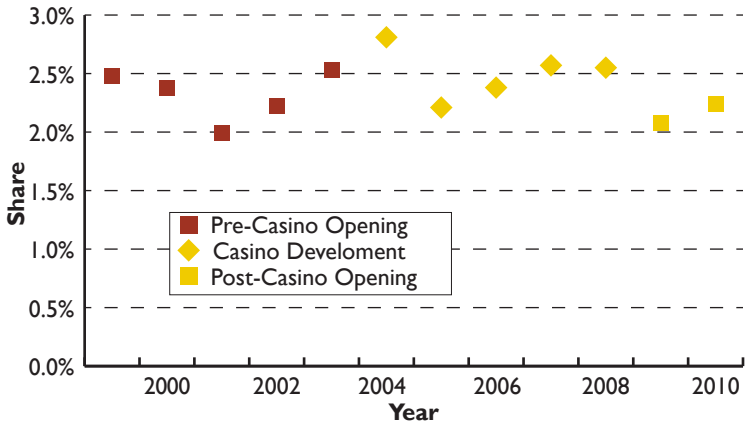
Between 1995 and 2003, before the development of any casinos in the area, Cherokee and Crawford counties accounted for an average of 1.38 percent of Kansas STD cases. During the development of nearby casinos, SEKGZ's proportion of Kansas STDs grew to an average of 1.72 percent. In 2009 and 2010, however, after all the Oklahoma casinos were open, the area's average STD burden fell to 1.52 percent.

Health Disparities and Vulnerable Populations

For the purpose of the HIA access to gambling section (Table 14), vulnerable population groups include casino workers and/or individuals who are:

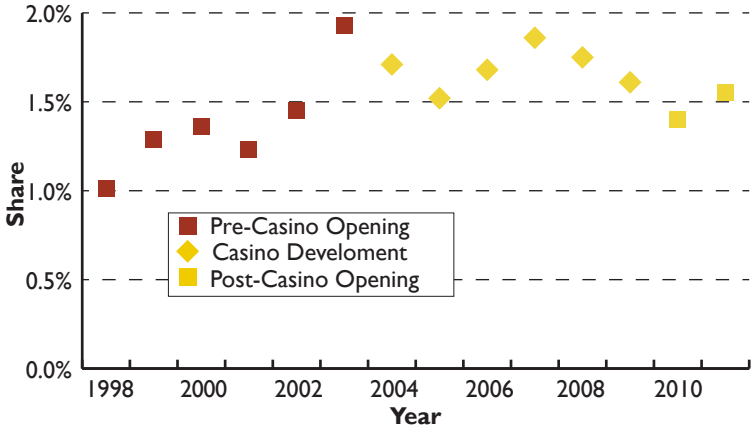
- Low income

Figure 40. Southeast Kansas Share of All Divorces Statewide



Source: KHI Analysis of Kansas Department of Health and Environment Data, 1999–2010.

Figure 41. Southeast Kansas Share of All Chlamydia and Gonorrhea Cases Statewide



Source: KHI Analysis of Kansas Department of Health and Environment Data, 1998–2011.

Table 14. Potential Health Impact of Access to Gambling on Vulnerable Populations

Proximal Impact	Examined Health Factors	Examined Health Outcomes	Vulnerable Populations
Access to Gambling	Entertainment value, problem and pathological gambling, child abuse and neglect, domestic violence, divorce, alcohol (ab)use, unsafe sex (STDs), suicide, preterm birth, number of low birth weight babies	**Positive:** lower mortality **Negative:** obesity, STDs, cancer, depression, chronic fatigue, disrupted sleeping and eating, chronic conditions, limited mobility, stillbirth, injury, death	Low-income casino workers and their families; elderly, students, casino workers, individuals with mental ilnesses, individuals with substance use disorders

Source: Kansas HIA Project, 2012.

- Elderly
- Young adults (students)
- Individuals with substance use disorders
- Individuals who have mental illnesses

Health Implications for SEKGZ

Based on research and data analyses for Ford County and the Northeast Tribal Gaming Area, operation of a casino in SEKGZ is likely to result in an increase in problem and pathological gamblers (Table 15). Studies have found that proximity to one or more casinos increases rates of problem and pathological gambling in surrounding populations. Some studies even suggest that the presence of a casino within 50 miles of an individual's home can double the prevalence of problem gaming. Thus, gaming options already available to Southeast Kansas residents indicate that the region has a population of people with problem and pathological gambling disorders. Any new casino in SEKGZ will increase the availability of gaming opportunities and reduce the distance that most residents have to travel to access a casino.

Even though living near a casino does not typically cause gambling problems, it certainly can enhance access for people with gambling problems. As mentioned in the review of relevant literature, people who become addicted to gambling often have comorbid disorders, such as alcohol addiction, and many of these disorders have a direct link to health. As for the indirect consequences of gambling addiction, this

Table 15. Estimated Increase in Problem and Pathological Gamblers in Crawford and Cherokee Counties

Estimated Number of Current Gamblers	**Problem Gamblers**	**Pathological Gamblers**	**Total**
Crawford	851	334	1,186
Cherokee	454	178	632
Total	1305	513	1,818
Estimated Increase	**Problem Gamblers**	**Pathological Gamblers**	**Total**
Crawford	213	84	297
Cherokee	113	45	158
Total	326	129	455
Estimates — Post-Casino	**With 25% Increase**		
Crawford	1,064	418	1,482
Cherokee	567	223	790
Total	1,631	641	2,272

Note: The number of problem and pathological gamblers was estimated based on prevelance rates reported in the literature (Potenza and 2010 Census Population Data).
Source: Potenza, M. N., Feillin, D. A., Heninger, G. R., Rounsaville, B. J., & Mazure, C. M. (2002). Gambling. Journal of General Internal Medicine, 17(9), 721.

type of behavioral disorder can deteriorate the ability to set priorities in life. Such decreased functioning can lead to job loss, debt, divorce and other outcomes. It also can increase stress, which has negative effects on the body and health.

Given the casinos adjacent to or in proximity to SEKGZ and based on the annual rates reported in Potenza and the 2010 Census adult population numbers, we estimate the current number of pathological gamblers in Crawford and Cherokee counties is 500 and the number of problem gamblers is 1,300.[173] A new SEKGZ casino could lead to an additional 130 pathological gamblers. Based on Grinols'[174] compilation from the literature of social costs incurred due to problem and pathological gambling (excluding business and employment costs), we conservatively estimate the annual social cost in 2011 dollars would be $2,348 per problem gambler and $9,746 per pathological gambler. Assuming a conservative 25 percent increase in the number of problem and pathological gamblers (455 people) in Southeast Kansas (estimates we found in the literature are for at least a 75 percent increase), and using the prevalence rates reported in Potenza[175] as well as Census data on the adult population, the estimated added social costs for Cherokee County alone would be around $700,000 a year.

Based on evidence from the literature, the increase in pathological and problem gamblers is likely to result in increases in child abuse and neglect, domestic violence, alcohol-related accidents and STDs.

Child abuse and neglect have a variety of direct and indirect negative impacts on health. Children who are abused or neglected often suffer from health problems long after abuse ends. Abuse survivors are sick more often and go to the doctor more.[176] They report more symptoms and are less likely to say they are in good health.[177] Adult abuse survivors are at increased risk of having one or more types of chronic pain.[178] Several studies show that people who experienced four or more types of adverse childhood events were at increased risk of a wide range of conditions, including heart disease, cancer, stroke, chronic bronchitis and diabetes.[179]

Domestic violence can have a direct impact on health as victims are known to suffer physical and mental problems.[180] Additionally, physical and psychological abuse are linked to a number of adverse physical health effects, including arthritis, chronic neck or back pain, migraine, STDs and stomach ulcers.[181]

STDs can have a direct impact on the health of adults and children. For example, STDs can be passed from a pregnant woman to her fetus or infant. Because infants' immune systems are developing, infections that are serious for an adult can be a life-threatening for an infant. Common STD-related problems for infants include low birth weight, premature birth and pneumonia.[182]

Table 16. Summary Health Impacts of a Casino Presence in SEKGZ: Access to Gambling

				Based Primarily on Evidence From Literature				
Health Factor or Outcome	Expected Change Based on Literature	Observed Changes in Kansas (Based on Data)	Stakeholder Projections	Expected Health Impact	Magnitude of Impact	Likelihood of Impact	Distribution	Quality of Evidence
ACCESS TO GAMBLING								
Entertainment value	Increase	N/A	Increase	Positive	Low	Likely	Casino patrons	***
Problem and pathological gambling	Increase	Increase	Increase	Negative	Medium	Likely	Pathological gamblers, their families, employers	****
Child abuse and neglect	Increase	No change	Increase	Negative	Low	Possible	Pathological gamblers and their families	****
Domestic violence	Increase	Mixed	Increase	Negative	Low	Possible	Pathological gamblers and their families	****
Divorce	Increase	No change	Mixed	Negative	Low	Uncertain	Pathological gamblers and their families	**
STDs	Increase	Increase	N/A	Negative	Low	Possible	Pathological gamblers and their families	***
Alcohol (ab)use, alcohol-related motor vehicle injuries and fatalities	Increase	Increase	Increase	Negative	Medium	Likely	Casino patrons, pathological gamblers and other drivers	****
Suicide	Increase	No change	Mixed	Negative	Low	Possible	Pathological gamblers and their families	***

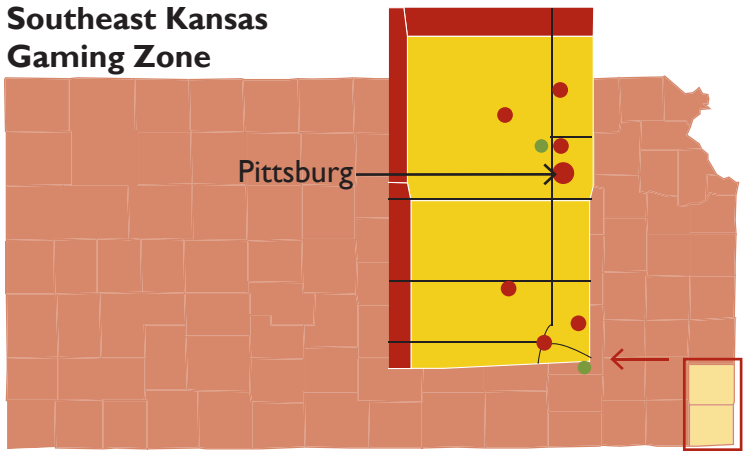
Note: See legend, page 70.
Source: Kansas HIA Project, 2012.

Legend for Table 16

Expected Change Based on Literature	• No change — The literature achieves consensus that this indicator will likely remain unchanged. • Mixed — The literature lacks consensus about this indicator's potential impact. • Increase — The literature achieves consensus that this indicator will likely increase. • Decrease — The literature achieves consensus that this indicator will likely decrease. • N/A — There is no available literature on this indicator.
Observed Changes in Kansas (Based on Data)	• No change — Data analysis did not show any large changes. • Mixed — Data analysis from different regions showed opposite changes. • Increase — Data analysis showed this indicator will likely increase. • Decrease — Data analysis showed this indicator will likely decrease. • N/A — Data analysis was not possible or performed for this indicator.
Stakeholder Projections	• No change — Stakeholders did not anticipate any changes. • Mixed — Stakeholders were divided in their opinions. • Increase — Stakeholders anticipated seeing an increase. • Decrease — Stakeholders anticipated seeing a decrease. • N/A — Stakeholders did not express their opinions about this issue.
Expected Health Impact	• Positive — Changes that may improve health. • Negative — Changes that may worsen health. • Mixed — Changes can be positive as well as negative. • Uncertain — Unknown how health will be impacted. • No effect — No identified effect on health. Note: When findings from different sources (data, literature, stakeholder opinion) were not consistent, expected health impact was determined primarily based on findings from the literature because the HIA team determined it was the best available source of information.
Magnitude of Impact	• Low — Affects no or very few people (such as only certain groups of casino workers). • Medium — Affects larger numbers of people (such as casino workers and patrons). • High — Affects many people (such as the city of Pittsburg).
Likelihood of Impact	• Likely — It is likely that impacts will occur as the result of this proposal. • Possible — It is possible that impacts will occur as the result of this proposal. • Unlikely — It is unlikely that impacts will occur as the result of this proposal. • Uncertain — It is uncertain that impacts will occur as the result of this proposal.
Distribution	The population most likely to be affected by changes in the health factor or outcome. Determination was based on literature review, data analysis and expert opinion. • No change — Did not anticipate any changes.
Quality of Evidence	**** More than five strong studies. May also include data analysis and expert opinion. *** Five or more moderate studies. May also include data analysis and expert opinion. ** Five weak studies. May also include data analysis and expert opinion. * Fewer than five studies.

Pittsburg, Kansas, is in Crawford County.

Southeast Kansas Gaming Zone



Photos on this tab were taken in

Pittsburg, Kansas.

Pittsburg has a population of 20,233.
It is the most populous city in Crawford County.

REVENUE

This section reviews the potential revenue that state and local government entities could receive directly or indirectly from a SEKGZ casino. Such additional revenue has the potential to improve residents' health outcomes if it is invested in the factors that affect health, such as health care, public health services, socioeconomic conditions and the physical environment.

According to Kansas law, a SEKGZ casino would have to pay a minimum of 22 percent of its total revenue back to the state with an additional 2 percent of its funds going to gambling addiction services (Problem Gambling and Addictions Grant Fund). Additionally, 2 percent of revenue would go to the casino's home county and/or city, and 1 percent would go to the other county in the SEKGZ.

