

FOREWORD

FIELD GUIDE I TRADITIONAL FOOD RISK COMMUNICATION

> part of FRC IN ACTION SERIES

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ood Industry Asia (FIA) is a non-profit organisation that was formed in 2010 to enable major food manufacturers to speak with one voice on complex issues such as health & nutrition, food safety, sustainability, and the harmonisation of standards. From its base in Singapore, FIA seeks to enhance the industry's role as a trusted partner and collaborator in the development of science-based policy throughout Asia. FIA provides an important hub for advocacy and debate, brings together the food industry's most senior business leaders to champion initiatives that promote sustainable growth and support regional policies that deliver harmonised results.

practical guide to food risk communication (FRC) practice for a Awide range of food chain actors.

This 'Field Guides Series' details how to apply the principles, models and practices of FRC in specific areas of food risk. Each booklet is a 'how-to-guide' expanding upon the practical nature of advice and providing a hands-on addition to the full FIA FRC Toolkit.

In this series, you will find answers to pervasive questions about risk, benefit, trust and control in the food sector. We will identify the challenges, clarify the obstacles and provide evidence-based solutions to develop your own expansive FRC skill set.

This practical workbook delivers everyday tools, flow charts, resources*, and actionable to-do lists for the full range of situations a risk communication insider encounters.

Each field guide uses research insights, scenario maps, message templates, and coaching questions: real-life examples and checklists bridge between insights and outcomes. Coaching questions analyse the most pressing FRC challenges. Key campaign strategies are highlighted with #keywords to show the delicate nuances driving effectiveness.

Real-life case studies and hypothetical campaigns demonstrate ways to "walk the talk" and illustrate avenues for improvement. A range of case studies are presented, some that represent best practices, others where improvements could be made.

RESEARCH & RESOURCES

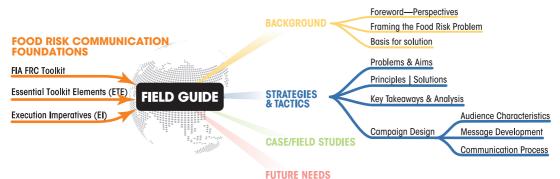


Figure 1—Field guides basic structuring of information.

^{*}In text resources are interactive and will open in default browser.

BACKGROUND

"Traditional food risk communication (TFRC) is about changing the behaviour of food handlers, and it will not happen overnight. TFRC must provide actionable advice and the appropriate context, targeting and framing of information, so consumers take it seriously."

What we term 'traditional' food risk communication aims to address the burden of morbidity and mortality (approximately 2 million global deaths annually) occurring due to diarrhoeal diseases, most acquired through food and water (WHO). Research shows that foodborne illness is actionable through effective communication that incorporates behaviour change processes and accounts for the psychology of decision-making around food. Microbial foodborne disease is mostly due to unsafe consumer-level food handling (see Redmond, 2003). Despite overwhelming evidence, most consumers believe that they do not contract foodborne illness through their practices at home.

Communication efforts can be more effective if consumers are made aware of their vulnerability, particularly those at higher risk because of age and immune status. They need to be mindful of personal responsibility for themselves and others. They must be open to new learning experiences while applying their current knowledge and expertise when needed. Campaigns should engage with consumers to further reveal what they want and need in terms of information, motivation and general preferences. New approaches in this area are critical: what are new food safety be-

haviours, how to apply technology and new tools, and how are emerging risks countered?

Reducing the public health burden of food-related illness is achievable, but campaigns employ behaviour change theory. At the moment, less than one-quarter of such interventions do so. As noted in Field Guide III, campaign focus is critical. A focus on domestic handling of food and specific groups of pathogens would improve effectiveness. Targeting the most vulnerable audiences is an obvious step but makes perfect strategic sense when stressing vulnerability and emphasising relevance are keys. While familiar to most consumers, clear actions are often overlooked, especially around basic hygiene. Consumers are often confused by instructions and

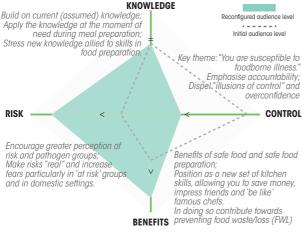


Figure 2—KCBR re-configuration for traditional food risks. Control and risk perception themed messages are vital to effective campaigns.

feel they are not relevant to them. Overconfidence and lack of risk perception (voluntariness, familiarity) make foodborne disease a perpetual problem.

