



## **Potential Health Effects of Changes to the Kansas Corporate Farming Law:**

*Impacts related to a possible increase in the number  
of large-scale swine and dairy operations*

Kansas Health Impact Assessment Project

The report is intended to be an accessible and informative resource for Kansas policymakers as they consider amending the Kansas Corporate Farming Law, which would allow any agricultural business to operate anywhere in the state of Kansas. However, these operations would still be subject to the requirements and processes established under other Kansas laws (e.g., zoning, environmental laws).

The report is intended to inform the decision-making process by describing the potential positive and negative health effects associated with this policy issue.

## Acknowledgements

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### Advisory Panel

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### Disclaimer

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The Kansas Health Institute (KHI) does not endorse or oppose the proposed legislation. KHI delivers credible information and research enabling policy leaders to make informed health policy decisions that enhance their effectiveness as champions for a healthier Kansas. The Kansas Health Institute is a nonprofit, nonpartisan health policy and research organization based in Topeka that was established in 1995 with a multiyear grant from the Kansas Health Foundation.

## Proposed Policy

During the legislative session of 2013, Kansas lawmakers considered amending the current Kansas Corporate Farming Law by “defining and establishing the limits for agricultural business entities.”<sup>2</sup> The proposed Senate Bill 191 (and its House version, HB 2404), also referred to as the Kansas Agriculture Growth and Rural Investment Initiative, would have removed restrictions for agribusinesses with certain forms of ownership structure (e.g., corporation) to operate in Kansas. The bill would have also amended the definitions of limited agricultural partnerships, family farm corporations, authorized farm corporations, limited liability agricultural companies, and family farm limited liability agricultural companies. Specifically, the bill would have removed limits on the number of stockholders or members and would have eliminated the requirement that at least one of the members reside on the farm or actively engage in the labor or management of the farming operation.

The bill received a hearing in 2013 but did not pass. Similar bills are likely to be introduced for consideration in future legislative sessions, and if passed, could result in multiple direct and indirect effects within the state. The Kansas Health Institute (KHI) conducted a health impact assessment (HIA) to examine how some provisions of this legislation might positively or negatively affect the health of Kansas residents.

An HIA is a practical tool that assesses the health impacts of policies, strategies and initiatives in sectors that aren’t commonly thought of in relation to health — such as transportation, employment and the environment. The overall goal of an HIA is to inform policymakers of the potential health effects of the proposed policy during the decision-making process. The HIA provides evidence-based findings about health impacts and also identifies recommendations to maximize health benefits and mitigate health risks.

In order to determine potential direct and indirect impacts of changes to the Kansas Corporate Farming Law, the HIA team reviewed testimony provided on Senate Bill 191 and conducted a legal analysis of the proposed legislation. According to testimony provided by various key Kansas agricultural organizations,<sup>3</sup> the passage of the bill could have a direct impact on the ownership

structure of agribusinesses and various secondary effects on in-state and out-of-state agribusinesses. For example, changes to the current law would allow Kansas farms to choose any business structure that suits their needs, thus increasing their ability to expand by raising capital and through investment opportunities.<sup>4</sup> Additionally, changes in the law would allow any out-of-state agribusiness to operate anywhere in Kansas.<sup>5</sup> However, these operations would still be subject to the requirements and processes established under other Kansas laws (e.g., zoning, environmental laws).

While these changes would allow for any size of agribusiness to locate or expand in Kansas, testimony on Senate Bill 191 suggested that these businesses may be large-scale. Passage of Senate Bill 191 would have removed barriers for large nonfamily farms to locate in Kansas. Currently, large nonfamily farms are organized into four forms of business structures,<sup>6</sup> three of which are currently prohibited from direct or indirect ownership, acquisition, obtainment, or lease of agricultural land in the state (K.S.A. 17-5904).

## Stakeholder Feedback

Although testimony from various stakeholder groups highlighted potential effects on several types of agribusinesses, the most commonly identified potential impact was an increase in the number of swine and dairy operations. For example, the Kansas Department of Agriculture and the Kansas Pork Association suggested:

*“We (Kansas) had interest from pork and poultry farms. Unfortunately, the restrictive corporate farming laws on the books are prohibitive and driving that business to other states.”<sup>7</sup>*

– Kansas Department of Agriculture

*“Senate Bill 191 sends a clear signal to investors that the state is really serious about bringing new livestock businesses and jobs to Kansas. We believe new farms will also prove valuable.”<sup>8</sup>*

– Kansas Pork Association

The current law sets forth a procedure whereby counties may permit or deny dairy and swine production facilities to be established within the county by a corporation, trust, limited liability company, limited partnership, or corporate partnership.<sup>9</sup> According to the

2013 testimony, existing exemptions for confined animal feeding operations (swine and dairy) have created some potential barriers for these corporations to enter the Kansas market.

