

# **Prospects of the Future of Food Safety**


**Junshi Chen**

**China National Centre for Food Safety Risk Assessment**



# Emerging New Focus and New Trends

**While FBD continue to be the highest priority, some new focuses are emerging, which include:**

- **Food fraud/authenticity/integrity**
  - **Antimicrobial Resistance (AMR)**
  - **Food information communication**
  - **Food safety culture**
  - **Expansion of the scope of food safety – quality, nutrition and health**
  - **New technology – WGS; AI information platform, e.g. blockchain; etc.**
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# Nature and Impacts of food fraud

- Crime – intentional;
- Economic loss – mot cases;
- Adverse health effects – few cases;
- Consumer loss confidence to food supply.





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密 级：公开

## EU-China-Safe

- Delivering an Effective, Resilient and Sustainable EU-China Food Safety Partnership

### 国家重点研发计划 项目任务书

项目名称： 中欧食品安全合作 H2020 EU-China-Safe

所属专项： 政府间国际科技创新合作重点专项

指南方向： 中欧政府间合作项目

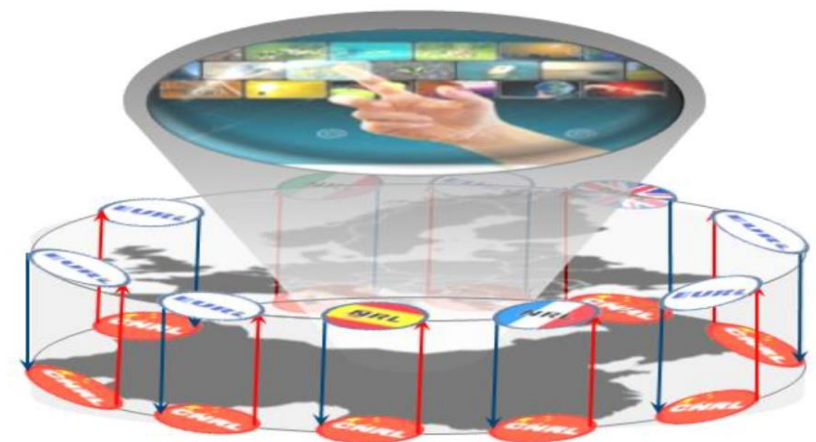
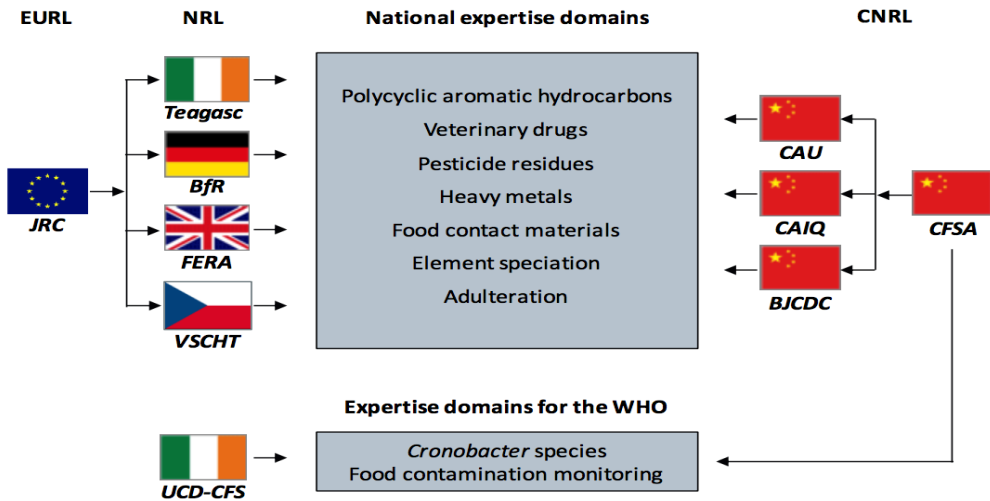
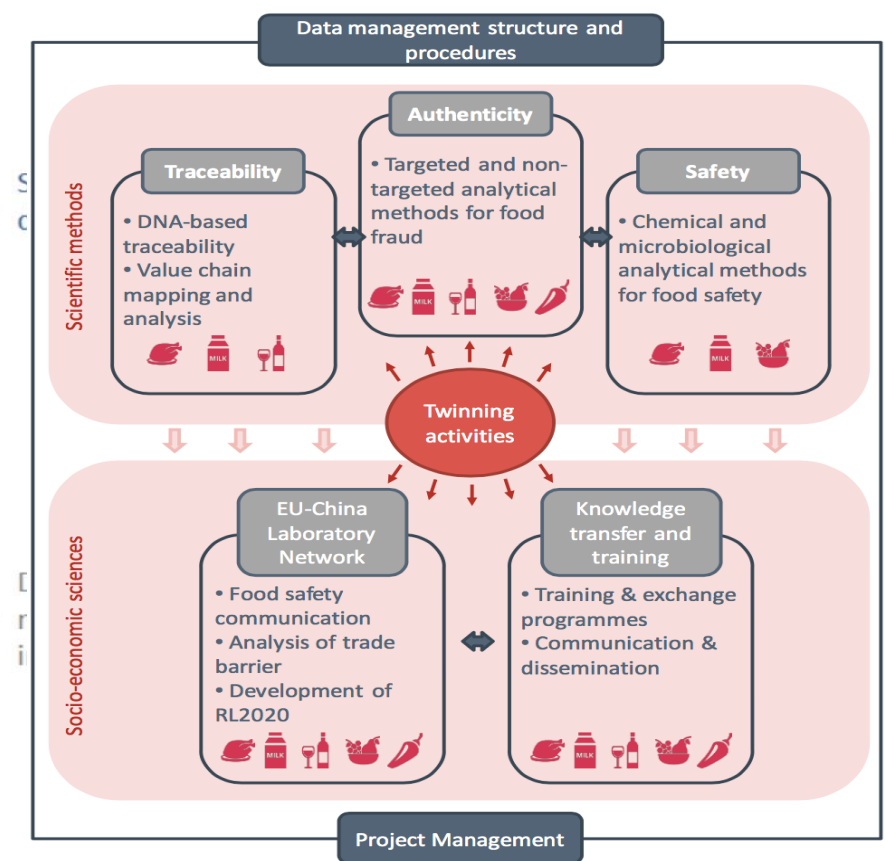
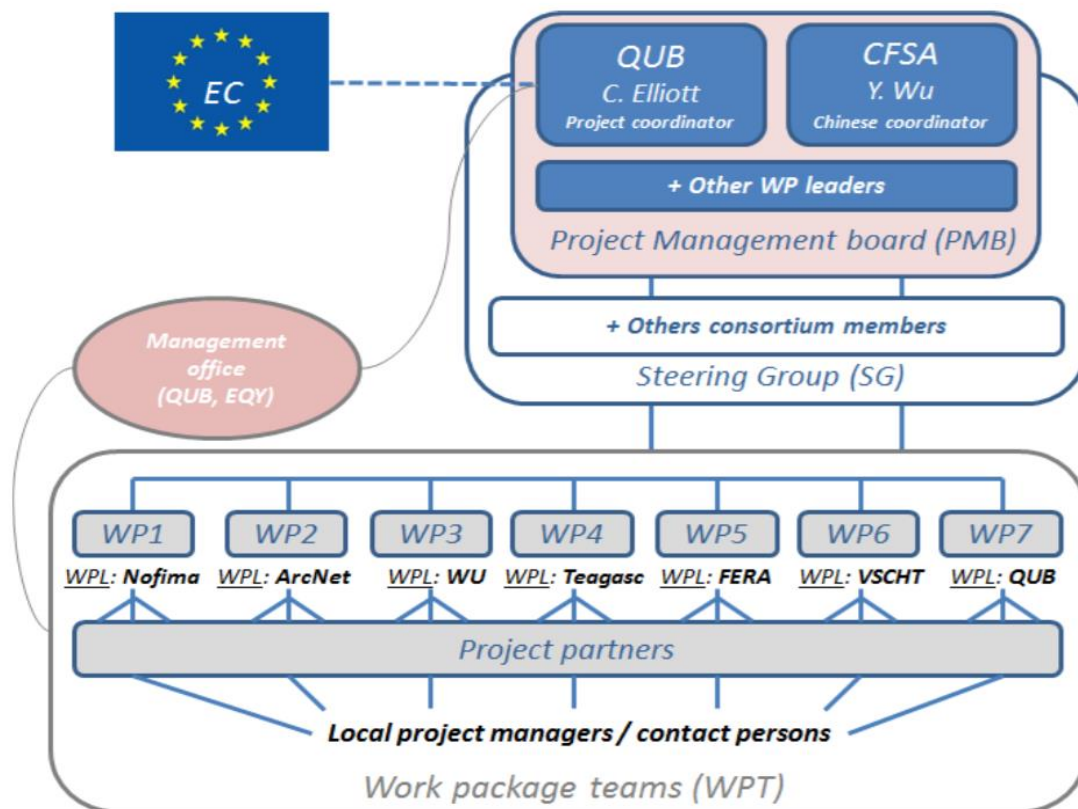
推荐单位： 国家卫生和计划生育委员会

