U.S. Food and Drug Administration
Protecting and Promoting Public Health

www.fda.gov

# *Protecting Patients from Counterfeit and Other Substandard Drugs/Supply Chain Threats*

**Connie Jung, RPh, PhD,** Assoc. Dir. Policy & Communications (Acting)
**Jean McCue,** Regulatory Counsel

Office of Drug Security, Integrity, and Recalls
Office of Compliance/Center for Drug Evaluation and Research
U.S. Food and Drug Administration

FDA 2nd Annual Health Professional Organizations Conference
October 4, 2012

# Objectives

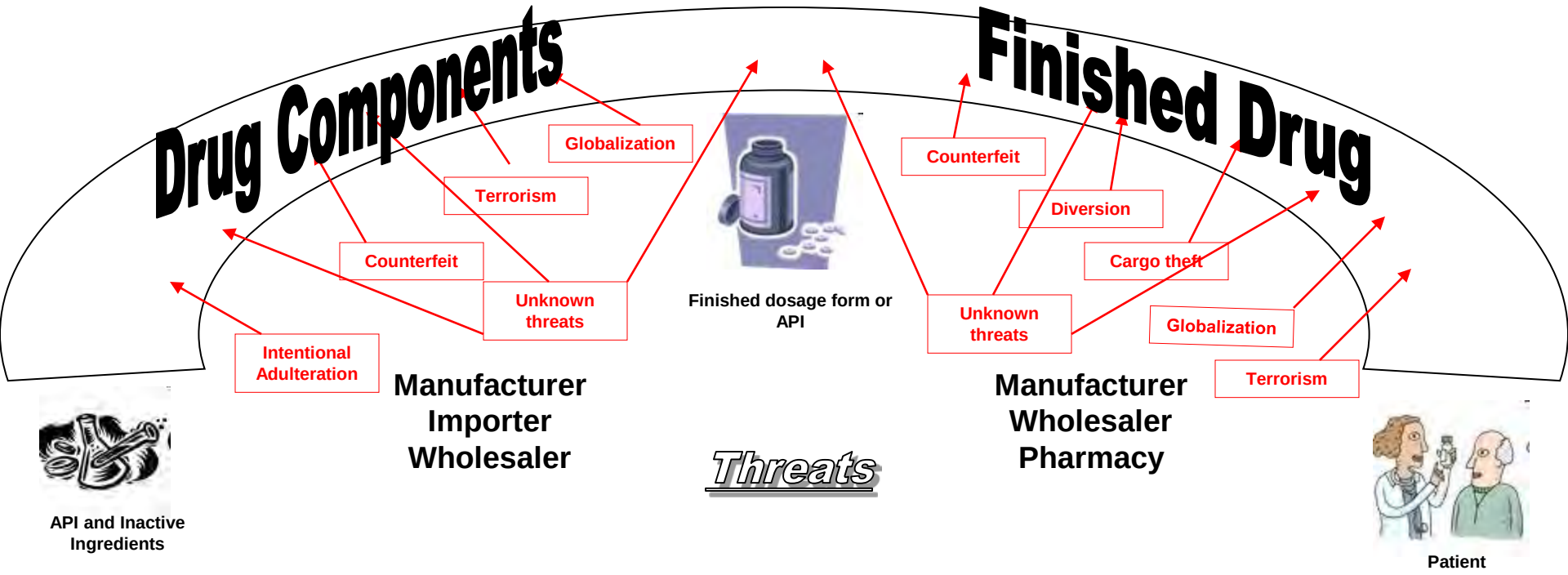
At the end of this session participants will be able to:

1) Describe the threats and vulnerabilities of the drug supply chain, such as counterfeiting, diversion, and cargo theft.
2) Identify initiatives undertaken by FDA to ensure that patients receive quality prescription medications.
3) Define the health care professional's role in educating patients how to identify and report suspect problem products, such as counterfeit or other substandard drugs.