*“We’d like to express our support for the repeal of the sections K.S.A. 17-5907 and K.S.A. 17-5908 that require county approval for corporations to operate dairy production facilities and swine production facilities.”*

– Kansas Livestock Association

*“Let’s omit the county-by-county approval process and make our state laws more inviting to entities wanting to locate their business in the state.”<sup>10</sup>*

– Kansas Livestock Association

Further, according to various sources, approximately 20 counties have chosen to restrict corporate swine or dairy operations since the mid-1990s.<sup>11</sup>

## Health Impact Assessment Focus

Based on these considerations, the HIA scope was narrowed to assess potential health effects that could result from an increase in the number and size of swine and dairy operations in Kansas. As noted earlier, the passage of the Kansas Agriculture Growth and Rural Investment Initiative could directly and indirectly impact several other areas beyond swine and dairy operations. However, not all impacts resulting from the legislation may affect the health of Kansans. The goal of the HIA is to assess only those that might affect health in the state.

Additionally, some of these impacts might occur as the result of other changes. For example, a potential impact on crop operations was referenced by several organizations in the context of the expansion of livestock production in Kansas. As a result, this and other effects associated with passage of this legislation were not assessed due to limited attention given in the testimony and the potential for smaller health effects in comparison to those associated with livestock operations.

## Study Approach

In order to assess the potential health effects of an increase in the number of large-scale swine and dairy operations, the HIA team reviewed existing literature and analyzed data pertaining to Kansas. KHI also gathered input from stakeholders in various sectors including farming, business, housing, health care, education, city and county government.

The HIA team received valuable guidance from the project’s HIA Advisory Panel. The Panel included 11 organizations representing a diverse range of sectors within Kansas agriculture to inform the study. The HIA Advisory Panel members met several times during the project and provided their feedback on the project’s methodology, findings, recommendations and the draft of this report. However, the authors of this report are responsible for the facts and accuracy of the information provided. The views expressed are those of the authors and do not necessarily reflect the views of the HIA Advisory Panel.

The assessment of health effects was guided by two primary research questions:

1. *How will new large-scale swine or dairy operations impact residential property values, employment, economic development, water quantity, amount of waste produced and antibiotic use?*
2. *How will changes in these indicators (e.g., employment) impact (positively and negatively) the health of Kansans?*

The goal of the HIA was to examine potential health effects (both positive and negative) associated with an increased number of large-scale swine and dairy operations in Kansas within a larger framework of social, economic and physical factors that could impact health. These factors — including employment, property values/taxes, population, water quantity, amount of waste produced and antibiotic use — were identified through review of testimony, literature and discussions with the HIA Advisory Panel members.

Special attention was given to populations that could be especially impacted, including people with respiratory conditions and those living in close proximity to large-scale livestock operations.

## Summary of Findings and Recommendations

An increase in the number of large-scale swine and dairy operations may affect several economic, social and environmental factors. The analysis presented in this HIA suggested new employment related to an increased number of livestock operations in Kansas might result in positive health effects. The analysis also identified that an increase in the number of operations could result in a decrease in residential property value in close proximity to livestock operations. An increase in volume of waste produced and antibiotics used could result in poor air quality and exposure to antibiotic-resistant organisms, especially for operation employees and neighboring residents.

Additionally, the HIA analysis suggested that there could be little-to-no impact on county-level property values, school funding and population size (Figure 1, page 7). The full table, *Summary of Health Impacts of Changes to the Kansas Corporate Farming Law*, is available in Appendix A, page 63.

## Findings

**Jobs:** The report shows that an increase in the number of large-scale swine and dairy operations could have a small but positive impact on total employment. However, no specific impact is projected on local unemployment rates or county-level rates of health insurance coverage.

The potential health effects associated with employment depends on the extent to which these operations provide livable wages and such benefits as health insurance coverage. If new or expanding swine or dairy operations offer jobs that pay livable wages and affordable health insurance benefits, some positive health effects could result. However, no data documenting the number of jobs or actual wages and benefits offered by existing livestock operations were available to this study, so it is unclear how many employees might benefit, if any. The negative correlation between the number of hired farm workers and average wages for hired farm workers suggests that the new jobs offered low wages. Additionally, increases in unemployment in counties where large-scale swine or dairy farms operate might suggest higher job turnover. As a result, positive health effects associated with employment would likely be realized only by some categories of employees (e.g., managers).

**Property Values/Taxes:** An increase in the number of large-scale swine or dairy operations might have little-to-no impact on county-level real property (e.g., commercial, agricultural and residential) values/taxes. However, properties that are located downwind, close to large livestock operations (less than three miles) and higher-priced, are more likely to experience declines in property values. Residents of these properties might have an increased risk of poor health with the decline in their socioeconomic status related to changes in their property values. The level of change in residential property values would also depend on the management practices of the livestock operation. Research suggests that swine operations are likely to have a stronger negative impact on residential property values than dairy operations.