When trying to develop revenue projections for this area, the number of existing casinos in the area has to be taken into account. In the 100- to 125-mile radius of a potential Cherokee County casino site, there were around 50 authorized casinos at the time of this report. The scenario discussed in this section of the report includes all of those casinos and any expansions to the current casinos or gaming venues. These casinos and gaming venues are important to take into account because the competition affects casino revenue.

Shares of Casino Revenue

Table 17 depicts projected revenue allocations from the Wells Gaming Research study, commissioned by the Kansas Lottery Gaming Facility Review Board in 2008, for the year 2011. The original estimates include low, medium and high projections.

Table 17. Gaming Revenue Projections for 2011 by Wells Gaming Research for a Casino in Cherokee County

		Three Projection Levels		
	Percent of Total Revenue	***Low***	***Medium***	***High***
Revenue to Casino Manager	73%	$11,049,352	$20,711,709	$29,371,734
Revenue to State	22%	$3,329,942	$6,241,885	$8,851,755
Revenue to County and/or City Locale	2%	$302,722	$567,444	$804,705
Revenue to Crawford County	1%	$151,361	$283,722	$402,353
Revenue to Addiction Services	2%	$302,722	$567,444	$804,705
Total Casino Revenue	**100%**	**$15,136,098**	**$28,372,204**	**$40,235,252**

Source: Wells Gaming Research, 2011.

As shown in Table 17 (page 71), there is large variation in the possible revenue from the casino. The current legislation would lower the investment required of casino managers, which would likely decrease the size of the casino as well as the revenue it could produce. Given the reduced scale, the highest projection of $40 million is unlikely. For this reason, the low- and medium-level projections will be used to project possible revenue to the state and local economies.

Income Tax Data

Table 18 shows income tax data, as reported by the Kansas Department of Revenue, for 2005–2009 in Cherokee, Crawford and Ford counties. The statewide totals for adjusted gross income and tax liability include amounts not attributed to specific counties and amounts for tax filers that are not residents of Kansas.

The HIA team reviewed the income tax data to determine if the opening of the Boot Hill Casino in Ford County had any effect on revenue collections and economic status of county residents. Kansas income tax is based on the adjusted gross income reported on a Kansas income tax return. That amount is associated with, but not exactly equal in all cases, to the federal adjusted gross income. The adjusted gross income is converted into tax liability based on the tax rates for different income categories, deductions and modifications allowed under state tax rules.

Tables 19 and 20 show percent change year over year in Kansas adjusted gross income and in Kansas income tax liability for tax years 2005 through 2009. The

Table 18. Kansas Adjusted Gross Income and Income Tax Liability Data for Selected Kansas Counties

	2005		2006		2007	
	KS Adjusted Gross Income	KS Tax Liability	KS Adjusted Gross Income	KS Tax Liability	KS Adjusted Gross Income	KS Tax Liability
Cherokee	$297,243,123	$6,081,030	$276,055,026	$5,581,697	$309,865,920	$6,476,574
Crawford	$616,247,279	$17,872,993	$676,786,591	$21,060,945	$684,727,205	$20,961,797
Ford	$526,553,212	$15,909,128	$520,724,481	$16,308,605	$570,539,410	$18,671,426

	2008		2009	
	KS Adjusted Gross Income	KS Tax Liability	KS Adjusted Gross Income	KS Tax Liability
Cherokee	$302,760,495	$6,227,834	$319,390,927	$6,508,445
Crawford	$611,595,857	$18,715,518	$567,997,985	$16,827,353
Ford	$555,918,929	$18,229,299	$530,260,453	$16,529,681

Source: Kansas Department of Revenue, Office of Policy and Research, 2005–2009.

hypothesis KHI is testing is that the rate of growth in income tax revenue increased faster in Ford County than the state average and other counties. The Boot Hill Casino opened in December 2009, at the end of tax year 2009. The available data set does not include information about the potential impact of casino operations on reported taxable income in Ford County. However, the analysis still may be helpful in suggesting underlying economic trends in the sample counties.

Tables 19 and 20 show the percent change in adjusted gross income and tax liability for 2005 to 2009. Ford County had lower adjusted gross income and tax liability changes than the statewide average in 2005–2006 and 2006–2007. The reduction of gross income and tax liability was less than the state average for 2007–2008 but was greater for 2008–2009. That would suggest that the recession's impact on income occurred later in Ford County than the rest of the state. If the casino had an impact in 2009 in Ford County, it was not enough to bring up to the average level of change.

Tables 21 and 22 (page 74) show the percentage of each county's adjusted gross income and statewide tax liability. Gross income or tax liability for out-of-state residents or those not assigned to a county are not included in the total used to calculate the percentage. These tables show that Ford County is a relatively stable contributor to the total Kansas adjusted gross income and tax liability. This measure would be more telling if the casino increased the income of Ford County residents compared to the statewide total. As shown in Table 22, Cherokee County increased

Table 19. Percent Change Year over Year in Kansas Adjusted Gross Income for Selected Counties

	2005–2006	2006–2007	2007–2008	2008–2009
Cherokee	-7.13%	12.25%	-2.29%	5.49%
Crawford	9.82%	1.17%	-10.68%	-7.13%
Ford	-1.11%	9.57%	-2.56%	-4.62%
Statewide	**7.80%**	**27.38%**	**-16.89%**	**-1.90%**

Source: KHI Analysis of Kansas Department of Revenue Data, 2005–2009.

Table 20. Percent Change Year over Year in Kansas Income Tax Liability for Selected Counties

	2005–2006	2006–2007	2007–2008	2008–2009
Cherokee	-8.21%	16.03%	-3.84%	4.51%
Crawford	17.84%	-0.47%	-10.72%	-10.09%
Ford	2.51%	14.49%	-2.37%	-9.32%
Statewide	**3.51%**	**21.98%**	**-9.05%**	**-2.47%**

Source: KHI Analysis of Kansas Department of Revenue Data, 2005–2009.

its income tax measure compared to the others in the sample in 2009, indicating some level of economic activity that changed the distribution of income across the state.

Sales Tax Collections

KHI reviewed calendar year 2005 through 2011 sales tax receipts by county reported by the Kansas Department of Revenue. The data reflect total state, county and local sales tax receipts credited to each county in Kansas for the years indicated. There are two systematic limitations in these data. Kansas enacted a 1 percent increase in the statewide sales tax effective on July 1, 2010. This creates an artificial increase in the trend that distorts the underlying data. Second, there are other increases in sales tax rates that are imposed by counties or cities. The data show total collections, and those totals are compared for Cherokee, Crawford and Ford counties (Table 23).

The sales tax collections for these counties increased year-over-year until 2009. That was the hardest-hit year of the economic recession for state revenues, including the collection of sales tax. In response to the drop in revenues, the 2010 Legislature

Table 21. County Adjusted Gross Income As a Share of Total Statewide Adjusted Gross Income

	2005	2006	2007	2008	2009
Cherokee	0.4611%	0.4249%	0.4357%	0.4596%	0.5098%
Crawford	0.9560%	1.0417%	0.9628%	0.9284%	0.9066%
Ford	0.8168%	0.8015%	0.8023%	0.8439%	0.8464%

Source: KHI Analysis of Kansas Department of Revenue Data, 2005–2009.

Table 22. County Tax Liability As a Share of Total Statewide Tax Liability

	2005	2006	2007	2008	2009
Cherokee	0.2818%	0.2484%	0.2603%	0.2714%	0.3065%
Crawford	0.8282%	0.9374%	0.8424%	0.8156%	0.7925%
Ford	0.7372%	0.7259%	0.7503%	0.7944%	0.7785%

Source: KHI Analysis of Kansas Department of Revenue Data, 2005–2009.

Table 23. Annual Sales Tax Collections for Selected Kansas Counties

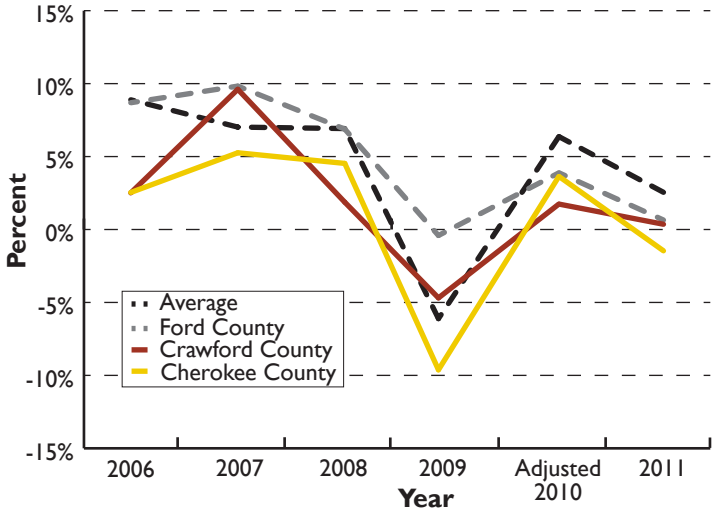
	2005	2006	2007	2008	2009	2010*	2010 Adjusted
Cherokee	$7,852,383	$8,052,151	$8,475,411	$8,859,521	$8,007,082	$8,773,097	$8,298,108
Crawford	$25,471,098	$26,111,226	$28,619,388	$29,153,719	$27,785,909	$29,888,722	$28,270,502
Ford	$27,569,260	$29,963,769	$32,909,556	$35,175,071	$35,030,399	$38,473,679	$36,390,657

**Kansas sales tax rate increased from 5.3 percent to 6.3 percent on July 1, 2010.*
Source: Kansas Department of Revenue, Office of Policy and Research, 2005–2009.

adopted a 1 percent increase in the statewide sales tax that took effect midway through 2010. That tax increase was estimated to increase sales tax collections by $303.6 million during state fiscal year 2011 and affected revenues for July through December of 2010. The rate increase reversed the decline in sales tax receipts and raised Ford and Crawford county collections higher than 2008 levels of collection. This increase was not observed for Cherokee County.

To adjust the 2010 data for the increase in sales tax, the percent of each county's sales tax collections was calculated compared to the statewide total, as shown in Table 24. The total collections for 2010 were then reduced by half of the estimated impact of the first year of the sales tax increase ($303.6 million based on the supplemental note for Senate Substitute for HB 2360, 2010 Legislature). The new total was distributed across the counties based on the ratio of that county's tax collections to the state total for 2010. This should control for the impact of sales tax rate increase across counties and allow a view of revenue trends without the impact of the rate increase.

Figure 42. Percent Change Year Over Year in Annual Sales Tax Revenue in Selected Kansas Counties



Source: KHI Analysis of Kansas Department of Revenue Data, 2005–2011.

Table 24 shows the percentage change in sales tax receipts year-to-year across the study period. Cherokee and Crawford counties had lower rates of sales tax growth than Ford County. In the year after the Dodge City casino opened in December 2009, sales tax collections in Ford County increased by 3.88 percent based on the adjusted sales tax collections. This was lower than the state average rate of change (6.36 percent).

There is little indication that the opening of the Boot Hill Casino had a measurable impact on the sales tax collections in Ford County (Figure 42). Receipts for the entire state and

Table 24. Percent Change Year over Year in the Share of Statewide Total Sales Tax Collections for Select Kansas Counties

	2005–2006	2006–2007	2007–2008	2008–2009	2010 Adjusted
Cherokee	2.54%	5.26%	4.53%	-9.62%	3.63%
Crawford	2.51%	9.61%	1.87%	-4.69%	1.74%
Ford	8.69%	9.83%	6.88%	-0.41%	3.88%
Average Percent Change-Statewide	8.89%	7.02%	6.92%	-6.11%	6.36%

Source: Kansas Department of Revenue, Office of Policy and Research, 2005–2010.

in the comparison counties indicate the Ford County casino did not affect sales tax collections for 2010–2011.

There is a possibility that the opening of the Boot Hill Casino prevented sales tax collections from growing at a rate closer to that of Cherokee or Crawford counties, after adjusting for the 1.0 percent sales tax increase.

It is difficult to assess whether the presence of a casino in Southeast Kansas would affect sales tax collections. The economic recession depressed sales tax collections between 2008 and 2009, but revenue has recovered to prior levels after adjusting for the increase in the sales tax rate. The Ford County casino opened in this timeframe and did not have a noticeable impact on the rate or absolute amount of increase in sales tax revenue. A new casino in the SEKGZ could attract more people to the region to play and spend at local businesses and boost sales. KHI would need to do additional analysis of the Ford County experience (once 2011 sales tax data are available, based on comparisons with counties/cities that haven't recently changed their rate) to correlate gaming traffic to changes in sales tax collections. This could point to the expected relationships among variables associated with the construction of a gaming facility.

Implications for SEKGZ

The available data set does not permit a comparison before and after the opening of the casino in Ford County. The economic recession's effects on income tax collections, measured by the adjusted gross income and tax liability, also will confound any impact from the casino construction and operation. The economy began to show signs of recovery when the Boot Hill Casino opened.

However, KHI is testing whether there would be a measureable impact of casino development on income levels. The data used here seem to be good measures of economic activity and change with economic conditions. If a casino has an impact in Ford County, getting access to the 2010 tax data should help determine if there is a significant impact on tax collections as an indicator of economic impact.