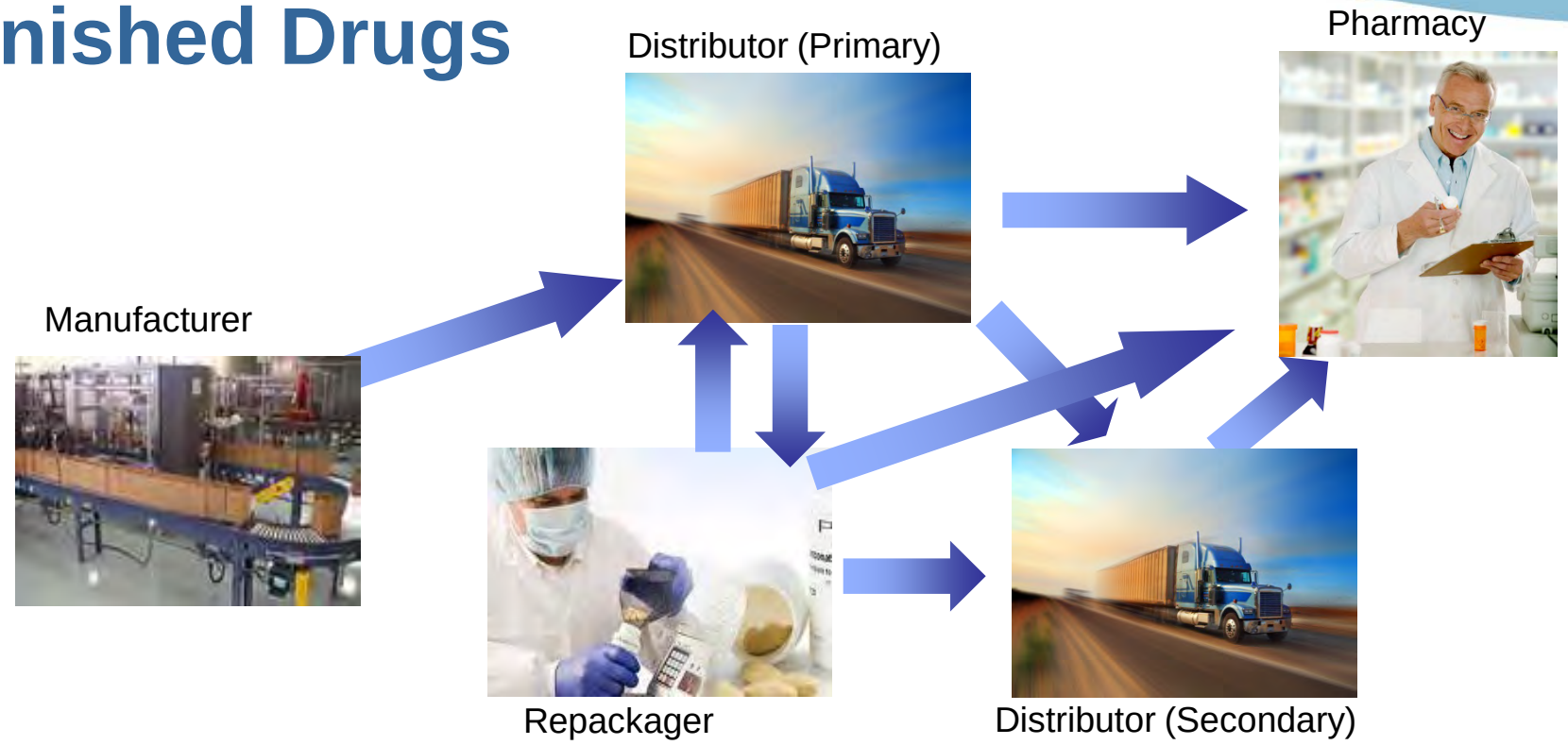
# Agenda

- Overview of the Drug Supply Chain
- Supply Chain Risks
  - Counterfeit Drugs
  - Diverted Drugs
  - Cargo Theft/Stolen Drugs
  - Internet Pharmacies
- Current FDA action
  - Office of Drug Security, Integrity, and Recalls
  - Response to Counterfeit Avastin and Altuzan Incidents
  - Operation Pangea IV
- Health Care Professional's Role

