

*Yale University's Research Material Shipping  
and Export Program via eShipGlobal*

Kevin Charbonneau, CHP

*Associate Director*

Deb Ferry, CBSP

*Assistant Biosafety Officer*

## Presentation Overview

- Why Yale developed a Shipping/Export Program
- Biological Material Workflow in eShipGlobal
- Review challenges we faced during the process
- Review future goals and enhancements

## Benchmarks for Comparison

26,000 Faculty, Staff and Students

480 Buildings (80 Research)

3173 Research Labs

500 Principal Investigators

### Annual FedEx Shipments from Yale University

55,000 Domestic

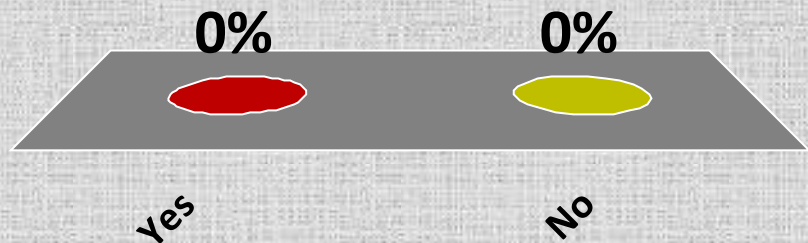
7,300 International

## Why Yale developed a comprehensive program?

- To ensure:
  - Shippers Trained & Certified to ship Research/Clinical Materials
  - Proper Shipping Documentation
    - Easy access for FAA/DOT inspections
  - Proper Packaging and Labels for shipments
- Provide timely Export Control reviews
- Focus EHS & Research/Clinical staff resources
- Increase in Regulatory Scrutiny by FAA, DOT and DOC

Has your institution been visited/audited by the DOT or FAA in the past 5 year?

- A. Yes
- B. No





## Examples of Increased Regulatory Scrutiny

### FAA Enforcement at Universities 2008-15

X State University (\$6,000 fine for an incident)

X State University (routine inspection)

X University (\$50,000 fine for an incident)

X University (incident investigation)

X (incident investigation, \$150,000 fine for a separate incident)

X University (two incident investigations)

University of X (\$40,000 fine for an incident)

University of X (incident investigation)

X University (routine inspection)

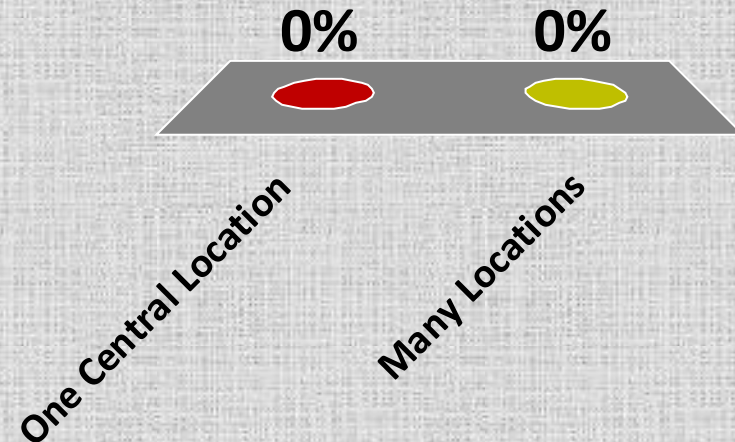
X University (incident investigation, plus other inspections)

*Yale University (2010 - routine inspection)*

***FedEx - Proposed Fine ~ \$690,000***

At my institution Research/Clinical  
Materials are shipped from:

- A. One Central Location
- B. Many Locations



# Challenges

- Large Decentralized Campus
  - Shipping/Receiving occurring from many locations
- Most Grants require Sharing of Research Materials
- Resistance to changing the status quo
  - Hazardous Material vs. Research Material
- Time commitment
  - EHS Staff
  - Researchers/Clinical Staff
    - Time from Approval to Ship
- Training
  - EHS Staff, Researchers, Clinical and Ancillary Staff




# Return of Dangerous Goods to Vendors

## Beware !!!

Many companies provide shipping documents, labels and packaging for materials (e.g. – chemicals, radioactive sources, etc.) to be returned to the vendor for various reasons.

