CONSUMER PRODUCT SYSTEM SAFETY
IDENTIFYING AND MANAGING RISK

AUGUST 2015

THIS PRESENTATION WAS PREPARED BY CPSC STAFF, HAS NOT BEEN REVIEWED OR APPROVED BY, AND MAY NOT REFLECT THE VIEWS OF, THE COMMISSION.
U.S. Consumer Product Safety Commission

- An independent federal agency
- Established in May 1973
- Responsible for consumer product safety functions of the federal government
- Chairman and four Commissioners, appointed by the President and confirmed by the Senate
Protecting the public against unreasonable risks of injury from consumer products through education, safety standards activities, regulation, and enforcement.
U.S. Estimated Annual Losses Associated with Consumer Products

34,500 Deaths

36 Million Injuries

$1 Trillion in Societal Costs
Consumer Product

“... any article, or component part thereof, produced or distributed (i) for sale to a consumer for use in or around a permanent or temporary household or residence, a school, in recreation, or otherwise, or (ii) for the personal use, consumption or enjoyment of a consumer in or around a permanent or temporary household or residence, a school, in recreation, or otherwise...”¹

Consumer Products EXCLUDED from CPSC Jurisdiction

“... any article which is not customarily produced or distributed for sale to, or use or consumption by, or enjoyment of, a consumer...”

Alcoholic beverages, tobacco, firearms and explosives (BATFE)
Motor vehicles and equipment (NHTSA)
Pesticides (EPA)
Aircraft (FAA)
Boats (Coast Guard)
Food and drugs (USDA and FDA)
Occupational products (OSHA)
Fixed-site amusement park rides (State jurisdiction)

Laws that Give CPSC Authority Over Consumer Products, Foreign and Domestic

- Consumer Product Safety Act*
- Federal Hazardous Substances Act*
- Flammable Fabrics Act
- Poison Prevention Packaging Act
- Virginia Graeme Baker Pool and Spa Safety Act
- Children’s Gasoline Burn Prevention Act
- Refrigerator Safety Act

*Amended by the Consumer Product Safety Improvement Act of 2008 and Public Law No. 112-28.
Children’s Products and the Consumer Product Safety Improvement Act (CPSIA)

Key **process** requirements for children’s products primarily intended for children 12 years old and younger:

- Third party testing by CPSC-accepted labs
- Conformity certificates issued by importers & manufacturers (Children’s Product Certificate)
- Tracking labels
Product Hazard Prevention Strategies

CPSC staff promotes consumer product safety through a multi-pronged approach:

- Engaging in product safety system processes by supporting improvements to voluntary standards/codes
- Creating and enforcing technical regulations and bans
- Identifying and removing products with defects and hazards through surveillance activities and recalls
- Developing education programs for consumers, importers, U.S. and foreign manufacturers, and retailers
CPSC Risk Management Process

Data Collection

Hazard Identification
- Probability of Hazard Occurrence and Consequence

Risk Analysis
- Risk of That Hazard Occurring That Often with That Consequence

Risk Assessment and Prioritization
- Comparing Risk to Acceptability Criteria

Actions to Reduce Risk
- Education
- Corrective Actions
- Standards & Regulations Development

Ensuring Compliance
- Market/Port Surveillance
- Testing and Certification
- CPSC Testing

Evaluate Results
- Trends
- Data Analysis
DATA COLLECTION SYSTEMS

- **IPII**: Injury and Potential Injury Incident Data
- **DTHS**: Death Certificates
- **INDP**: In-Depth Investigations
- **NEISS**: National Electronic Injury Surveillance System
INJURY AND POTENTIAL INJURY INCIDENT DATABASE (IPII)

Medical Examiners and Coroners Alert Program (MECAP)

News Clips
Hotline Calls
Internet Reports
Compliance Reports
Federal and State Agency Referrals
Other Reports

SaferProducts.gov

Welcome Consumers
Report your unsafe product on SaferProducts.gov. Tell CPSC. Then others will know.
Get Started

