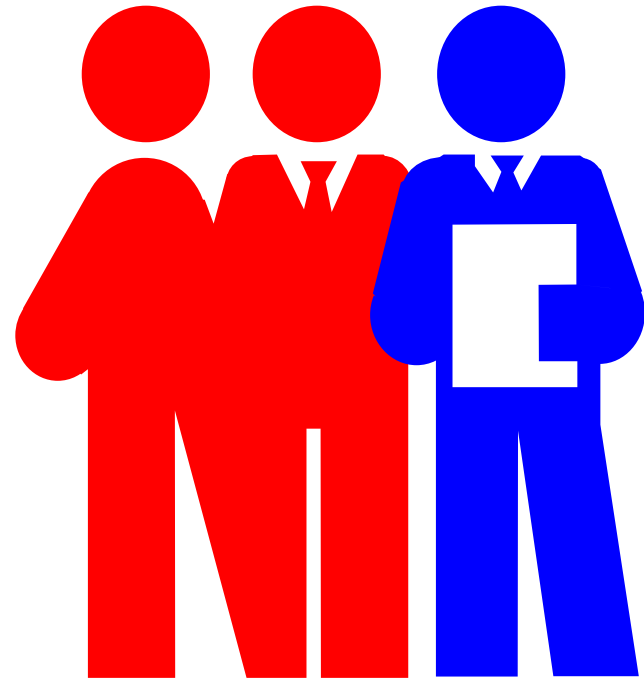








# Risk Management & Food Safety

**Pat Stafford**  
**BSc , MBA, M.I.H.I.**




# Food Safety Legislation

-  *The law of Negligence*
-  *The law of Contract*
-  *Statue Law and Regulation*
-  *National Guidelines:-*
-  *I.S 340: 2007 Hygiene in the Catering Sector.*
-  *I.S 341: Hygiene in Food Retailing & Wholesaling*




# Food Safety Legislation

 *I.S 342: 1997: Guide to Good Hygiene Practice for the Food Processing Industry Council Directive 93/43 EEC on the Hygiene of Foodstuffs*



 *I.S 344:1997 Hygiene for Domestic Scale Food production*

# Premises & Structures

 *When Planning a new or existing premises consider the following:-*

 *Volume of Food*

 *Size & Complexity of the Menu*

 *Method of service e.g Carvery*

 *Number of Dining areas served from the same kitchen.*

 *Number of Staff & cold chain requirements.*

# Premises & Structures

- ✍ The Design should give consideration to the following:-*
- ✍ Permit Adequate Maintenance, cleaning & Sanitation*
- ✍ Minimize Air-Borne Contamination*
- ✍ Prevent condensation, mould.*
- ✍ Provide adequate working space/ zoning*
- ✍ Prevent contact with potentially hazardous materials e.g cleaning*

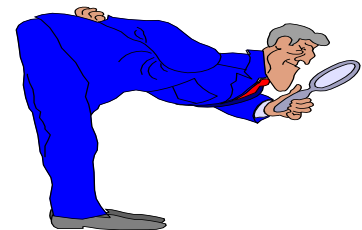
## CONSIDER THE FOLLOWING INDICATORS

- Floors: Smooth, Durable, Non Absorbent, easy to clean and sanitise. Vinyl, Tiles etc
- Walls: PVC Sheeting, Tiles, Polymers, Stainless Steel.
- Ceilings: Paint washable & non-toxic. Floor ceiling height minimum 2.4meters in food preparation and cooking areas.
- Windows: all openings fitted with fly screens mesh size 16 or 1.2mm
- Doors: gaps shall be less than 6mm



## CONSIDER THE FOLLOWING INDICATORS

- Equipment : Mobile, Easy to Clean & Maintain.
- Staff facilities: not located in food storage, preparation , waste handling areas
- They should be maintained , cleaned and ventilated and not be accessed through food preparation/handling areas.
- Sanitary: Flush Toilets & W.H.B. 1 :15 staff
- Sanitary: Flush Toilets & W.H.B 1 :25 customers.
- Separate toilets for staff









## *The Arrival of H.A.C.C.P.*

- ✍ **Developed in the US in the 60's by the Pillsbury Co., the US Army Laboratories and NASA.**
- ✍ **Collaborative effort to develop safe food for astronauts.**
- ✍ **Presented by Pillsbury to the US National Conference for Food Protection in 1971, and since modified and developed by food industry.**
- ✍ **International recognition**
  - ✍ **Richmond Report on Microbiological Food Safety.**
  - ✍ **Codex Alimentarius (Commissioned H.A.C.C.P. Code).**
  - ✍ **EU Legislation.**
  - ✍ **Irish Legislation (IS340:2007; SI No 85 & 86 1998).**