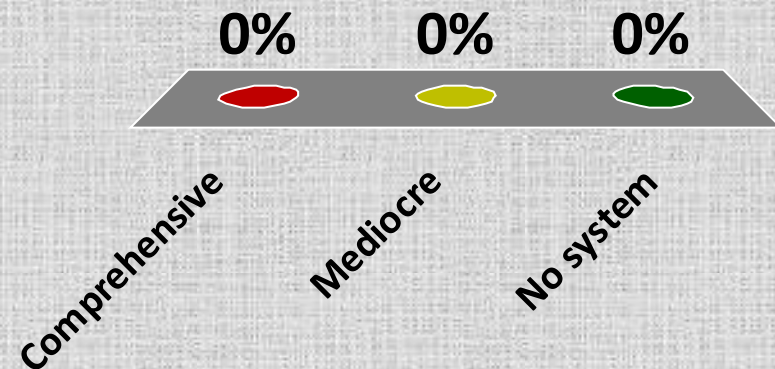
Inform staff to understand and recognize that only trained and certified shippers can process these shipments.

**SHIPPER'S DECLARATION FOR DANGEROUS GOODS** (Provide at least three copies to the airline.)

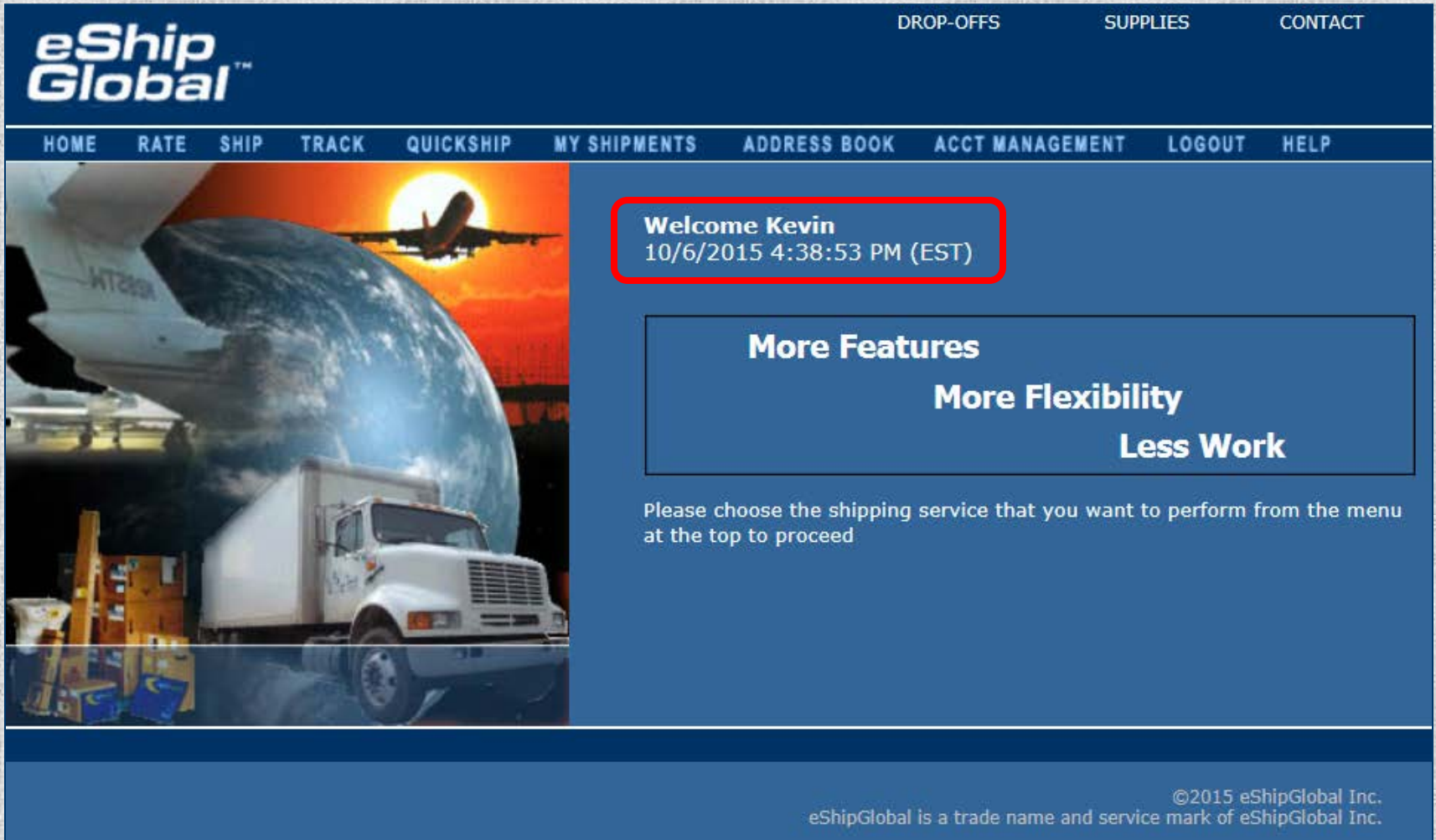
| Shipper<br>Deborah Ferry<br>Yale University - EHS<br>135 College St.<br>New Haven, CT 06510   |                      | Air Waybill No.<br><br>Page 1 of 1 Pages<br><br>Shipper's Reference Number   |               |                                |               |               |
|---|----------------------|--|---------------|--------------------------------|---------------|---------------|
| Consignee<br>Kevin Charbonneau<br>Yale University - EHS<br>266 Whitney Ave<br>New Haven, CT 06511   |                      |   |               |                                |               |               |
| Two completed and signed copies of this Declaration must be handed to the operator.   |                      | <b>WARNING</b><br><br>Failure to comply with all respects with the applicable Dangerous Goods Regulations may be in breach of the applicable law, subject to legal penalties.  |               |                                |               |               |
| <b>TRANSPORT DETAILS</b><br>This shipment is within the limitations prescribed for:<br>(delete non applicable)  |                      | Airport of Departure<br><br><br>Airport of Destination:  |               |                                |               |               |
| <input type="checkbox"/> PASSENGER AND CARGO AIRCRAFT<br><input checked="" type="checkbox"/> CARGO AIRCRAFT ONLY  |                      | Shipment type: (delete non-applicable)<br><input type="checkbox"/> NON-RADIOACTIVE <input checked="" type="checkbox"/> RADIOACTIVE   |               |                                |               |               |
| <b>NATURE AND QUANTITY OF DANGEROUS GOODS</b>   |                      |  |               |                                |               |               |
| Dangerous Goods Identification  |                      |  |               |                                |               |               |
| UN or ID No.  | Proper Shipping Name | Class or Division (Subsidiary Risk)  | Packing Group | Quantity and type of packaging | Packing Inst. | Authorization |