As an acute risk issue, developments in the communication process through new channels, interactive tools and personalised technologies can contribute significantly towards the application of current knowledge. New technologies such as smart kitchen utensils and interactive learning experiences in schools may provide the impetus for improvements in this often overlooked area of food risk communication. Finally, as noted in the EU case study, food risk communication can originate at the stakeholder level. Collaboration between credible sources along the entire food risk analysis framework is essential to mitigate foodborne disease risks. Efforts must be made to prevent what can be severe incidents before they occur.

"Most consumers believe that food-processing plants and restaurants are responsible for the majority of foodborne illness." Nesbitt et al., 2009



TRADITIONAL FOOD RISK COMMUNICATION (TFRC)

PROACTIVE & INTERACTIVE

IN THIS SECTION

- ☑ Incremental behaviour change of food handlers is the primary goal
- ☑ Relevance to audiences and clarity are keys to overcoming communication barriers
- ☑ Communication process, on-going opinion exchange is emphasised

PROBLEMS & AIMS

Foodborne disease remains a huge problem that has proven challenging to reduce at any scale. It is, however, an addressable problem if proactive campaigns implement behaviour change principles successfully.

Overconfidence can impact consumer decision balance and self-efficacy. Habit, apathy and familiarity are barriers to active information uptake and implementation. Audiences frequently dismiss sound advice as they think they already adhere to best practices and others need more help than them.

Many campaigns are general in terms of audiences and messages, using public information or public relations models with little impact.

In Asia, the range and diversity of audiences are immense; some of them don't know the fundamental causes or symptoms of foodborne disease or what to do to reduce risks. Other barriers to action are critical, particularly for low resource families where basic nutrition overrides other considerations. Hygiene themes are vital in such campaigns as are interventions in schools where impressionable minds can be changed.

By combining short messages with detailed supplementary materials, one can cater to the varying degrees of interest and motivation can. Effective segmentation of audiences and the provision of relevant information is essential. Formative research to understand high-risk behaviours is necessary.

PRINCIPLES

- ✓ Target 'at risk' groups;
- Initiate campaigns in schools and academic institutions;
- Personal vulnerability and responsibility emphasised;
- Clarity, focus, and relevance are key; meet audience needs based upon current situation:
- Prioritise the communication process. Online is emerging as the most effective channel;
- Persistence and buy-in to a longterm process are necessary;
- Incorporate models/theories of behaviour change like the Transtheoretical Model;
- Measurements should be rigorous and shared with other stakeholders;
- Engagement by involving audiences in both research and roll out is important.

SOLUTIONS

Delivery of messages to reach handlers at the right time repeated regularly and prompting exchanges foodborne disease could provide a way forward. Multiple campaigns, isolating high-risk behaviours and segmenting vulnerable populations need to run continuously. Online channels address scale but need supplementing by traditional channels. In some cases, food labels must contain TFRC information as mandated by local laws. Authority figures of various kinds (TV chefs) play a role in demonstrating precautionary behaviour to show its concrete benefits.

EVALUATE SITUATION

Frame problems, audience needs and aims

High risk food-handling behaviours at home are tractable through consumer behaviour changes.

Lack of interest, apathy, habit, lack of motivation to listen or change. Do not see their behaviour as a problem (or solution).

Scale, diversity and fragmentation of consumers limits effectiveness of interventions.

Barriers at individual and environmental levels challenge behavioural goals.

