# What Do International Governments Tell Consumers about Domestic Food Safety?













## Introduction

Consumption of safe, wholesome food is one of the fundamental cornerstones of humanity. Consumers, therefore, need to trust the food they are consuming will not cause harm.

Consumers lack adequate scientific food safety knowledge to evaluate food risks correctly, thus the food industry need to produce foods that are as safe as possible to mitigate this lack of knowledge. However, as risks can never be fully removed, the consumer is still seen as the final line of defence at preventing foodborne illness<sup>[1]</sup>. Governments, therefore, have a responsibility to fill this knowledge gap by providing advice and guidelines for consumers on adequate domestic food safety practices.

With 44% of the world's population now having access to the internet [2], this is one of the best means to impart knowledge to a vast range of consumers. As a result, domestic food safety advice via government agency websites may be a useful method for advising consumers on safe food practices when purchasing, storing, preparing and consuming food products.

To date there has been no investigation into the food safety practices that are most commonly described to consumers across the globe or how well these concepts of food safety are portrayed.

# Purpose

The aim of the research was to identify commonalities and differences between food safety advice from international government agencies, and assess their suitability and adequacy of food safety advice.

### Methods

Data Collection: Evidence gathered for this study was obtained using an inclusion criterion from international Government agency websites (n=14) from countries that appeared high within the world ranking of food safety performance<sup>[3]</sup>, and classified by the World Economic Situation and Prospects (WESP) as developed countries [4].

Ethical Approval: Approval was obtained from the Health Care and Food, Ethics Panel at Cardiff Metropolitan University, code: 8018.

### **Content Analysis**

- A total of 489 food safety practices were recorded from 14 international government agency websites.
- Data obtained from government agency websites was coded using NVivo version 12.1 [5].
- After duplications were removed, 117 different food safety practices remained.
- Food safety practices appearing less than 3 times from the 14 government agency websites, were excluded from the research. .
- In total, 47 distinctive food safety practices remained.

### The "5 C's" of Food Safety

Food safety practices were classified by the researcher into five themes, which included: cook, clean, cross-contaminate, chill and

 ✓ook – for example: ensure raw foods are adequately cooked, to the correct core temperature (above 75°C), for the correct duration

✓ lean – for example: all food contact surfaces including work surfaces, chopping boards, utensils and hands must be thoroughly washed and sanitised before and after food preparation

food packaging coming in contact with cooked foods, including all food contact surfaces, utensils and hands.

Chill – for example: keep all perishable foods in the refrigerator at or below 5°C

heck – for example: check the use by date on perishable foods do not consume foods past their use by date.

### Results

Cook

Recommended cooking temperatures varied from 63°C (145°F) to

Minced meat products such as beef, pork, lamb and veal had a

All raw poultry products were recommended to be cooked to a

When government agency website only gave one temperature

requirement for cooking, 80% stated the highest recommended

The greatest variation in recommended cooking temperatures

(63-75°C / 145-167°F) related to cooking whole muscle meat,

including pork. Hepatitis E, the leading cause of foodborne illness

from pork consumption in the EU<sup>[6]</sup>, requires a minimum cooking

The most prevalent food safety practice within all themes was to

One point that differs greatly between websites was the duration

"refrigerating leftovers promptly and using them within 24

• One website stated "leftover food needs to be handled and

stored safely so that it does not pose a food safety risk" [10],

however, it did not elaborate what this meant, or indicate storage

Despite widespread inclusion of practices relating to refrigerating

foods, many failed to include the recommended refrigeration

recommended core temperature of 71°C (160°F).

core temperature of 74-75°C (165-167°F).

temperature of 70°C to inactivate the virus.

that leftovers could be held for before disposal:

"leftovers should be used within 2 days" [8]

temperature to ensure food safety (5°C /41°F).

"use cooked leftovers within 4 days" [9]

conditions or storage duration.

temperature (75°C or 165°F).

chill perishable foods.



75°C (167°F).









- Washing vegetables and fruit prior to preparation or consumption (if eaten raw) was the most common food safety practice, present on all Government websites.
- Cleaning hands with soap and water was the second most common cleaning practice which appeared on all but one government agency website - Livsmedelsverket Swedish Food Agency[11].
- Although cleaning practices were communicated, very few Government agency websites explained why cleaning actions were required for food safety.

### **Cross-contaminate**

- The most prevalent food safety practice at preventing crosscontamination was to segregate raw meats/ poultry/ fish/ seafood
- Whilst the key areas of government agency food safety advice were similar (cook, clean, chill, etc.) they differed greatly in detail, and most lacked the explanation as to why recommended actions were important for food safety.

 One government agency website stated consumers should foodborne illness.

# Significance of study

Food safety risks have presented many challenges to governments across the world. Assuring the safety of foods requires sufficient legislation and enforcement to control safe manufacturing and transportation of foods. Recognising that the consumer, has the final responsibility for ensuring food safety, it also requires governments to provide suitable advice to consumers to ensure that once foods have been purchased, safe food practices continue throughout transportation, storage and preparation until final consumption.

This study has highlighted a number of food safety commonalities between government agency websites. However, there was still a wide variety of information presented.

Further in-depth research should be carried out to find out what food safety experts believe are the key domestic food safety practices at preventing foodborne illness, and whether all of the food safety practices shown on government agency websites are appropriate and evidenced.

### References

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4. WESP (2017). World economic situation and prospects 2017. United Nations. [Online]. Available from https://www.un.org/development/desa/dpad/wp-content/uploads/sites/45/ publication/2017wesp\_full\_en.pdf (last accessed 5th June 2019)

5. QSR International, 2019. Nvivo. [Online] Available from: https://www.qsrinternational.com/nvivo/home (last accessed 26th June 2019)

6. EFSA, 2017 Hepatitis E: raw pork is main cause of infection in EU [Online] Available from: https:// www.efsa.europa.eu/en/press/news/170711 (last accessed 1st June 2019)

7. FSANZ, 2018. Listeria. [Online]. Available from: http://www.foodstandards.gov.au/consumer/safety/ listeria/Pages/default.aspx (last accessed 4th June 2019)

8. FSAI, 2019. Home cooking and storage [Online] Available from: https://www.fsai.ie/faq/domestic.html (last accessed 12th June 2019)

9. USDA, 2015. Basics for handling food safety. [Online]. Available from: https://www.fsis.usda.gov/wps/ portal/fsis/topics/food-safety-education/get-answers/food-safety-fact-sheets/safe-food-handling/basicsfor-handling-food-safely/ct\_index\_(last accessed 4th June 2019)

10. Livsmedelsverket Swedish Food Agency (2019). Storing food properly. [Online]. Available from: https://www.livsmedelsverket.se/en/food-habits-health-and-environment/food-and-environment/takecare-of-the-food--minimize-food-waste/forvara-maten-ratt (last accessed 8th June 2019)

with produce and ready to eat foods in the refrigerator.

### Check

- Terminology changed frequently between Governments with "use by" replaced with "sell-by" and even "best before" date for food
- "always taste and smell dairy products before throwing out the container – if the flavour is normal, they are safe to eat regardless of the best-before date." [11] such guidance may encourage food safety malpractices and increase the risk of