管理机构： 中国科学技术交流中心

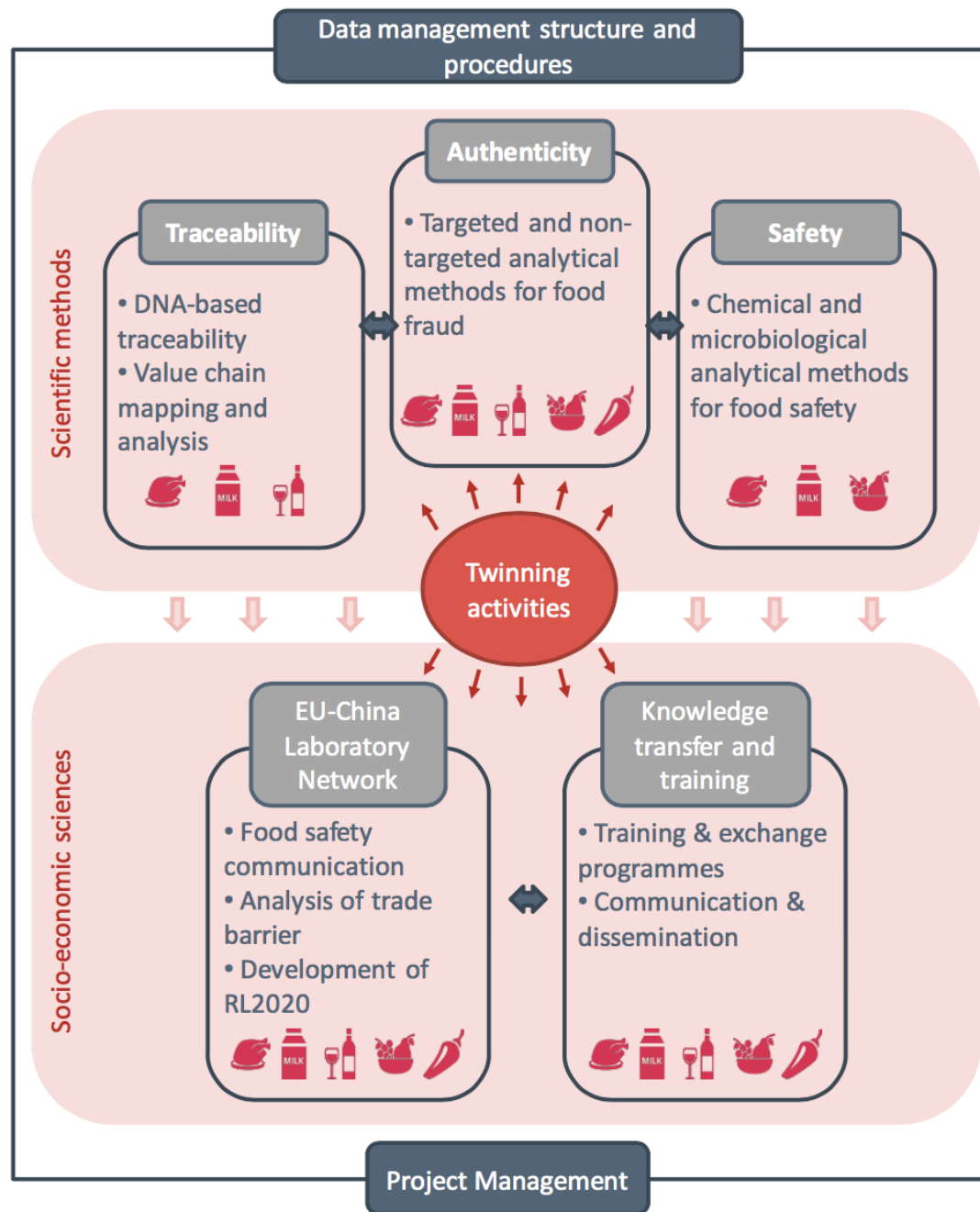
项目牵头承担单位： 国家食品安全风险评估中心 (公章)