| UN 1090   | Acetone              | 3  | II            | 1 fiberboard box X 4L          | 305           |               |
| <b>Additional Handling Information</b><br>Responsible Person: Deb Ferry 203-410-9203  |                      |  |               |                                |               |               |
| I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labelled/placarded, and are in all respects in proper condition for transport according to applicable International and National Governmental Regulations. I declare that all of the applicable air transport requirements have been met. |                      | Name/Title of Signatory<br>Deborah Ferry / Safety Advisor<br>Place and Date<br>New Haven, CT 08/09/2010<br>Signature [A typed signature may be used if the origin and destination are in the United States or its territories.]<br>Deborah Ferry |               |                                |               |               |
| 1-800-424-9300  |                      | Emergency Telephone Number   |               |                                |               |               |
| FOR RADIOACTIVE MATERIAL SHIPMENT ACCEPTABLE FOR PASSENGER AIRCRAFT, THE SHIPMENT CONTAINS RADIOACTIVE MATERIAL INTENDED FOR USE IN OR INCIDENT TO RESEARCH, MEDICAL DIAGNOSIS, OR TREATMENT. ADR EUROPEAN TRANSPORT STATEMENT. CARRIAGE IN ACCORDANCE WITH 1.1.4.2.1   |                      |  |               |                                |               |               |

My institution currently has the following type of Research/Clinical Shipping system:

- A. Comprehensive
- B. Mediocre
- C. No system



# eShipGlobal



The image shows a screenshot of the eShipGlobal website. The top navigation bar is dark blue with the eShipGlobal logo on the left and links for DROP-OFFS, SUPPLIES, and CONTACT on the right. Below this is a secondary navigation bar with links for HOME, RATE, SHIP, TRACK, QUICKSHIP, MY SHIPMENTS, ADDRESS BOOK, ACCT MANAGEMENT, LOGOUT, and HELP. The main content area is split into two columns. The left column features a large image of a white semi-truck in the foreground, with a globe in the background and an airplane flying over a sunset. The right column contains a red-bordered box with a welcome message for Kevin, a box with the text 'More Features', 'More Flexibility', and 'Less Work', and a paragraph of instructions. The footer contains copyright information for 2015 eShipGlobal Inc.

