WPI

Reducing Antibiotic Use in Chinese Pig Farms

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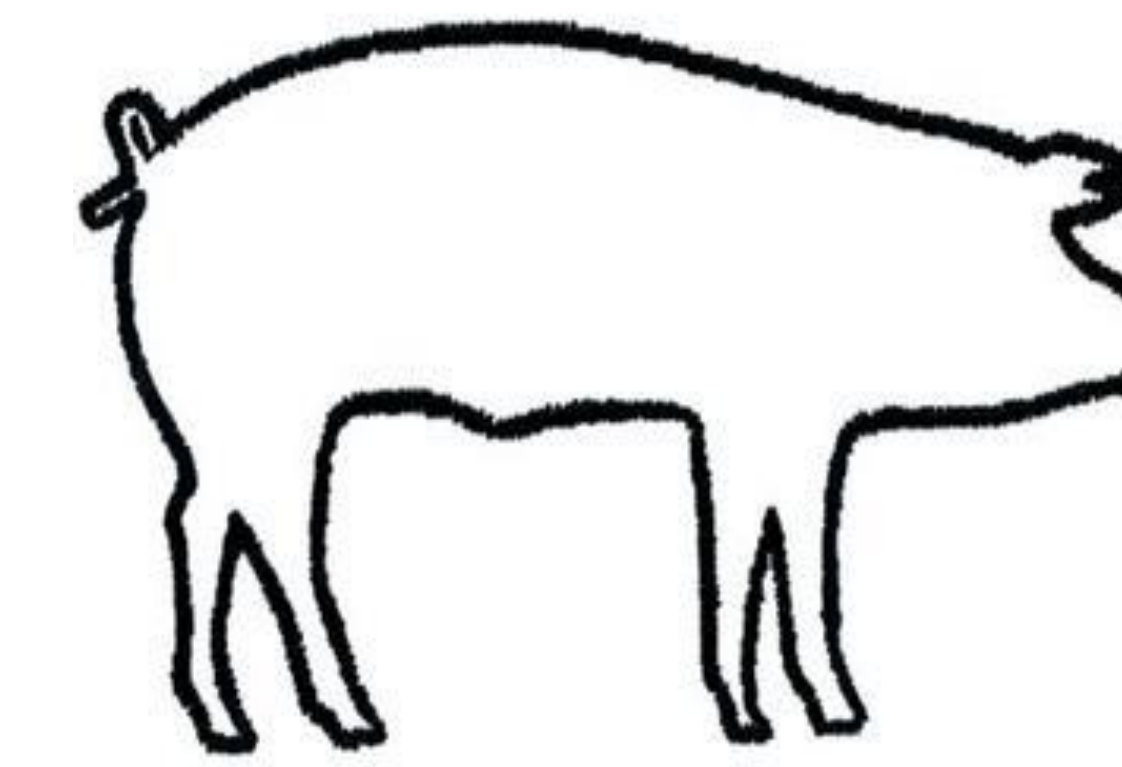**Advisor: Professor Jill Rulfs (Biology) & Helen Vassallo (Management)**

