



# Changes in Identification and Control of Physical Hazards Since PR/HACCP

Presented at **Foreign Material Contamination,  
Validation and Prerequisite Programs  
Meeting**

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# Physical Hazards: Study Objective

- Whether (and how) the identification and control of physical hazards in plants has changed since PR/HACCP
- Methods:
  - Survey of Circuit Supervisors on pre- and post-PR/HACCP practices used for detecting physical hazards
  - Analysis of the FSIS consumer complaint data related to physical hazards in meat and poultry



# Study Design – Survey

- Survey of Circuit Supervisors:
  - Randomly selected 34 CSs (2 per FSIS district)
  - Represented 1,024 establishments
  - Telephone interview
    - ◆ What methods do establishments use to detect physical hazards?
    - ◆ Do plants address physical hazards in their HACCP plans? Do they specify CCPs?
    - ◆ Is industry assuming more responsibility for identifying and controlling physical hazards?



# Study Design – Consumer Complaints

- Analysis of consumer complaint data:
  - FSIS Consumer Complaints database (CSIS)
  - Data from 1997 to 2001
  - Excluded complaints related to spoilage, chemical hazards (e.g., grease, oil), allergens, microbial hazards
  - Total of 817 complaints related to physical hazards in meat and poultry

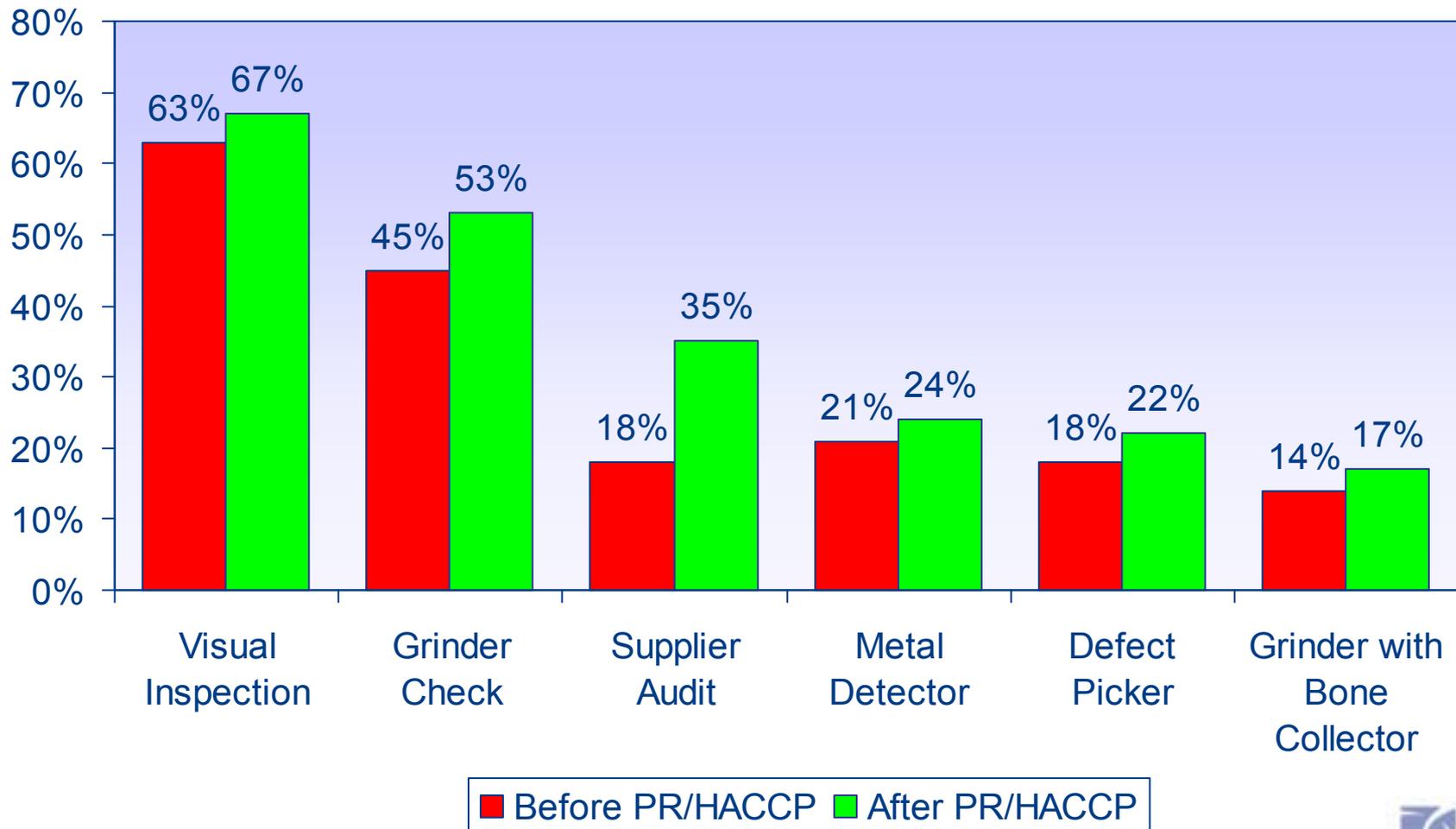


# Characteristics of 1,024 Establishments in 34 Surveyed Circuits

|                   | <b>Establishments in Surveyed Circuits</b> | <b>All Federally Inspected Establishments<sup>1</sup></b> |
|-------------------|--|---|
| Large             | 190 (19%)                                  | 360 (6%)  |
| Small             | 319 (31%)                                  | 2,328 (40%)   |
