

# **Human Behaviour: A Neglected Component of Food Safety**

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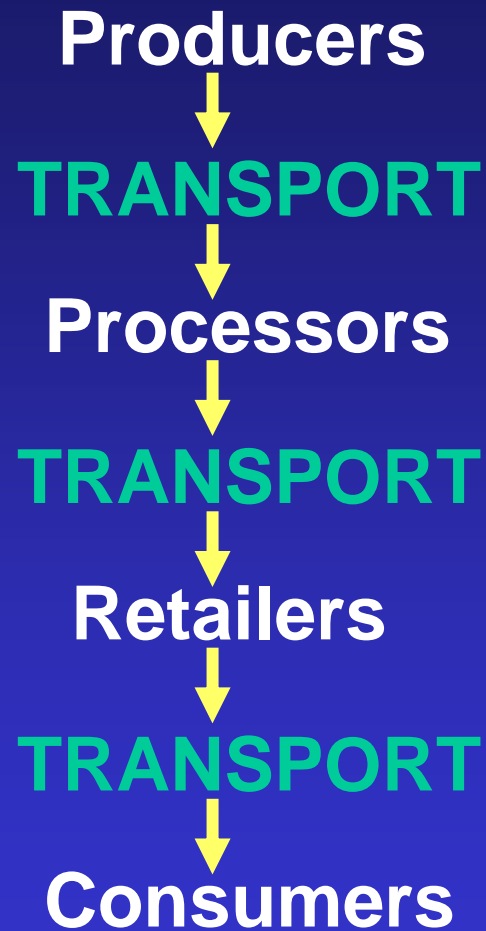
“Foodborne disease caused by microbiological hazards is a large and growing public health problem”

“Most countries with systems for reporting foodborne disease have documented significant increases”

# Quotation by Woollen 1999 Concerning Food Safety

“Millions of words of advice and millions of dollars spent but the problem is getting worse”

# The Food Chain



**What is the most dangerous part  
of the human anatomy in relation to  
food poisoning?**

# Human Behaviour - Consumer

## Good News

- Greater awareness

## Bad News

- Gaps in knowledge
- Optimistic bias / illusion of control
- Poor practices, X contamination
- Often habit

# Human Behaviour – Enforcement ?

## Good News

- Greater urgency / importance
- Review of methods / research
- New legislation

## Bad News

- Variable Standards
- Traditional approach still used
- Lack of understanding of HACCP
- Insufficient numbers
- Difficulty in getting prosecutions
- Too much change in legislation?

# Human Behaviour - Food Handler

## Good News

- General attitudes
- Training requirement
- Numbers trained

## Bad News

- Inadequate knowledge
- Specific attitudes
- Doubts over efficacy of training
- Self report / observation of practices



# Role of Food Handlers

- Source of infection
- Practices used
- Combination

# Role of Food Handlers: Organisms

Norovirus	41%
Salmonella	19%
Hepatitis A	10%
<i>Staphylococcus aureus</i>	7%
Shigella	4%

Greig *et al.*, JFP 70: pp1752-1761

# Infected Food Handlers as a Factor in Foodborne Disease Outbreaks

Salad preparation	22%
Sliced meat prep	20%
Pastry / desserts	10%
Sandwiches	8%
Ice / beverages	6%
Produce handling	6%
Other	28%

Michaels, *et al.* 2004 Food Service Technology

# Food Handlers' Perceptions of Important Food Safety Actions (n = 137)

Wash hands	84%
Clean equipment, utensils and surfaces	66%
Prevent x contamination	58%
Ensure food cooked thoroughly	57%
Personal Hygiene	53%

# Food Handlers' Perceptions of Important Food Safety Actions (n = 137)

Keep records	28%
Keep raw and cooked foods separate	25%
Report illness	12%

Clayton and Griffith BFJ

# Role of Food Handlers: Errors

- Bare hand contact
- Inadequate cleaning
- X contamination of raw ingredients
- Temperature abuse