PREPARE SOLUTIONS

Employ principles to find a tailored solution

Target high risk behaviours and 'at risk' groups emphasising susceptibility of consumers at home.

Use social norms, what other skilled cooks are doing. Focus on new food safety issues and solutions allied to skills and consumer benefits.

Which website and online channels do the targets use? Move from community interventions (workshops) to media campaigns.

Identify audience needs and goals at formative research stage. Involve audiences in that process of incremental and simple behaviour changes.

Nuances of interventions can make all the difference

Relevance and framing of message encourages action, overcomes inertia, changes behaviour at home which is the solution most needed.

Facilitate identification, frame as beneficial and vital to responsibilities to self-family. All are persuasive routes.

Online messages scheduled when they are needed can most reach large audiences and engage them to establish a narrative around food risks under their control.

Incremental changes are valid, even alterations to basic hygiene steps (hand washing) in schools can overcome barriers and instil lifetime habits.

Figure 3—General TFRC Scenario Map.

KEY TAKEAWAYS & ANALYSIS

It is time to refresh approaches in this area. If it were purely a matter of knowledge and rational choice, foodborne disease would be reduced via information transfer (sender-receiver) via 4-5 safe handling practices. This reduction has not occurred despite multiple campaigns. Some audiences are unaware of causes, others all too aware but not motivated to change. Tailored strategies have to be adopted, but for many practitioners, extensive formative research into audiences/processes will not be possible. Specific persuasive or influence tactics may help. Social norms or proof, behavioural intentions and benefits messages (save money/impress friends). Mass media often reports outbreaks, but pay less attention to mitigating advice. In commercial settings, a more controlled and top-down compliance strategy with greater fear- or consequences-based messages may be used.

Campaign To Do List

- ✓ Identify high risk groups and behaviours, for which clear actions can be described;
- ✓ Target 'at risk' individuals and stress personal vulnerability to get attention and increase perception of risk, fear, responsibility to others;
- Define likely barriers to uptake of messages by these audiences;
- Develop message maps (see FRC Toolkit) in combination with insight into the barriers above;
- Use short messages to attract attention, trigger interest and link to substantial information sources;
- Nurture interest with actionorientated knowledge about food preparation skills;
- Be clear: use stories, visuals: avoid difficult words, and technical jargon or concepts;
- Make food safety best practices socially desirable behaviour;
- Use randomised control trials (RCT) at formative research when possible instead of uncontrolled before and after trails (UBA).

CAMPAIGN DESIGN AUDIENCE

Define audience, by location, opinion/predisposition state and further segment. What do they need to know first and where do they get information? What would resonate with them, who do the identify with in terms of in group values? Will past experience shape future behaviour and how to change this?

MESSAGE

Stage message content to initially grab attention, trigger interest then provide avenues for more reasoned, detailed and central deliberation. Risk, benefit, control is a good base message template in addition to those below. Initial messages pose questions and appeal to heuristics and social norms.

PROCESS

Interactive communications are supported by other channels. Repeat messages to ensure accessibility—refine them, embrace feedback and redeploy. Treat as an interactive on-going process of exchange of opinions to shape a risk narrative. Schedule delivery of messages to coincide with food preparation time.

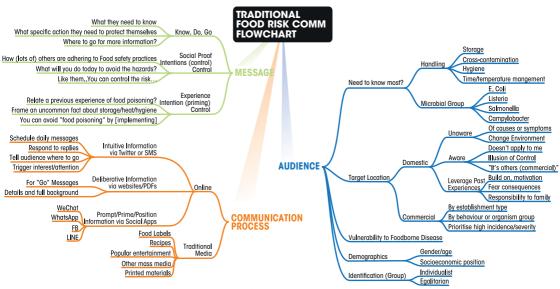


Figure 4—Flow Chart model of Traditional Food Risk Communication



IMPROVING DOMESTIC FOOD HANDLING

FOCUS AND RELEVANCE ARE KEYS TO EFFECTIVENESS

WHAT CAN BE LEARNED?