Problem Gambling and Addictions Grant Fund

Current state statute calls for 2 percent of lottery gaming facility revenues to be paid to the Problem Gambling and Addictions Grant Fund (PGAGF). The Kansas Department for Aging and Disability Services (formerly SRS) is in charge of administering services through this revenue stream, which was established in 2007. According to the KDADS (formerly SRS) website, the fund is used to provide treatment services to Kansans with gambling addictions and address "the needs of

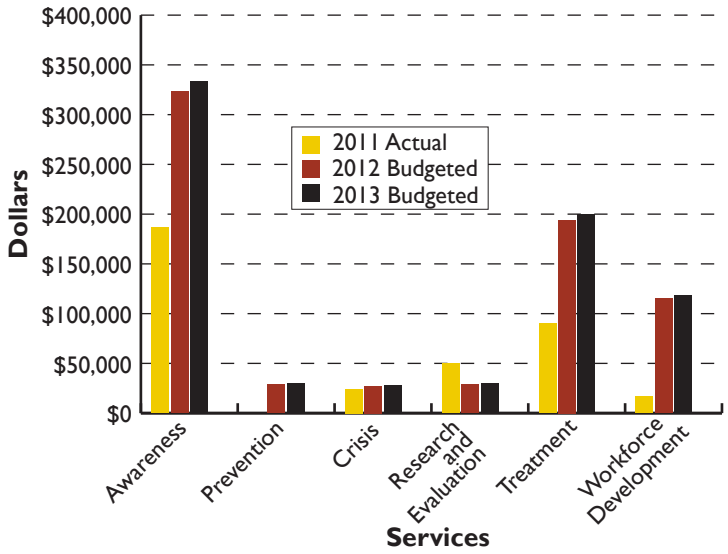
those Kansans who may be at risk of becoming compulsive gamblers. These efforts include public awareness campaigns, prevention programs, early intervention and treatment programs, and on-going workforce development."[183]

In order to better understand this revenue stream meant to directly improve the health of Kansans, the HIA team collaborated with KDADS staff to provide a breakdown of PGAGF funds. In October 2011, the consensus revenue estimate for this fund was $806,747. Of that, $367,450 was spent on Addiction and Prevention Program Services.

As shown in Table 25 (page 78), the area of "awareness" received the largest proportion of these problem gambling funds (23.6 percent) in fiscal year 2011. It was spent on public education campaigns, a clearinghouse for information about services, mini-grants, specialists and printing. Of the problem gambling funds, crisis intervention received 3.1 percent, a consultant to assist with research and evaluation received 6.3 percent and workforce development programs received 2.2 percent.

Another 11.4 percent of the problem gambling funds was dedicated to treatment in 2011. At the beginning of the year, KDADS budgeted $80,000 for treatment programs, three-fourths of which went to administrative costs. At the end of the year, the agency had spent $4,595 treating 43 people. Correspondence with KDADS staff indicates that many of these clients received one-time intake sessions in 2011. Low participation, in duration and quantity, accounts for the large discrepancy between funds budgeted for and expended on treatment.

Figure 43. Services Financed by the Problem Gambling and Addictions Grant Fund



Source: The Kansas Department for Aging and Disability Services (formerly known as the Kansas Department of Social and Rehabilitation Services), 2012.

About $370,000 was spent on general addiction services among Medicaid beneficiaries. Although some of these services may treat problem gamblers close to casinos, the majority of these funds are spread throughout the state, treating addictions among some of the lowest income adults in Kansas.

As shown in Table 25 (page 78) spending priorities in fiscal years 2012 and 2013 shifted dramatically. Notably, for 2012, the Kansas Legislature moved 25.2 percent of the PGAGF from several service areas into

the State General Fund. This caused the proportion of funds for problem gambling awareness, prevention, crisis, research and evaluation, treatment and workforce development services to drop from 46.5 percent spent in 2011 to 20.1 percent projected in 2012.

Additionally, in 2012, 73 people received treatment services that cost the state about $27,500. Even though this represents an increase in demand and an increase in per capita expenses from 2011 — indicating that each individual received more treatment services than the year before — it is still only 17.7 percent of what was budgeted for treatment services during that time period. Overall this indicates lower-than-expected utilization of treatment services for problem gambling addictions.

For 2013, the majority of the PGAGF (88.2 percent) has been shifted from services directly related to problem gambling into generalized addiction services for adults who receive Medicaid benefits in Kansas. Projections indicate no transfer into the State General Fund, and approximately 10.1 percent will benefit those at risk for or suffering from problem gambling behaviors.

Table 25. Problem Gambling and Addictions Grant Fund Revenues and Expenditures (2011–2013)

Actual Expenditures	Fiscal Year 2011 Problem Gambling and Addictions Grant Fund Budget							
	Actual Revenue: $806,747							
	Awareness	Prevention	Crisis	Research & Evaluation	Treatment	Workforce Development	Other Addiction Services*	State General Funds
	23.6%	--	3.1%	6.3%	11.4%	2.2%	46.8%	--
Budgeted Expenditures	Fiscal Year 2012 Problem Gambling and Addictions Grant Fund Budget Projections							
	Budgeted Revenue: $3,570,000							
	Awareness	Prevention	Crisis	Research & Evaluation	Treatment	Workforce Development	Other Addiction Services*	State General Funds
	9.1%	0.8%	0.8%	0.8%	5.4%	3.2%	40.6%	25.2%
Budgeted Expenditures	Fiscal Year 2013 Problem Gambling and Addictions Grant Fund Budget Projections							
	Budgeted Revenue: $7,314,000							
	Awareness	Prevention	Crisis	Research & Evaluation	Treatment	Workforce Development	Other Addiction Services*	State General Funds
	4.6%	0.4%	0.4%	0.4%	2.7%	1.6%	88.2%	--

*Services in this category detail Pre-Paid Inpatient Health Plan (PHIP) addiction treatment services for adults on Medicaid in Kansas.

Notes:

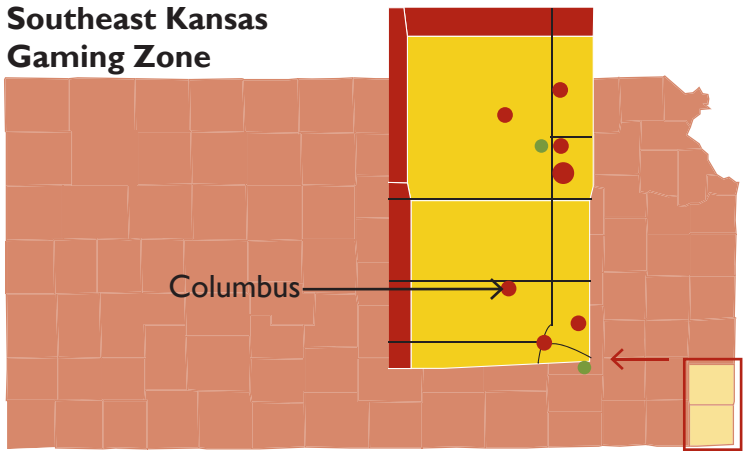
A. Expenditures don't total to 100 percent because not all PGAGF revenues are spent or budgeted as expenditures in the year they're received.

B. On October 9, 2012, just before this HIA report was published, the Kansas Department for Aging and Disability Services (KDADS) provided a review of PGAGF funding in testimony to the Joint Committee on Legislative Budget. This review includes actual FY 2012 expenditures as well as updated FY 2013 budget figures. Although many of the dollar amounts have changed, the distribution of funds within Addiction and Prevention Program Services are quite similar. The largest difference between the information we have provided in our report and the KDADS testimony is the budgeted transfer of $1.95 million of PGAGF to other programs and agencies.

Source: Testimony provided to the Senate Federal and State Affairs Committee (February 2, 2012) and additional problem gambling budget information provided May 2, 2012, by the Kansas Department for Aging and Disability Services (formerly Kansas Department of Social and Rehabilitation Services).

Columbus, Kansas, is in Cherokee County.

Southeast Kansas Gaming Zone



Photos on this tab were taken in

Columbus, Kansas.

Columbus has a population of 3,312.
It is the county seat of Cherokee County.

HIA RECOMMENDATIONS

An important part of the HIA process is to create recommendations to increase potential positive impacts and mitigate potential negative impacts on health for each of the HIA's proximal impacts and the outcomes from those impacts. Each section provides specific examples on how to improve health and suggests potential agencies or organizations who could carry out those recommendations. For additional details about how the recommendations were created, see page 19.

Casino Employment and Hiring Practices

In order to maximize the economic and health benefits offered by the potential development of a casino in the SEKGZ, prospective managers should consider:

- Using local hiring practices.
- Providing health insurance to employees.
- Creating workforce development programs and educational opportunities.
- Developing targeted training and employment programs.

Contractual language between the Kansas Lottery and prospective casino managers could focus on creating incentives and accountability for local hiring practices and providing health insurance to full- and part-time employees.

The scientific literature indicates that when casinos use local hiring practices and, in particular, recruit local residents who depend on public assistance, communities can see a decrease in public assistance enrollment and expenditures. An important consideration when using these types of employment practices, however, is the need to create a semi-skilled workforce. The HIA recommends accomplishing this through a partnership between potential casino managers and educational institutions such as Pittsburg State University. Workforce development programs not only provide the casino with more competant employees who are ready to handle the demands of their jobs, but they also benefit local families by giving them the skills to be competitive for higher-paying jobs with benefits and more security.

The HIA also recommends that potential casino managers should consider offering health insurance to all employees. Conversations with and reports on other state-owned casinos indicate this is common practice in Kansas for full-time casino employees. Insurance may be offered to part-time employees through cost-sharing arrangements that decrease the financial burden of such health benefits for employers.

In the long run, these recommendations aim to reduce the unemployment rate in the region, decrease the number of people who move into Kansas from other states

for jobs at the casino, save money for the community and state through fewer public assistance expenditures and emergency room visits, and increase income tax revenue. These practices also have the potential to directly benefit the casino's partners by bolstering enrollment at local schools.

Health-Related Casino Programs

To mitigate health risks and maximize health benefits from potential casino development, prospective casino managers should consider:

- Operating a "safe ride" program for patrons and residents.
- Providing workplace wellness services, especially for late-shift employees.
- Keeping each worker on the same shift or, when shifts do rotate, rotate them forward (from day to afternoon to night).
- Establishing a local philanthropic agreement to fund health-related initiatives.

These recommendations aim to provide potential casino managers with methods of maximizing health benefits while simultaneously reducing health risks associated with casino development.

As for alcohol-related behaviors, safe ride programs can curb DUIs as well as provide additional transportation opportunities. During off-peak hours, safe ride buses can be used to help residents who do not own cars access needed services such as grocery stores, recreational facilities and health care providers. These programs would require partnerships among the casino, local businesses, and community organizations, and some source of funding. Because data analysis indicates a likely increase in liquor excise tax revenue as a result of casino development, this extra county income could be used to pay for safe ride buses or other programs that diminish the risks associated with increased alcohol consumption.

Research also indicates that shift work can cause interrupted sleep schedules and insomnia, which have negative effects on workers' health. In order to prevent and mitigate these problems, the HIA recommends offering workplace wellness services, especially for those employees who are at risk for health problems related to sleep pattern disruption. This can improve the quality of life and health of employees and keep health insurance costs lower for casino managers.

Lastly, the HIA encourages potential casino managers and local government entities to establish a philanthropic agreement that would dedicate a small revenue stream (e.g., 1 percent) to fund health-related initiatives in perpetuity. Such "give-back" agreements are common among state-owned casino managers and local communities

in Kansas. They serve to improve the casino's benefit and commitment to its hometown community, but are not an onerous tax upon the casino's revenues.

Responsible Gaming Programs

As a way of promoting responsible gaming, prospective casino managers should consider:

- Implementing a tracking and exclusion system for gambling addicts.
- Using a "loss limit" strategy to prevent substantial losses among patrons.

Problem gambling behaviors have stronger links than casino development to numerous potential ill effects on communities. By preventing or mitigating gambling addiction, communities stand a better chance of keeping potential negative effects such as domestic violence, child abuse, comorbid disorders (e.g., drug use, depression, alcohol abuse), violent crime and suicide at bay. These recommendations aim to mitigate problem gambling behaviors by excluding known gamblers from casinos and reducing the financial hardship they may cause for themselves or their families.

Based on legislative testimony from managers of the Boot Hill Casino in early 2012, it does not appear as though the state has a thorough, effective method for excluding known addicts from gambling facilities. Instead, the process depends on the willingness of addicts to place themselves on voluntary exclusion lists and the capability of casino employees to recognize addicts' faces from photos of excluded players. If a casino in Southeast Kansas required patrons to swipe their drivers' licenses upon entering the playing floor, this would allow the casino's system to cross-check their identifying information with voluntary exclusion data electronically and more accurately.

Furthermore, use of a loss-limit strategy also could help encourage responsible gambling. For example, Missouri used to only allow players to spend $500 per hour, or a maximum of $6,000 per day.[184] A limit like this would allow for a large revenue flow to the casino while still limiting the chances of having any single patron spend large amounts in one day.

Economic Growth Practices

In the interest of promoting tourism to a casino and increasing economic growth in the region, prospective casino managers, in collaboration with local businesses, should consider:

- Ensuring that a casino functions as a destination attraction by creating an array of complementary attractions.
- Ensuring that a casino promotes economic activity throughout the community by tying into the existing tourism infrastructure.

When casinos function as destination attractions, they help draw consumers from outside the area and generate revenue that would not have otherwise been spent in the community. Unless a casino and the community in which it resides are attractive enough to those from out of state or out of town, casinos can fall prey to the substitution effect — where money is transferred from one economic venue to another, subtracting business from others already in the community. Increasing this external tourism takes a committed partnership between the casino and surrounding businesses to create a "critical mass" of attractions, all of which support each other by driving up interest and business from non-local patrons.