# *WHERE DO HAZARDS COME FROM ?*

## CONSIDER THE FOLLOWING INDICATORS:

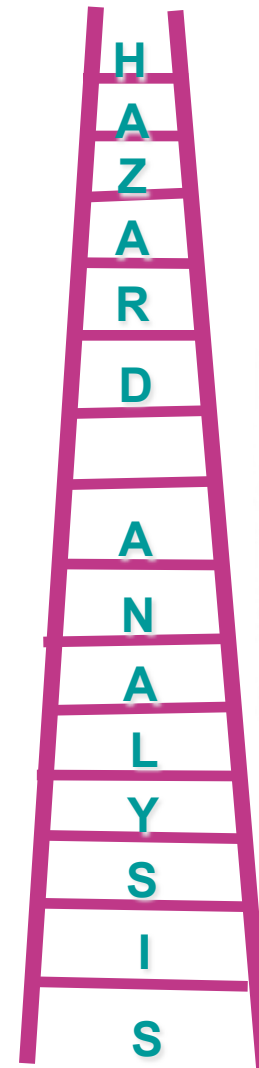
-  IS 340: 2007 CODE OF PRACTICE
-  TOP TEN FOOD SAFETY FACTORS
-  PRACTICAL EXPERIENCE
-  THE 3 P's (Product, Process & Personnel)

# HAZARD ANALYSIS

*Regard each step in the catering process as a step of a ladder :*

Do you know which steps are weak ?

What controls can you apply if they are ?



How can you prevent them from collapse ?

# HAZARD ANALYSIS

## CATERING SERVICES MODEL

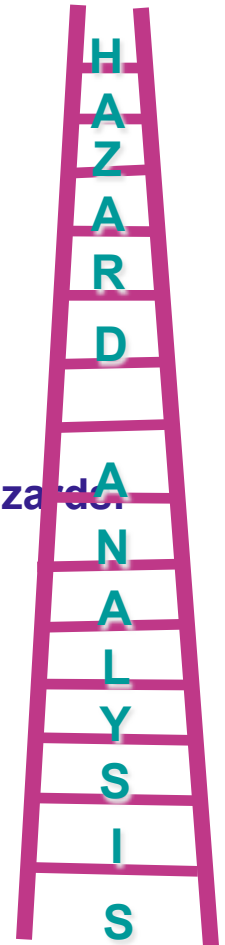
- ✍ MENU PLANNING
- ✍ STANDARDISED RECIPES
- ✍ PURCHASING SPECIFICATIONS
- ✍ TENDERING GUIDELINES
- ✍ PURCHASING POLICIES / PROCEDURES
- ✍ GOODS RECEIPT
- ✍ STORAGE & STOCK HANDLING
- ✍ PRODUCTION PLANNING
- ✍ FOOD PREPARATION
- ✍ FOOD PRODUCTION
- ✍ PORTIONING & DISTRIBUTION
- ✍ FOOD PRESENTATION & SERVICE
- ✍ RETURNS & WASH-UP



# HAZARD ANALYSIS

## 14 STAGES IN A H.A.C.C.P. STUDY

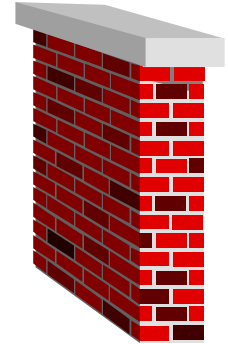
1. Define terms of reference.
2. Select the *H.A.C.C.P.* team.
3. Describe the product.
4. Identify the intended use.
5. Construct a flow diagram.
6. On-site verification of flow diagram.
7. List all hazards at each step - and list all measures used to control the hazards.
8. Apply *H.A.C.C.P.* decision tree to each step in order to identify C.C.P.'s
9. Establish target levels & tolerances for each step.
10. Establish a monitoring system for each C.C.P.
11. Establish a corrective action plan
12. Establish record keeping and documentation.
13. Verification that *H.A.C.C.P.* is correct and effective.
14. Regularly review the *H.A.C.C.P.* plan.