**eShipGlobal™**

DROP-OFFS SUPPLIES CONTACT

HOME RATE SHIP TRACK QUICKSHIP MY SHIPMENTS ADDRESS BOOK ACCT MANAGEMENT LOGOUT HELP

**Welcome Kevin**  
10/6/2015 4:38:53 PM (EST)

**More Features**  
**More Flexibility**  
**Less Work**

Please choose the shipping service that you want to perform from the menu at the top to proceed

©2015 eShipGlobal Inc.  
eShipGlobal is a trade name and service mark of eShipGlobal Inc.



# eShipGlobal - Workflow

The screenshot shows the eShipGlobal website interface. At the top, there is a navigation bar with the eShipGlobal logo on the left and links for DROP-OFFS, SUPPLIES, CONTACT, and CONTACT CT on the right. Below this is a secondary navigation bar with links for HOME, RATE, SHIP, TRACK, QUICKSHIP, MY SHIPMENTS, ADDRESS BOOK, ACCT MANAGEMENT, LOGOUT, and HELP. The main heading is 'RESEARCH MATERIAL SHIPPING'. The current step is 'EXEMPT HUMAN OR ANIMAL SPECIMEN'. The form contains several sections: a 'D' section with two radio button questions about pathogen presence; a 'Y' section with 'Substance Classification', 'Training', and 'Your training level' information; a 'P' section with 'Training Verification' information; and an 'AN' section with a bulleted list of conditions.

**eShipGlobal™** DROP-OFFS SUPPLIES CONTACT CONTACT CT

HOME HOME RATE SHIP TRACK QUICKSHIP MY SHIPMENTS ADDRESS BOOK ACCT MANAGEMENT LOGOUT HELP HELP

## RESEARCH MATERIAL SHIPPING

### EXEMPT HUMAN OR ANIMAL SPECIMEN

Yes No

Is the material a human specimen or material for which there is only a minimal likelihood that pathogens are present?

Is the material an animal specimen or material for which there is only a minimal likelihood that pathogens are present?

**Substance Classification:** Subject to "Exempt Human Specimen" or "Exempt Animal Specimen" provisions

**Training:** Training Required - Category B and Exempt Human or Animal Specimen Training (*Also fulfills Shipping Dry Ice training requirement*)

*Note: Requirement may also be fulfilled by taking the Infectious Substance, Category A Training*

**Your training level:** ALL

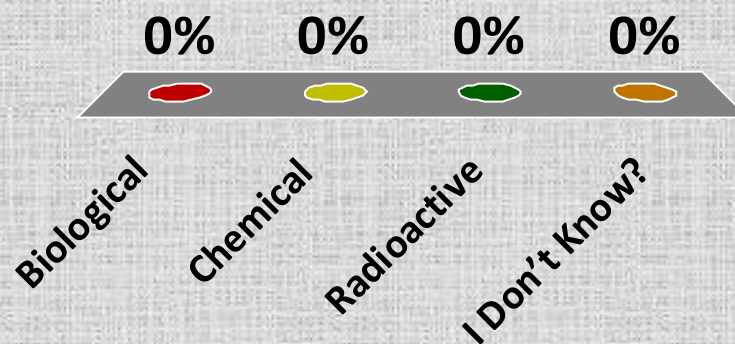
**Training Verification:** You have the appropriate training to continue

- genetically modified organisms or microorganisms meeting the definition of an animal pathogen,
- [Biological product](#) known or reasonably anticipated to meet the definition of an animal pathogen?