# Threats Throughout the Drug Supply Chain



# Supply Chain for Finished Drugs



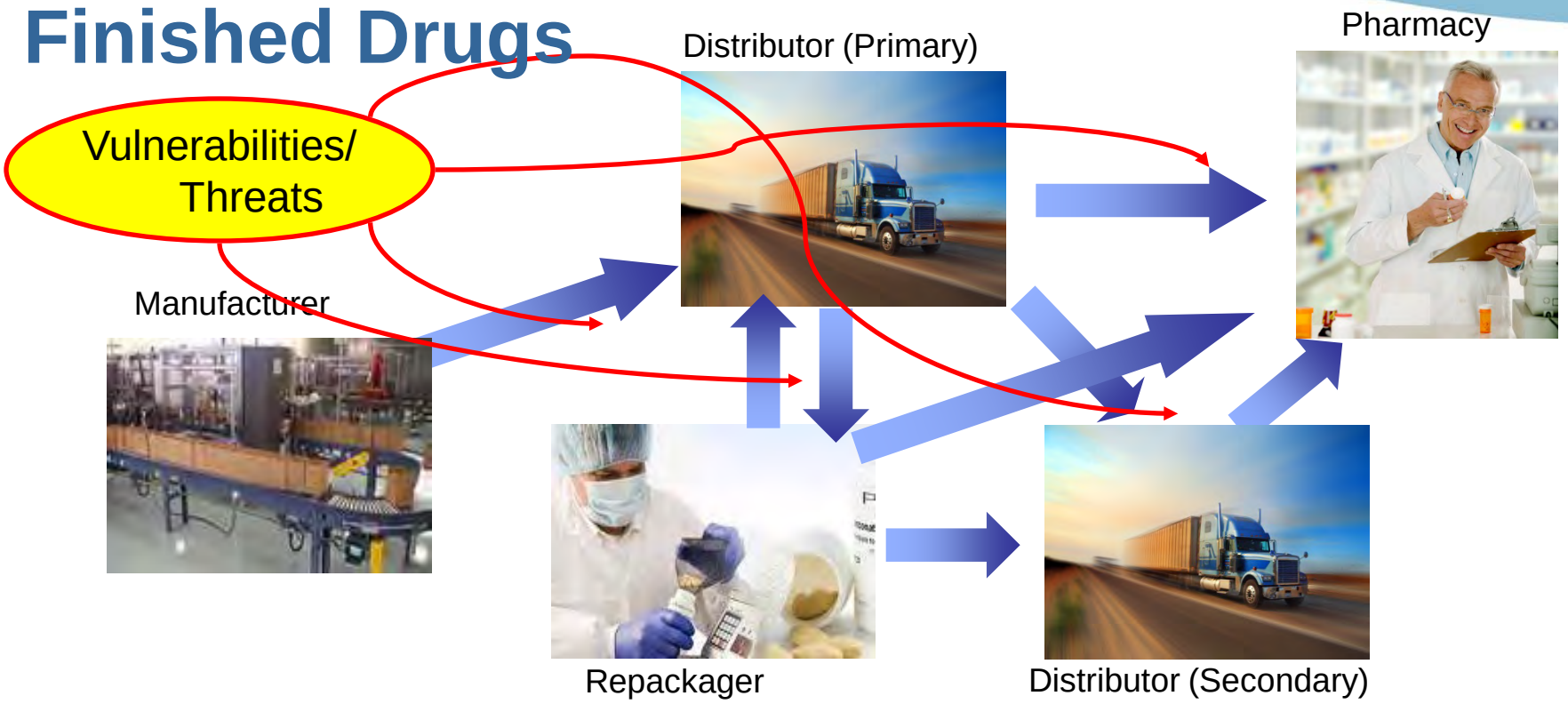

**Complexity of the supply chain is increased by:**

- Multiple participants
- Globalization of supply chains
- Criminal activities such as diversion, cargo theft, and counterfeiting
- Rules that vary by state

**Example of vulnerabilities in the supply chain:**

- Stolen products reintroduced
- Counterfeit/falsified drugs sold to suppliers
- Diverted drugs resold
- Other adulterated/misbranded drugs introduced

# Supply Chain for Finished Drugs




**Complexity of the supply chain is increased by:**

- Multiple participants
- Globalization of supply chains
- Criminal activities such as diversion, cargo theft, and counterfeiting
- Rules that vary by state

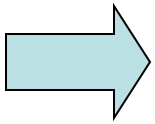
**Example of vulnerabilities in the supply chain:**

- Stolen products reintroduced
- Counterfeit/falsified drugs sold to suppliers
- Diverted drugs resold
- Other adulterated/misbranded drugs introduced

# Public Health Concerns

Compromised integrity created by the introduction into the legitimate supply chain of:

- Counterfeits (no or wrong active ingredients)
- Stolen or diverted product (improper/unknown storage & handling)
- Expired products (lost potency)
- Adulterated products (contaminated, diluted)
- Importation of unapproved/ otherwise substandard products (have not been FDA reviewed for safety & efficacy)



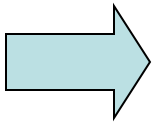
**What is the patient getting?**

# Public Health Concerns

Compromised integrity created by the introduction into the legitimate supply chain of:

- Counterfeits (no or wrong
- (contaminated, diluted)
- Importation of unapproved/ otherwise substandard products (have not been FDA reviewed for safety & efficacy)