# IMPLEMENTING HAZARD ANALYSIS

## WHAT ABOUT HAZARD ANALYSIS ?

1. It's a vital building block in any quality system.
2. Can and does interface readily with ISO 9002 / Excellence Mark.
3. Enables meaningful process control standards to be set, measured and amended constantly.
4. Facilitates a transition from reactive to pro-active control.
5. Helps to focus resources effectively and thus ensures a safer system is operated.
6. It's an evaluation system designed to IDENTIFY, IMPLEMENT, MAINTAIN and REVIEW food hazards and their controls in a catering establishment.



# IMPLEMENTING HAZARD ANALYSIS

**S.I. No. 86 of 1998 - European Communities (Hygiene of Foodstuffs) Regulations 1998**

“The proprietor of a food business shall ensure that any step in the activities of his food business which is crucial to ensuring food safety is identified and ensure that adequate safety procedures are identified, implemented, maintained and reviewed on the basis of the following principles used to develop the system *H.A.C.C.P. (Hazard Analysis Critical Control Points)*”.

•.

# HAZARD ANALYSIS

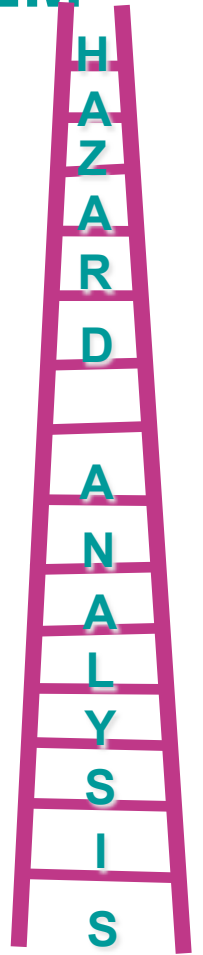
## THE SEVEN PRINCIPLES OF HAZARD ANALYSIS

- **PRINCIPLE 1.** TO CONDUCT A HAZARD ANALYSIS. PREPARE FLOW OF STEPS  
LIST ALL HAZARDS. SPECIFY CONTROL MEASURES.
- **PRINCIPLE 2.** IDENTIFY THE CRITICAL CONTROL POINTS.
- **PRINCIPLE 3.** ESTABLISH TARGET LEVELS & TOLERANCES TO ENSURE EACH C.C.P IS UNDER CONTROL.
- **PRINCIPLE 4.** ESTABLISH A MONITORING SYSTEM TO ENSURE CONTROL OF EACH C.C.P. BY SCHEDULED TESTING, CHECKING AND/OR OBSERVATIONS.
- **PRINCIPLE 5.** ESTABLISH CORRECTIVE ACTIONS TO BE TAKEN IN RESPONSE TO OUTSIDE TOLERANCE C.C.P. OBSERVATIONS.
- **PRINCIPLE 6.** ESTABLISH DOCUMENTATION TO COVER PRINCIPLES, PROCEDURES RECORDS & THEIR APPLICATION.
- **PRINCIPLE 7.** ESTABLISH ROUTINE VERIFICATION AND REVIEW TO CONFIRM H.A.C.C.P. IS WORKING EFFECTIVELY.

# HAZARD ANALYSIS

## STEPS IN SETTING UP A H.A.C.C.P. SYSTEM

- ✍ LOOK AT YOUR OPERATIONS FROM START TO FINISH.
- ✍ DECIDE WHERE HAZARDS COULD OCCUR.
- ✍ PUT IN CONTROLS AND MONITOR THEM.
- ✍ DOCUMENT AND KEEP RECORDS.
- ✍ REVIEW ON AN ON-GOING BASIS.