Search
Recalls & Reports
GO

Most Searched
Appliances
Crib
High Chairs
Death Certificates Database (DTHS)

- Contracts with 50 states
- Purchases approximately 8,000 per year
- Time lags
- Daily review
- Analytical use
IN DEPTH INVESTIGATIONS DATABASE (INDP)

- Field Investigations
  - On site
  - Local-level collaboration
    - Medical examiner
    - Police
    - Fire
  - Sample collection opportunity

- Telephone Interviews
National sample
- Data collected from approximately 100 hospital emergency rooms around the country
- Data weighted to provide consumer injury estimates nationwide

Multilevel system
- About 395,000 consumer product-related injury reports annually
- About 300,000 other incident reports annually

Data submitted daily by hospital coders
Data available from 1980 to present
MAP OF NEISS HOSPITAL LOCATIONS

[Map showing locations of hospitals across the United States, categorized into different sizes and types such as Children’s Hospitals, Very Large Hospitals, Large Hospitals, Medium Hospitals, and Small Hospitals.]
OTHER DATA SOURCES

• Additional Surveillance Data from:
  – National Burn Center Reporting System
  – National Fire Incident Reporting System

• Collection of actual samples or a similar sample involved in an incident, purchased at a retailer or seized at a port
Risk Assessment Process

1. **Data Collection**
   - **Scope**: Product, Hazard, Population

2. **Hazard Identification and Characterization**

3. **Exposure Assessment**

4. **Risk Characterization**

The process is iterative, allowing for feedback and refinement at each stage.
Integrated Teams

- Chemical
- Children
- Combustion
- Electrical
- Fire
- Seniors and Mechanical
Determine Scope

- Entire product category vs. product specific – manufacturer, model, lot
- Hazard Scenarios
- Population at risk (Children, Seniors, Teens, General Population)
Hazard Identification and Characterization

- Integrated teams determine:
  - Product component
  - Hazard/failure mode
  - Design vs. defect
  - Injury severity
  - Physical/cognitive characteristics of users
  - Environmental factors
## Injury Severity **

<table>
<thead>
<tr>
<th>Level of Injury</th>
<th>Consequence</th>
</tr>
</thead>
<tbody>
<tr>
<td>4</td>
<td>Injury or consequence that is or could be fatal, including brain death; consequences that affect reproduction or offspring; severe loss of limbs and/or function, leading to more than approximately 10% of disability.</td>
</tr>
<tr>
<td>3</td>
<td>Injury or consequence that normally requires hospitalization and will affect functioning for more than 6 months or lead to a permanent loss of function.</td>
</tr>
<tr>
<td>2</td>
<td>Injury or consequence for which a visit to ER may be necessary, but in general, hospitalization is not required. Functioning may be affected for a limited period, not more than about 6 months, and recovery is more or less complete.</td>
</tr>
<tr>
<td>1</td>
<td>Injury or consequence that after basic treatment (first aid, normally not by a doctor) does not substantially hamper functioning or cause excessive pain; usually the consequences are completely reversible.</td>
</tr>
</tbody>
</table>

Exposure Assessment

- Distribution quantity
- Exposure time
  - Product life span – actual vs. recommended
  - Frequency/duration of use
- Likelihood of hazard manifestation
  - Product characteristics
  - User behavior
  - Environmental factors
  - Hidden hazard
- Path to injury
Risk Characterization

- Determine risk level based upon probability and severity
Risk Characterization Matrix **

<table>
<thead>
<tr>
<th>Probability of damage during the foreseeable lifetime of the product</th>
<th>Severity of Injury</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1</td>
</tr>
<tr>
<td>&gt; 50 %</td>
<td>H</td>
</tr>
<tr>
<td>&gt; 1/10</td>
<td>M</td>
</tr>
<tr>
<td>&gt; 1/100</td>
<td>M</td>
</tr>
<tr>
<td>&gt; 1/1000</td>
<td>L</td>
</tr>
<tr>
<td>&gt; 1/10,000</td>
<td>L</td>
</tr>
<tr>
<td>&gt; 1/100,000</td>
<td>L</td>
</tr>
<tr>
<td>&gt; 1/1,000,000</td>
<td>L</td>
</tr>
<tr>
<td>&lt; 1/1,000,000</td>
<td>L</td>
</tr>
</tbody>
</table>