**School Funding:** An increase in the number of large-scale swine or dairy operations would likely have no impact on school funding due to little-to-no expected changes in county-level property values/taxes and the Kansas “equalization” school funding formula. The formula requires the state to make up the difference between the amount of revenue generated by local property taxes and the district’s allowable budget, as calculated under the School District Finance and Quality Performance Act (K.S.A. 72-6405 through 72-6440).<sup>12</sup>

**Population:** Counties with an increased number of large-scale swine operations might experience small decreases in population. However, counties with dairy operations might experience slight increases or no change in population size. Modest changes in population size are not likely to affect availability of health care providers, food sources and social cohesion. However, social cohesion might also be impacted by changes in the demographic composition of the local population.

**Water Use:** Water use for livestock operations makes up a small proportion of total water use in southwestern Kansas. While increases in the number and size of livestock operations would increase the volume of water used for livestock, the impact on total water use is unclear because it could be affected by multiple factors (e.g., changes in crop production, changes in irrigation practices, and available water rights).

**Waste:** An increase in the number of large-scale swine or dairy operations would increase the amount of waste (manure and other waste) produced. Increased waste production could have a negative impact on air quality, as well as increased risks for water pollution and soil contamination. The extent of this impact would depend on the type, number and density of new operations and the implementation of effective management practices to minimize adverse impacts.

**Antibiotic Use:** Adding new animals to swine or dairy operations would result in an increased volume of antibiotics used even if the same dose is administered. This is due to a larger number of animals receiving antibiotics subtherapeutically. Continued or increased widespread use of subtherapeutic antibiotics can contribute to bacteria resistance in humans because there are several pathways through which resistant bacteria can be transferred to humans. Resistance can be spread on a large scale through farm workers,<sup>13 14</sup> farm produce,<sup>15</sup> and soil and water sources.<sup>16</sup> Livestock (dairy and swine) operation employees and residents who live in close proximity to large-scale livestock operations would be at the greatest risk of exposure to antibiotic-resistant organisms. However, the community at-large could also be exposed to antibiotic-resistant organisms due to the application of manure containing resistant bacteria to neighboring fields as fertilizers.

## Recommendations

To maximize the potential positive health effects and mitigate the potential negative health effects associated with the proposed changes to the Kansas Corporate Farming Law, the HIA team, with input from the HIA Advisory Panel, developed a set of recommendations to inform the decision-making process.

Key recommendations are listed below. An asterisk (\*) indicates recommendations that were deemed by the HIA Advisory Panel members as priorities in terms of feasibility, alignment with findings and whether or not they addressed vulnerable populations.

### **Kansas Legislature could consider:**

- Increasing the minimum separation distance from dairy operations with 1,000<sup>17</sup> or more animal unit capacity to any habitable structure in existence to three miles (from the current

0.76 miles); increasing the minimum separation distance from swine operations with 3,725 or more animal unit capacity to any habitable structure in existence to three miles (from the current 0.95 miles).<sup>18 \*</sup>

- Identifying appropriate agencies (e.g., Kansas Department of Health and Environment, Kansas Department of Agriculture) to review existing regulations (e.g., separation distance) related to livestock operations and suggest changes based on the best available research.\*

### **Livestock Operations could consider:**

- Providing health insurance to employees.\*
- Compensating neighboring property owners for negative externalities associated with livestock operations, such as property depreciation.\*
- Prevailing wind direction when locating operations and, when possible, build downwind of residential properties.\*

### **Kansas Department of Health and Environment and/or Kansas Department of Agriculture could consider:**

- Conducting a statewide study of existing large-scale livestock operations' nutrient utilization plans (NUP) to determine if this process adequately regulates manure application in Kansas.
- Developing and implementing a Kansas-specific siting tool to evaluate optimal siting conditions, taking into consideration the facility size, waste management and odor reduction practices and prevailing wind and weather patterns.
- Establishing and maintaining a publicly available database of all regulated animal feeding operations in Kansas. The database should include the name and location of each operation, the numbers and types of animals and animal units on each site, key characteristics of facility operations and waste management plans, and results of routine inspections or complaint investigations (e.g., Iowa Database<sup>19</sup>).
- Exploring the feasibility of monitoring the use of antibiotics in livestock operations in Kansas.\*
- Restricting subtherapeutic antibiotic use (feeding of low doses to animals to achieve prophylaxis [disease prevention] and growth promotion) in livestock operations to antibiotic classes that are not used to treat human diseases.\*

The full list of findings and recommendations is available in *Appendix C*, page. 65.

Figure 1. Summary of Health Impacts of Changes to the Kansas Corporate Farming Law.

