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## Major Risks to Food



Biological



Chemical



Physical



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## Facts about Schools and Illness

Over a **25 year** period:

**604** outbreaks

**50,000** ill

**1500** hospitalizations

**1** death



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## Facts about Schools and Illness

**604** outbreaks

**85%** bacterial

**7%** chemical agents

**6%** viruses

**1%** parasites



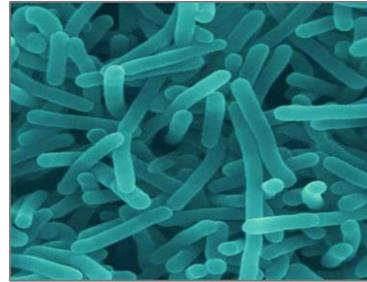
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## What's Causing the Outbreaks?

**Salmonella:** leading cause  
(1/3 of outbreaks)

Followed by:

- Staphylococcus
- Clostridium perfringens
- Bacillus cereus
- E. Coli
- Hepatitis A
- Norovirus



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## Food Vehicles Implicated in Outbreaks

**19%** Poultry dishes ( mostly turkey)

**6%** Tacos/ burrito dishes

**6%** Beef

**5%** Dairy (non ice cream)

**33%** Multiple food items



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## Vehicle Transmission (CDC Risk Factors)

Improper refrigeration (cold holding) **81%**

Contamination by food worker **57%**

Inadequate cooking **43%**

Contaminated equipment **35%**

Foods from unsafe sources **11%**



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## Today's Food Safety Controls

**USDA  
Guidance**



**Institute of  
Child Nutrition**



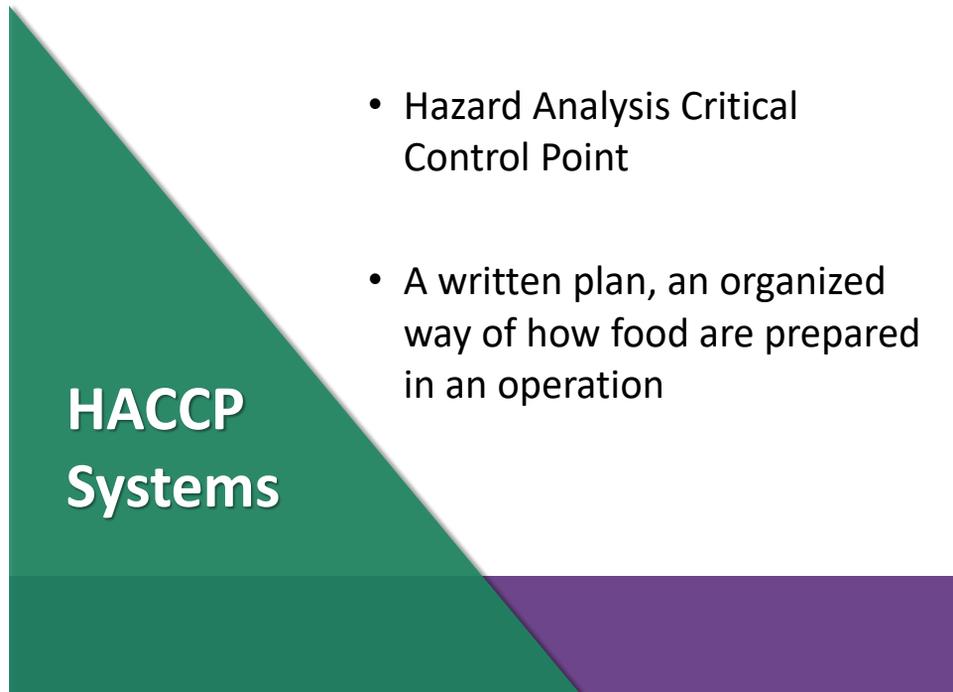
**State agencies  
(DESE)**



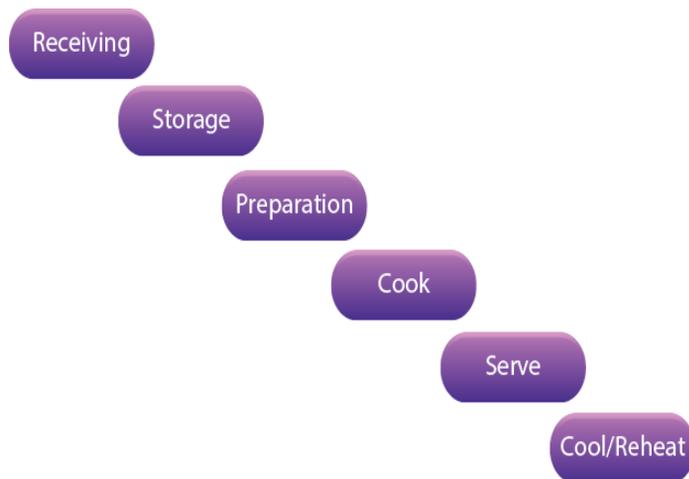
**FDA  
Food Code**



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## Why HACCP?