Abstract

- Antimicrobial resistance (AMR) has been a serious rising issue for China because of unregulated use of antibiotics.
- Using antibiotics for livestock provides a vector for resistant strains to the public.
- We proposed a two-pronged solution:
1. Educate the farmers through pamphlets with each delivery of antibiotics.
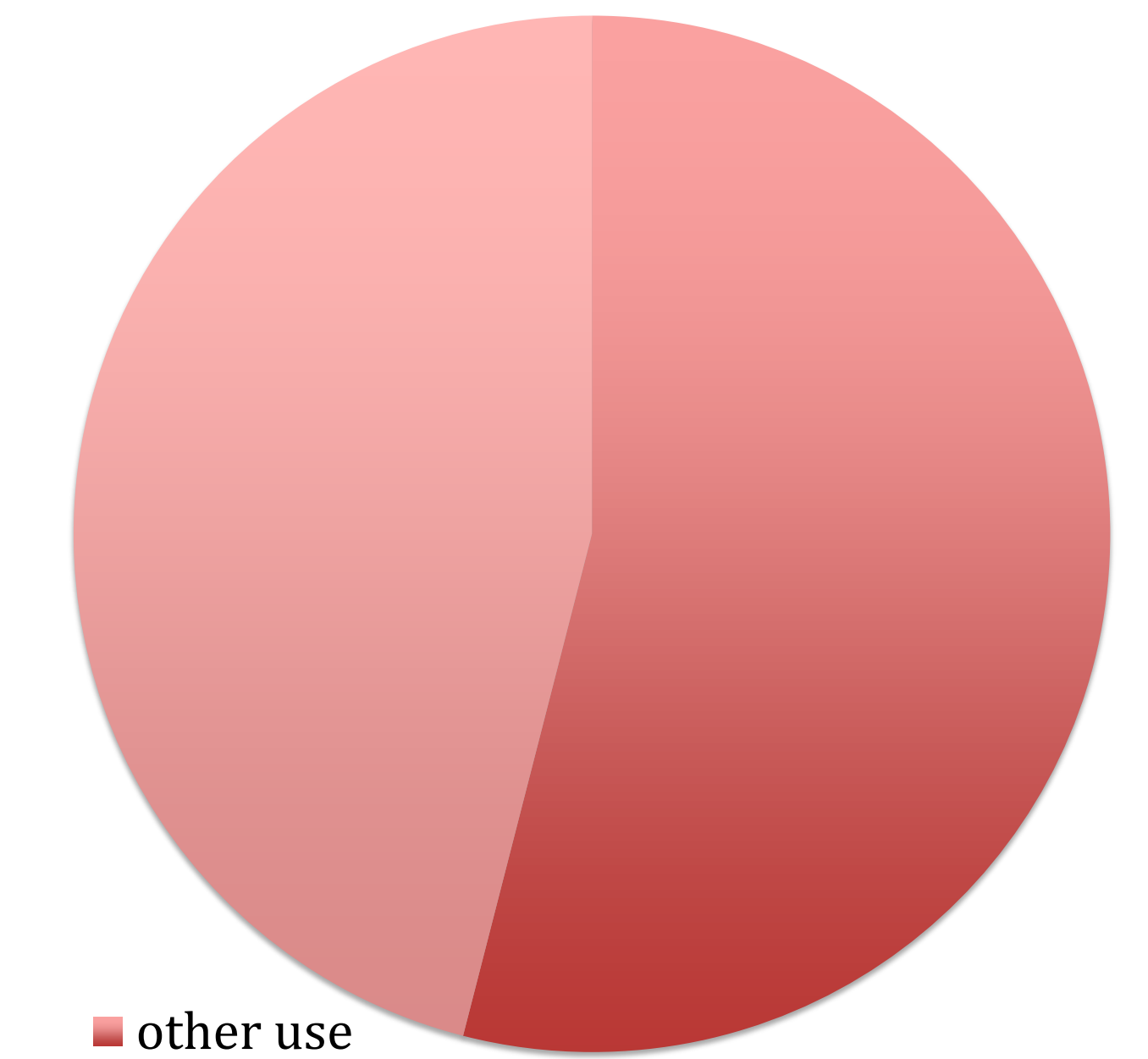2. Educate the public by using labels on meat to promote antibiotic free meat.