**We want to ensure patients receive safe, effective, high quality drugs.**

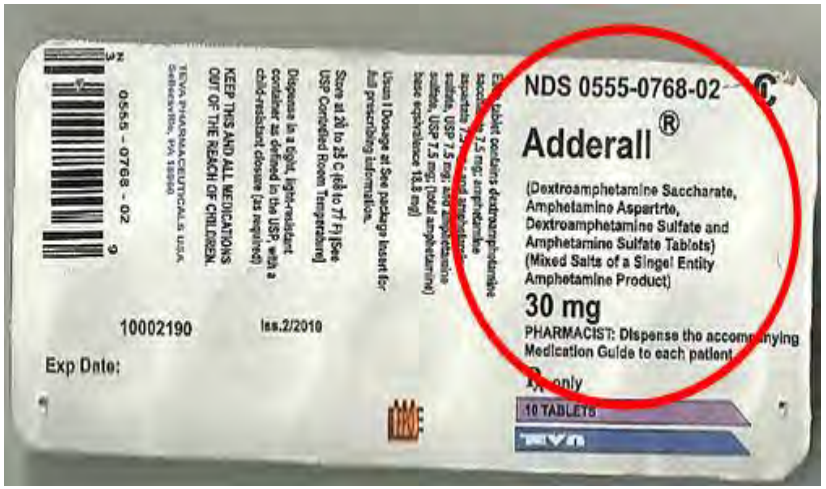


**What is the patient getting?**

# Counterfeit Drugs

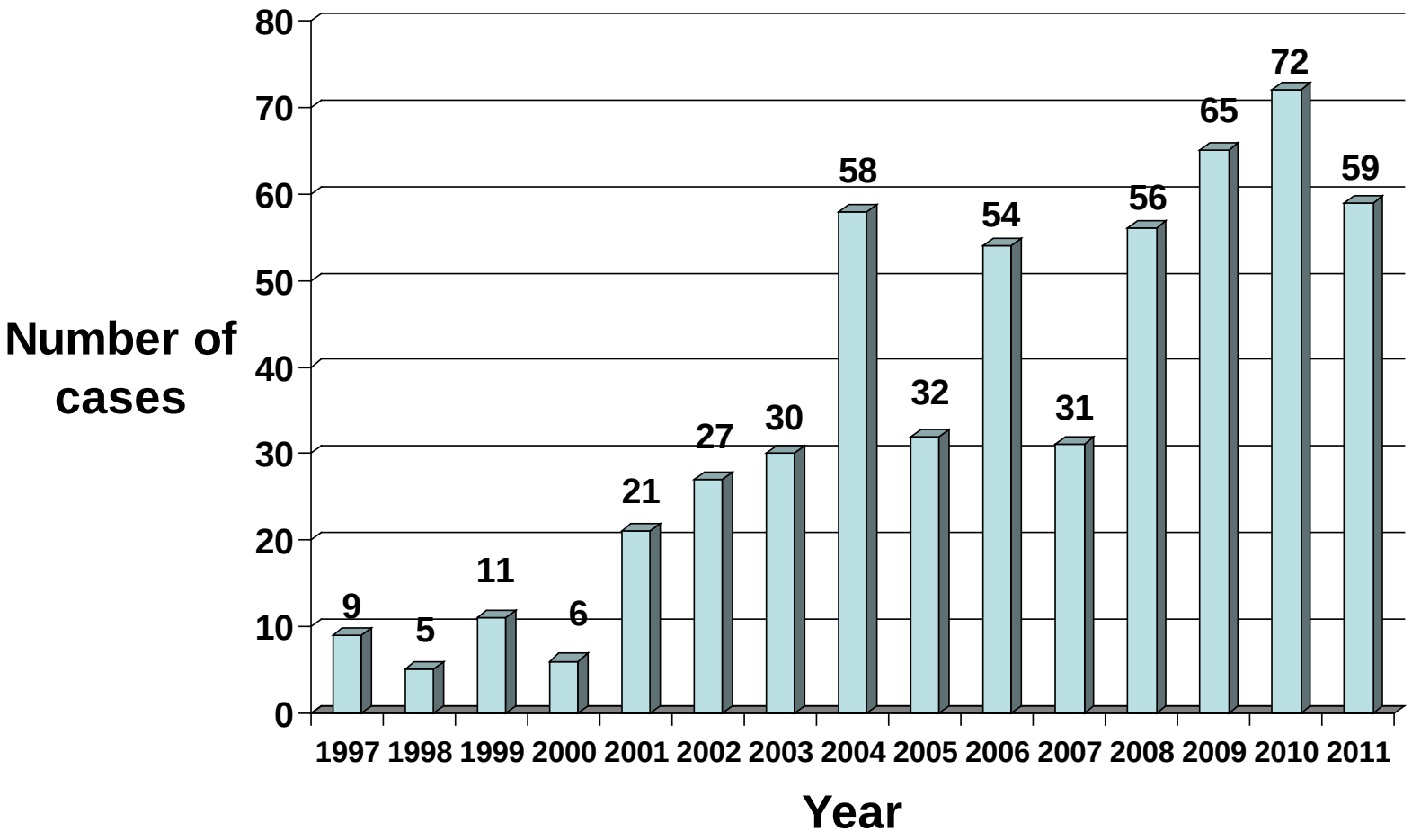
- Counterfeit Adderall
- Counterfeit Vicodin
- Counterfeit Avastin
- Counterfeit Altuzan


Counterfeit




Counterfeit

# Counterfeit Drug Cases Opened by FDA's Office of Criminal Investigations per Fiscal Year



# Diverted Drugs

- The sale of drugs outside of the distribution channels for which they were originally intended
- Can originate *domestically* or *internationally*
- Counterfeiting is usually associated with a diversion scheme

THE COMMON LAW IS THE WILL OF Mankind

THE UNITED STATES DEPARTMENT of JUSTICE

HOME ABOUT BUSINESS & GRANTS RESOURCE

Home » Briefing Room » Justice News

JUSTICE NEWS

**Department of Justice**

Office of Public Affairs

FOR IMMEDIATE RELEASE Wednesday, February 2, 2011

**Ohio Man Pleads Guilty to Mail and Wire Fraud**

*Sold Prescription Drugs Obtained from Unauthorized Dealers to Licensed Wholesalers*

WASHINGTON – Gregory Pfizenmayer of Foley, Ala., has pleaded guilty before Senior U.S. District Court Judge Herman J. Weber in Cincinnati to one count of conspiracy to commit mail and wire fraud in connection with a drug diversion scheme in which he was involved, the Justice Department announced today.

The government information alleged that a co-conspirator supplied Pfizenmayer with prescription drugs, including, among others, Lupron, Procrit and Neulasta. Pfizenmayer subsequently sold these drugs to licensed drug wholesalers. Governing regulations require sales of prescription drugs to be accompanied by certifications identifying each prior sale or purchase of the drugs. The certifications accompanying the drugs that Pfizenmayer sold falsely stated that they had been obtained from dealers authorized by the relevant drug manufacturer.