- ☑ Targeting of 'at risk' audiences enhances relevance of information;
- ☑ Emphasis on personal vulnerability triggers interest, even 'fear;'
- ☑ Using extensive formative research is necessary to inform campaigns.

SCENARIO

wo campaians identified vulnerable groups-children, the elderly, the immunocompromised, pregnant women—as the basis of their strategy for improving domestic handling. Segmentation by vulnerability was identified to trigger attention, relevance, acceptance of risk and prompt action. Extensive formative research through local universities in Ireland in particular explored audience characteristics and barriers to uptake at the individual and environmental level. Multiple campaians, multiple messages with a media outreach focus. Most comprehensive in nature.

LESSONS

Campaigns run in Canada and <u>Ireland</u> focussed on specific food-handling behaviours to manage risks specific to each 'at risk' group. The more specific the message, the more the audience can identify with it. They are less likely to ignore it or believe it applies to someone else. Focus on the consequences of poor handling in the context of the audience and the stressing of vulnerabilities (why you are specifically susceptible) made the information more real. Peer-reviewed informed campaian strateaies. Both campaigns understood the barriers and biases in the context of personal experiences.

Campaign Checklist

- ✓ Food handling in the home identified as an 'actionable' area to reduce foodborne diseases:
- Improvements possible through simple messages on improper handling supplemented with in-depth materials at campaign websites;
- Four at-risk groups, with vulnerabilities to certain foodborne illnesses, were targeted;
- Formative research projects were commissioned years in advance to study consumer attitudes, barriers to uptake:
- Social media used to trigger attention, use website/printed materials for detailed information;
- ✓ A model of behaviour change used to inform and track the process;
- Awareness or recall is not a valid goal of the campaign;
- Targeted audiences desire/ motivation to change must be understood and captured as part of the campaign;
- Review, Revise, Redeploy. Feedback informs the process, which is ongoing. Multiple-messages produced and updated;
- Stories are important as an illustration of narratives around social proof, to show what (important or similar) others have done well.

"Case studies collected from Asia were neither proactive nor focussed on consumer risk mitigation. All addressed outbreaks, and domestic preparation was omitted."

EVALUATE SITUATION

Frame problems, audience needs and aims

Domestic food handling can be improved incrementally with significant impact on public health.

Individual differences accounted for different risk responses. Diverse audiences need segmentation.

Barriers to uptake significant: including habit, lack of interest, experience and ignoring messages.

Difficult to reach some of these 'at risk' groups in a crowded informational space. Media messaging focus

PREPARE SOLUTIONS

Employ principles to find a tailored solution

Target the elderly, immune weakened, children, pregnant women.
Understand basis of their vulnerabilities/fears.

Differences minimised by targeting specific groups that share similar needs and desires to minimise vulnerability.

Stress importance to others, friends and family. Pinpoint by audience and take action

Employ a range of communication processes that the target is safe and familiar with.

DELIVERY

Nuances of interventions can make all the difference

Link behaviours to specific risks: i.e. listeria in ages >65. Raise awareness through risk narratives that are relevant to the target groups.

Focus on the 'DO' message—what to do in cooking, storage, shopping. Frame this information carefully.

Audiences respond to relevant advice, when framed appropriately in the context of past experiences.

Credibility of the information source was critical, particularly for the elderly. Trust played a key role in acceptance.

Figure 5—Domestic Handling Scenario Map.



- [#FOCUS] Narrowing the audience to vulnerable (at risk) groups to avoid generalisation of messages, increase risk perception and direct finite resources;
- [#RELEVANCE] Stressing the personal vulnerability of audiences and their individual needs and preferences while addressing barriers to uptake;
- [#NOVELTY] There is limited work on food safety in high-risk populations and in identifying barriers by 'at risk' groups. Novel research empowered the campaigns.

