## <u>Insight</u>



Narelle Fegan and Rozita Vaskoska





# **KEY POINTS**

- Although Australia has a reputation for producing safe food, it has a high incidence of some foodborne pathogens for a developed country, indicating that improvements are needed.
- Food safety is essential to building trust in our agrifood system both domestically and globally.
- Food safety continually evolves to assess threats arising from new foods, technologies and distribution pathways.

### 3.1 State of food safety

Australia is known globally for producing food that is clean, green, safe and of high quality (Australian Food and Agriculture Taskforce, 2024). Despite this reputation, rates of foodborne illness for some pathogens are among the highest in the developed world (Figure 6). Public health costs associated with foodborne illness in Australia were estimated to be \$2.81 billion annually in 2023 (Australian National University, 2023).

# 3.2 Challenges with reporting

In Australia, food safety metrics consider a range of food system aspects. Metrics may reflect on the prevalence and concentration of pathogens in food, the costs of managing food safety or the social and economic impacts of the food system itself. Incidence of foodborne illness is a standard metric for monitoring food safety, but it does not reflect the flow-on reputational consequences, which can be

# INCIDENCE OF FOODBORNE ILLNESSES

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#### CAMPYLOBACTERIOSIS Incidence per 100,000 pop





Figure 6: Incidence of foodborne illnesses (campylobacteriosis and salmonellosis) between 2018 and 2023 in Australia, New Zealand and the United States. Data compiled from National Notifiable Diseases Surveillance System (Australia), BEAM Dashboard, Centers for Disease Control and Prevention (United States) and Ministry for Primary Industries Foodborne Disease Annual Reports (New Zealand) disproportionately large. Food businesses are as vulnerable as the poorest performer in their value chain or industry. If one business has a food safety incident, this can negatively impact whole industries and brands. Impacts can lead to job losses, product disposal, empty supermarket shelves and legal actions for compensation. Flow-on effects to farmers' and workers' livelihoods, as well as effects on consumer trust, are more difficult to quantify and remain uncaptured in systemically collected metrics.

Some food safety data are collected on a continuous basis, while others are collected occasionally or in a manner that is reactive or dependent on resources. Some of the most used metrics include:

- foodborne illness notifications, through the National Notifiable Diseases Surveillance System hosted by the Department of Health and Aged Care
- cost of foodborne illness, commissioned through Food Standards Australia New Zealand (FSANZ)
- food recalls, collected by FSANZ
- levels of chemical contaminants, investigated by the Australian Total Diet Study done by FSANZ
- residue levels in imported food, collected and reported by DAFF
- prevalence and concentration of foodborne hazards, collected by industry organisations for benchmarking and trade purposes
- food product regulatory and customer

requirement compliance data, collected by food producers, manufacturers and retailers.

These data are rarely connected and information is not always shared due to the stigma associated with foodborne hazards; the fear of regulation; the fear of breaking of trust in value-chain relationships; and the fear of damaging brand reputation. Greater data sharing with built-in mechanisms to retain trust would provide more opportunity to proactively manage food safety issues. It would also enable shared learning across different sectors to improve food safety management.



Food safety is essential to building trust in our agrifood system both domestically and globally.

#### **Overarching policy and regulations**

The bi-national joint food regulatory system of Australia and New Zealand is made up of the policies, standards and laws that make Australia's food safe to eat (Australian Government Food Regulation, 2024). The regulatory framework for food safety in Australia is very complicated (Figure 7). Food ministers of Australia and New Zealand hold the responsibility for food safety regulation. They span federal and



right. Adapted from: Commonwealth of Australia, 2025; FSANZ, 2019; FSANZ, 2023 state governments in Australia, and encompass agricultural and health portfolios.

FSANZ is the federal agency responsible for developing the Australia New Zealand Food Standards Code. Australian state and territory agencies are responsible for implementing, monitoring and enforcing food regulation in Australia. Food imports fall under the Department of Agriculture, Fisheries and Forestry. There are also consumer protection and trade practice laws that are enforced by the ACCC related to product safety and fair-trading practices.