Identify possible hazards in the flow of food ahead of time



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## Why HACCP?

So we can...

- Prevent hazards
- Eliminate hazards
- Reduce risks to safe levels

Biological



Chemical



Physical



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1. Time and temperature controls
2. Prevent Cross contamination
3. Personal hygiene



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## Regulations



### FDA 2013 Model Food Code

- Adopted in Massachusetts, CMR 590.
- Accepted by USDA, ICN for schools

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## Major Changes to the Food Code

### **TCS foods**

Time and Temperature **C**ontrol for **S**afety

Bacteria will grow easily:

- High in protein or carbohydrates
- Moist
- Neutral or only slightly acidic

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## TCS Foods



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## Temperature Danger Zone

41° – 135° F



41° F or below



135° F or above

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## 7 HACCP Principles

|                 |                                 |
|-----------------|---------------------------------|
| Principle One   | Conduct a Hazard Analysis       |
| Principle Two   | Determine the CCPs              |
| Principle Three | Establish Critical Limits       |
| Principle Four  | Establish Monitoring Procedures |
| Principle Five  | Take Corrective Action          |
| Principle Six   | Verify that the system works    |
| Principle Seven | Record keeping                  |

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### Conduct Hazard Analysis

- Identify potentially hazardous foods from your menu, and their hazards
- Determine which are significant at any step in food flow and address in HACCP plan

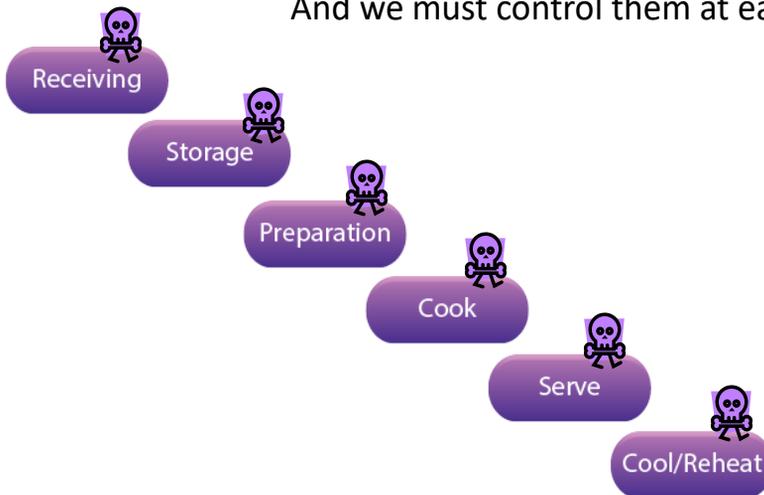
**Principle 1**



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## Hazards can occur at any step

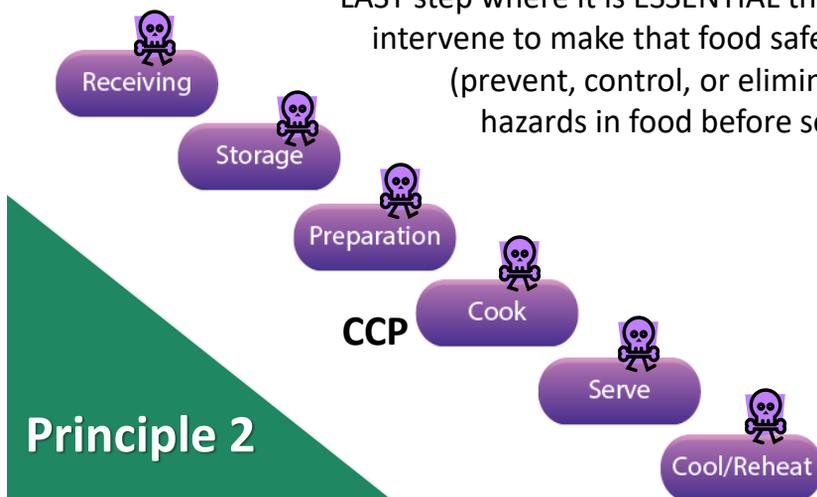
And we must control them at each step



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## Critical Control Points (CCP)