CAMPAIGN DESIGN

COMMUNICATION

AUDIENCE

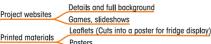
Survey and face-to-face interviews used to assess food safety knowledge and identify high-risk groups, those most vulnerable to foodborne diseases. By stressing personal vulnerability, these groups could be attracted to the information first through shorter online messaging followed by access to detailed publications.

MESSAGE

Develop concrete messages on risk reduction following the 'KDG' template. Focus on what each group needs to know and why it is relevant to them. What they should 'do' is critical to risk mitigation efforts. While they must 'know' aspects of cooking and storage, it is how this knowledge is applied that is important to behaviour change.

PROCESS

The web and related technologies are emerging as the choice for communication of food safety advice. Further developments in innovative tools for education and engagement are a priority for future research and testing. How can food safety risk mitigation be combined with entertainment that audiences will appreciate?



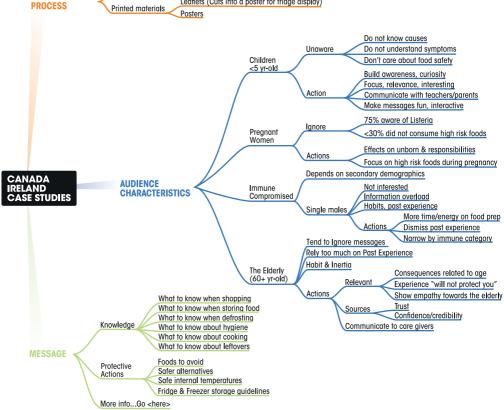


Figure 6—Flow Chart of "At Risk" Audiences Campaigns.



SAFECONSUME (EU) PROJECT

HOLISTIC, INCLUSIVE STAKEHOLDER APPROACH

WHAT CAN BE LEARNED?

- ☑ Multi-disciplinary research, collaboration, data generation, interpretation and sharing demonstrates stakeholder-focussed FRC processes and preparation are essential;
- ☑ A holistic approach to FRC infrastructure building to include new tools, technologies and products combined with laboratory studies;
- ☑ Behaviour is the problem and the solution: identify critical steps, explain and mitigate.

SCENARIO

Food risk communication should be proactive and tailored to consumer behaviour patterns while being fully inclusive and participatory. Beyond communication, campaigns may enlist new technologies (sensors, apps, kitchen utensils) and policy models to support the adoption of safer handling. Building evidence before launch is essential.

The "SafeConsumE" project, funded (9.5M EUR) by the EU, attempted to build stakeholder consensus and capabilities focussing on consumer-side risk mitigation. The five-year project uses interdisciplinary research (including sociologists and microbiologists) to ensure outcomes that lend themselves long-lasting implementation across the entire EU.

LESSONS

SafeConsumE illustrates several best FRC practices in action, combining factors identified as critical to success. Collaboration between wide range of disciplines and stakeholders, focus on behaviours and proactive risk mitigation, field research and evidence-based approaches. A pan-Asian approach like this would be a step forward. Lack of coordination and record-keeping of intervention history has impeded effective food risk communication.

SafeConsumE extends to new tools and technologies and

Campaign Checklist

- Behaviour both the problem and the solution;
- Formative research used extensively across the EU;
- Identify and explain consumer behaviours that could affect risk mitigation;
- Use laboratory studies to see how consumer behaviours compromise food safety;
- Make collaboration and coordination at national stakeholder level a priority;
- ✓ Target five groups of organisms responsible for 70% of incidents;
- √ Target vulnerable groups across all regions of the EU;
- ✓ Target teenagers (students) for education and adoption of new skills on safer handling;
- Identify mitigating risk steps from retail to consumption where consumers can protect themselves based upon original research;
- Develop innovative tools to reach traditionally 'problematic' audiences;
- Coordination across countryboundaries (shown to be vital in disease outbreaks that previously occurred in the EU).

driving their adoption. Food hygiene skills are aimed at teenagers research further looks at high-risk groups. Notable is how data collected is combined with literature insights and market data to be shared in a database. This allows the devel-

opment of risk behaviour maps and identification of opportunity areas. As noted in future research needs (p. 10), the project looks to combine food safety measures with sustainability, specifically around food waste, environment and sustainability. Initial results have shown how consumer practices and beliefs across Europe contribute to higher risks of foodborne disease, and later project phases will address these.

