

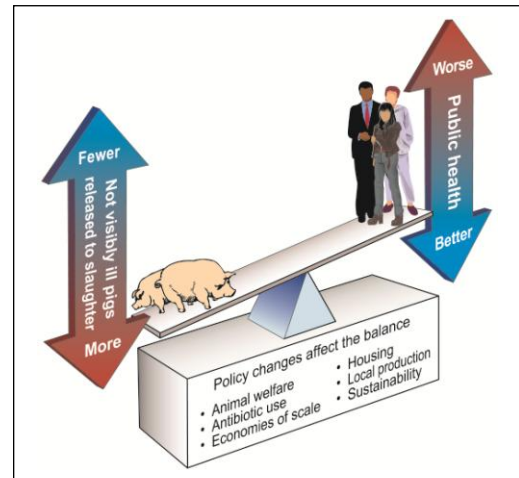
## ***The Direct Relationship between Animal Health and Food Safety Outcomes***

The health of the animals within the food animal [production system](#) impacts many aspects of the system far removed from the animals themselves.

- A change or modification in the “system” at the animal level may have secondary, unintended consequences in subsequent areas downstream from the farm.
- The issue of trade-offs between animal health and foodborne risk is one that needs further research.
- The national policy impacts of changing animal health can and should be modeled.

Adequate and proper [nutrition of animals](#) clearly plays an important role in ensuring animal health.

- Research spanning more than a hundred years has defined the nutrients required by animals.
- The health of an animal is a direct function of its nutritional status.



Housing livestock indoors can provide advantages in managing many [foodborne organisms](#).

- Outdoor environments cannot be cleaned or disinfected easily.
- Dairy cows were shown to be at greater risk of subclinical mastitis when kept in outdoor environments.
- Outdoor production can also promote infection of the zoonotic parasite *Toxoplasma gondii* in poultry and swine.

Animal care often involves oversight of all [health-impacting issues](#).

- Vaccination for important animal disease-causing agents has long been a vital tool of animal health.
- Vaccination may be effective against specific foodborne pathogens.
- Antibiotics have a major, positive effect on improving animal and human health.

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