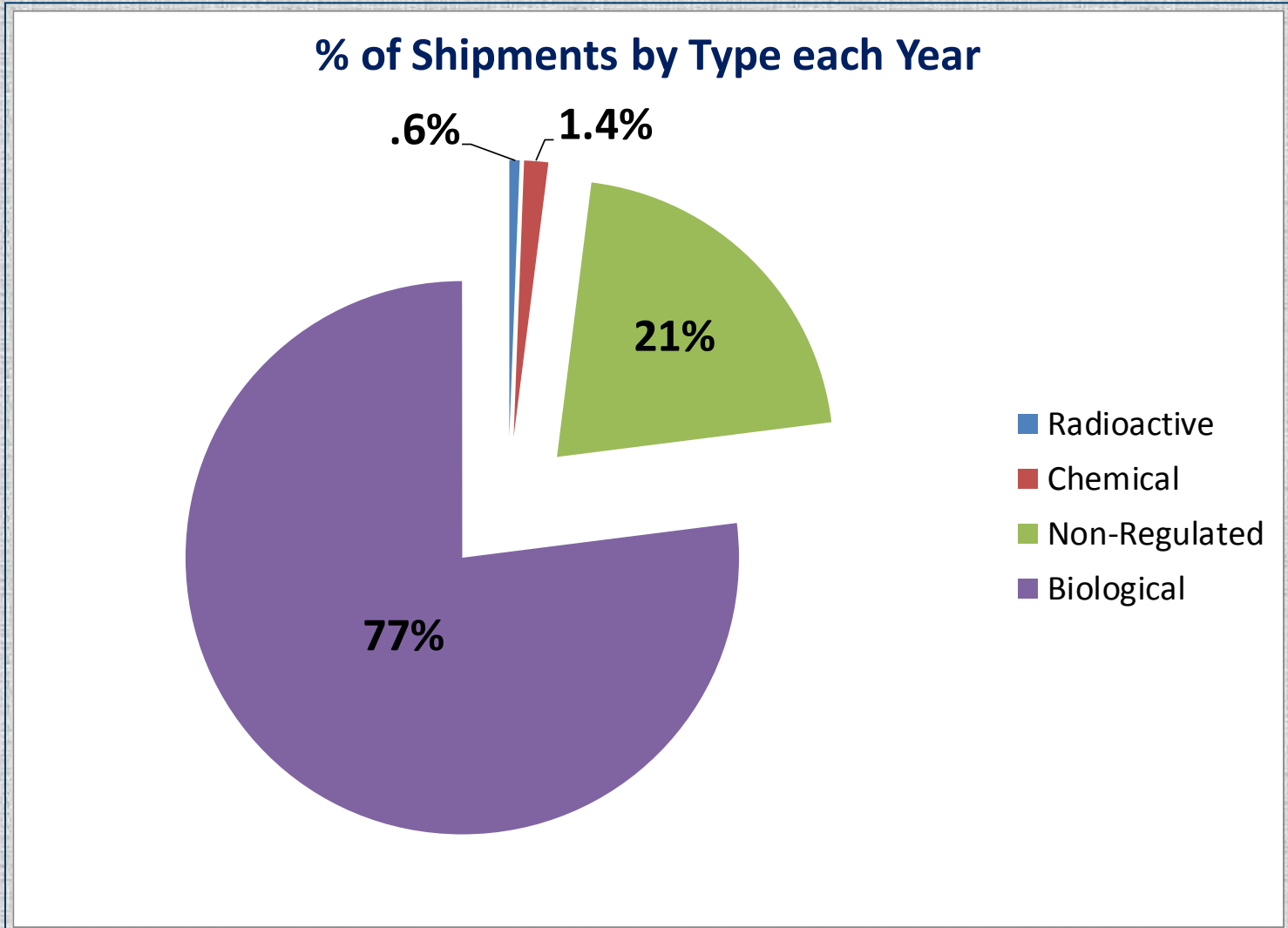


The most prevalent type of research/clinical material being shipped from my institution is:

- A. Biological
- B. Chemical
- C. Radioactive
- D. I Don't Know?



# Research/Clinical Material Shipments by Type



How many Research/Clinical Shipments are known to be shipped from my institution annually?

