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Backyard Poultry: Implications for Public Health and Safety

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Summary of Findings:

- Keeping backyard poultry is predominately regulated at the local level through county and city ordinances and zoning.
- Keeping backyard poultry as pets may contribute to overall human wellbeing through their companionship.
- Backyard poultry also can expose people to disease; live birds can appear healthy and show no sign of illness while carrying germs and bacteria that can make humans sick.
- Children, the elderly, pregnant women and individuals with compromised immune systems are at the greatest risk of getting disease from backyard poultry.
- Prevention practices can help minimize or eliminate infectious disease transmission, including thorough hand washing with soap and water after handling poultry, poultry feed, equipment or eggs; proper food preparation of poultry and eggs; and supervising children when handling live poultry.

Background

The number of urban-dwelling individuals and families who keep poultry in their backyards appears to be increasing. A 2010 US Department of Agriculture study in four urban areas (Los Angeles, Denver, Miami, New York) found that 4% of the households planned to get chickens within the next 5 years compared to less than 1% who had backyard poultry at the time of the survey. Keeping poultry is not a new phenomenon; communities have kept *Gallus domesticus*, the domestic chicken, as a source of food and income since at least 6000 BCE. One major difference today is that many backyard poultry owners develop attachments to their flock and view them as pets that contribute to a family's entertainment and sense of wellbeing. Some community members also perceive that keeping backyard poultry promotes safe, sustainable and economical food practices and enhances community understanding of agriculture, food and nutrition. Conflicts often arise where other community members feel that keeping backyard poultry creates noise, pests, disease and odor. Over half of the respondents to the USDA survey believed that chickens in urban areas would lead to more disease. This issue brief provides policy makers and community members a summary of the current science related to the public health and safety aspects of keeping backyard poultry. For this policy brief, keeping backyard poultry is defined as the care of a small flock of domesticated poultry, usually between one and 30 birds, for non-commercial and non-processing purposes.

Public Health Considerations with Backyard Poultry

Two major public health considerations emerge in relationship with backyard poultry, one a benefit and the other a risk. Since many backyard poultry owners regard their birds as pets, this companionship may provide health benefits. Studies of the human-animal bond have consistently shown that pets contribute to overall human wellbeing by demonstrating the positive social, cognitive, physical and emotional connections people experience through pet companionship. While the majority of respondents in the 2010 USDA study felt that eggs produced by backyard chickens are better for you, scientific studies have not found them to be safer or more nutritious than commercially produced eggs.

The primary human health risk of backyard poultry is infectious disease transmission. Any live poultry or poultry product can carry germs that can make humans sick even though the birds appear healthy and show no sign of illness. The greatest human disease risks from poultry are the bacteria *Salmonella* and *Campylobacter* which both can cause diarrhea. Poultry can carry *Salmonella* in their intestines so that it is shed in their droppings, in or on their eggs, and can be transferred onto their feathers. *Salmonella* can cause diarrhea in humans ranging from mild to life threatening. In 2012, eight *Salmonella*

outbreaks in the U.S. affecting over 450 people were due to direct contact with live poultry obtained from mail-order hatcheries for non-commercial use. The Centers for Disease Control and Prevention (CDC) advises poultry dealers and hatcheries to join the National Poultry Improvement Plan (NPIP), however, the NPIP does not certify that birds are free from *Salmonella* strains infectious to humans. *Campylobacter* illness in humans is most commonly associated with eating raw or undercooked poultry or poor sanitation in preparing the poultry.

Avian influenza, or bird flu, is another potential concern although this is currently not considered by animal health or public health experts to be a significant risk in backyard poultry in the U.S. Other common bird health concerns, such as parasites and worms, are not transferable to humans.

Recommended Prevention Measures for Backyard Poultry

Thorough hand washing with soap and water, prevention of cross-contamination, and proper cooking preparation of poultry are the most important safeguards against illness caused by *Salmonella* and *Campylobacter*. Children, the elderly, pregnant women and individuals with compromised immune systems are especially susceptible; they should be assisted or supervised when handling chickens so that any contact with fecal matter is minimized and thorough hand washing is accomplished afterwards.

Proper coop management is essential not only for poultry health but also to minimize public health concerns including flies, vermin (rats and mice) and odor. Regular removal of wet manure, bedding and feed will help to minimize odor, prevent bacterial growth and limit flies that can spread contamination. Storing poultry feed in rodent-proof containers helps prevent mice and rats. Proper composting of poultry manure is advised prior to using it as fertilizer because of the potential to contain harmful bacteria. Dead birds should be disposed promptly by burial, composting, incineration, or drop-off at designated sites. Equipment such as feeders and waterers need to be cleaned and sanitized regularly.

Backyard Poultry – Implications for Policy Makers

While commercial poultry production is highly regulated by Federal and State Agencies, backyard poultry owners keeping chickens for non-commercial reasons are exempt from most of these regulations. The regulation of backyard poultry usually is limited to local ordinances. Some communities have no regulation of backyard poultry while others have developed extensive ordinances. These local ordinances vary widely; a survey of ordinances in 25 US cities that allowed backyard poultry found no two to be similar. Nevertheless many include an application process and license fee; limits on numbers of chickens allowed based on property size and coop space available; limits on roosters; parameters on coop and enclosure structures; restrictions on slaughter and nuisance clauses to manage aspects of noise, pests, odor, cleanliness and manure disposal. Variations in backyard poultry ordinances also include rules about selling eggs, slaughtering birds and what minimal feed, water, bedding, and veterinary care are required.

No universal ordinance appears appropriate for all communities looking to allow backyard poultry. Several recommendations were made after surveying ordinances of 25 cities:

- The ordinance satisfies the needs of most stakeholder groups and acknowledges that some stakeholders on both sides of the issue will be unwilling to compromise
- The ordinance does not discriminate against certain populations, such as those of lower incomes who cannot afford high permitting fees, or those with smaller property sizes
- The ordinance allows for flexibility and provides choice, such as giving chicken keepers the right to choose their own coop design and building materials
- The ordinance allows for citizen input and participation in the ordinance forming process to assure that the ordinance fits the needs of , and is supported by the community
- The ordinance recognizes the role chickens can play in developing a more sustainable urban environment
- The ordinance recognizes the importance of the ordinance being clearly stated and easily accessible to the public, which will help ensure compliance and reduce violations.

Local governments may find it useful to consult with University Extension Services and public health agencies for specific advice in developing ordinances.