While there is information on how these institutions govern food safety regulation, there is often complexity around implementation, partly because regulation lags behind advancements in technology and innovation. An example is cellular agriculture, which does not fit neatly into the definitions of primary production because its production processes span processing to final product. New food technologies mean that there is an increasing need to research hazards emerging from novel foods. Reporting this knowledge will help ensure that regulations adapt to be fit-forpurpose into the future and enable staff in regulatory agencies to be trained to implement regulation of potential new threats.

#### **Private standards**

Federal standards and laws provide high-level guidance for food safety practices. The granularity of the implementation of these rules in practice often comes down to adding a layer of 'private standards' adopted by businesses. These provide detailed procedures and plans for businesses within the food industry such as certification schemes and audits (Vaskoska and van der Meulen, 2014). These private standards contribute to the management of food safety at an industry level and provide a foundation for an effective pathway towards compliance.

### 3.3 Priorities

The constant changes in hazards and practices and the emergence of new food technologies, foods and marketing strategies mean that constant vigilance is needed to maintain food safety. Successful past management can lead to complacency regarding future risks and a fragmentation of food safety efforts. Any modification to the food system can impact food safety in a positive or negative way, and understanding these impacts is vital to maintaining a trusted system.

Most food safety reporting uses reactive metrics that report impacts after an event has already occurred. More proactive approaches would enable the likelihood of an event happening to be considered so that proactive prevention measures can be put in place. Proactive approaches are undertaken by government agencies in Australia and New Zealand via horizon scanning tools (e.g. FSANZ and VIBE – Vigilance and Intelligence Before food issues Emerge; FSANZ, 2024). These help to anticipate threats that could impact food safety. Some food industries subscribe to commercial tools for horizon scanning to inform risk assessment and decision-making.

Reports from stakeholder workshops and industry and government strategies have identified emerging and evolving threats as well as numerous challenges arising from systemic or structural change. These reports and strategies highlight the need to carefully manage interactions between food safety and other initiatives like sustainability and food security. For example, food safety is captured in the Australian Agricultural Sustainability Framework (AASF; see Insight 6, Sustainability) and parallels are often drawn with biosecurity assessment and management.

Food safety challenges are constantly evolving from structural change in the food system, as well as from emerging threats. A lack of coherence in food safety regulation due to the multiple agencies involved can make it difficult for the food safety system to adapt to new threats, and this highlights the need for policy coordination and national oversight (see Insight 5, Policy coherence). Ensuring that food safety regulations are based on robust science is another ongoing structural challenge. Food safety systems need to adapt to constantly changing consumer preferences, as well as an aging population that is more susceptible to foodborne hazards. Other structural challenges include declining research capacity, shortages of skilled professionals, inadequate infrastructure and the need for more education and training to close skills gaps.



Food safety must continually evolve to assess threats arising from new foods, technologies and distribution pathways.



Environmental challenges such as climate change and extreme weather events can lead to new food safety concerns, and new foodborne hazards often arise from catastrophic events such as fires, floods and droughts. Foodborne microorganisms can readily adapt and become more resilient over time and move into new geographical areas. New food safety hazards can develop with new food products and processing technologies. Offsetting this is the potential for innovation in hazard detection, disease source tracking and the use of big data to provide new risk management insights.

The complexity of global and domestic supply chains poses challenges for food safety management, requiring effective through-chain control, continuous assurance systems, enhanced traceability and rapid identification of food fraud. Understanding foodborne hazard origins is essential for effective risk mitigation, as is increased data sharing between government, researchers and industry. Interactions between food safety and other goals of the food system such as sustainability and food security need to be carefully managed to avoid conflicts. For example, efforts to pursue sustainability through waste minimisation and reuse can conflict with the advantages of disposable plastics for preventing the spread of foodborne diseases.