S – Serious risk
H – High risk
M – Medium risk
L – Low risk

ACTIONS TO REDUCE RISK
Technical Regulations

Regulatory process can be started by vote of the Commission or by a petition from an interested party

CPSC statutes specify that voluntary standards should be relied upon. However, a regulation may be issued if:

- the current voluntary standard does not adequately reduce the risk
- or
- there is not substantial compliance.
CPSC Voluntary Standards Monitoring

- Participate in committees
- Propose standards development or revisions
- Conduct tests and evaluations to support findings
- Analyze injury/death data for hazard patterns
- Review standards for inadequacies

CPSC staff does not vote.
Consumer Education

• CPSC.gov
• SaferProducts.gov
• Press releases & blogs
• Neighborhood Safety Network
• Publications
• Social media
ENSURING COMPLIANCE
Market Surveillance Activities

- **Retail**
  - Program plan for regulated products; surveillance for defects and other risks

- **Internet**
  - Check for conformity with regulations and for recalled products

- **Ports and Airports**
  - Investigators at key ports of entry
  - Analysts identify most likely at-risk products
Importers, although reliant on foreign producers, are directly responsible for the safety of products they bring into the United States.
Corrective Actions

The CPSA provides for three remedies in the case of the recall of a product that creates a *substantial product hazard*\(^3\):

- Repair
- Replacement
- Refund of purchase price

\(^3\) 15 U.S.C. § 2064(d).
Testing and Certification

Children’s Products:

• Third party testing by CPSC-accepted labs

• Conformity certificates issued by importers & manufacturers (Children’s Product Certificate)

• Tracking labels
Testing and Certification

Non-children’s products:

• Testing: Any laboratory can perform the testing for non-children’s products. Third party testing is not required.

• Certification: A General Certification of Conformity (GCC) is required for all products subject to a rule, ban, standard or regulation enforced by the CPSC
CPSC Testing**

Compliance Support

- Regulated Product Testing
- Age Grading – determining appropriate age range for product testing.
- Product Safety Assessments
- Conformance Assessments
- Customs Support

Hazard Reduction Support

- Develop performance criteria and test methods for mandatory and voluntary standards
- Conduct product evaluation/research projects

(**Does not certify for sale or export.)
CPSC National Product Testing & Evaluation Center

Testing Areas

- Toy Test Lab
- Children’s Products Lab
- Pool and Spa Products Lab
- Impact Lab (Bike Helmets)
- General Product Test Lab
- Outdoor Power Sports Lab
- Electrical Products Test Lab
- Chemistry Lab
- Combustion Products Test Lab
- Modern Conference Space
- Machine Shop
- Flammability/Fire Test Lab
Evaluate Results
CPSRMS – System of Incidents

CPSRMS (CPS Risk Management System)

- Centralized, Web-based searchable system
- Standardized product codes and injury types applied to all incoming reports
- Daily posting of incoming incidents to Integrated Teams (IT) for subject matter experts’ review and status determination
- Allows historic view of similar incidents for identification of emerging hazards

- Death certificates from the states
- Based on ICD10 codes
HAZARD IDENTIFICATION

**Daily**
- Triage of Incoming Incidents
- Referral to Subject Matter Expert Teams

**Weekly**
- Expert Review
- Assign Keywords for Pattern Identification
- Recommend Sampling

**Pattern Assessment**
- Frequency of Reporting – Product, Hazard, Severity, Age
- Product Safety Assessments

**Detailed Analyses**
- Trend Analyses
- Risk Definition and Collaborative Mitigation Strategies
Integrated Teams – Process Flow

Incident Reports

Intake → Triage → Database

Initial Review → Investigation → Assessment

Field Investigations ← Hazard Identification

Refer for corrective action
Refer for standards development
Refer for public safety campaign

Compliance
Hazard Identification
Communication
Contact Information

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