Todd *et al.*, JFP 70: pp2199-2817

# Self Report of Food Safety Behaviour

- **37%** “I carry out all appropriate food safety behaviours at all times”
- **59%** “Sometimes, I do not carry out all food safety behaviours at all appropriate times”
- **4%** “Often, I do not carry out all food safety behaviours at all appropriate times”

Clayton & Griffith, BFJ

# Self Report FSA

- 98% knew food poisoning could be life threatening
- 100% thought food poisoning could ruin their business
- 39% admitted to not washing their hands after going to the toilet
- 53% admitted to not washing their hands before handling ready to eat food



# Quote

**“What we know or what we believe is, in the end, of little consequence, the only consequence is what we do”**

**J. Ruskin**

# Back to Practices and Risk

29 Businesses; observation of 31,050 actions:

14% correct handwashing

31% correct cleaning practices

Clayton, D., Griffith C.J. (2004) Observation of food safety practices in catering using notational analysis. *British Food Journal*, 106(3): 211-227

# Training a Panacea?

# Human Behaviour - Training

## Good News

- Training requirement
- Numbers trained

## Bad News

- Small businesses, turnover, PT
- Still <50%
- Low Pay / Status
- Doubts over efficacy
- Knowledge based (KAP)
- Language and educational levels
- Failure to plan for training

# Safety / Quality Management Definition

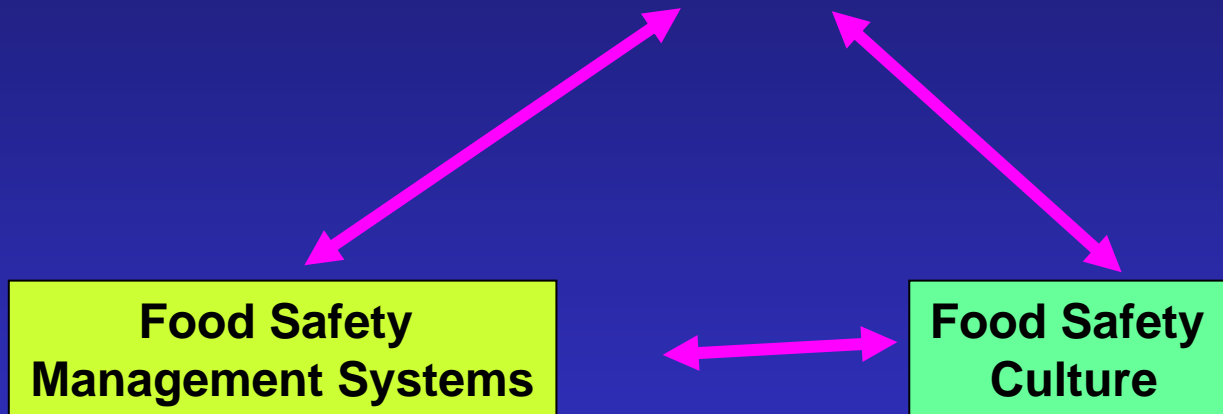
Management

Co-ordinated activities to direct and control an organisation

Safety / Quality Management

Co-ordinated activities to direct and control an organisation with regard to **safety** / quality

**Operational Performance:  
What happens**



# Impact of Food Safety Culture

“Hygiene practices cannot be improved solely through the provision of information to individuals. Effective intervention may need to focus on changing the organisation’s food safety culture ”

Clayton D.and Griffith C.J., 2007

# Food Safety Culture: Understanding Can Help

- Improve food hygiene compliance – improve quality / reduce food safety risks
- Auditing



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## Bailey and Patersen

- Effectiveness of safety efforts cannot be measured by traditional “procedural – engineered” criteria, such as audits and inspections
- More useful to measure employees perceptions

# Summary

- Human behaviour is neglected
- Food handlers' especially important
- Good news and bad news
- Known hygiene practices not used
- Managerial Importance – food safety culture / climate
- Understanding can help compliance