| Very Small        | 515 (50%)                                  | 3,053 (53%)   |
| Slaughter Only    | 121 (12%)                                  | 166 (3%)  |
| Slaughter/Process | 286 (28%)                                  | 1,129 (19%)   |
| Process Only      | 617 (60%)                                  | 4,491 (78%)   |

<sup>1</sup>Establishment size could not be determined for 45 (1%) establishments using 2002 PBIS data.

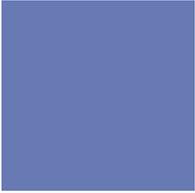
# Detection Methods Used By Plants Before and After PR/HACCP Implementation



# Physical Hazard Detection Methods Used by Plants (%) Before and After PR/HACCP

| Detection Method            | Establishment Size |         |         |
|-----------------------------|--------------------|---------|---------|
|                             | Very Small         | Small   | Large   |
| Visual Inspection           | 65 / 66            | 60 / 65 | 60 / 69 |
| Grinder Check               | 44 / 52            | 46 / 56 | 45 / 49 |
| Supplier Audit              | 8 / 26             | 17 / 36 | 45 / 56 |
| Metal Detector              | 3 / 5              | 29 / 34 | 57 / 61 |
| Defect Picker               | 14 / 15            | 17 / 24 | 28 / 38 |
| Grinder with Bone Collector | 7 / 9              | 16 / 20 | 30 / 36 |

 Before PR/HACCP
  After PR/HACCP



# Hazard Analysis and HACCP Plans

- 79% of CSs report that all plants in their circuit address physical hazards in their hazard analysis (21% of CSs report “some” to “most” address physical hazards).
- 33 out of 34 CSs report that plants specifically address **metal** in their hazard analysis.
  - 73% of CSs say that plants specify a CCP for metal.
  - Critical limits vary widely across establishments.