Methods/Process
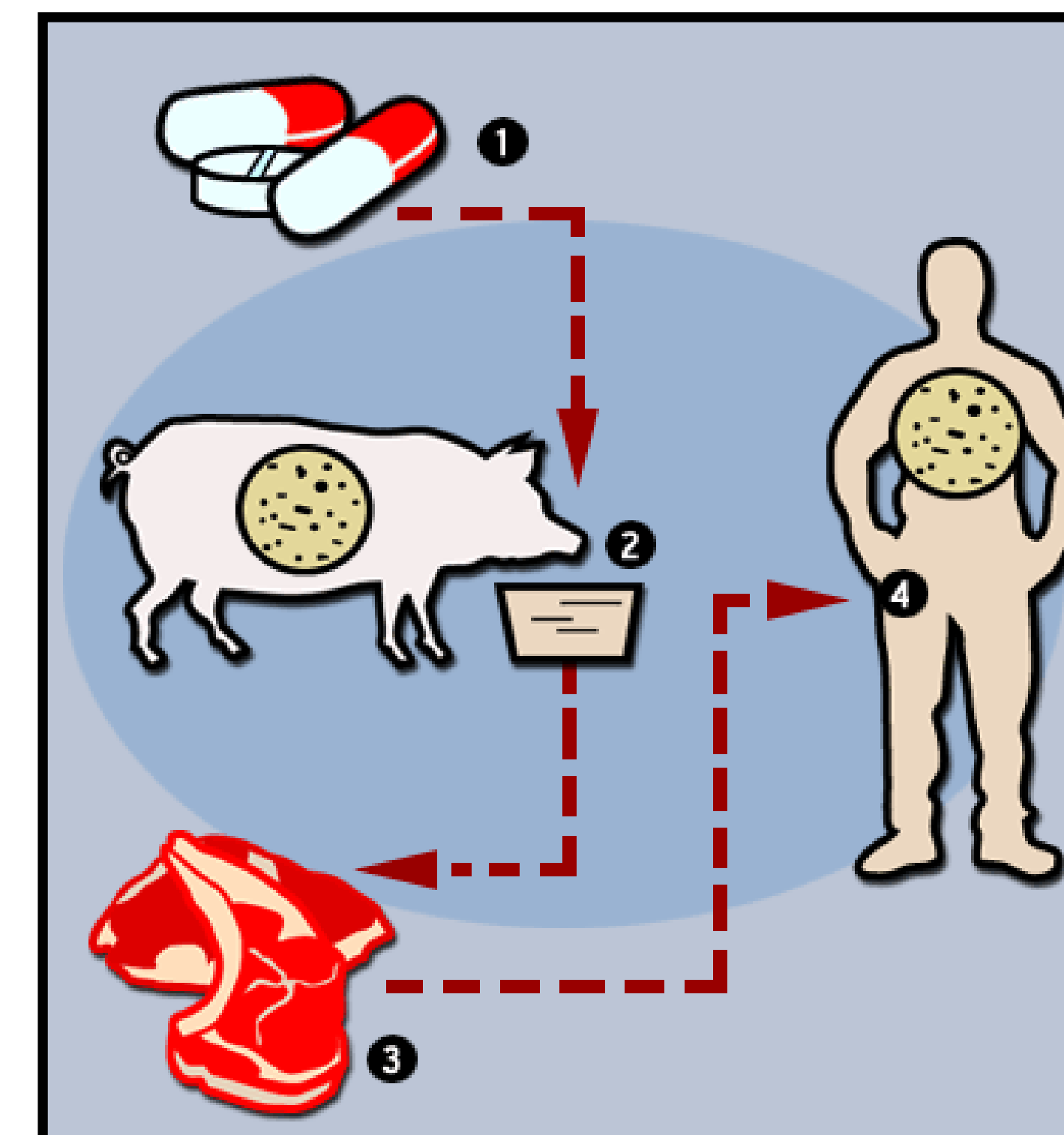
Education of Farmers
- Pamphlet in Chinese was created which discussed
  - Antimicrobial Resistance
  - Biomagnification
  - Potential consequences
  - Incentives

Education of Public
- Label for meat which signifies no antibiotic use
- Poster within supermarkets explaining:
  - Importance of label
  - Antimicrobial Resistance

Involvement of Government
- Government oversight is necessary to mandate:
  - Distribution of pamphlets.
  - Usage of label

無抗生素

Label for meat that is antibiotic free.

Project Goal/Objective

To educate the Chinese farmers and public about the excessive use of antibiotics.

Background

AMR is the resistance of a microorganism to an antimicrobial medicine to which it was originally sensitive[1].

In China:
1. Roughly 106,030 tons of antibiotics is used for livestock annually[2].
2. AMR bacteria population grows in livestock.
3. Around 54 million tons of pork is consumed annually[2].
4. Antibiotic misuse kills 80,000 people in China a year[3].

