



# Addressing antimicrobial use in agriculture: considering consumer perspectives

Áine Regan<sup>1</sup>, Sharon Sweeney<sup>1</sup>, Claire McKernan<sup>2</sup>, Tony Benson<sup>2</sup> & Moira Dean<sup>2</sup>

<sup>1</sup> *Agrifood Business and Spatial Analysis, Teagasc*

<sup>2</sup> *Institute for Global Food Security, Queen's University Belfast*

# Antibiotic Use in Agriculture

## Considering Consumer Demand



### Is there a market demand for reduced antibiotic use in farming?

- Firstly: need to avoid a consumer trend for '*antibiotic free*' (Singer et al., 2019)
- Movement towards approaches which communicate to consumers the actions industry are taking to reduce antibiotic usage
  - E.g. One Health certification programme in the United States ('Responsible Use' logo on foods)
- Any communication we do, whatever format it takes, needs to consider consumer awareness and knowledge:
  - Do they know why it's important to reduce antibiotic use?
  - Do they understand why antibiotics can be reduced but not removed?
- Currently, we know very little about Irish consumers' understanding of this topic, and how they might respond to communication efforts related to antibiotic use in agriculture

# Antibiotic Use in Agriculture

## Knowledge Gaps

- Limited literature on consumer perceptions and beliefs:

“Antibiotics should be given to animals when they need them”

*Eurobarometer (2018)*



“Antibiotic free = better quality meat”

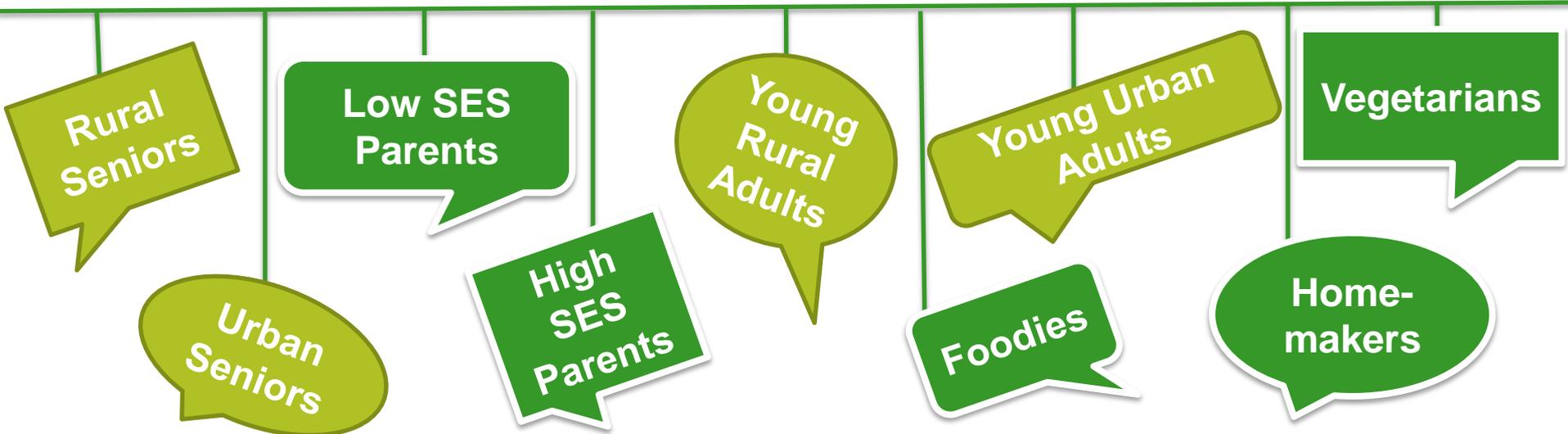
*Regan et al. (2018)*



- **But** we don't know what beliefs and knowledge consumers use to form these opinions and we don't know how new knowledge may change those opinions
- Within the SWAB project, we aimed to narrow existing knowledge gaps
  - Explore current consumer awareness and understanding of the role of antimicrobials in agriculture, and the role of agriculture in helping combat antimicrobial resistance
  - Explore how consumers may respond to (new) information on this topic