Casino Physical Space and Operations

To heighten safety in and around a casino's buildings, prospective casino managers should consider:

- Eliminating smoking within casino buildings.
- Discouraging crime through safe facility design.
  - Safe entrances, exits and connections to the community.
  - Transparent barriers around parking lots and structures.
  - Video surveillance of parking lots and grounds.
  - Adequate lighting.

These recommendations concern a casino's physical spaces and aim to promote health in and around them. The HIA recommends that potential casino managers should consider making the casino grounds a smoke-free zone. Research indicates that even the best air filtration and ventilation systems still expose patrons and employees to secondhand smoke and dangerous carcinogens that can lead to lung cancer and heart disease.

Outside the gaming floor, in the area surrounding the casino, the HIA recommends design aspects to discourage crime and injury. Providing adequate lighting and video surveillance of the casino grounds and its parking facilities has been proven to reduce motor vehicle theft. Transparent barriers around parking lots also act as a deterrent to potential criminals. Lastly, designing safe vehicle entrances and exits as well as safe connections to the community can help to reduce motor vehicle accidents and other injuries.

Southeast Kansas Law Enforcement Practices

To heighten community safety and mitigate any potential negative effects of a casino, law enforcement agencies and their partners should consider:

- Closely monitoring and responding to any potential increases in crime.
- Enhancing DUI enforcement on major roads.

Research indicates that problem and pathological gambling behaviors, which tend to increase with the development of a nearby casino, have been associated with many social ills such as child abuse and neglect, domestic violence, violent crime, suicide and alcohol-related motor vehicle accidents. In order to mitigate potential increases in crime, the HIA recommends law enforcement agencies partner with local judicial and social services to closely monitor any changes in the community. This type of coordination makes tracking easier and speeds responses to crime. As a way to decrease any harm that could be caused by crime increases, as well as its corresponding cost to local governments, close cooperation among these three entities is important.

Studies also show that enhanced DUI enforcement on major roads is a cost-effective way to decrease alcohol-related motor vehicle accidents and fatalities. Because research from this HIA also indicates an expected increase in alcohol consumption (as tracked by increases in sales taxes for alcohol), an investment in curbing DUI behaviors through increased enforcement will likely save lives and costs associated with hospital bills, public defense services and jail resources for offenders.

Addiction Treatment and Prevention in Southeast Kansas

To mitigate problem gambling behaviors and associated health risks that may stem from casino development, health professionals and educators should consider:

- Educating new students at schools in the region about problem/pathological gambling.
- Training primary care physicians to screen for problem gambling behaviors at medical homes.
- Strengthening local addiction services to treat and prevent gambling addictions and comorbidities.
- Enhancing STD prevention and treatment programs.

Casino development is associated with an increase in problem gambling behaviors, such as gambling addictions, as well as co-occurring problems such as alcohol or drug addictions, risky sex behaviors and mental illness. These comorbidities and their impacts can be similarly harmful to a community.

In order to address the host of behavioral problems that can result from casino development, the HIA recommends a comprehensive approach that treats and prevents addiction, and focuses on the full range of behavior issues and comorbidities that may arise. This widespread approach necessitates partnership among the community, mental health providers, physical health professionals and educators in order to raise awareness about problem behaviors, educate residents about treatment services, decrease the stigma around seeking help and making sure that everyone who needs help receives help.

This approach begins with raising awareness of problem gaming behaviors, especially among vulnerable groups of Southeast Kansas residents. Incorporating education about problem behaviors into new student orientation at local post-secondary institutions can help to prevent addiction in young adults. Training primary care providers to screen for problem behaviors and refer to local treatment services also provides a method of early detection and intervention. Strengthening local addiction services to provide comprehensive prevention and treatment programs for gambling problems and comorbidities helps to ensure the delivery of timely, quality services for those who need them. Finally, enhancing prevention and treatment programs for well-known comorbid health issues like STDs can mitigate the effects of problem gambling in the community.

State-Level Monitoring and Treatment Practices

To better treat and monitor gambling pathologies at the state level, government agencies and organizations should consider:

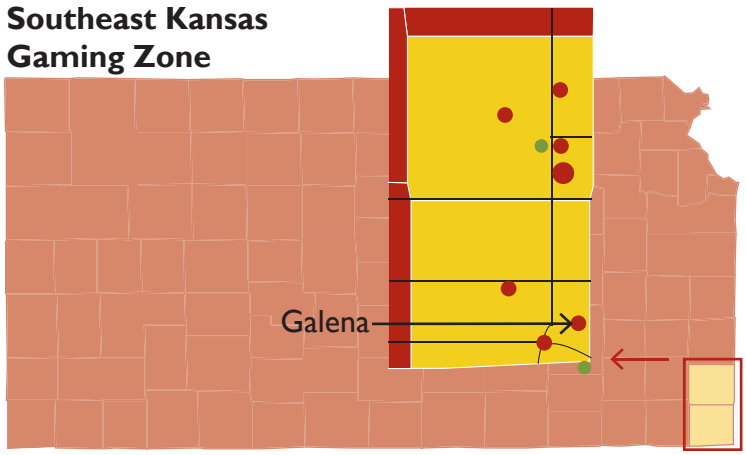
- Incorporating questions regarding gambling behaviors in future BRFSS.
- Adopting a "warm" handoff practice to connect gambling hotline callers to services immediately.

Gaining a full understanding of the magnitude, impact and prevalence of problem gambling behaviors in Kansas was challenging, due in large part to an absence of effective tracking mechanisms at the state level. In order to better understand the state's needs and gauge the efficacy of interventions, the HIA recommends that the three gambling-related questions used for the 2009 BRFSS be included in future BRFSS administrations. To obtain a larger sample of respondents and allow for county-level analysis of some of the results, the HIA suggests the questions be included in the odd-number-year surveys when twice as many Kansans are surveyed.

The HIA also recommends that the state's gambling hotline adopt "warm handoff" practices in which hotline staff connect appropriate callers to immediate services and help them make appointments at the time of their call. Evidence suggests this is an effective practice that can increase service utilization and treatment.

Galena, Kansas, is in Cherokee County.

Southeast Kansas Gaming Zone



Photos on this tab were taken in

Galena, Kansas.

Galena has a population of 3,085. It is in Cherokee County.

MONITORING AND EVALUATION

Areas for Further Exploration

Future research directions concerning the potential health impacts of a casino in Southeast Kansas include more detailed examination of concerns about air quality and environmental, mortgage defaults and bankruptcy, child care impact, general illness and the impact of casinos on local bingo parlors and previously existing businesses.

While numerous community members said they were concerned about how increased traffic and tourism might affect the environment, these were not their primary concerns. There was little evidence on the links between casinos and the environment, and environmental data were less readily available. However, this is an area that warrants future examination. Environmental quality can be measured in raw numbers, such as air quality, sources of mobile source air pollution or groundwater contamination. But a more nuanced study focusing on how increased traffic and tourism could affect green space, groundwater runoff and the built environment could be a valuable future angle for HIA research in Southeast Kansas.

Many of the health impacts in this assessment relate to health indicators tied directly to economic well-being. The crux of the impacts assessed in this report deal with more than the ability to afford health care and have access to health insurance and a medical home. They focus on the larger socioeconomic picture and the links between higher socioeconomic status and positive health outcomes and behaviors. While advanced economic modeling was not part of this HIA, a future study in this area could focus extensively on economic indicators and their tie to health, as well as the potential unintended health consequences of a new casino. Among the lagging indicators that could not be studied adequately in the time frame of this study are bankruptcies and mortgage defaults.

An additional specialized consideration for potential future research centers on the unique role of the bingo parlor in Southeast Kansas. Bingo is stereotypically considered a pastime of elderly women, and research indicates a great deal of quantitative support for this stereotype based on findings that gender, age, income, health and sedentary lifestyle percentages consistent with those of elderly women were the most significant and predictive indicators of bingo participation.[185] This is supported by Fitzpatrick's work that found that playing bingo is correlated to negative self-reported health.[186] This may be because the only activity the person is able to perform is a sedentary one. When asked why they play bingo, participants said that it was a leisure activity that allowed them to socialize and have something to do.[187] A longitudinal community study found that gambling, including bingo, may

give older adults an avenue for social support.[188] If bingo patrons decide to visit the casino instead, the social supports may still be available depending on how the patron participated in gambling. The sedentary nature of bingo also would be applicable in casinos.

Another potential health effect for bingo players who move to a casino is smoking and the effects of secondhand smoke. Kansas has a Clean Indoor Air Act that allows smoking at state-owned casinos. This means that participants in bingo at places other than casinos are not able to smoke or exposed to secondhand smoke. This is an important health effect that could increase lung or heart disease among bingo players who start visiting casinos more often.

A final pathway to health specifically tied to bingo is the money raised from charitable bingo. According to the Kansas Department of Revenue website, "Kansas law permits non-profit religious, educational, charitable, fraternal and veterans organizations to conduct bingo games in which the players are charged for participation if the organization first obtains a bingo license from the Kansas Department of Revenue. No license is required if a bingo game sponsor offers free bingo games or merely encourages a voluntary contribution." Crawford County senior centers that now make money off bingo players may see a revenue decrease if bingo players move to the new casino. The state-owned casino would contribute to gambling addiction services and other health venues such as health departments. So depending on the amount of revenue the casino collects and what health-related services the state revenue supports, there may be more return for health-related services in Southeast Kansas as compared to nonprofit bingo games.[189]

Finally, the nature of the casino work would likely require many more second- and third-shift workers than traditional major employers. These kinds of shifts can disrupt employee sleep patterns, resulting in poor sleep habits and harming overall health. While changes in sleep patterns could be difficult to measure, a system similar to the passive surveillance systems, a system in which data generated without solicitation, intervention or contact by the health agency carrying out the surveillance, used to monitor the purchase of over-the-counter cold and flu products could be used to hone in on the potential health impacts of overnight work. Additionally, access to child care may be problematic with shift work, and poor or substandard day care may adversely affect the health of children of casino employees or customers. A future study digging deeply into the potential health consequences of shift work could also be illustrative for the literature.

Evaluation

As part of the HIA on proposed legislation to facilitate development of a new casino in Southeast Kansas, an evaluation of the HIA process itself was included in the project design. While evaluations are a critical component of the programmatic cycle and including an evaluation can be considered a best practice, HIAs do not always include an evaluation. Therefore, it was deemed essential to include a process and impact evaluation component in this HIA.

Process Evaluation

Methods

The process evaluation relied on five key indicators to assess the effectiveness of the HIA process as conducted by KHI:

1) The degree to which stakeholders participated in activities that KHI facilitated.
2) The reach of the dissemination and promulgation strategies KHI utilized in making its activities known and accessible to community stakeholders.
3) Assessment of the resources expended to conduct the HIA.
4) Key stakeholders' overall satisfaction with the HIA.
5) The degree to which all sectors of the community were included in the process, ensuring that they received equitable consideration.

To assess these five key process indicators, three evaluation strategies were utilized. First, a quantitative survey was administered to all key stakeholders to assess their experiences of the HIA process with KHI. Secondly, qualitative interviews were conducted with key community stakeholders about their experiences and perceptions in taking part in the HIA. Finally, qualitative interviews were conducted with the HIA team at KHI in order to assess their insights and opinions of the process.

Quantitative Survey

Instrument

A 14-item quantitative survey was developed on the electronic survey platform Survey Monkey (Appendix A). The survey contained a combination of quantitative and

qualitative items that asked respondents to quantify their time commitment as HIA participants, indicate which HIA events they took part in, which communications they received from KHI during the HIA, the utility of the various resources provided by KHI during the assessment and their overall perceptions of the HIA.

Participants

Potential participants for the 14-item quantitative survey were selected individuals who took part in at least some way in the HIA. This level of involvement could have ranged from attending one event sponsored by KHI, such as the legislative breakfast, to taking part in all public forums sponsored by KHI, as well as receiving biweekly email updates and taking an active part in the HIA Advisory Panel.

Any individual who took part in some portion of the HIA was asked to provide an email address to facilitate future communication. KUSM–Wichita contacted all people on this list to participate in the process evaluation.

Procedures

A total of 37 people were identified and sent personalized survey invitation emails. Each email contained a brief summary of the purpose of the survey, an estimate of the time required to complete the survey, a cut-off date for data collection and an electronic link to the survey. Following one week, a reminder email was the sent to those participants who had not yet responded to the survey, with the purpose of the study and cut-off date for data collection reiterated in the survey.

At the end of two weeks, data collection ceased and all data were downloaded from Survey Monkey into PASW (SPSS) for univariate analysis. Frequency counts for individual survey items were conducted, while overarching patterns were identified for comparison and data triangulation with similar items contained in the key informant interviews. Results for each individual survey item were reported, with combined results based on the pattern of responses to each data collection source being utilized as well.

Key Informant Interviews

Instrument

A nine-item interview script (Appendix B) was developed for selected key informants. Interview items included initial perceptions and understanding of HIAs in general, self-rated level of involvement in the HIA, perceptions of any preliminary findings or recommendations in the HIA of which respondents may have been aware, perception

of community engagement in the process, overall perception of the HIA process as a whole and any changes in their perceptions of HIA as a tool or process as a result of having taken part in the HIA.