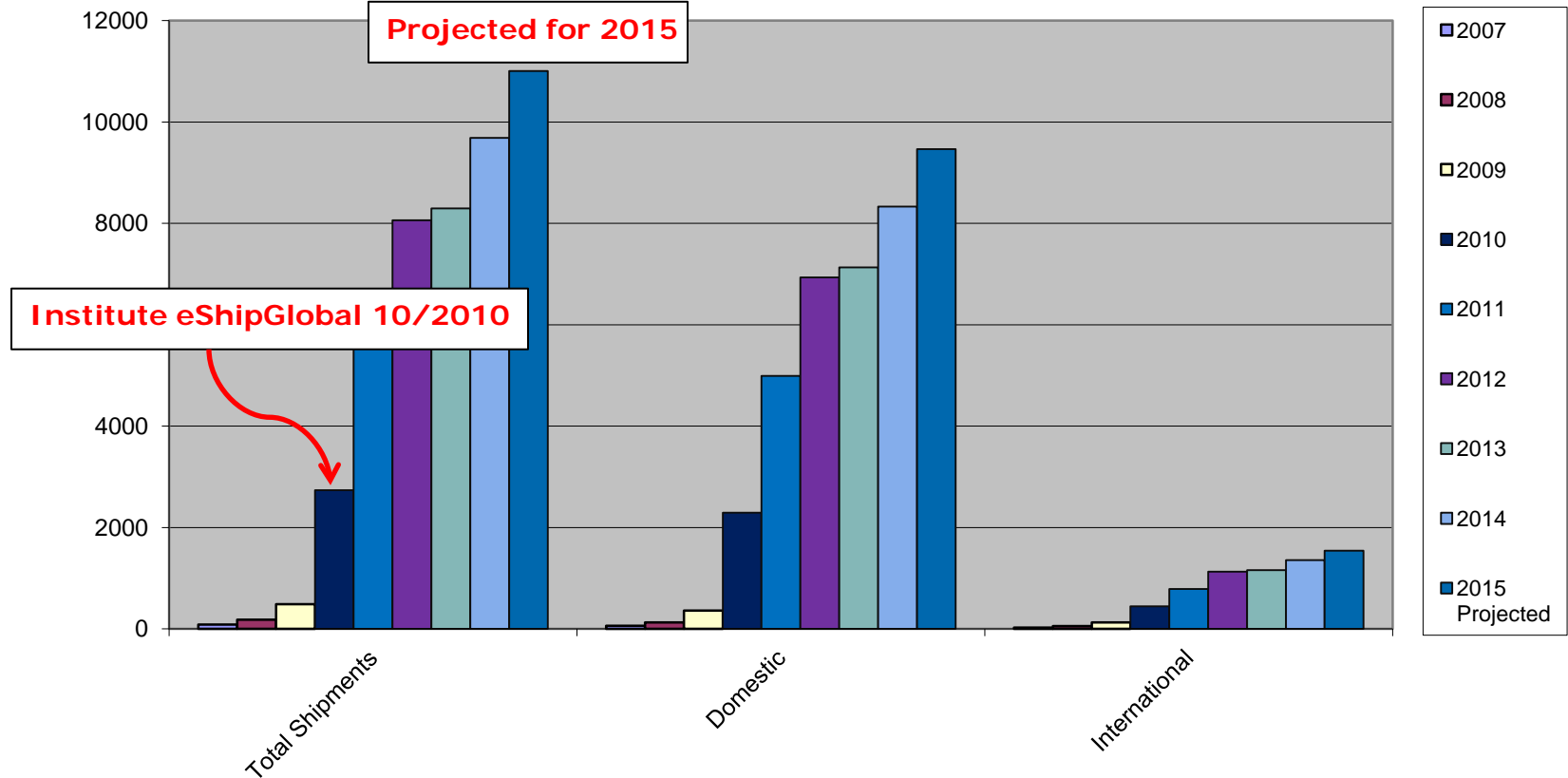
- A. <100
- B. >100 and <1,000
- C. >1,000
- D. I Don't Know?