In reality, according to the information, the drugs were not obtained from authorized dealers, nor were they obtained from the companies listed as sources in the documents accompanying the drugs. In fact, many of the prescription drugs sold by Pfizenmayer were obtained by physicians who, as health care entities, receive discounts when purchasing prescription drugs.

**Reselling of Rx drugs obtained by doctors**

# Cargo Theft/Stolen Drugs

## multiple adverse event reports of patients who suffered poor glycemic control after using a vial from a stolen lot

**Consumer Updates**

- Consumer Updates: Animal & Veterinary
- Consumer Updates: Cosmetics
- Consumer Updates: Dietary Supplements
- Consumer Updates: Drugs
- Consumer Updates: Food
- Consumer Updates: Medical Devices
- Consumer Updates: Radiation-Emitting Products
- Consumer Updates: Vaccines, Blood & Biologics

**Resources for You**

- Sign up for Consumer Updates by E-mail
- Consumer Updates RSS Feed

### Update to FDA Alert About Stolen Insulin

Search Consumer Updates

go

The Food and Drug Administration (FDA) is reminding the public that stolen vials of the long-acting insulin Levemir made by Novo Nordisk Inc. still may be on the market. FDA first alerted the public to the theft in June 2009.

Evidence gathered to date suggests that the stolen insulin was not stored and handled properly and may be dangerous for people to use. The agency has received multiple reports of patients who suffered an adverse event due to poor control of glucose levels after using a vial from one of the stolen lots.

In June 2009, FDA reported that three lots of Levemir totaling 129,000 vials had been stolen in North Carolina. So far only about 2 percent of the total amount stolen has been recovered.

The agency continues to aggressively investigate this matter and is asking for the public's help in reporting any information regarding these vials to FDA's Office of Criminal Investigations (OCI) by calling 800-551-3989 or by visiting the OCI Web site.

**Advice for Patients**

- Check your personal supply of insulin to determine if you have Levemir insulin from one of the following lots: XZF0036; XZF0037; XZF0038. You can locate the lot number on the side of the box of insulin and also on the side of the vial.
- Do not use your Levemir insulin if it is from one of these lots. Replace it with a vial of Levemir insulin from another lot. If you must switch to another brand of insulin for any reason, first contact your health care provider because another insulin product may require adjustments in dosing.
- Always look at your insulin carefully before using it. Levemir is a clear and colorless solution.

# Internet – Illegitimate Drug Sellers

- **Problems with current 'buying online' practices**
  - High volume
  - Vast scope
  - Unknown origin
- **Drug quality concerns**
  - Lack of "sameness"
  - Counterfeits or not FDA-approved
  - Potentially confusing names
- **Websites**
  - Misleading (fraudulent online pharmacies, counterfeit products, false health claims)
- **How patients can learn about the risks and make informed purchasing decisions:**

FDA | BeSafeRx Know Your Online Pharmacy

**www.fda.gov/BeSafeRx**

# News & Events



## FDA NEWS RELEASE

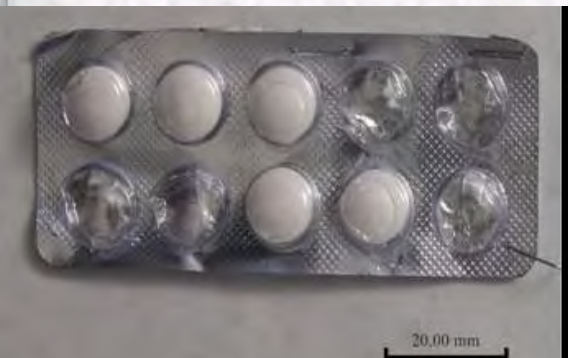
For Immediate Release: May 29, 2012
Media Inquiries: Shelly Burgess, 301-796-4651, shelly.burgess@fda.hhs.gov
Consumer Inquiries: 888-INFO-FDA

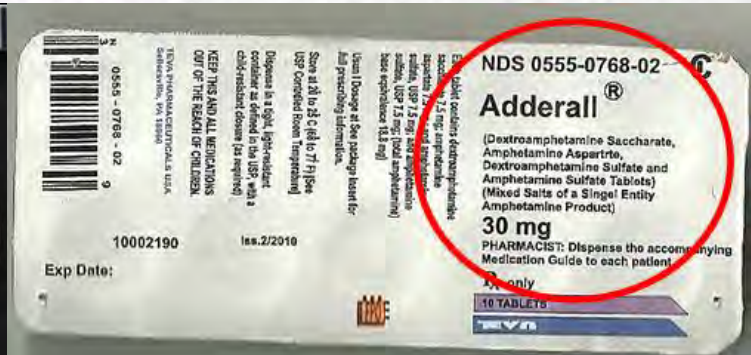
### FDA warns consumers about counterfeit version of Teva's Adderall

*Tablets purchased on the Internet contain wrong active ingredients*

The U.S. Food and Drug Administration is warning consumers and health care professionals about a counterfeit version of Teva Pharmaceutical Industries' Adderall 30 milligram tablets that is being purchased on the Internet. Adderall, which is approved to treat attention deficit hyperactivity disorders (ADHD) and narcolepsy, is a prescription drug classified as a controlled substance – a class of drugs for which special controls are required for dispensing by pharmacists.