项目负责人： 吴永宁

执行期限： 2018 年 04 月 至 2021 年 03 月








# Global agenda on AMR at a glance

- WHO Global Action Plan (2015)
  - Lord Jim O'Neil Review (May 2016)
  - FAO Action Plan (2016-2010)
  - UN tripartite mechanism – FAO, WHO and OIE
  - Codex initiatives (July 2016)
  - High level conference at UN General Assembly (September 2016)
  - UN SG established IACG (2017)
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# Ways for AMR control

- **Global Strategies** – Reduce need; Optimize intentional use; Avoid unintentional exposure (food safety and environment contamination); and Improve supply and access.
  - **Tripartite joint action** – WHO, FAO and OIE.
  - **More than 80 countries have promulgated national action plan for AMR control, including China (2016) .**
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# Integrated Surveillance of AMR in Foodborne Microorganisms – One Health Approach

## Surveillance of AMU



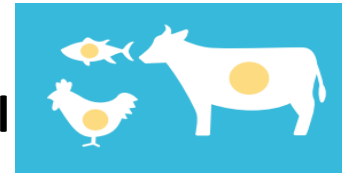
Animal



Human

## Surveillance of AMR

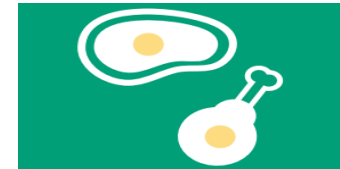
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Human