Participants

From the identified group of 37 stakeholders who took part in at least one portion of the HIA, a subgroup of stakeholders who took substantive part in a community meeting, legislative breakfast, HIA training or membership on the community advisory board were selected to participate in the key informant interviews. Participants were selected based on their fields of expertise and level of prior engagement with the HIA process. Key informants were selected in order to ensure representation from fields such as health care, schools, local government and local charities and from community advisory members. Selection of key informants was not random, as informants were selected in consultation with KHI and KUSM–Wichita to ensure participation from as many occupational fields as possible and to select individuals who had taken part in the HIA process enough to be able to offer informed answers. Based on these criteria, five key informants were selected for inclusion in the interview process. These five key informants were also asked to take part in the quantitative survey, but because responses were de-identified prior to analysis and the aggregate nature of the analysis, no linkage was made between individual participants who may have taken part in more than one form of data collection.

Procedures

As email had been the most frequent form of contact between KUSM–Wichita and the selected participants, an initial email was sent to potential participants explaining the purpose of the interviews and inviting them to respond with convenient times to participate. Following that initial contact, KUSM–Wichita called participants who were willing to participate over the telephone. Alternatively, in order to maximize participation, key informants who preferred to complete the interview script as a Word document were offered that option. At the conclusion of the interviews, all responses were compiled for analysis by KUSM–Wichita personnel, with responses coded in order to identify common themes and observations from participants. Interview responses were also compared to similar items on the quantitative survey in order to identify commonalities and points of divergence between the collective responses of the quantitative survey participants and key informant interview participants.

HIA Core Staff Interviews

Instrument

KUSM–Wichita developed a seven-item semi-structured interview script (Appendix C) to be administered via telephone to members of the HIA team at KHI. The survey asked respondents to assess the overall effectiveness of the HIA, the degree to which relevant stakeholders ended up taking part in the process, barriers encountered during the HIA process, deviations from their expectations heading into the HIA process and an estimate of the time and resources expended to conduct the HIA.

Participants

Participants for the core staff interviews were the four individuals at KHI who were primarily responsible for the design and conduct of the HIA. Support staff or other personnel who may have taken part in limited aspects of the HIA were not included in the interview pool. Participants included the project director and the three individuals who primarily supported the project director during the HIA.

Procedures

Participants were emailed and asked to provide convenient times for semi-structured telephone interviews. KUSM–Wichita called participants for phone interviews and entered responses to interview questions as they were given. The four participant responses were combined and coded for analysis, with common themes in responses identified.

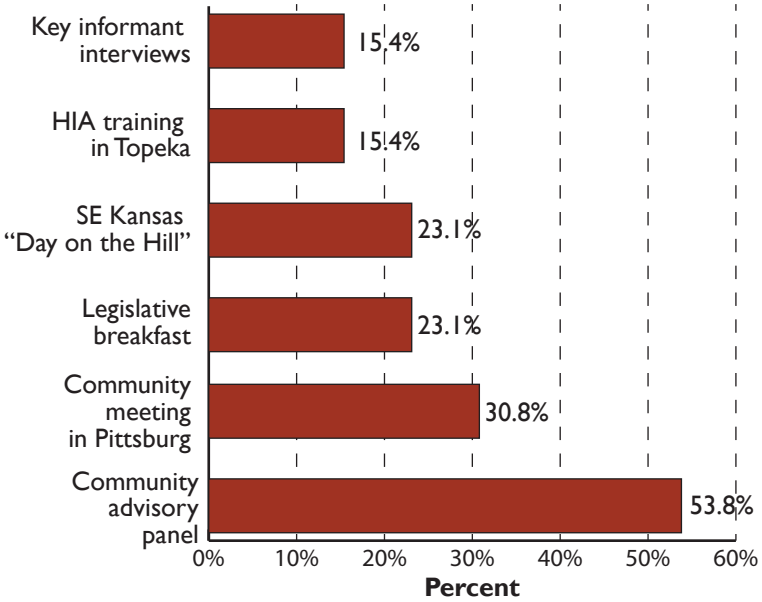
Results

Though three data collection methodologies were utilized, overarching themes derived from the process evaluation were identified by looking at all three data sources in concert. However, results from the individual items on the quantitative survey were reported on an item-by-item basis as well.

Survey Results

Overall, 37 stakeholders were invited to participate in the quantitative survey, with

Figure 44. Engagement Activities of HIA Participants



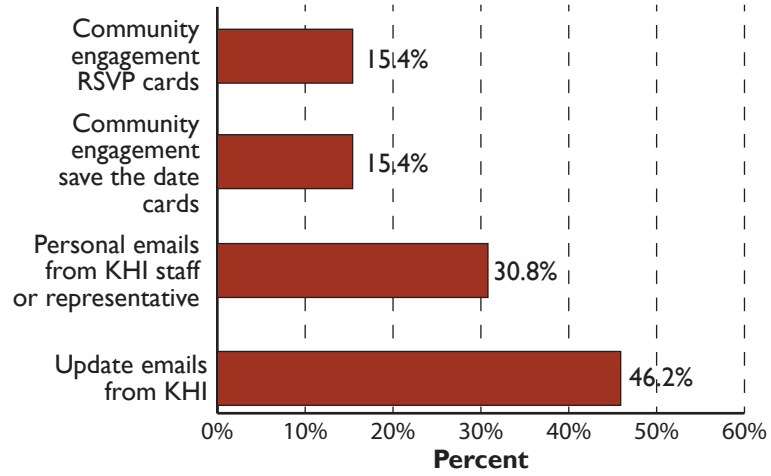
Source: KUSM–Wichita Stakeholder Survey on Casino Health Impact Assessment, 2012.

13 (35 percent) completing the electronic survey invitation. Completion rates for individual survey items ranged from 61 percent (n=8) to 100 percent (n=13).

Participation in KHI Activities

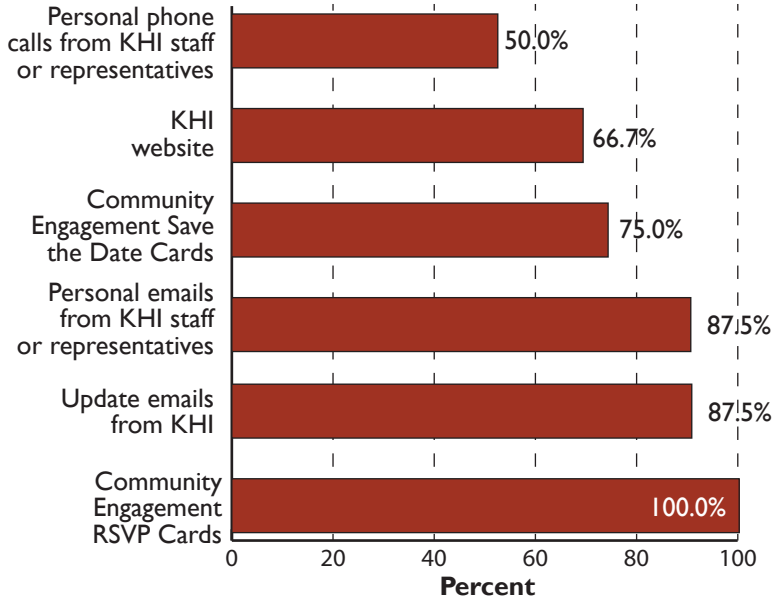
The quantitative survey included a closed-ended categorical response item that asked respondents to indicate which, if any, opportunities to participate in the process they had taken advantage of. Respondents were most likely to indicate having taken part in the community advisory panel (54 percent) followed by those who indicated they had taken part in one of the two community engagement meetings (31 percent) in Pittsburg (Figure 44).

Figure 45. HIA Participants' Self-Reported Contact with KHI by Type of Contact



Source: KUSM–Wichita Stakeholder Survey on Casino Health Impact Assessment, 2012.

Figure 46. HIA Participants' Perceptions That Their Contact with KHI Was Useful



Source: KUSM–Wichita Stakeholder Survey on Casino Health Impact Assessment, 2012.

Communication

In addition to asking respondents to comment on how many ways they participated during the HIA process, they were asked to comment on the degree to which they found communication from KHI to be effective. Respondents were asked to indicate which forms of communication they may have received and their perception of these communications strategies utilizing a four-point scale ranging from not at all useful to very useful.

Respondents were most likely to indicate they had received either a personal email from KHI (31 percent) or mass update emails from KHI (46 percent) (Figure 45).

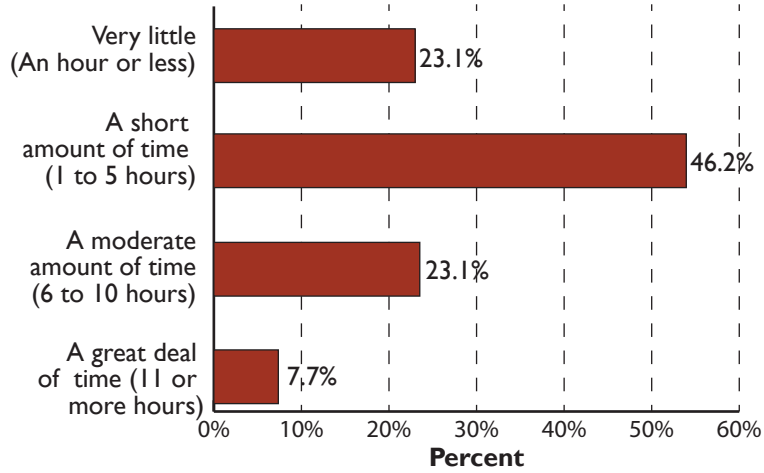
In terms of usefulness, respondents indicated that personal emails and RSVP cards were the most useful form of communication about the progress of the HIA, while personal telephone calls were rated as the least effective form of communication (Figure 46).

Time Investment

The third indicator assessed was return on investment and the perception of how much value KHI and the Southeast Kansas community received in relation to the amount of resources invested in the process. In order to arrive at some estimation of the value of the final product compared to the time required to produce it, several questions were asked utilizing each of the data collection methodologies.

On the quantitative survey, respondents were asked to estimate their level of engagement in the process, with respondents most likely (46 percent) to indicate they had invested a short amount of time, defined as between one and five hours. Just 8 percent of respondents indicated they had spent a great deal of time — more than 11 hours, as shown in Figure 47. However, 63 percent of respondents indicated they still thought the final product would likely inform policymakers' decisions on the issue.

Figure 47. HIA Participants' Level of Engagement in HIA Process



Source: KUSM–Wichita Stakeholder Survey on Casino Health Impact Assessment, 2012.

Overall Satisfaction

The survey and interview respondents were asked to rate their overall perception of the HIA process. From survey respondents, there was a lack of consensus on how to rate

Table 26. Overall Satisfaction with the HIA Process

	Strongly Disagree	Somewhat Disagree	Somewhat Agree	Strongly Agree
If an HIA was conducted for another policy, I would *recommend that others* participate.	0%	0%	44%	56%
The amount of time required to participate in the HIA process was reasonable.	0%	0%	56%	44%
If an HIA was conducted for another policy, *I would participate.*	0%	12%	38%	50%
I have a better understanding of the potential health impacts that could be related to any other proposed policy as a result of taking part in the HIA.	11%	11%	44%	33%
I feel informed about the potential health impacts of an additional casino in Southeast Kansas after taking part in this HIA.	11%	22%	44%	22%

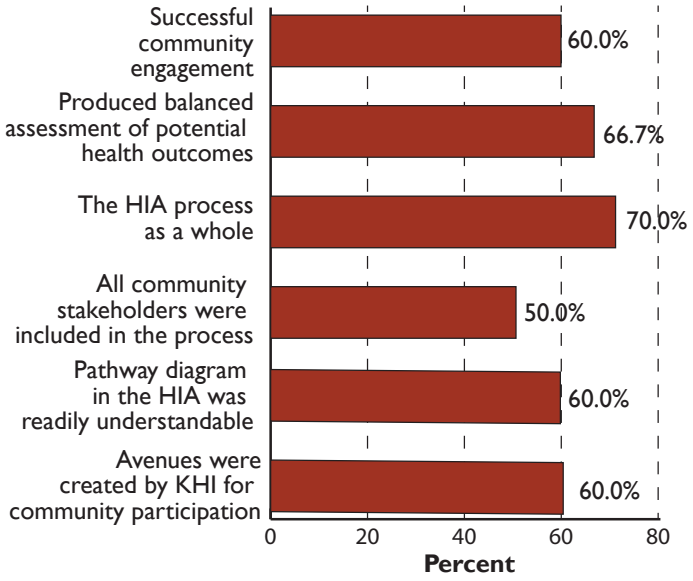
Source: KUSM–Wichita Stakeholder Survey on Casino Health Impact Assessment, 2012.

the process, with at least one respondent rating it at both of the two extremes of the scale (poor and excellent) as well as the intermediate three rating areas for each of the seven items on which respondents were asked to rate the HIA process. At least 70 percent of respondents indicated the HIA process as a whole was at least good, while 66 percent indicated the HIA had produced a balanced assessment of the overall health outcomes of a potential casino in southeast Kansas, as shown in Figure 48.

Despite the lack of consensus on the five-point scale utilized to rate various aspects of the HIA, respondents were much more positive when asked to rate their overall satisfaction utilizing positively worded statement and a four-point Likert scale. All respondents (100 percent) to the five survey items that used the Likert scale response rather than the five-point subjective scale agreed, to some degree, that if another HIA were to be conducted for a policy of interest to them, they would participate. Additionally, all survey respondents indicated that the time required to participate in the process was appropriate.

Internal evaluations of the HIA process were largely positive as well, with respondents highlighting positive aspects (Table 26). In addition to previous comments about the potential overall utility of the HIA, respondents said they were pleasantly surprised with the amount of data and potential impacts reported as part of the process.