LAST step where it is ESSENTIAL that you intervene to make that food safe to eat (prevent, control, or eliminate hazards in food before service)



Principle 2

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## Establish Critical Limits

- “Magic” number that the CCP must meet  
*eg, food temperature, pH value, time limit*
- Prevent, eliminate or reduce risk to safe level

### Principle 3



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## Monitoring

- Monitoring (taking a measurement) lets you know if critical limits are being met
- Be specific about  
Who- What- When-Where- How you will monitor
- Equipment and tools needed

### Principle 4



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## Take Corrective Action

Predetermined steps to take when food does not meet a critical limit  
(if something goes wrong)

### Principle 5



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## Verification

Manager determines if your HACCP system is working

- CCP's and critical limits are appropriate
- Corrective actions are adequate
- Employees are following procedures

### Principle 6

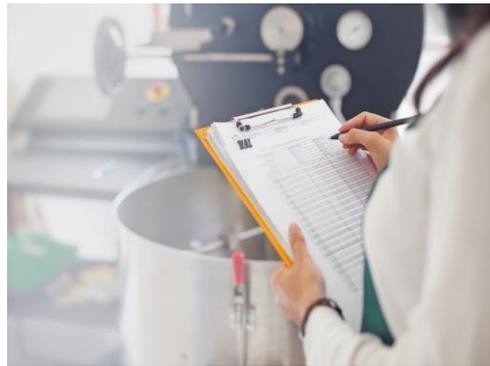


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## Recordkeeping

Proper records allow you to document you are continuously preparing and serving safe food

### Principle 7



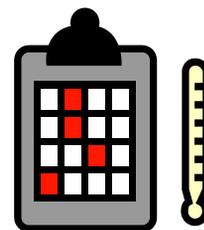
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## Recordkeeping

- Temperature logs,/sanitizing logs
- Thermometer calibration checks
- Corrective action charts, receiving temps

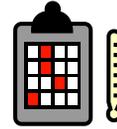
### Principle 7

Records document your practices



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Monitoring procedure and Recordkeeping is required for every



Critical Control Point (CCP)



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## Standard Operating Procedures

Must be in place  
Control Hazards too



Personal hygiene



Cleaning & sanitizing



Staff Procedures



Proper equipment



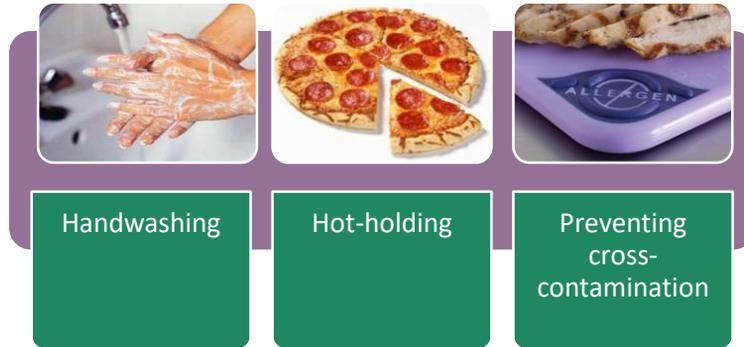
Reputable suppliers

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In some situations...

Use SOPs to control hazards instead of only CCP

Requires: Staff training



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**Breakfast  
in the  
Classroom**



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## Breakfast in the Classroom

### Foods

Breakfast sandwiches  
 French toast sticks  
 whole fruits, cereals  
 muffins, milk, juice  
 (TCS, non TCS foods)

### Hazards

Salmonella  
 Listeria  
 Shigella  
 Staphylococcus  
 Allergens



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## Breakfast in the Classroom

Prepare foods according to HACCP plan in kitchen

Additional Controls needed for:

- Time and Temperature abuse/ pathogen growth in TCS foods (dairy, eggs, proteins)
- Personal hygiene in serving process
- Cross contamination in serving
- Allergen cross contact

Control extra risks through SOP for this method

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## Breakfast in the Classroom