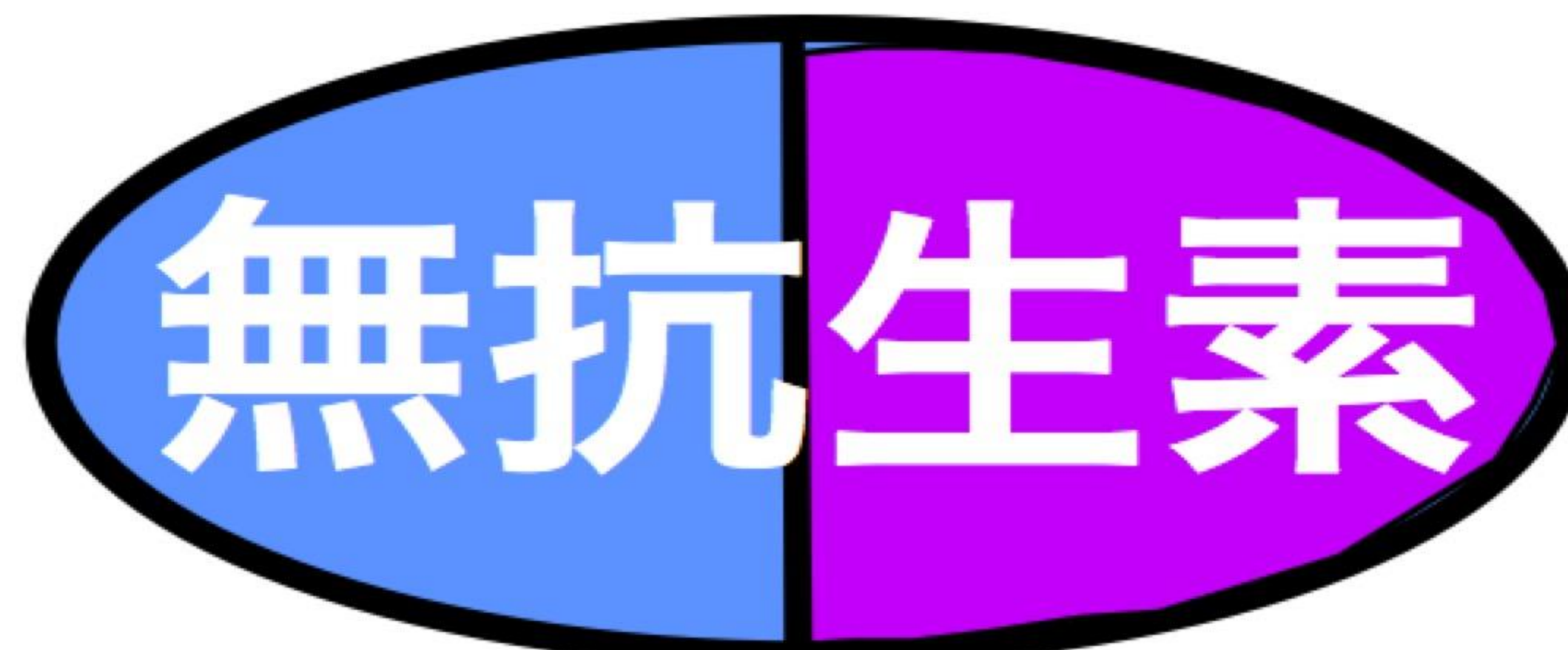## Outcome

- Pamphlets, labels, and poster were created.
- Decreased amount of antibiotic used in livestock.
- Market for antibiotic meat increases.
- Less cases of antibiotic resistant fatalities.

Current Antibiotic Use

46%

- other use
- livestock

Conclusions/Recommendations

- To find out if farmers followed pamphlet, test samples of pig manure in three years.
- To check effectiveness of label, compare sales of labeled and non-labeled meat in the same time frame.
- To determine effectiveness of the education program, analyze the number of deaths due to antibiotic misuse.

Acknowledgments

References

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