FDA's preliminary laboratory tests revealed that the counterfeit version of Teva's Adderall 30 mg tablets contained the wrong active ingredients. Adderall contains four active ingredients – dextroamphetamine saccharate, amphetamine aspartate, dextroamphetamine sulfate, and amphetamine sulfate. Instead of these active ingredients, the counterfeit product contained tramadol and acetaminophen, which are ingredients in medicines used to treat acute pain.



Drug Safety and Availability

Postmarket Drug Safety Information for Patients and Providers

- Index to Drug-Specific Information
- Approved Risk Evaluation and Mitigation Strategies (REMS)
- Postmarketing Safety Evaluation of New Molecular Entities: Final Report

# UPDATED Public Health Alert: Counterfeit Alli containing sibutramine

1/23/2010

The U.S. Food and Drug Administration (FDA) is updating its warning to the public about a counterfeit version of Alli 60 mg capsules (120 count refill pack) being sold over the internet, particularly at online auction sites. FDA advises people who believe that they have a counterfeit product not to use the drug.

Alli is an FDA-approved over-the-counter weight loss drug that contains orlistat as its active ingredient. The counterfeit version of Alli does not contain orlistat; rather, it is made with varying amounts of sibutramine, a stimulant drug.

Although sibutramine is the active ingredient in another FDA-approved prescription weight loss drug, it is only to be used in specific doses and under the supervision of a physician. The counterfeit product is illegal and unsafe

Authentic alli Sample Counterfeit alli Sample

Authentic alli Sample

Counterfeit alli Sample

# *New* Office of Drug Security, Integrity, and Recalls (ODSIR)

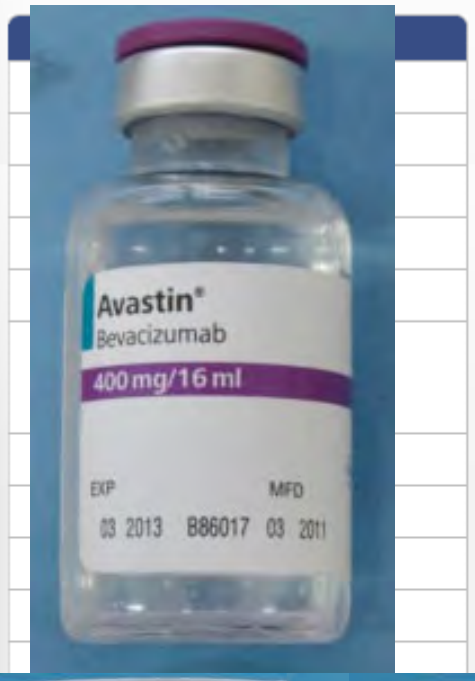
- Enhanced and targeted resources
- Address increasing supply chain threats
  - Intentional adulteration, cargo theft, counterfeiting, diversion, other
  - Focus on life-cycle of the product from drug components through to the finished dosage from delivered to the patient
- New and coordinated approaches, policies and enforcement strategies

| | | |
|---|---|---|
| **Recalls**<br>**Drug Shortages** | **Imports**<br>**Exports** | **Drug Supply Chain Integrity** |

# FDA Supply Chain Security Initiatives

- Response to recent Counterfeit Avastin and Altuzan incidents
- Operation Pangea

# Counterfeit Avastin




## Counterfeit Version of Avastin in U.S. Distribution

Statement Issued: Feb. 14, 2012

***FDA sends letters to 19 medical practices about counterfeit product and other unapproved cancer medicines***

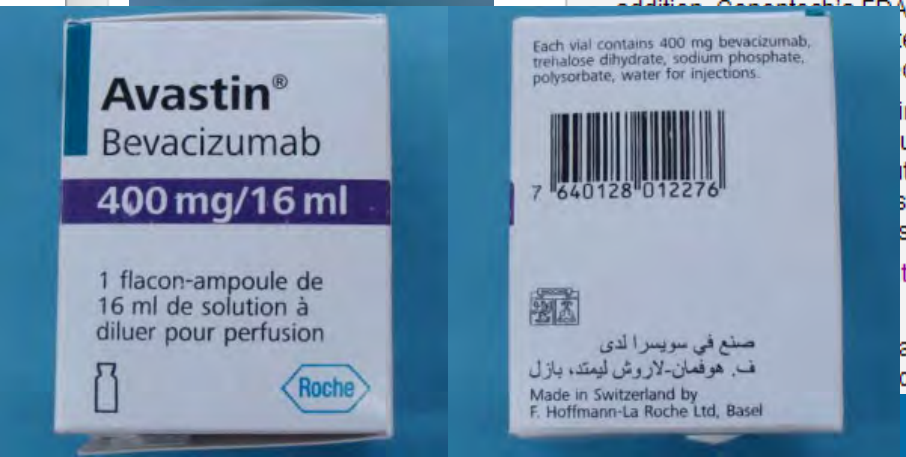
The U.S. Food and Drug Administration (FDA) is warning health care professionals and patients about a counterfeit version of Avastin 400mg/16mL, which may have been purchased and used by some medical practices in the United States. Avastin is an injectable medicine used to treat cancer and is administered to patients in clinics, hospitals, and doctors' offices. The counterfeit version of Avastin does not contain the medicine's active ingredient, bevacizumab, which may have resulted in patients not receiving needed therapy.