Figure 48. HIA Participants' Overall Perception with HIA Process as Good or Better



Source: KUSM–Wichita Stakeholder Survey on Casino Health Impact Assessment, 2012.

Community Representation

Because accurately including the perspective of individuals from across the community is so vital to the HIA process, the degree to which KHI was able to accomplish this was included as the fifth primary evaluation indicator. To this end, KHI included participants from the following sectors:

- City government
- County government
- Law enforcement
- State legislators
- Community development
- Emergency medical services

- Public health
- Local business owners
- Chamber of Commerce
- Public schools
- Pittsburg State University
- Mental health
- Community service providers
- Local charities
- Catholic and Methodist clergy/representatives

However, to test the perception of the community representation included during the process, survey respondents were asked to indicate which groups, if any, needed greater representation in the process. No respondents indicated that all sectors that needed to be involved in process were involved. Respondents were most likely to indicate that underserved populations (46 percent) were not adequately represented throughout the process, followed by those that indicated local law enforcement (31 percent) and community activists/representatives (31 percent) could have been more strongly included in the process, as shown in Figure 49.

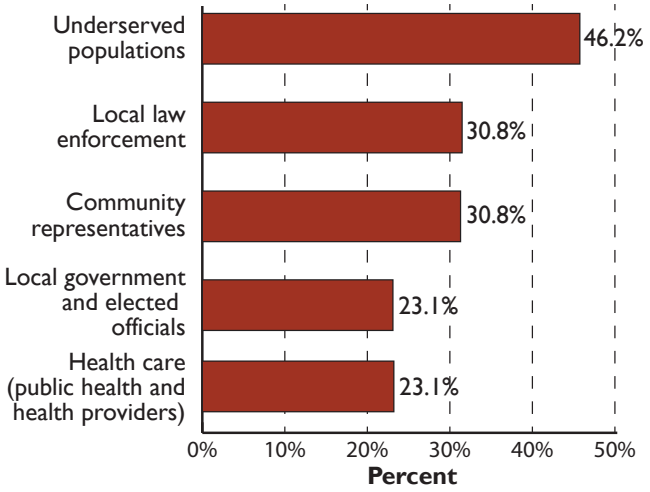
Key Informant Interviews Results

There were a number of questions on the key informant interviews that mirrored items from the quantitative instrument, such as the perception of time expended to participate, the degree to which the initial findings produced were useful and community representation.

Time Investment

Key informant interview respondents indicated they had directed more time and effort to the HIA than the average survey respondent had. While not asked to quantify this amount of time as survey respondents were, interview participants described participating in more

Figure 49. HIA Participants' Recommendations of Groups Needing More Representation in the HIA Process



Source: KUSM–Wichita Stakeholder Survey on Casino Health Impact Assessment, 2012.

activities and presented a more active profile of HIA participation than the larger pool of survey participants. However, in these narrative responses, there was no indication that this time or effort expenditure was undue or excessive.

The perception of time and resource expenditure among the HIA team was very different than community participants; this was to be expected given that the core HIA team conducted the bulk of the HIA work. Estimates of the time investment required on the project ranged from 250 to 400 hours per person, or the equivalent of between 0.50 FTE and 0.75 FTE for the three-month primary duration of the project. Though the HIA team indicated a large number of hours invested in the project, most reported the time investment was worth the end result and was an effective use of resources.

HIA Utility

Overall, key informant respondents indicated that the HIA ultimately would prove useful. Respondents did not indicate a belief that the HIA would likely alter entrenched public opinion on the issue, but they did indicate it would be a useful tool to inform and frame the debate about expanding gaming in Southeast Kansas to include the potential health impacts. One respondent stated, *"Yes, I do believe the HIA is useful as it provides evidence from literature, data from vetted sources, and community perspective."* Another respondent said, *"It will be a helpful thing for legislators to reference in terms of Southeast Kansas, but also other state-owned casinos." Another respondent indicated, "[It] will be helpful to the people in the community. I thought of it as a policy tool but hadn't thought about it for advocates in the community, but that's where it is going to be most beneficial."*

Community Representation

Key informants indicated they were satisfied with the degree to which the community was included in the HIA process. As compared to the survey responses, interview respondents were able to elaborate more on how all segments of the community were represented. From these responses a common theme emerged that in ideal conditions more segments of the population could have been included more thoroughly, but overall there were ample opportunities to participate and there was a sense that all key stakeholders who needed a seat at the table were present. Stated one respondent, *"I thought key stakeholders had been involved. It may have been helpful to more fully access families that are currently unemployed or uninsured. However, I realize there were significant time constraints."*

From the perspective of the HIA team, there was a consensus that the community as a whole was provided with sufficient opportunities to participate in the process and

that all key stakeholders at least had a part in the process. Said one respondent, *"We tried to provide many opportunities for participation. We hope that, in the future, we will be able to engage more people."* This was a common sentiment similar to that provided by key informant interviews. In other words, more involvement from certain segments — such as unemployed families, economic development experts or local health officials — would have been ideal. But in no way did the absence of a "perfectly" composed community panel detract from the HIA team's ability to conduct the project.

Discussion

Participant Perspective

Because of the multiple modalities of data collection, a picture of the HIA process emerged that revealed that there was no single perception of the HIA. Participation in the HIA was defined most broadly for survey respondents, with that definition tightening to only include the HIA team for that set of interviews and only key informants for the participant interview portion.

The most common form of participation from respondents was the HIA Advisory Panel, which required the most investment of time and interest. Therefore, it would logically follow that those with the most invested in the project would be most willing to participate in a survey or an interview. This created a gradient, in which those with the least amount of investment in the process had more divergent opinions about the HIA while those with more investment in the process had a more singular and positive perception about the HIA.

Despite this gradient, respondents as a whole were largely positive about the HIA. Specifically, respondents indicated they were satisfied with a variety of factors, including the number of avenues offered for participation in the program, effective communication with KHI during the process and the broad range of opportunities. This demonstrates the effectiveness of offering multiple avenues for community and stakeholder participation.

Communication

Communication was seen as a strength across all data collection strategies, including key informant interviews and surveys. Most participants indicated that all of the communication methods — ranging from RSVP cards to personal emails to the KHI website — were of some use in keeping informed about the project. It is also telling that, while not an explicit focus of the qualitative interviews, ineffective communication or an inability to stay informed were not issues raised by the

respondents. Respondents indicated that anyone willing to participate in the process had multiple avenues to do so, with just as many avenues provided to stay informed.

Overall Utility

Though there were some disparate ratings on individual survey items, the most telling factors in the evaluations were that all respondents indicated they would take part in an HIA again, nearly all would recommend participation to colleagues and at least two-thirds indicated they were better informed as a result of participating in the process. While it is stretching the bounds of what an HIA is supposed to be to expect it be all things to all people within a community, a willingness to participate again indicates a strong faith in the process among respondents, even if the final results or fine details of the HIA process were not quite as ideal as some of the respondents might have preferred.

In the overall evaluation of the HIA on the quantitative survey, 60 percent of respondents reported a good to very good or excellent job was done in successfully engaging the community. From the open-ended interview responses about the overall utility of the HIA, there was a sense that the final product would be valuable in informing the issue of expanded gaming. Additionally, the casino HIA introduced people to the process and concept of using an HIA as a decision-making tool.

Finally, from a cost-benefit perspective, there seemed to be a consensus among stakeholders and the HIA team that while a considerable amount of time had been invested by KHI staff, the ultimate outcome was worthwhile. As the lead agency, KHI had the largest time investment in completing the HIA. Still, whether respondents had invested one hour or 250 hours in the project, they indicated that the amount of time invested seemed appropriate for their role and the time expenditure was worth it when the product of their labor was useful.

Recommendations/Key Findings

The evaluation key findings and recommendations include:

- Community engagement is key.

There was a sense that while the community representation was good, in an ideal situation, more aspects of the community would have been included. Sectors that could have been better addressed included economic development personnel, environmental experts, community activists, the underserved and public health officials. Finding those interested enough to devote their time to the project while also keeping the primary working group small enough to work efficiently is a

difficult balance to achieve. But more community buy-in makes it more likely that a community is going to feel their voice has been misrepresented in the process — and more likely that the HIA will hone in on the key potential health impacts for the community.

- Building rapport pays dividends.

While much progress was made in building rapport with community members from the beginning of the project, based on survey responses, some degree of apprehension toward the HIA project was still evident at the project's end. In any community-based research project, it is of critical importance that community members feel like they are partners in the process and are not having something "done to them." Encouraging community involvement helps the HIA team capture a variety of voices.

When the community-at-large begins from an initial place of mistrust, it's even more important to emphasize effective communication throughout the project. Acknowledging anecdotal community input while also grounding the findings and recommendations of the HIA in peer-reviewed literature and data whenever possible can create confusion. Being as thorough as possible in explaining the process and building on a rapport established through direct personal contact with individuals and in face-to-face venues such as community meetings are critical in establishing the perception that the HIA team or any "outside" organization conducting an HIA truly is a partner in the process.

- Exogenous barriers will occur and must be addressed.

While each HIA is unique, there is a standard approach to conducting a HIA that begins with a screening process and concludes with a monitoring process. In between are four textbook steps that rarely play out that way in real life. In this instance, it was reported that the timeline of the Kansas legislative process, as well as the social norms, customs and attitudes in the community, impacted the way the HIA had to be conducted.

While any subsequent HIAs using this project as a point of departure are unlikely to have these exact exogenous factors acting on the core issues at hand, each situation will be unique, and the ability to expect the unexpected can be critical to the success of the HIA process. The HIA team identified several surprising aspects of the project, such as the degree to which certain segments of the community initially were opposed to the HIA, the amount of time required to cover the breadth of issues raised by the community and the wide range of stakeholder engagement.

This underscores how critical it is to be flexible and adaptable when planning and conducting an HIA.

- Data will not always be available in an ideal form.

Similar to the observation that the real world often has other plans for an "ideal type" HIA, data availability can be a real barrier to conducting data analysis in an HIA. During this HIA, many of the key health indicators identified by KHI staff or community stakeholders were either not readily available or available in a lagging form, such as the BRFSS, which can often take more than a year from the initial posing of a question to data availability. This lack of real-time health indicators, as well as unavailability for complete employment and economic data, were reported as hindrances to bridging the gap of what the HIA team would like to do and what was possible. Finding hard data to link to key health indicators is not always possible, but in these instances, the existing body of literature can serve an important function in trying to ground the components of the pathway diagram in real-world data.

- Roles and autonomy are important.

As with any community project, there were many voices to be included in the HIA process, ranging from individuals in the community up to the partner organizations. The organization conducting the HIA has to be able to operate autonomously within this environment while still recognizing the valid and constructive points brought to the table by each group of participants. After the initial screening and scoping phases, it can be a challenge to balance the demands and sensitivities of multiple external stakeholders when executive decisions regarding pathway diagrams, recommendations and the final report have to be made in order to complete the HIA. If there is not a clear chain of command and clearly defined roles, this balancing act has the potential to hinder the HIA. Laying out clear expectation at the beginning of the HIA for each party's role and responsibilities can reduce stress and strain later.

Limitations

With so much data collected in a short amount of time, survey fatigue likely was an issue among community members by the time the final evaluation was administered. Just more than a quarter of all respondents participated in the evaluation, meaning that response bias was a possibility. Those with a greater deal of participation in the process were more likely to respond to the survey or participate in key informant interviews. This kind of selection bias gives a strong perspective from people who were likely most familiar with the process and therefore seemingly best able to provide more informed opinions. However, it also opens the possibility of non-

response bias. Those who were marginally engaged or would like to have been more engaged may not have had their voices adequately represented.

However, a response rate in the 25 to 30 percent range is not uncommon for an unsolicited email survey invitation. Informed opinions are critical to the evaluation of the process, and a high response rate from individuals who participated in the HIA in a more limited way might have skewed the results with invalid responses than any non-response bias may have provided. Those who actively participated in the process would simply have a larger knowledge base to draw upon and could more accurately speak to the preliminary results of the HIA, the process of taking part in the HIA advisory panel and other elements than someone whose experience was limited to a single phone call or email. Additionally, while the quick turnaround for data collection may have led to survey fatigue among the community, it also reduced the risk of recall bias. So while biases are potentially factors in any evaluation, it is unlikely any biases have significantly skewed the results of this evaluation.

Conclusions

Overall, several key themes for future directions emerged from the qualitative and quantitative evaluation. Survey respondents indicated that the options available for community participation and the increased inclusion of stakeholders were areas for improvement in the future. However, among the same group of survey respondents, 75 percent also indicated that community participation was a strength. So while there were some respondents who indicated they would like to have seen greater participation in some areas, most of them said community engagement and participation truly were a strength of the HIA.

At least half of all respondents indicated that the accuracy of the preliminary findings and the communication from the HIA team were strengths. Taken together, these areas of strength paint a picture of an HIA process that included all critical sectors, produced preliminary findings that accurately included and acknowledged the community's voice, and maintained strong communication with all participants.

Generally, respondents indicated overall satisfaction with the process and a sense that the HIA had been a successful endeavor. The casino legislation is still pending, and the issue will remain ongoing for the foreseeable future. However, the ultimate outcome of the issue was secondary to the value of exploring the health issues tied to the proposed legislation and engaging the community in this HIA process.

Impact Evaluation

Background

Customarily, this evaluation examines the impacts of the HIA, specifically looking at the degree to which any recommendations were or were not adopted. While this kind of direct impact is relatively easy and straightforward to measure, there are other more subtle impacts that can arise from simply conducting an HIA, including building capacity, creating demand for HIA training and information in the community, and increasing the degree to which the HIA was able to inform discussion of the issue. This impact evaluation focused on these areas.