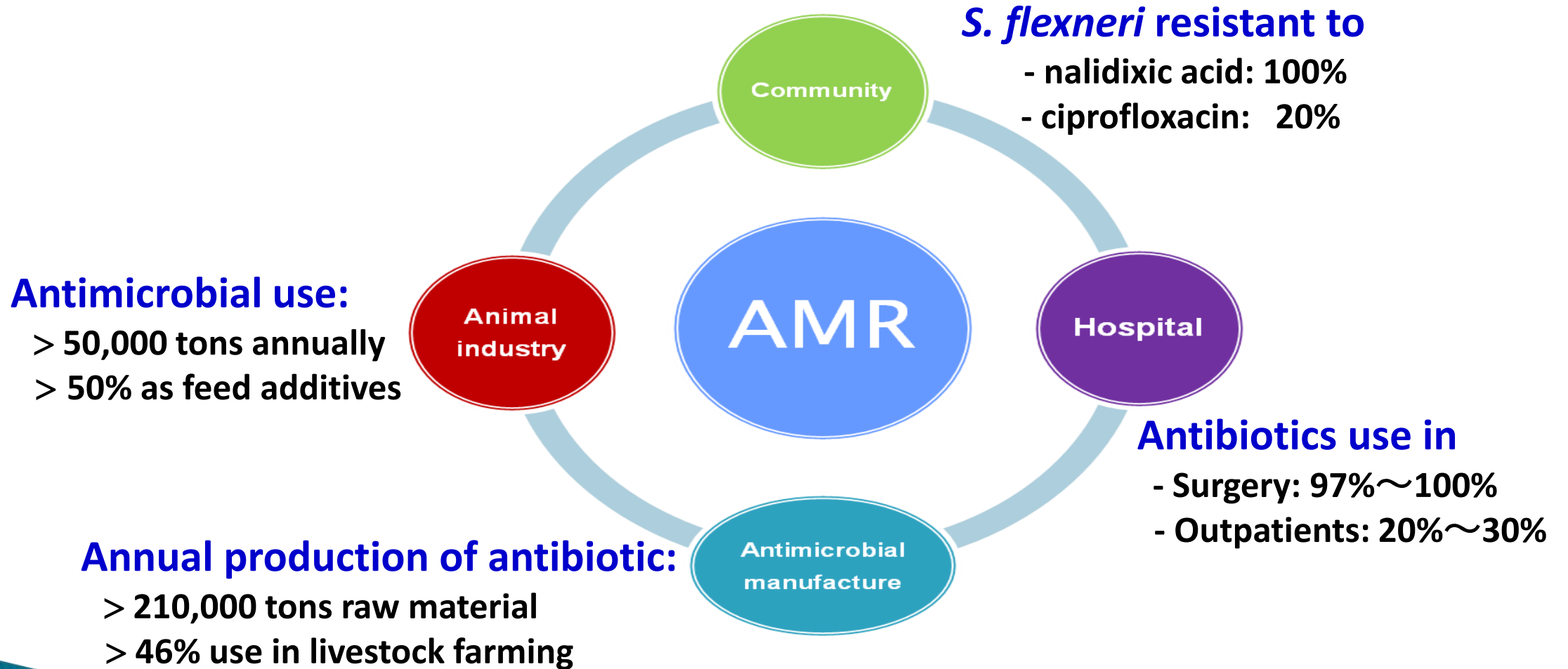


Food



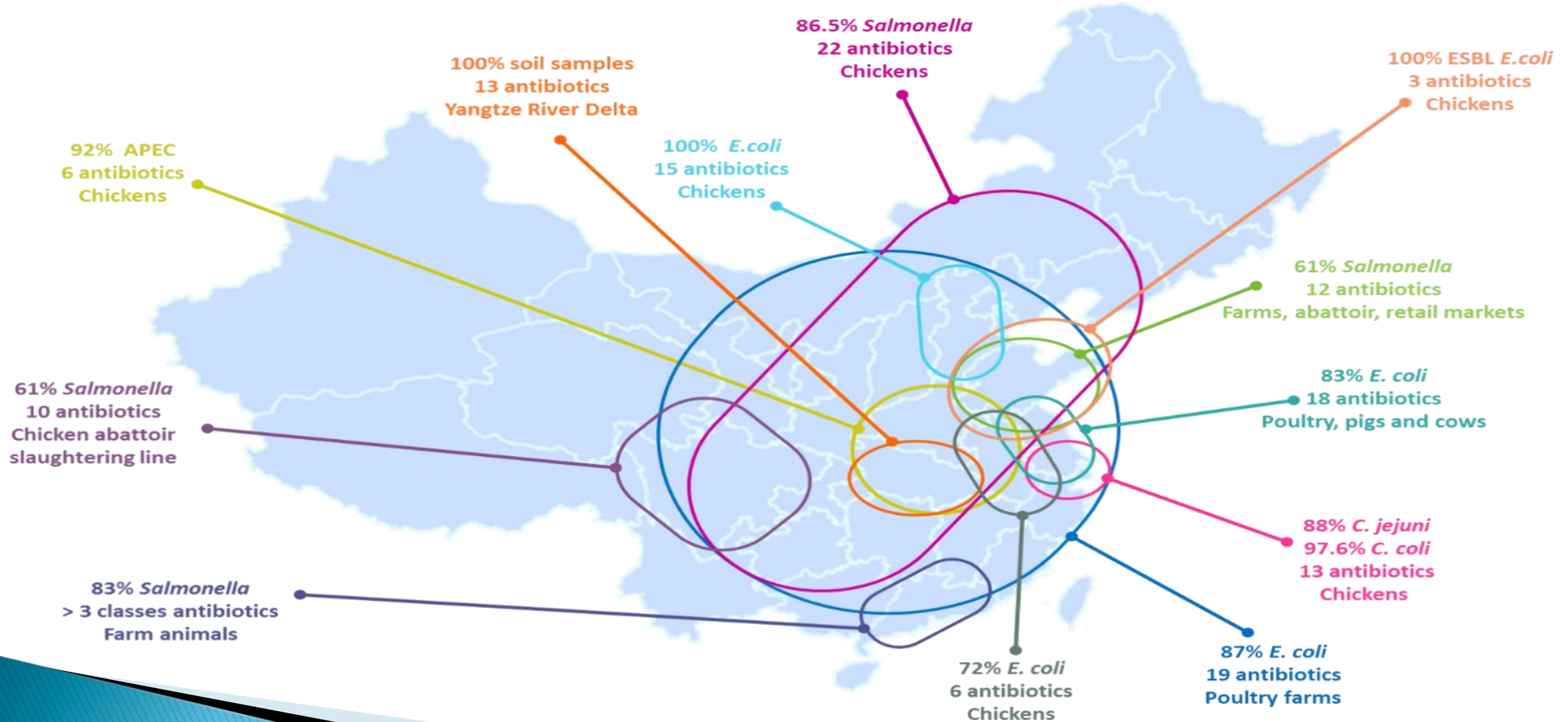
- **WHO:** integrated Surveillance of Antimicrobial Resistance in Foodborne Bacteria: Application of a One Health Approach
- **Codex:** Proposed draft guidelines on integrated Surveillance of antimicrobial resistance (TFAMR EWG COP2)

# Link of AMR Emerge in China



- Li et al. China practical medicine, 2010, 5(1): 159-160.
- Jia et al. Anhui Agriculture Science . 2007, 35 (5) :1368-1370.
- Development report of the veterinary drug Industry in China, 2013.

# Multi-drug resistance of *E. coli*, *Salmonella* and *Campylobacter* isolated from poultry and environment in animal production provinces in China



# New concept in food safety communication



From **risk** communication  
to **food information**  
communication

**Professor Patrick Wall**


University College Dublin, Ireland

**Professor Junshi Chen**


China National Centre for Food  
Safety Risk Assessment

# **A promising new concept**

From “**food safety risk communication**” to  
“**food information communication**”, aiming at  
re-establishing consumer confidence to food  
supply and reducing government concern on  
communication.



# Workshop on new strategy in food information communication


- Initiated and chaired by Prof. Junshi Chen and Prof. Patrick Wall from UCD.
  - 10<sup>th</sup> November, 2016, Beijing, National Conference Centre.
  - Held by CIFST, supported by the third department of China FDA.
  - Multiple stakeholders including government authorities, universities, research institutions, food industries and media, 80 people in total.
  - Topic: the objectives of food information communication; how to establish trust and rebuild confidence; peacetime communication and crisis communication; what actions should be taken to change.
- 



# Workshop on new strategy in food information communication (10th November, 2016)



# Consensus and recommendations

- The word “risk” is naturally negative, may increase consumers’ anxiety and concern about food. It’s worth trying to change “**food safety risk communication**” to a broader “**food information communication**”.
  - The core objective of food information communication is to establish **trust** among stakeholders, rebuild consumer **confidence**, reduce government’s pressure of public opinion.
  - The globalization of information dissemination and the emergence of **social media** has brought great challenges to food information communication. Should try to **innovate ways** of communication, make food information more attractive to the public.
  - More **resources** should be invested and assured, including facilities, staff, and funding. Emphasize training for regulators, industry and journalists.
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陈君石院士专家团权威揭秘：