In a related action, FDA has issued letters to 19 medical practices in the United States that purchased unapproved cancer medicines that may include the counterfeit Avastin. The counterfeit version is labeled as Avastin, manufactured by Roche. Roche is the company that manufactures Avastin approved for marketing outside of the United States.

Roche conducted laboratory tests that confirmed the counterfeit version of Avastin. Packages or vials may be counterfeit if they:

- are labeled with Roche as the manufacturer
- display batch numbers that start with B6010, B6011 or B86017

The only FDA-approved version of Avastin for use in the United States is marketed by Genentech (a member company of Roche). The FDA-approved version does not include the Roche logo on the packaging or vials. In addition, Genentech's FDA-approved version of Avastin vials and packaging have a 6-digit numeric batch
es in a 3-letter month and 4-digit year format (e.g., JAN 2014). Genentech's Avastin
ctive for their intended uses.




in the United States purchased unapproved cancer medicines and, potentially, the
uality Specialty Products (QSP), a foreign supplier that may also be known as
tions. Volunteer Distribution in Gainesboro, Tennessee is a distributor of QSP's
sted that the medical practices stop using any remaining products from these
sure the safety or efficacy of any of these unapproved products.

t Purchasing Unapproved Injectable Cancer Medications

ate, FDA has determined that none of the unapproved cancer medicines received by
om Volunteer Distribution are in shortage in the United States. FDA-approved

# Avastin

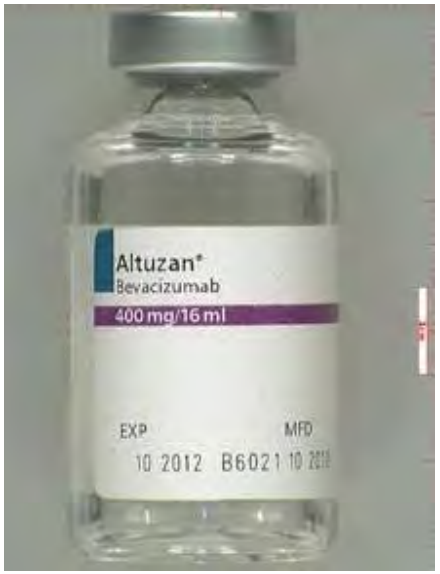
- Authentic Avastin marketed by Genentech was not subject to counterfeiting
- Only FDA-approved Avastin for use in U.S
- Considered as safe and effective for intended uses
- Patients that received Genentech Avastin did not need to be concerned
- Counterfeit was a fake of foreign approved version



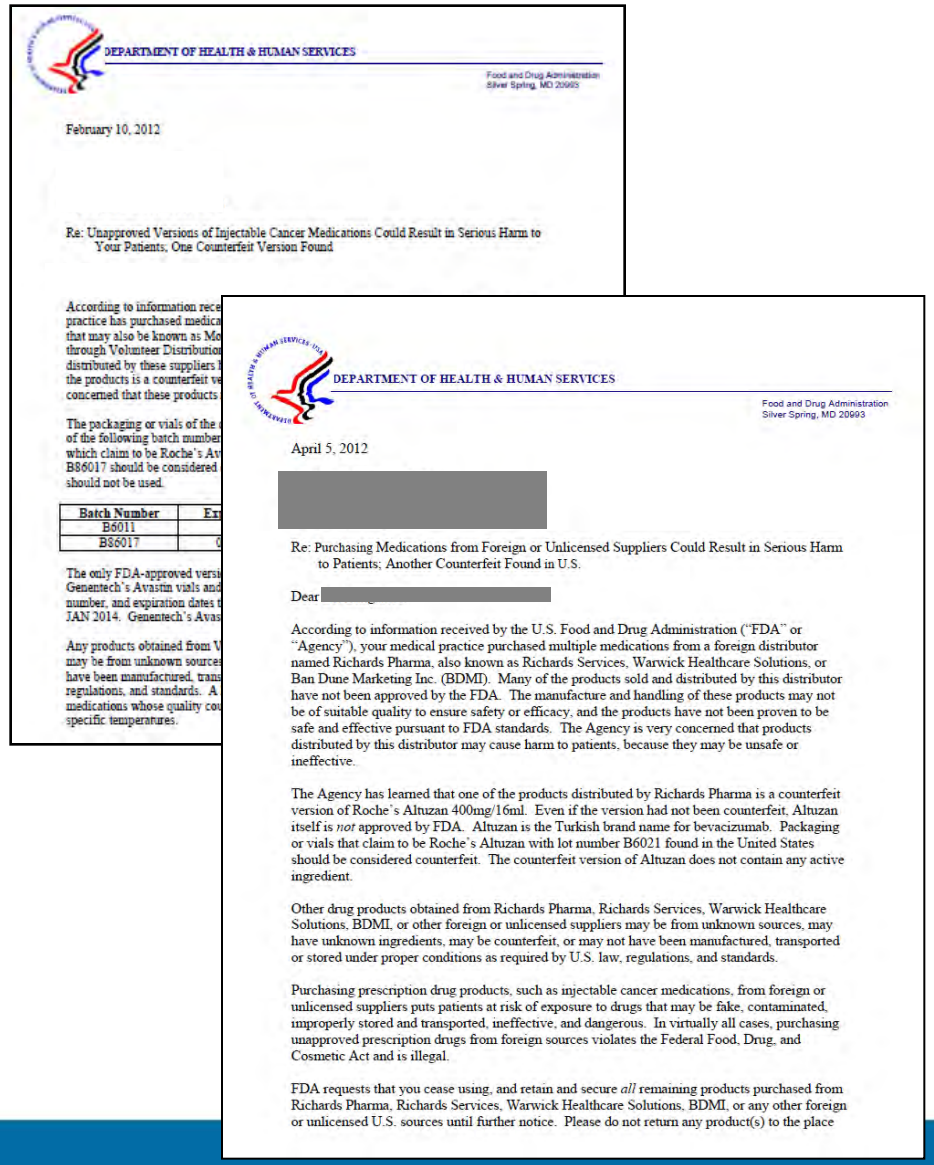
(Images from Genentech)