While the primary focus of the overall evaluation was on process and the five key indicators utilized in the larger evaluation were designed with process evaluation in mind, individual items pertaining to the ongoing impact of the HIA were included in the quantitative survey, qualitative interviews with key stakeholders and interviews with the core HIA team that were conducted as part of the overall evaluation. These items address two major potential impact areas for the HIA: on stakeholders and on the decision-making process.

Stakeholder Impact

Items addressing the issue of stakeholder impact included those assessing collaboration with community stakeholders, increased stakeholder capacity and demand for and understanding of HIA as a decision-making tool.

Decision Impact

Decision-making impact items in the evaluation included addressing the degree to which the HIA increased public understanding of the relationship between policy decisions and health and the degree to which the conduct of the HIA engendered a discussion of the trade-offs involved with the proposed casino-enabling legislation.

Specific survey and interview items that addressed the HIA's impact included an item asking participants to rate the likelihood they would participate in another HIA or recommend HIA to colleagues and their level of understanding of HIA as a tool in general, which also addressed some of the capacity-building impact of the HIA. Other impact items included an item asking participants to discuss HIA as a potential tool for policy decisions and estimate the degree to which their understanding of HIA had changed after taking part in the HIA.

Impact Themes

In addition to those themes identified in the process evaluation, several common themes emerged from the HIA impact evaluation.

Future Participation is Likely

Participants indicated that perhaps the largest impact of the casino HIA was not so much tied to the specific issue of casino and gaming but to the idea of introducing HIA as one more tool in the decision-making toolbox. At least 88 percent of respondents agreed to some degree that they would take part in another HIA. This same percentage of participants indicated they would be likely to recommend to others that they participate in future HIAs, regardless of the topic. Additionally, two-thirds (66 percent) of respondents indicated they agreed to some degree that they felt informed about the health impacts of a casino in Southeast Kansas. This speaks to the capacity of the HIA to add a health focus to an issue such as expanded gaming that would not necessarily have occurred without the HIA. These responses indicate that both the capacity for and demand for HIA were increased in Southeast Kansas for those involved in the HIA.

The Intersection of Health and Policy is More Clear

In addition to participants indicating that they were likely to take part in future HIAs, they said the HIA outlined how health and policy can intersect and how HIA can be used to ensure health has a seat in policy discussions. This sentiment was expressed more by community members than local government officials, indicating that although those already in decision-making roles were at least somewhat familiar with the idea of using health and data in the decision-making process, those from the health community looking to become involved in the issue found another tool to ensure they were involved in the policymaking process.

Overall, respondents said that even without a final vote on the casino proposal, the HIA helped inform the process and raise awareness of the decision-making tool at the state and local levels.

External Capacity Increased

Key informant stakeholders also indicated that taking part in the HIA had raised the visibility of HIA as an informative process and another tool for policymakers. While the ultimate impact of this HIA in terms of a final policy decision remains to be determined based on sentiment within the Kansas Legislature, it did raise awareness that health can be a factor in any policy discussion. By building HIA capacity in

Southeast Kansas and Topeka through community meetings and the two-day training, HIAs can occur more readily with future policy issues.

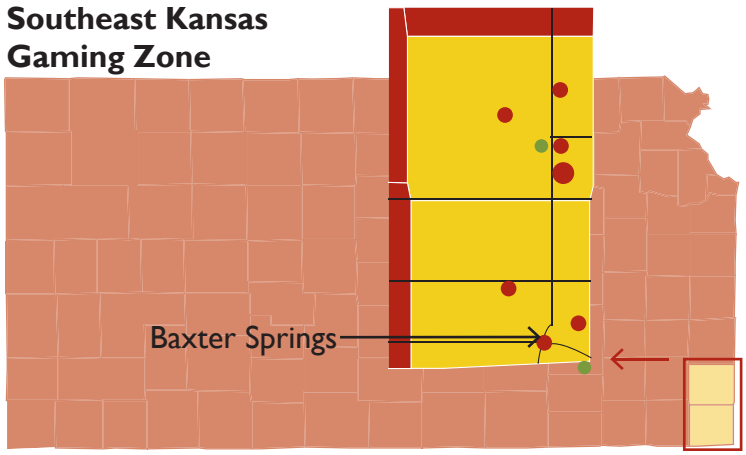
Internal Capacity Also Increased

The core team also was asked to assess how well the HIA met the overall objectives and adhered to the established HIA process, which speaks to the capacity of KHI to conduct HIAs in the future. Respondents indicated that the timeline made it hard to perfectly adhere to the HIA process, necessitating rushed screening and scoping phases. While there was no indication that aspects of the HIA were neglected because of the timeline, they thought these areas could have been executed even better with more time to plan. Respondents indicated the other aspects of the HIA process felt a little less rushed. There were some difficulties with the reporting process in terms of working independently to include and address concerns of all the parties involved, but many of the difficulties were attributed to the learning curve that comes with conducting an HIA for the first time rather than an unsuccessful execution of the HIA in general.

Notes

Baxter Springs, Kansas, is in Cherokee County.

Southeast Kansas Gaming Zone



Photos on this tab were taken in

Baxter Springs, Kansas.

Baxter Springs has a population of 4,238. It is the most populous city in Cherokee County.

APPENDIX A
HIA PROCESS/IMPACT EVALUATION SURVEY

HIA Process Evaluation

This survey is focused on your role as a key informant, community stakeholder, or community advisory board member and the process of taking part in the HIA with KHI. It is designed to identify strengths and weaknesses of the process utilized by the KHI during the HIA's development.

Any feedback you are able to provide will be utilized to help KHI improve future HIAs it conducts and continue to develop methodologies to better incorporate community concerns and suggestions into the HIA. All responses will be kept confidential, no individuals will be identified, and you may opt out or cease taking this survey at any time without any sanctions.

Thank you!

1. How much time did you dedicate to taking part in the HIA?

- ◯ Very little (An hour or less)
- ◯ A short amount of time (1 to 5 hours)
- ◯ A moderate amount of time (6 to 10 hours)
- ◯ A great deal of time (11 or more hours)

HIA Process Evaluation

2. In which of the following activities did you participate? (Check all that apply)

- ☐ Legislative Breakfast (Jan. 19, 2012)
- ☐ SE Kansas 'Day on the Hill' (Jan. 30, 2012)
- ☐ Community Engagement Meeting in Pittsburg, KS (Jan. 30 or 31, 2012)
- ☐ HIA Training in Topeka (Feb. 7, 2012)
- ☐ Community Advisory Panel
- ☐ Key Informant Interviews
- ☐ None of the Above

HIA Process Evaluation

3. Did you receive any of the following forms of communication from KHI? (Check all that apply)

- ☐ Community engagement Save-the-Date cards
- ☐ Community engagement RSVP cards
- ☐ Bi-Weekly update emails from KHI?
- ☐ Personal emails from KHI staff or represenatives?
- ☐ Personal telephone calls from KHI staff or representatives?

Other (please specify)

4. Please rate the level of usefulness of each the following materials or resources?

	Not useful at all	Not very useful	Somewhat useful	Very useful	Not Applicable
Save-the-Date Cards	◯	◯	◯	◯	◯
RSVP cards	◯	◯	◯	◯	◯
Personal phone calls	◯	◯	◯	◯	◯
KHI email updates	◯	◯	◯	◯	◯
Personal emails	◯	◯	◯	◯	◯
KHI website	◯	◯	◯	◯	◯

5. Did you receive any other forms of communication?

- ◯ No
- ◯ Yes (please explain)

HIA Process Evaluation

6. Please rate each of the following aspects of your participation in the HIA process using the scale below.

	Poor	Fair	Good	Very Good	Excellent
The degree to which all community stakeholders who needed to be included in the process were included	◯	◯	◯	◯	◯
The avenues created by the KHI for the community to voice concerns and participate in the process.	◯	◯	◯	◯	◯
The degree to which the community's voice was represented in the final HIA report	◯	◯	◯	◯	◯
The degree to which the pathway diagram in the HIA was able to be readily understood	◯	◯	◯	◯	◯
The degree to which the HIA provided a balanced assessment of the potential health outcomes of the proposed policy	◯	◯	◯	◯	◯
The degree to which the HIA process was able to successfully engage the community	◯	◯	◯	◯	◯
The HIA process as a whole	◯	◯	◯	◯	◯

7. Please rate your level of agreement with the following statements:

	Strongly Disagree	Somewhat Disagree	Somewhat Agree	Strongly Agree
The amount of time required to participate in the HIA process was reasonable.	◯	◯	◯	◯
If an HIA was conducted for another policy I'm interested in, I would participate.	◯	◯	◯	◯
If an HIA was conducted for another policy, I would recommend that others participate.	◯	◯	◯	◯
I feel informed about the potential health impacts of an additional casino in Southeast Kansas after taking part in this HIA.	◯	◯	◯	◯
I have a better understanding of the potential health impacts that could be related to any other. proposed policy as a result of taking part in the HIA.	◯	◯	◯	◯

HIA Process Evaluation

8. What sectors of the community do you think could have better representation in the HIA process? (Check all that apply)

- ☐ Local government and elected officials
- ☐ Local law enforcement
- ☐ Health Care (Public Health and health care providers)
- ☐ Community Activists/Representatives
- ☐ Underserved Populations
- ☐ None of the above - all sectors of the community were represented
- ☐ Other (please specify)

9. In what areas could KHI improve upon the HIA process? (Check all that apply)

- ☐ Stronger introduction to and explanation of the HIA process
- ☐ More opportunities for community participation
- ☐ Better inclusion of all community stakeholders
- ☐ Better communication with community participants
- ☐ More accurate findings of potential health impact
- ☐ More reasonable recommendations in final report
- ☐ None of the above
- ☐ Other (please specify)

10. In what areas do you think the KHI did an especially strong job during the HIA process? (Check all that apply)

- ☐ Introducing and explaining the process and purpose of the HIA to the community
- ☐ Providing ample opportunities for community participation and input
- ☐ Strong job of including all key community stakeholders
- ☐ Good communication with community participants throughout the process
- ☐ Providing findings of potential health impact that accurately captured the community voice
- ☐ Made reasonable recommendations in final report
- ☐ KHI did not do an especially strong job in any of these areas
- ☐ Other (please specify)

HIA Process Evaluation

11. Do you think the HIA will be considered when making decisions about building and operating a casino in Southeast Kansas ?

- ◯ Yes
- ◯ No

Please explain why or why not?

12. What suggestions would you make to help make the HIA process more useful to the SE Kansas community?

13. Do you have any other comments you would like to add?

HIA Process Evaluation

14. Which of the following best describes the capacity in which you came to participate in the HIA?

- ☐ City or County goverment
- ☐ Local school district
- ☐ Pittsburg State Univeristy
- ☐ Community Work
- ☐ Other (please specify)

- ☐ Public Health
- ☐ Business Community
- ☐ Concerned Citizen

APPENDIX B
HIA PROCESS/IMPACT EVALUATION
KEY INFORMANT INTERVIEW SCRIPT

1. How did you first hear about this HIA? How was the notion of an HIA initially framed to you? Did your initial perception or understanding of what an HIA entails change as a result of your participation in the process?

2. What was your level of involvement with the HIA? How would you rate your experience taking part in the HIA?

3. Do you recall hearing anything about the data produced from the assessment or the final findings of the assessment? (If no, skip to #4) If so, were you in agreement with the findings produced by the KHI? Were you in agreement with the recommendations produced by the KHI's casino HIA? If there were any areas where you were not in agreement, what were those areas? How should the findings or recommendations have been different?

4. Do you think the HIA produced was ultimately useful? Do you think the presence of the HIA shape the decision-making process? Did it alter the scope, impact, etc. of the legislation as proposed?

5. Did participating in this process broaden your perspective or increase your understanding of the health ramifications of policy decisions? Do you think the HIA process used by the KHI, which included community meetings, stakeholder interviews and the community advisory board, increase the understanding of the health ramifications of policy decisions in the community as a whole?

6. Did the findings and recommendations of the HIA expose issues of health and health equity that were not brought up elsewhere?

7. Do you think the right partners were engaged in the HIA process as conducted by the KHI? Did key stakeholders from across the entire community have enough input in the process? If any key stakeholders or groups were missing, who else should have been included in the process?

8. Based on your experience taking part in the process, would you take part in another HIA for a different policy issue? Do you feel HIAs in general can be informative tools in policy debates? Why or why not?

9. What stood out as being exceptionally good about the HIA process? What parts could be improved?

APPENDIX C
HIA PROCESS/IMPACT EVALUATION
KHI CORE INTERVIEW SCRIPT

1. What was your level of involvement with the HIA? How would you rate the appropriateness of the time committed?

2. What was your perception of each of the following stages of an HIA that have been conducted so far?

   - Screening
   - Scoping
   - Assessment
   - Reporting

3. Do you think the HIA produced was ultimately useful? Do you think the presence of the HIA shape the decision-making process? Did it alter the scope, impact, etc. of the legislation as proposed?

4. Do you think the right partners were engaged in the HIA process as conducted by the KHI? Did key stakeholders from across the entire community have enough input in the process? If any key stakeholders or groups were missing, who else should have been included in the process?

5. Was this a good use of time/resources for KHI?

6. I would like you to think back on your initial expectations for the project and how it would proceed and identify two deviations from those expectations – one good and one bad? What was the pleasant surprise you had? What surprise did you have that was less pleasant?