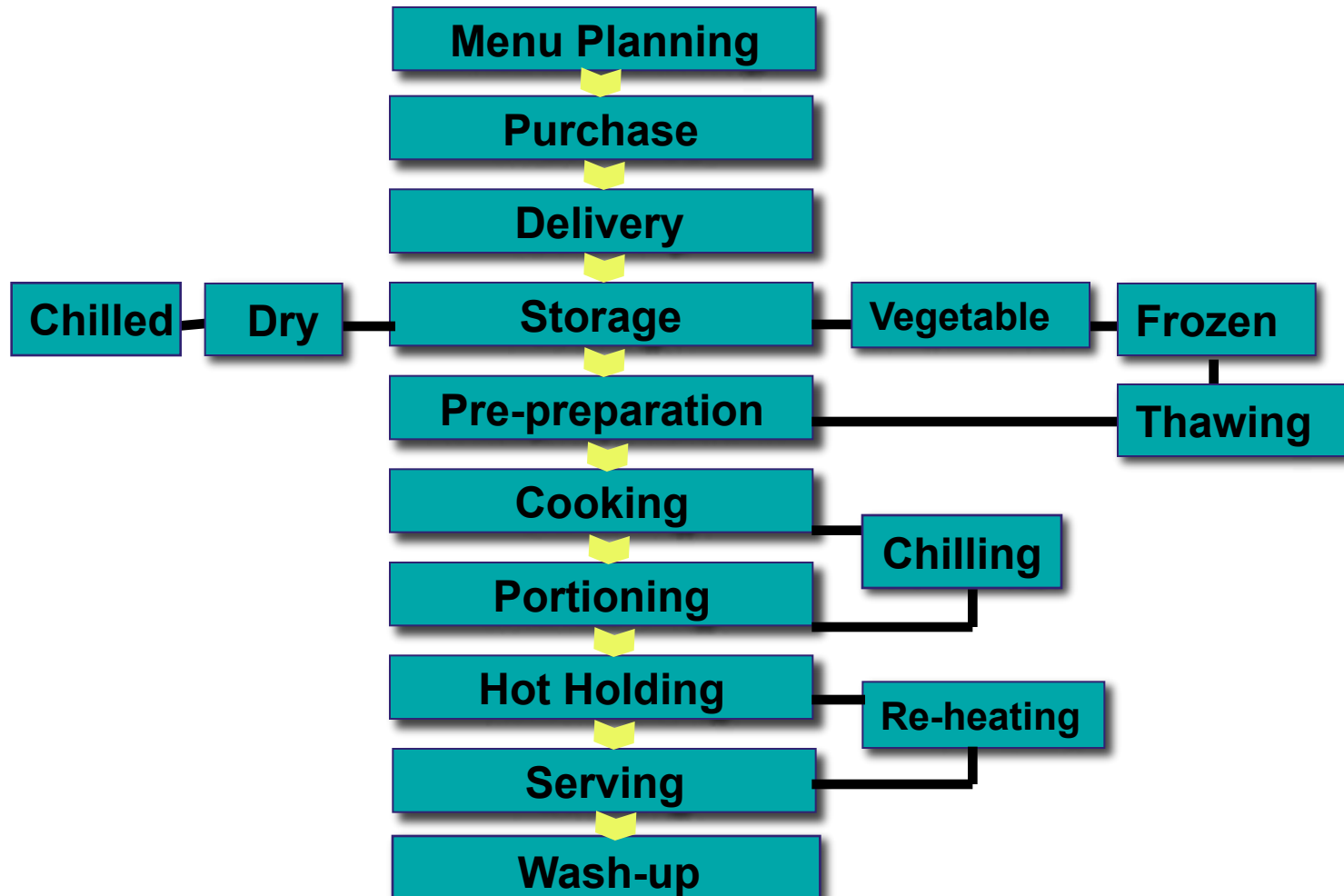


# 1. Assemble a HACCP Team

- ✍ Ideally 4 - 6 people on a *HACCP* team
- ✍ Team members should know food products, uses and the dangers involved in their handling and processing
- ✍ Training of team members in *HACCP* skills is recommended
- ✍ All employees should be made aware of the principles of *HACCP*

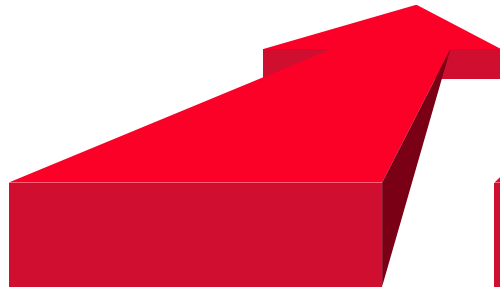


## 2. Construct a Flow Chart

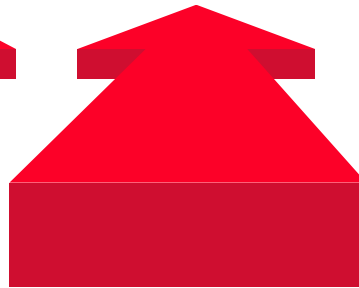


# Identify the Hazards & RISK

 A *hazard* is any factor that may cause harm to the consumer. It may be:



**Biological**  
*e.g. harmful  
bacteria*



**Chemical**  
*e.g.  
poisonous  
cleaning  
fluids*















**Physical**  
*e.g. foreign  
bodies*

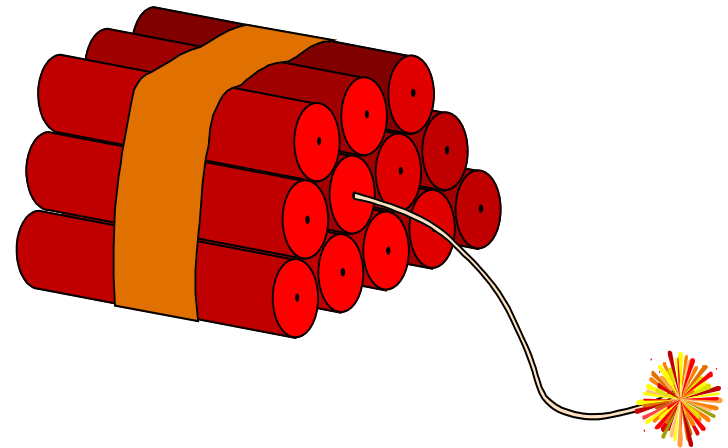


 A *risk* is the likelihood of its occurrence

# Hazards Internal & External to the Food Process

*Lack of attention to:*











-  Hygiene Policy
-  Food Safety
-  Personal Hygiene
-  Cleaning
-  Pest Control
-  Storage & Handling
-  Zoning
-  Services
-  Premises and Structures 
-  Plant and Equipment 

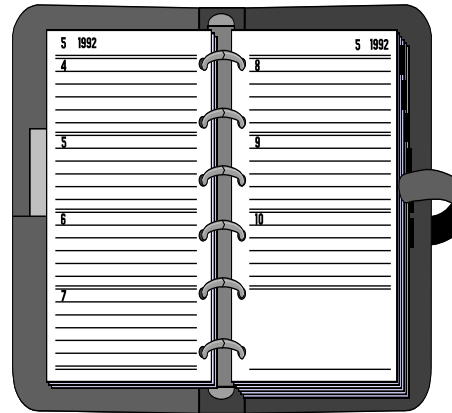


**Training**

**Record Management**

# Factors Contributing To Food Poisoning

 Preparing food too far in advance	60
 Storage temperature at fault	40
 Inadequate cooling	32
 Inadequate reheating	29
 Contamination	19
 Undercooking	15
 Inadequate thawing	6
 Cross contamination	6
 Improper warm holding	6
 Infected food handlers	5

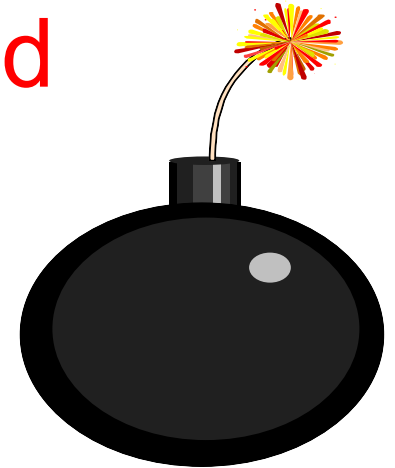


# 4. Identify Critical Control Points


A critical control point is defined as:


“

*a point, step or procedure where control can be applied and a hazard prevented, eliminated or reduced to acceptable levels*



## Determine Target Levels and Tolerances

 **Critical** limits are defined as the criteria which must be met for each preventative measure at a critical control point  
*e.g. reheated food must reach a core temperature of 70°C*

 **Target** limits, tolerances or levels provide an extra margin of safety in case of deviations from the norm.

*e.g. the target limit for holding chilled food is 3°C ( $\pm 2^\circ\text{C}$ )*



# Monitor, Document and Review

- ✍ Use **checklists** to monitor adherence to CCPs
- ✍ Identify corrective actions if CCPs are exceeded
- ✍ Complete and update HACCP Control Charts
- ✍ Keep HACCP documents for a defined period
- ✍ Carry out internal and **external audits** annually or as required
- ✍ Review **customer complaints**





# IMPLEMENTING HAZARD ANALYSIS

ESTABLISHMENT

PAGE REFERENCE

DATE:








PROCESS:

SCOPE :

AUTHORISED BY

PROCESS STEP		HAZARDS (possible causes)		CONTROL MEASURES	C.C.P. YES or NO
From ... .. right way through to ... .. .				How i.e. procedure Who is responsible and Frequency applied	

# The Role of the Health Board

-  *Registration / Licencing*
-  *Inspection of Premises*
-  *i.e Operational Hygiene*
-  *Structural Hygiene*
-  *Personal Hygiene*
-  *Closing a Food Business*
-  *Enforcement of Legislation*