### SOP:

- Discard policy for TCS foods after 4 hours (using Time rather than temperature as a Public Health Control)
- Return policy for whole fruits, packaged foods, milk, non TCS foods
- Monitor “Share Table” foods
- Prevent contamination in packaging/bags
- Temperature controls before packing cart
- Carts sanitation
- Personal hygiene protocols for teachers, students, kitchen staff
- Training of kitchen and non-kitchen staff

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## Breakfast in the Classroom

### Teacher Guide: Outline Best practices

- Discard or return policy
- Personal hygiene, students, teachers
- Prevent cross contamination, cross contact
- Clean surfaces for eating



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## Second Chance Breakfast Carts (Grab & Go)



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## Second Chance Breakfast Carts (Grab & Go)

### Foods

Breakfast sandwiches  
whole fruits, cereals  
muffins, milk, juice  
(TCS, non TCS foods)



### Hazards

Salmonella  
Listeria  
Shigella  
Staphylococcus  
Allergens

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## Second Chance Breakfast Carts (Grab & Go)

Prepare foods according to HACCP plan in kitchen

Additional Controls needed for:

- Time and Temperature abuse/pathogen growth in TCS foods (dairy, eggs, proteins)
- Personal hygiene in serving process
- Cross contamination in serving
- Allergen cross contact

Control extra risks through SOP for this method

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## Second Chance Breakfast Carts (Grab & Go)

### SOP

- Discard policy for TCS foods after 4 hours (using Time rather than temperature as a Public Health Control)
- Return policy for whole fruits, packaged foods, milk, non TCS foods
- Prevent contamination in packaging/bags
- Labeling allergens
- Temperature controls before packing cart
- Carts sanitation
- Personal hygiene protocols for students, kitchen staff
- Training of kitchen and non-kitchen staff

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## Self-Service Food Bars

### Foods

Salads, leafy greens, cut tomatoes, cut fruits, vegetables, proteins, eggs, dairy (TCS, non TCS foods)

### Hazards

Salmonella  
Listeria  
Shigella  
Staphylococcus  
Allergens



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## Self-Service Food Bars

Prepare foods according to HACCP plan in kitchen

Additional Controls needed for:

- Time and Temperature abuse/ pathogen growth in TCS foods (dairy, eggs, proteins, cut produce)
- Personal hygiene in serving process
- Cross contamination in serving
- Allergen cross contact
- Sanitation of self-service area, bar

Control extra risks through SOP for this method



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## Self-Service Food Bars

**SOP:**

- Label foods
- Install sneeze guards, food shields
- Methods to prevent cross contact (allergen control)
- Separate , clean utensil in each container
- Monitor food bar for sanitation, cross contaminations
- Temperature controls (41° F or below, 135° F or above)



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## Third Party Food Preparation

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### Third Party Food Preparation

#### Foods

Breakfast and lunch items  
Salads, fruits, vegetables, proteins, eggs, dairy  
(TCS, non TCS foods)

#### Hazards

E. coli  
Salmonella  
Listeria  
Shigella  
Staphylococcus  
Allergens



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## Third Party Food Preparation

Order foods according to HACCP vendor protocols

Additional Controls needed for:

- Time and Temperature abuse (i.e., pathogen growth ) during transport of TCS foods
- Delivery vehicle sanitation
- Receiving temperature protocols
- Vendor approval process

Control extra risks through SOPs



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## Third Party Food Preparation

### SOP #1

#### Vendor Approval Program

HACCP-based Food safety plan, protocols

Licensed, inspected facility

Trained personnel, certified food manager

Maintain hot and cold temperatures of foods

(preparation to transportation)

Clean vehicles and food carriers

Emergency plan for power outage or water shortage



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## Third Party Food Preparation

### SOP #2

#### Receiving Protocols

Schedule food transportation to minimize the time between delivery and serving at the school

Check food temperatures on arrival

Check packaging integrity

Rejection or return policies



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## Going Forward

### Best Practices

- ▶ Follow regulations and HACCP plans for existing operations and meals
- ▶ Identify specific hazards associated with Alternative meal delivery method
- ▶ Develop SOP that addresses those risks
- ▶ Recordkeeping documents when appropriate

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## Going Forward

- Train staff, teachers, other personnel , using the SOPs (written Standard Operating Procedures) to help control all types of service
- Provide Guidance document for individuals involved in distributing foods- teachers, parents, others



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## Going Forward

- Verify HACCP plan annually, or as delivery, food preparation methods, menu changes
- Use existing records to verify plan and proper procedures are being followed
- Update and make corrective changes to SOPs when needed to ensure safety



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Schools

Hazards

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