CAMPAIGN DESIGN

As noted in the FRC Toolkit, commitment and persistence is a hallmark of successful FRC. This project is comprehensive across three phases, research, messages/feedback and policy. Research models enabled in-depth exploration of consumer food handling, knowledge, beliefs and attitudes. Teams of microbiologists and sociologists observed food procurement, transport and preparation. This research, alongside microbial sampling and temperature logging, provided the backbone of data collected. Furthermore, interviews and focus groups at schools were conducted in four countries covering all regions of Europe.

Together, a comprehensive picture of what Europeans do regarding food safety was established. The occurrence of pathogens (Salmonella, Campylobacter, Norovirus, Listeria) in kitchens was determined.



- [#FOCUS] All about behaviour, as the problem but also the route towards solutions since all interventions, whether communication or technology, aim for change in behaviours;
- [#EFFICACY] Changing behaviour is not easy, it requires evidence-based approaches combined with real-world data to show how consumer practices really impact food risks and their mitigation;
- [#BEST PRACTICES] Promoting coherence and coordinated approaches by multiple stakeholders from a range of disciplines, including risk analysis.

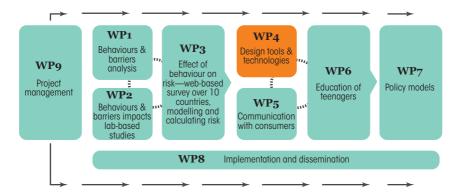


Figure 7—Work Projects (WP) in SafeConsumE.

Scientific documentation of the impact of consumer food practices on pathogen occurrence, survival, spread and growth during food storage and handling were gathered and data gaps identified. How consumer actions, such as washing sads, cooking poultry thoroughly and using washoloths and sponges affected pathogen growth were measured in laboratory models and safer alternatives investigated.

The food safety advice from various national food authorities was synthesised and entered into a shared database system. This overview enabled an evaluation of the current provision of information concerning risk-reducing potential (taking both microbe and consumer insights into consideration) and consistency of advice between countries in Europe. Finally, food safety beliefs were collected, and laboratory demonstrations conducted to document efficacy and classified accordingly.

Information from the data collection from households,

laboratory experiments, literature and market data were used to produce a 'risk behaviour map.' The data provided the foundation for developing a web-based survey to obtain quantitative data on consumer behaviour that will inform the development of the all-important risk mitigation strategies.

COMMUNICATION

Education of young people provides a valid route towards safer behaviour. Learning new skills can be more productive than having to change or 'unlearn' old habits. School curricula from seven countries were analysed and will be used together with the student and educator data on knowledge, beliefs and attitudes to define main learning points for educational programs under WP6.

Accessible tools and products (such as kitchen utensils) that help consumers mitigate risk also play a role if such are thought desirable by consumers. Devices like sensors that link to smartphone applications might stimulate latent knowledge or bring attention

to risky behaviours. Some of these tools are new and functional specifications, and design concepts were produced. Technical design work has started on some of the pre-selected technical areas.

TAKEAWAYS

SafeConsumE's approach facilitates the development of inclusive policies that strike an appropriate balance between food safety, nutrition, costs, environmental and sustainabilitv. The project combines both communication, technical considerations and elements of risk analysis. The level of inclusion in the project, signalling region-wide desire to collaborate, is a sign of project strength. Collaboration prior to food incidents is an on-going challenge, one that this project seeks to directly address. Partners include 32 organisations from 14 countries:

- ✓ Social science research organisations (9);
- ✓ Natural science research organisations (10);
- ✓ Food industry representatives (7):
- ✓ Government/NGOs. (7).