# Yale - Shipping Metrics

2007 to Present

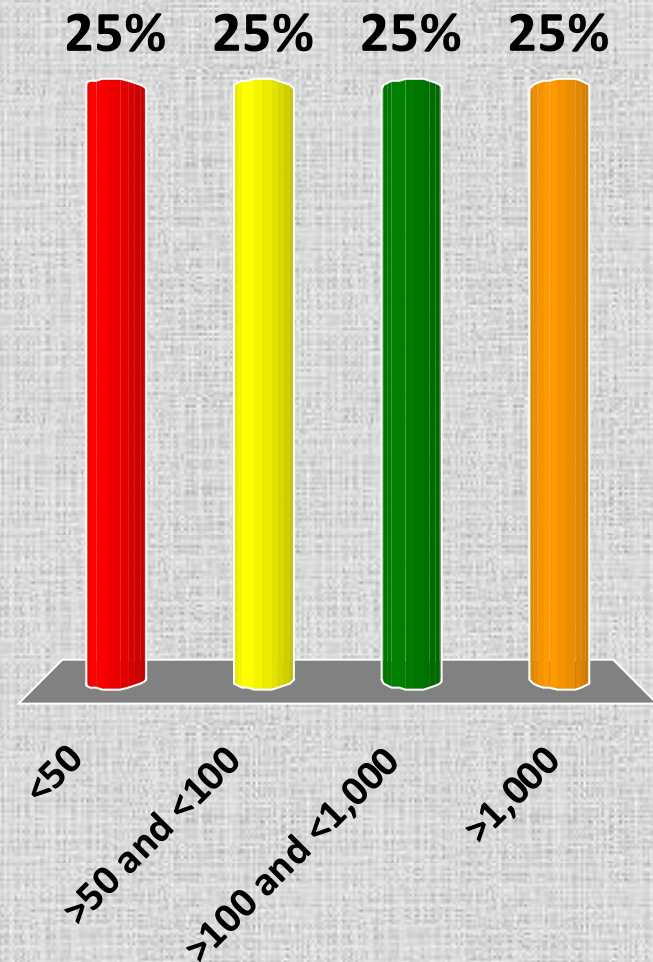
## EHS Shipping & Export Services





Guess how many Yale Research/Clinical Shippers were properly trained/certified prior to implementing eShipGlobal?

- A. <50
- B. >50 and <100
- C. >100 and <1,000
- D. >1,000



# Champion Change

- Engage Upper Administration
- Engage Committees
  - Research Compliance Committee
  - University Safety Committee
    - RSC, IBC and CLSC
- Solicit Support from Researchers and Clinical Groups
  - Focus Groups
  - Meet directly with high volume shippers
- Utilize all Communication Vehicles available
  - Newsletters, Targeted emails, website, etc.

# Justification for Change

- DOT/FAA
  - Fines - \$1K-10,000K per violation
- Dept. of Commerce - Export Controls
  - Willful Violations- \$1M and 20 yrs imprisonment
- Negative Public Relations
- Reporting of Violations
  - Granting Agencies
  - States

# Basic Assumption

- EHS responsible for Chemical & Radioactive Shipments
- Researchers/Clinical Staff will Continue to Ship Biological Materials
- Export Controls Compliance Review by EHS required:
  - Chemical,
  - Radioactive,
  - Category A and
  - International Research Material
- All Departments will use eShipGlobal/eShipLab
  - **Eliminate individual department FedEx Accounts**



# Benefits of eShipLab

- Guaranteed Training for all shippers
- Improved Compliance
  - Paperwork compliant with DOT/IATA regulations
    - Shipper's Declaration, Air waybills, Commercial Invoices, Labels
  - Specific Packaging Instructions agreed upon by Shipper
  - Required Shipping Documentation being maintained electronically
    - Easy access during regulatory audits
- EHS time being properly utilized
  - Radioactive and Chemical shipments are shipped by EHS Shipping Team Member
  - Category A shipments reviewed and approved by EHS prior to shipping
  - Export Control reviews
- Reduced EHS and Researcher Staff time commitment
  - Reviewing all shipments
  - Export Controls reviews
- Reduced shipping cost for shipments

# Future Goals and Enhancements

## ➤ EHS Goals

- Implement more robust Chemical and Radioactive Material Workflows (**In Test**)
- Integrate eShipLab with IATA Tables (**In Test**)
- Implement Import and Export Workflows (e.g.- USDA, CDC, etc.)
- Develop Business Processes for Animal Shipments

## ➤ EHS/User Enhancements to eShipGlobal

- Automate Information forwarded to Chemtrec
- Implement Material Transfer Agreements
- Shipment Editing Capabilities
- Improve inbound shipment process
- Add Local Courier Services
- Improve reporting capabilities

# Contact Information

[kevin.charbonneau@yale.edu](mailto:kevin.charbonneau@yale.edu)

(203)737-2139

[deborah.ferry@yale.edu](mailto:deborah.ferry@yale.edu)

(203)737-2125

Yale EHS Shipping Website:

[ehs.yale.edu/research-materials-shipping](https://ehs.yale.edu/research-materials-shipping)

---

[svasan@eshipglobal.com](mailto:svasan@eshipglobal.com)

(800)616-1615

eShipGlobal Website:

[eshipglobal.com](https://eshipglobal.com)