7. In an ideal world, where you are king or queen for a day and anything is possible, what changes would you make in order to be able to conduct the ideal HIA? What barriers prevent those changes from becoming a reality?

HIA TIMELINE

There are six steps in the HIA process:

Screening — Establishes the need for and value of conducting an HIA. Is it feasible? Can an HIA be done within the timeframe of the decision? Are the decision makers open to HIA? Is there public concern regarding the health benefits of the proposal? These are all factors to consider when determining whether to conduct an HIA.

Scoping — Helps identify the affected populations and narrows the scope of health effects to be evaluated to those of greatest potential importance. During this stage, project staff members determine a list of research questions and identify the data and methods to help answer those questions.

Assessment — Describes the baseline health conditions of the affected populations and characterizes the expected health effects of the proposal, as well as alternatives under consideration.

Recommendations — Proposes alternatives that mitigate any anticipated negative consequences and maximize the benefits. It is important to ensure that these recommendations are practical and match the political realities of the situation.

Reporting — Includes the actual formal HIA report and the plan for communicating findings to the decision maker and the public.

Monitoring and evaluation — Tracks the results of the HIA (whether or not the recommendations were adopted) and monitors for predicted health outcomes. Evaluation looks at the process of the HIA.

ABOUT THE KANSAS HEALTH INSTITUTE

The Kansas Health Institute was established in 1995 by the Kansas Health Foundation to be an information resource for state policymakers. The foundation made the commitment based on its conclusion that health policy decisions often were based on fragmented, anecdotal and sometimes biased information.

The mission of the institute is to inform policymakers by identifying, producing, analyzing and communicating information that is timely, relevant and objective. As part of that mission, KHI works to help policymakers understand how the health of Kansans is influenced by a wide range of factors, including socio-economic status, cultural diversity, lifestyle choices, the quality of communities and the financing, organization and effectiveness of our public health and health care systems.

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Health impact assessments: An introduction

KANSAS HEALTH INSTITUTE

An independent, nonprofit health policy and research organization based in Topeka

www.khi.org

APPENDIX D
HIA INFORMATIONAL BROCHURE

WHAT IS AN HIA?

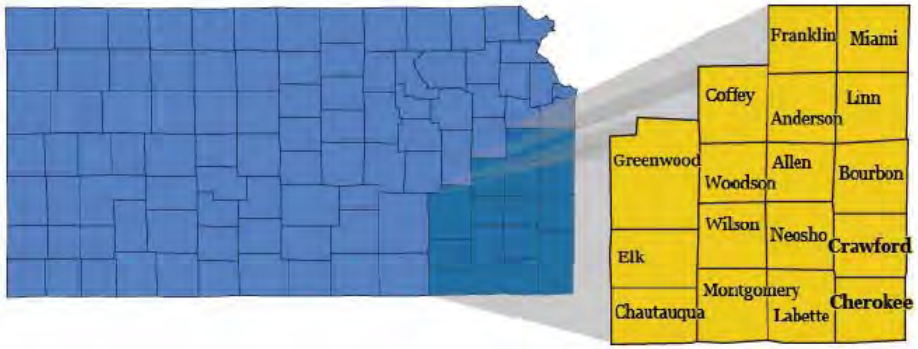
A health impact assessment is a process to help achieve effective public policy solutions by doing three things:

- Provide information about a policy's expected impact on the health of affected areas.
- Invite stakeholders to express how they expect the policy to affect health.
- Invite stakeholders to make a plan to address any potential consequences to health.

Health impact assessments aim to ensure that:

- Stakeholders are invited into the policymaking process to help collaborate on making policies that are better for everyone.
- Unintended consequences of policies are examined before policies are adopted.
- Policies are improved by helping stakeholders make plans for how to address any unintended consequences.

A health impact assessment gives decision makers information about the potential health benefits and consequences of a proposal to help maximize benefits and minimize risks.



THE KANSAS CASINO HIA

The Kansas Health Institute has been awarded a grant to conduct a health impact assessment, the first of its kind in Kansas.

The grant from the Health Impact Project, a collaboration of the Robert Wood Johnson Foundation and The Pew Charitable Trusts, will fund a project to identify the potential health benefits and risks involved with developing a casino in Southeast Kansas and to share this information with state policymakers.

During the 2011 Kansas legislative session, a bill was introduced to amend the Kansas Expanded Lottery Act by reducing the privilege fee and minimum investment required from developers to build and manage a state-owned casino in the Southeast Kansas Gaming Zone, which is Crawford and Cherokee counties. The region's economic situation continues to draw attention from several key Kansas legislators, and the bill has been reintroduced for the 2012 session.

Crawford and Cherokee counties are among the least healthy in the state. Some residents of these counties and other parts of Southeast Kansas struggle with high unemployment, poverty and high rates of premature death, obesity, injuries and other health problems.

KHI will assess the risks, benefits and tradeoffs of the legislation as proposed, and, based on this assessment, develop recommendations for options to address any health risks identified and optimize any potential health benefits.

Casinos can provide an important source of critically needed economic development, employment and health insurance, and county and state revenues to support services and infrastructure improvements that promote health. However, some studies suggest that casinos can elevate the risk of alcohol abuse, violence, stress and mental illness, injury and bankruptcy, which can lead to loss of housing and health insurance.

APPENDIX E
HIA EMAIL UPDATE EXAMPLE

KANSAS HEALTH INSTITUTE

Health Impact Assessment Update

You are receiving this email as a follow-up to a meeting you attended about the Kansas Health Institute's health impact assessment. If you would prefer to not receive these emails, see the unsubscribe information at the bottom of this message.

Add tlin@khi.org to your address book to ensure you receive these updates.

What's happening?

Training

A group of Kansas Health Institute staff members joined representatives of state agencies and Southeast Kansas stakeholder groups for a day of training in Topeka on health impact assessments.

The training is part of the grant that KHI and the University of Kansas School of Medicine - Wichita received to conduct an HIA on a bill involving a Southeast Kansas casino development. During the training, participant learned how to support work on this HIA and build their capacity to conduct future HIAs.

A day of health impact assessment training included time for discussion.

Training sessions focused on the HIA process and steps, and how an HIA can be effectively used to help policymakers. The training was led by staff members at the Georgia Health Policy Center and The Pew Charitable Trusts.

Literature review

Members of the KHI team recently completed a literature review on the effects of casinos. While learning more about the topic from this review of scholarly articles, books and other sources, they discovered why some of the issues around casinos can be confusing.

Often the literature does not come to consensus on an issue, and that is where future work with other data sources will help shape the HIA recommendations. Other times the literature provides surprising or unexpected information.

The literature review of drunk driving provides one example of unexpected results. During community outreach sessions, attendees wondered whether a new casino would increase the region's drunk driving rates. The literature review found that casinos affect vehicle fatality rates in rural and moderately sized counties, but urban counties with casinos see a reduction in vehicle fatalities.

The hypothesis behind this? Casinos in urban counties may be a substitute for a social venue that was farther away, so the driver therefore didn't travel as far. This effect is seen especially in destination-style casinos that attract people from more distant locations.

This is one example of the information a literature review can provide about a subject.

Community health profile

As part of the HIA assessment phase, members of the KHI team compared information about residents of the Southeast Kansas Gaming Zone (Crawford and Cherokee counties) with the Southwest Kansas Gaming Zone (Ford County) and the state. These comparisons found that:

- Crawford and Cherokee counties have a substantially larger combined 2010 Census population (60,737) than Ford County (33,848). However, the population in Cherokee and Crawford counties is slightly smaller (-0.2 percent) than it was in 2000, while the Ford County and statewide populations have grown by 4 percent to 6 percent respectively.
- In terms of residents' race and ethnicity, Crawford and Cherokee counties are less diverse than Ford County and the state. Nearly 90 percent of the people living in Crawford and Cherokee counties are white non-Hispanic.
- Crawford and Cherokee counties have a lower median income, a higher poverty rate and a higher unemployment rate than Ford County and Kansas.
- Crawford and Cherokee counties have some of the lowest County Health Rankings in Kansas, with health outcome rankings of 89th for Crawford and 98th for Cherokee (out of the 98 counties with rankings). Ford County ranks 13th.
- The percentage of adults who reported in 2009 that they had gambled within the past 12 months was higher in Crawford and Cherokee counties (35.8 percent and 38 percent respectively) than in Ford County (20.8 percent) but was lower than the statewide percentage (38.4 percent).

What's ahead?

Diagramming the effects

As part of the HIA assessment phase, the KHI team is developing and refining a pathway diagram (PDF) of possible effects of developing a casino in the Southeast Kansas Gaming Zone. The pathway diagram is a flow chart that outlines the potential short-term, intermediate and long-term benefits and consequences and their effects on health.

The KHI team used the literature review, data and community feedback to build the pathway diagram. Please review the draft of the pathway diagram (available as a PDF by clicking the link above) and share your thoughts and suggestions with KHI by contacting Tatiana Lin at tlin@khi.org or (785) 233-5443 by the end of the month.

FAQ

More about HIAs

We've received some good questions about the Southeast Kansas HIA project, including the two below. If you have any questions about the casino HIA or future HIA projects, please contact Tatiana Lin at tlin@khi.org or (785) 233-5443 and we'll answer them in a future e-newsletter.

Who is paying for the study? Do the "payees" have a conflict of interest in a Southeast Kansas casino?

The HIA under way at the Kansas Health Institute is supported by a grant from the Health Impact Project, a collaboration of the Robert Wood Johnson Foundation and The Pew Charitable Trusts.

As independent nonprofit organizations, the Kansas Health Institute, Robert Wood Johnson Foundation and The Pew Charitable Trusts have no stake in the outcome of the proposed legislation and would neither benefit from nor be harmed by this legislation. Therefore none of the organizations involved in funding and conducting this HIA have a conflict of interest.

The core objective of this grant is to promote the use of HIAs across United States and help policymakers, businesses and public health departments learn how to use HIAs effectively to inform decisions that affect people's health.

For more information about HIAs, visit www.healthimpactproject.org or www.hiacollaborative.org/faq#when.

Why did KHI choose a potential casino in Southeast Kansas for the initial Health Impact Assessment? Why aren't they studying the impact of one of the existing casinos, particularly one of the Indian casinos that have been operating for a number of years?

A study of operating casinos in Kansas wouldn't meet the Health Impact Project's requirements for conducting an HIA when a policy, program or project is in its developmental stage so the findings and recommendations can be used to inform decision-making. By providing evidence-based information to policymakers before a decision is made, an HIA aims to maximize the health benefits of a proposed project while minimizing potential risks to community health.

The Southeast Kansas HIA will incorporate the results of other studies on the impact of casinos as part of its literature review. KHI also will use data from the Southwest Kansas Gaming Zone (Ford County) to help assess the potential impacts in Southeast Kansas.

In 2011, KHI in collaboration with the KU School of Medicine - Wichita conducted an environmental scan to identify state-level policy that could benefit from an HIA. The topic was selected based on several criteria: opportunities to inform decision-making; the number, variety and size of potential health impacts (positive and negative) of this issue; relevance of this issue to the community, and existing opportunities for improvement (health status of Southeast Kansas residents).

The Health Impact Assessment Update email will be sent every two weeks.
For more information, contact project director Tatiana Lin, (785) 233-5443, tlin@khi.org

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(785) 233-5443

If you would like to sign up to receive future research and news updates from KHI, please visit http://www.khi.org/accounts/register/.

APPENDIX F
COMMUNITY MEETING FEEDBACK CARD

Health Impact Assessment (HIA):
Community Discussion

Thank you for coming to our meeting! Your attendance and participation are greatly appreciated. Let's make sure we stay in touch. **Please let us know if you would like to:**

- ☐ Serve on the HIA Advisory Panel
- ☐ Participate in a one-on-one interview with the HIA research team
- ☐ Receive bi-monthly updates about the project
- ☐ Ask a question ***Please use the other side of this card***

Please provide us with your contact information:

Name: _____

E-mail: _____@_____

Health Impact Assessment (HIA):
Community Discussion

Do you have a question? Tell us about it! We'll e-mail you, if you leave your contact information on the other side.

_____

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APPENDIX G
DATA SOURCES

- U.S. Department of Labor, Bureau of Labor Statistics: Consumer Price Indices for Alcohol Consumed at Home and Away from Home
- U.S. Department of Labor, Bureau of Labor Statistics: County Level Employment, Unemployment and Workforce
- U.S. Census Bureau: County Level Intercensal Population Estimates, and American Community Survey
- U.S. Census Bureau – 2009 Business Statistics
- Kansas Department of Health and Environment, Bureau of Vital Statistics: Kansas Information for Communities, Vital Statistics
- Kansas Department of Health and Environment, Bureau of Health Promotion: Behavioral Risk Factor Surveillance Survey
- Kansas Department of Health and Environment, Health Professional Shortage Area (HPSA) Data
- Kansas Department of Health and Environment, Vital Statistics: Divorce Data and STD data
- Kansas Department of Transportation, Bureau of Transportation Planning: Motor Vehicle Accident Data and Daily Vehicle Miles Traveled
- Kansas Department of Revenue: Sales, Income, Transient Guest and Liquor Tax Data
- Kansas Department of Social and Rehabilitation Services: Public Assistance and Child Abuse/Neglect investigation
- Kansas Department of Social and Rehabilitation Services: Addiction and Prevention Services, Communities that Care Alcohol Use Survey
- Kansas Bureau of Investigation: Crime
- University of Wisconsin, Population Health Institute, *County Health Rankings*
- KBI Domestic Violence data

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