# 咖啡该不该 到底喝？



致癌 VS 防癌



伤心 VS 护心



升糖 VS 降糖

陈君石 院士

钟凯

云无心

阮光锋



扫码  
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咖啡到底该不该喝？



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咖啡该不该喝 陈君石院士专家团权威揭秘！

## 咖啡真相

陈君石院士：伤心又伤神？经常喝咖啡好不好？

狐大医 · 10-25 08:00



钟凯：咖啡致癌？真相没想得那么恐怖！

狐大医 · 10-26 08:00



云无心：喝咖啡到底减肥还是长肉？

狐大医 · 11-01 08:53



阮光锋：咖啡虽好，五种人不适合？真相来了！





# 咖啡与健康的相关科学共识

## (Chin J Prev Med, November 2018, Vol. 52, No. 11)

中华预防医学杂志 2018 年 11 月第 52 卷第 11 期 Chin J Prev Med, November 2018, Vol. 52, No. 11

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·标准·指南·共识·

### 咖啡与健康的相关科学共识

科信食品与营养信息交流中心 中国疾病预防控制中心营养与健康所 中华预防医学学会健康传播分会 中华预防医学会食品卫生分会 中国食品科学技术学会食品营养与健康分会

【关键词】咖啡；咖啡因；肿瘤；健康

**Scientific Consensus on coffee and health** China Food Information Center; National Institute for Nutrition and Food Safety, Chinese Center for Disease Control and Prevention; Branch of Health Communication, Chinese Preventive Medicine Association; Branch of Food Hygiene, Chinese Preventive Medicine Association; Branch of Food Nutrition and Health, Chinese Institute of Food Science and Technology

【Key words】Coffee; Caffeine; Neoplasms; health

咖啡是将咖啡豆经过烘焙、研磨、冲泡等工艺制成的饮料，已有悠久的饮用历史，是世界上流行范围最为广泛的饮料之一。数据显示，日本和韩国人均每年喝 200 杯咖啡，美国是 400 杯，而欧洲是 750 杯。中国的人均咖啡消费量虽与上述国家或地区相比低得多，但喝咖啡的人群增长迅速，咖啡爱好者已不在少数。

咖啡豆含有绿原酸、咖啡因、单宁等成分，经不同程度的烘焙后可形成独特的香味。人们将咖啡豆研磨后冲泡饮用，现代食品工业还可通过萃取工艺将其制成速溶咖啡<sup>[1]</sup>。消费者常喝的咖啡一般分为两大类：一种是纯咖啡，一种是混合咖啡（花式咖啡）。前者是咖啡加水制成，后者则辅以乳及乳制品等成分。咖啡并没有国际统一的计量单位，但常以杯计，比如每杯 150 mL，约含 100 mg 咖啡因。

一、咖啡可根据个人情况适量饮用

综合美国食品药品监督管理局、欧盟食品安全局、加拿大卫生部、澳新食品标准局等国际权威机构的观点，咖啡可适量饮用<sup>[2-5]</sup>。建议消费者初次尝试时小口啜饮，并根据自身情况，合理掌握饮用频次和饮用量。

（一）健康成年人

每天 3~5 杯是适宜的。综合美国食品药品监督管理局<sup>[6]</sup>、欧盟食品安全局<sup>[7]</sup>、加拿大卫生部<sup>[8]</sup>、澳新食品标准局<sup>[9]</sup>等机构的建议，健康成年人每天摄入不超过 210~400 mg 咖啡因（大约相当于 3~5 杯咖啡）是适宜的。