# Hazard Analysis and HACCP Plans (Continued)

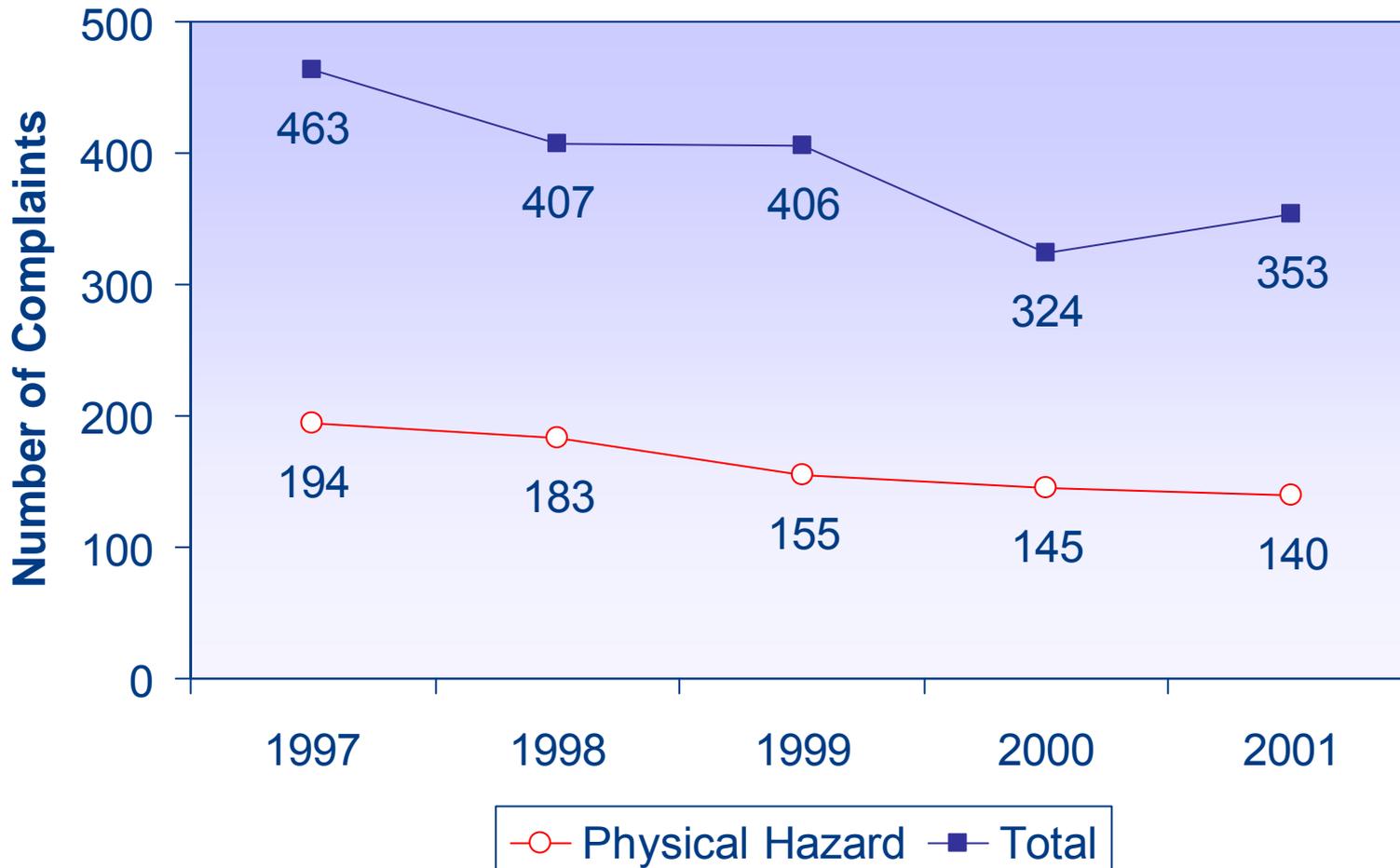
- Two-thirds of CSs report that bone, glass, and plastic are specifically addressed in the hazard analysis (rest only address them as “foreign material”).
- Only 1 plant described a CCP for bone.
- One CS reported that plants have a zero critical limit for glass.
- One CS reported a critical limit of 1/32 inch for plastic.



# Noncompliance Records (NRs)

- 68% of CSs say that inspectors have documented NRs for physical hazards in some establishments.
- CSs reported a total of 39 NRs documented across the 34 surveyed circuits since PR/HACCP implementation.
- The most frequent procedure codes and trend indicators reported were 01C01-Monitoring, 01C02-Monitoring, and 01C03-Monitoring.

# Consumer Complaints of Extraneous Material in Meat and Poultry Products





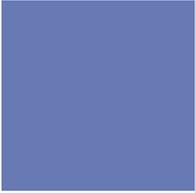
# Key Findings

- Establishments are using more methods for identifying and controlling physical hazards since PR/HACCP implementation.
- Most establishments rely on visual inspection for identifying and controlling physical hazards.
- More establishments rely on supplier audits since PR/HACCP (a 17% increase).
- Large establishments use detection methods more frequently than small or very small plants.



## Key Findings (Continued)

- Many large plants use visual inspection (69%), metal detection (61%), supplier audits (56%) and grinder checks (49%).
- Small and very small plants rely on visual inspection (65% and 66%, respectively) and grinder checks (56% and 52%, respectively).
- Most establishments address physical hazards in their hazard analysis.
- Metal is the only physical hazard for which a CCP is frequently identified.



## Key Findings (Continued)

- Consumer complaints about extraneous material declined 28% from 1997 to 2001.
- This decline approximately mirrors the decline in all consumer complaints from the CSIS data.