Future Needs Checklist

OVERARCHING

- Proactive (as opposed to reactive) processes of food risk communication that look directly at the root of the problem (behaviour) and attempt to address it;
- How can the mass media be more effectively used for risk mitigation and protective action and not just amplification of risk during reporting of food incidents:
- The application of validated instruments to measure outcomes and keep records;
- Regional cross-disciplinary collaboration particularly at the formative research phase;
- Stakeholder-focussed FRC in the food safety domain;
- Integration of food safety risk messages with other pressing areas of food risk, like food loss and waste (FLW) and other sustainability initiatives;

AUDIENCE

- Distribution, causes and solutions to 'optimistic bigs:'
- What factors shape consumer attitudes toward food safety: demographic, cultural, values?
- ✓ What are the barriers to the implementation of better food handling practices in Asia?;
- ✓ What new tools may be relevant to audiences in Asia-Pacific (online applications, games, smart kitchen utensils etc.);
- Engage audiences as part of formative research projects.

How do TFRC campaigns target and understand audiences?

Peer-reviewed research indicates potential audience segments. High-risk groups such as single males, pregnant women, children and the elderly warrant attention. The audience pool is usually too large to justify the research, such as surveys or focus groups, but the case studies in this Field Guide benefited from extensive collaborative research. Once targeted, general principles could be applied in concert with specific real-world insights.

FUTURE NEEDS RESEARCH & RESOURCES

There are pressing research needs in the area of TFRC. Collaboration and coordination between regional stakeholders and credible partners are necessary. Both basic and formative research would greatly enhance TFRC campaign effectiveness.

A clear research need is to investigate optimistic bias and the illusion of control and how these and other biases influence consumer behaviours. What actions will counter such effects? What behaviours and kitchen practices are leading to cases of foodborne disease? Can society's apparent resignation to mild foodborne illnesses be countered with messages around social norms and personal and collective vulnerability? Audience targeting and characterisation are offen lacking because assumptions are made instead of undertaking formative research, which can be costly.

Compounding research gaps is the fact that there is no centralised repository for case studies or intervention history with validated outcomes. This makes incorporating feedback and learning from past campaigns difficult. TFRC projects in Asia-Pacific must make use of models/theories of behaviour change as part of their campaign or research phases, as very few campaigns do so today.

The lack of cross-disciplinary collaboration on food safety between credible partners, including media, hampers TFRC in the region. Stakeholder collaboration projects, as well as public-facing campaigns, are essential in moving forward. Research resources and new strategies beyond communication and education, particularly related to population-level policy interventions (nudges), would benefit from a coordinated, evidence-based and validated approach.

Other needs include the following:

- ✓ How to change consumer behaviour when social and environmental barriers (basic hygiene, time and poverty) represent impediments for large population segments in Asia-Pacific?
- ✓ How to improve research to overcome the <u>Hawthorne Effect</u>?
- √ Validated reporting and sharing of intervention outcomes—regional collaboration is essential to document cases and understand causes;
- ✓ Use of randomised controlled trials (RCT) as part of formative research instead of uncontrolled before and after (UBA) trials.

Coaching Questions

How can you address unrealistic optimism, the "optimistic bias"?

Optimistic bias (overconfidence) appears in many food and nutrition issues. Audience specific research is desirable to provide insights. Evidence suggests using social proof, "what others like them are doing to reduce risks" and the positive effects such are having on health, taste, quality. Positioning appropriate food hygiene skills as socially desirable behaviour and the 'norm' is one way to overcome optimistic bias.

Can fear be used to motivate and spur appropriate action?

Media reports sensationalise outbreaks but rarely report on what risk-mitigating steps to take. Fear is useful when appropriate, but inducing fear without direction may cause apathy or denial. Overconfidence and apathy pervade, so the fear of illness, economic loss, lost reputation can raise risk perception should be tested with audiences. Audiences at home need to hear the susceptibility narrative they currently appear to ignore.