（二）孕妇

不建议孕妇喝咖啡，如果饮用，每天不超过 2

杯。尽管加拿大卫生部、美国妇产科学会、美国孕产协会等机构认为，孕期可少量饮用咖啡（每天不超过 150~300 mg 咖啡因，约 2 杯）<sup>[8-10]</sup>，但不应鼓励孕妇喝咖啡。

（三）儿童及青少年

儿童及青少年应当控制咖啡摄入。儿童和青少年应当控制咖啡摄入。家长可以帮助孩子控制包括咖啡、茶及其他含咖啡因饮料的摄入。美国儿科学会的建议是儿童和青少年不喝咖啡<sup>[11]</sup>。美国食品药品监督管理局、欧盟食品安全局、加拿大卫生部、澳新食品标准局等机构认为，儿童和青少年每天的咖啡因摄入不超过每公斤体重 2.5~3.0 mg（对于 30 kg 重的儿童和青少年来说，约为 75~100 mg 咖啡因）<sup>[12]</sup>是安全的。

二、公众关注的常见话题

（一）咖啡是否致癌

2016 年，国际癌症研究机构（International Agency for Research on Cancer, IARC）对现有研究进行综合分析后认为，并没有足够的证据显示喝咖啡会增加人类癌症的风险<sup>[13]</sup>。2017 年，国际癌症研究基金会（World Cancer Research Fund, WCRF）发布的报告指出，目前并没有证据显示喝咖啡会使人致癌，同时有部分证据表明，咖啡能降低某些癌症的风险，例如乳腺癌、子宫内膜癌及肝癌<sup>[14]</sup>。

（二）咖啡是否增加健康成年人的心脏病和心血管疾病风险

美国心脏病协会<sup>[15]</sup>、欧洲心脏病学会<sup>[16]</sup>、澳大利亚国家卫生和医学研究协会<sup>[17]</sup>等机构认为，健康成年人适量饮用咖啡（约每天 1~2 杯咖啡）不会增

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加患心脏病和心血管疾病的风险。

但需要提示的是，部分对咖啡因敏感的人可能会出现心跳加速、恶心、头晕等不适感，类似“茶醉”的现象。建议消费者根据自身情况调整频次及饮用量。

（三）咖啡是否增加糖尿病风险？

中国营养学会的《食物与健康-科学证据共识》指出，适量饮用咖啡（约每天 3~4 杯）可能降低 2 型糖尿病风险<sup>[18]</sup>。国际糖尿病联盟<sup>[19]</sup>、美国糖尿病协会<sup>[20]</sup>等机构认为，糖尿病患者可以适当饮用咖啡，纯咖啡可以作为健康膳食的一部分。糖尿病患者喝咖啡时，应当注意控制添加糖的摄入量。

（四）咖啡因是否增加骨质疏松风险

健康成年人可适量喝咖啡，但过多的咖啡因会增加骨质疏松的风险。中国《原发性骨质疏松症诊疗指南（2017 版）》提示，大量饮用咖啡、茶会影响钙的吸收，增加骨质疏松的风险<sup>[21]</sup>。国际骨质疏松协会<sup>[22]</sup>、美国国家骨质疏松协会<sup>[23]</sup>认为，每天的咖啡摄入量控制在 3 杯以内为宜。

对于骨质疏松患者来说，除适当控制含咖啡因饮料的摄入量，还应当保持膳食平衡以确保足量的钙和维生素摄入，辅以适度的运动和阳光照射。

（五）咖啡是否影响睡眠

咖啡因具有一定的中枢神经兴奋作用，因此咖啡和茶都可以提神。人体对咖啡因的反应存在较大个体差异，对于敏感人群可能影响睡眠，建议根据自身情况酌情控制饮用频次和饮用量。

综上所述咖啡在世界范围内具有长期的饮用历史，综合各国专业机构及国际组织的研究成果，消费者可根据自身情况适量饮用并合理掌握饮用频次和饮用量。同时，关于咖啡与健康的研究正在中国展开，希望在不久的将来，能够给出更加切合国人实际的咖啡饮用指导。

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# **Final words for GFSI China Group**