Health Factor or Outcome	Expected Effect Based on Literature	Expected Effect Based on Data	Stakeholder Projections	Based on Literature and Data				
				Expected Health Impact	Magnitude of Impact	Likelihood of Impact	Distribution	Quality of Evidence
<b>Impacts on Jobs</b>								
<b>General Population</b>								
Jobs	Mixed	Mixed	Increase	Mixed	Medium	Possible	Employees, their families and some businesses in the community	**
Unemployment	Mixed	Increase	N/A	None	None	Unlikely	N/A	**
<b>Employees of Swine and Dairy Operations</b>								
Health Insurance	Mixed	N/A	Mixed	Positive	Low	Possible	Some employees	*
Preventive Care	Mixed	N/A	Mixed	Positive	Low	Possible		*
Socioeconomic Status	Mixed	N/A	Increase	Mixed	Low	Possible		*
<b>Impacts on Property Values/Taxes</b>								
Property Values/Taxes	None	None	Mixed	None	None	Unlikely	N/A	**
<b>Some Residents</b>								
Property Values/Taxes	Decrease	N/A	Decrease	Negative	Low	Possible	Residents who live less than three miles from operation(s)	**
Socioeconomic Status	Decrease	N/A	N/A	Negative	Low	Possible		**
Nutrition/Physical Activity	Decrease	N/A	N/A	Negative	Low	Possible		**
<b>Impacts on Population</b>								
Population Size	Mixed	Mixed	Increase	Mixed	Medium	Possible	Community members	**
Health Care Providers	N/A	Decrease	N/A	Uncertain	Uncertain	Unlikely	N/A	*
Grocery Outlets	N/A	None	N/A	Uncertain	Uncertain	Unlikely	N/A	*
Crime	Increase	None	N/A	Uncertain	Uncertain	Uncertain	Community members	**
<b>Impacts on Waste</b>								
Waste	Increase	Increase	Increase	Mixed	Medium	Likely	Community Members	**
Air Quality	Decrease	N/A	Decrease	Negative	Medium	Likely		**
Water Quality	Decrease	N/A	Mixed	Uncertain	Medium	Possible		**
Soil Quality	Decrease	N/A	Mixed	Uncertain	Medium	Possible		*
<b>Impacts on Antibiotic Use</b>								
Antibiotic Use	Increase	N/A	N/A	Negative	Medium	Likely	Livestock operation employees, residents who live in close proximity to operations	**
Antibiotic Resistance	Increase	N/A	N/A	Negative	Medium	Likely		**

Source: KHI HIA Corporate Farming Project, 2015.

Figure 2. Legend: Health Impacts for Kansas.

CRITERIA	DESCRIPTION
Expected Change Based on Literature	Increase – Literature achieves consensus that this indicator might increase. Decrease – Literature achieves consensus that this indicator might decrease. Mixed – Literature lacks consensus about this indicator’s potential direction. None – Literature achieves consensus that this indicator might remain unchanged. N/A – Literature was not available or performed on this indicator.
Expected Change Based on Data	Increase – Data analysis suggests that this indicator might increase. Decrease – Data analysis suggests that this indicator might decrease. Mixed – Data analysis lacks consensus about this indicator’s potential direction. None – Data analysis suggests that this indicator might remain unchanged. N/A – Data analysis was not possible or performed for this indicator.
Expected Change Based on Stakeholder Projections	Increase – Stakeholders anticipated seeing an increase. Decrease – Stakeholders anticipated seeing a decrease. Mixed – Stakeholders were divided in their opinions. None – Stakeholders anticipated seeing no change. N/A – Stakeholders didn’t express their opinion about this issue.
Expected Health Effect	Positive – Changes may improve health. Negative – Changes may impair health. Uncertain – Unknown how health might be impacted. Mixed – Changes may be positive as well as negative. None – No identified effect on health.
Magnitude of Impact (number of people affected)	High – Affects most or all people (such as the population of a given county or counties). Medium – Affects a large number of people (such as several groups of people in a given county or counties). Low – Affects few or very few people (such as only certain groups of people, for example, residents that live in close proximity to a livestock operation, employees of a livestock operation). It is important to note, that although only certain groups of people might be affected, the impact on a particular individual might be high. Uncertain – It is uncertain that impacts will occur as the result of the proposed changes. None – Affects no people.
Likelihood of Impact	Likely – It is likely that impacts might occur as the result of the proposed changes. Possible – It is possible that impacts might occur as the result of the proposed changes. Unlikely – It is unlikely that impacts might occur as the result of the proposed changes. Uncertain – It is uncertain that impacts will occur as the result of the proposed changes.
Distribution	The population most likely to be affected by changes in the health factor or outcome. N/A – Data analysis was not possible or performed for this indicator.
Quality of Evidence	*** – Strong data or literature. ** – Sufficient data or literature. * – Lacks either quality data or literature.

Source: KHI HIA Corporate Farming Project, 2015.



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