# Consumer Research

- **Focus Groups:** 3 in Northern Ireland and 6 in Republic of Ireland
- 3-6 participants per group; 41 participants in total
- Topics explored:
  - 1) Perceptions of farm animal welfare (generally & sector-specific)
  - 2) **Knowledge and views on the use of antimicrobials in agriculture**



# Deliberation Exercise

- Assumption: consumer knowledge levels may be low
- Information, in the form of text and image, was presented for group discussion and deliberation:
  - **Graded**: delivered incrementally in 5 stages
  - **Balanced**: different perspectives presented in a neutral tone
  - **Evidence-based**: fact-checked by interdisciplinary team

1

### **What are antimicrobials?**

Antimicrobials are a group of medicines that include antibiotics, antifungals and antivirals. These medicines are used to treat infections in humans and animals. These medicines are needed to protect human and animal health, as well as animal welfare.



2

### **What are antimicrobials used for on farms?**

Antimicrobials are used to treat disease in animals on farms all over the world. They are also sometimes used in some farms to prevent disease before it starts. For example, antimicrobials may be given to prevent infections in cows at the end of the milking period or to prevent digestive infections in very young pigs and chickens.



3

### **What are the risks of using antimicrobials?**

Antimicrobials such as antibiotics are used to treat infections that are caused by bacteria. But the more antibiotics are used, the more resistant the bacteria becomes to the antibiotics. This means that the antibiotics are no longer as effective at killing the harmful bacteria. This is concerning for both animal and human health.



4

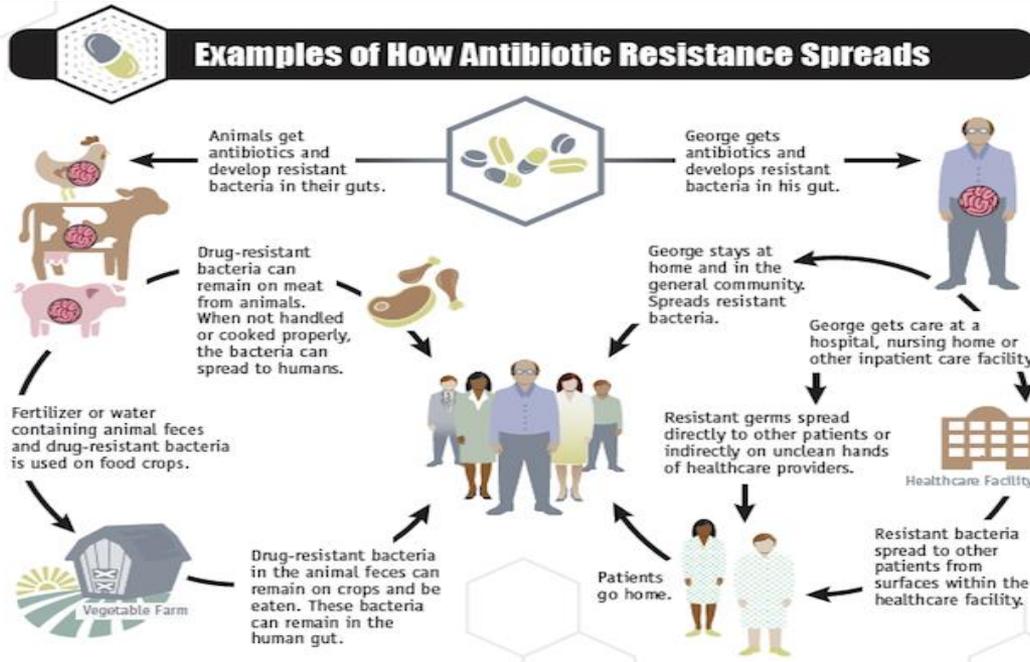


Image Source: <https://www.cdc.gov/drugresistance/pdf/2-2013-508.pdf>

5

## What can be done about antimicrobial resistance in agriculture?

Completely removing antimicrobials on farms risks the health and welfare of the animals. Reducing the use of antimicrobials on the farm by only treating sick animals may be one potential solution. Other potential solutions include: improvements in farm management, animal housing, nutrition and improved vaccination programmes which could all help to reduce the need for antimicrobials.



# Consumer Deliberations: Main Findings

## Finding #1: Awareness differs across consumers, but ultimately is limited

- Awareness of the use of antibiotics on farms, including the practice of using antibiotics to prevent illness: large range in awareness levels across consumers



*“Completely surprised”*

*“It’s standard practice”*

- Awareness of the contribution of antibiotic use on farms to antibiotic resistance: relatively low awareness across all consumers



*“Never knew about it”*

*“Heard something about it”*

## Finding #2: Consumer concern increases in the absence of information and knowledge

- Consumers were concerned about how the use of antibiotics in farming impacted on human health
  - Largely driven by lack of knowledge and understanding
- Consumers concerned because of a perceived lack of transparency: not knowing about antibiotic practices on farms created suspicion



Farm  
Practices

Human  
Health

*Q: How does use of antibiotics in farming impact on human health?*

*Q: How prevalent is the use of antibiotics in farming? Does it differ by farm type?*

*Q: What can be done instead of giving antibiotics to prevent animals getting sick?*

*Q: What regulation covers antibiotic use on farms?*

*Q: Who monitors the use of antibiotics on farms?*

## Finding #3: Even in the presence of information, misunderstanding persists about the spread of AMR

- Consumer starting point: high awareness of AMR but low understanding
- When AMR is brought up in the context of agriculture, consumers grapple to understand how AMR spreads from farm to human
- Some consumers fall into a (false) belief pattern that AMR is spread when consumers ***“eat antibiotics in the meat”***
  - Even in the presence of the correct information, this belief persists. Only when others in the group correct or challenge them do we see a weakening of the belief. However in some groups, it goes uncontested.
  - In the uncontested groups, we see this belief that they are consuming antibiotics give rise to greater consumer concerns and more reactionary responses.

***Note: All participants received a full debriefing following focus group.***

## Finding #4: Consumers want to see reduced antibiotic use but appreciate there is no quick fix

- When given the facts, the space to discuss, and a group context to hear others' thoughts, consumers deliberated about the issue in a reflective manner.
- All consumers wanted to see reduced antibiotic use on farms
- *But* they acknowledged the role of antibiotics to protect animal health and protect the integrity of the food supply chain
- *And* they were empathetic with the farmer, citing the practical realities and difficulties of reducing antibiotic use on farms
  - **Farmers** should improve farm animal welfare practices to reduce the need for antibiotics...But they must be supported:
  - **Government** must provide incentives and support for farmers to change
  - **Consumers** must be willing to pay more to enable farmers to change

# Summary

- Consumer baseline awareness and knowledge levels currently are low.
- Communicating with consumers in a top-down manner (e.g. labels, logos) will likely be ineffective and could have unintended impacts.
- A more proactive approach where actors engage with consumers on this topic may prevent misunderstanding and increase transparency and trust.
- It is important that we engage the public on this issue.
- **This information will increasingly be in the public domain – we have the opportunity now to prepare the market and take a proactive approach to ensure consumers are properly informed.**

# Next Steps: SWAB in 2020

- **Representative survey of consumers**
  - 1000 Irish and Northern Irish consumers
  - Examine the role of FAW attributes in consumer decision-making, including willingness-to-pay
  
- **Participatory workshops**
  - With all relevant actors, including consumer representatives
  - Co-create approaches for raising consumer awareness and knowledge on role of antimicrobials in agriculture

# Acknowledgements

- Co-authors:
  - *Teagasc*: Sharon Sweeney
  - *Queen's University Belfast*: Moira Dean, Claire McKernan, Tony Benson
- Research conducted with the SWAB project funded by Department of Agriculture, Food and the Marine
- Research Participants

*Thank you!*

[aine.regan@teagasc.ie](mailto:aine.regan@teagasc.ie)