# Counterfeit Altuzan

- Altuzan® 400mg/16mL vial with lot number B6021
- Vial contains no active ingredient
- Writing is in English


# Letters from FDA



DEPARTMENT OF HEALTH & HUMAN SERVICES

Food and Drug Administration
Silver Spring, MD 20993

February 10, 2012

Re: Unapproved Versions of Injectable Cancer Medications Could Result in Serious Harm to Your Patients; One Counterfeit Version Found

According to information rece
practice has purchased medica
that may also be known as Mo
through Volunteer Distributio
distributed by these suppliers
the products is a counterfeit ve
concerned that these products

The packaging or vials of the
of the following batch number
which claim to be Roche's Av
B86017 should be considered
should not be used.

| Batch Number | Ex |
|---|---|
| B6011 | |
| B86017 | 0 |

The only FDA-approved versi
Genentech's Avastin vials and
number, and expiration dates
JAN 2014. Genentech's Avas

Any products obtained from V
may be from unknown source
have been manufactured, trans
regulations, and standards. A
medications whose quality co
specific temperatures.

DEPARTMENT OF HEALTH & HUMAN SERVICES

Food and Drug Administration
Silver Spring, MD 20993

April 5, 2012

[redacted]

Re: Purchasing Medications from Foreign or Unlicensed Suppliers Could Result in Serious Harm to Patients; Another Counterfeit Found in U.S.

Dear [redacted]

According to information received by the U.S. Food and Drug Administration ("FDA" or "Agency"), your medical practice purchased multiple medications from a foreign distributor named Richards Pharma, also known as Richards Services, Warwick Healthcare Solutions, or Ban Dune Marketing Inc. (BDMI). Many of the products sold and distributed by this distributor have not been approved by the FDA. The manufacture and handling of these products may not be of suitable quality to ensure safety or efficacy, and the products have not been proven to be safe and effective pursuant to FDA standards. The Agency is very concerned that products distributed by this distributor may cause harm to patients, because they may be unsafe or ineffective.

The Agency has learned that one of the products distributed by Richards Pharma is a counterfeit version of Roche's Altuzan 400mg/16ml. Even if the version had not been counterfeit, Altuzan itself is *not* approved by FDA. Altuzan is the Turkish brand name for bevacizumab. Packaging or vials that claim to be Roche's Altuzan with lot number B6021 found in the United States should be considered counterfeit. The counterfeit version of Altuzan does not contain any active ingredient.

Other drug products obtained from Richards Pharma, Richards Services, Warwick Healthcare Solutions, BDMI, or other foreign or unlicensed suppliers may be from unknown sources, may have unknown ingredients, may be counterfeit, or may not have been manufactured, transported or stored under proper conditions as required by U.S. law, regulations, and standards.

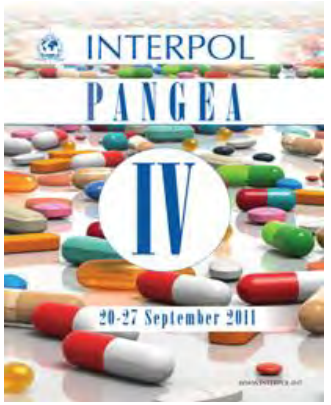
Purchasing prescription drug products, such as injectable cancer medications, from foreign or unlicensed suppliers puts patients at risk of exposure to drugs that may be fake, contaminated, improperly stored and transported, ineffective, and dangerous. In virtually all cases, purchasing unapproved prescription drugs from foreign sources violates the Federal Food, Drug, and Cosmetic Act and is illegal.

FDA requests that you cease using, and retain and secure *all* remaining products purchased from Richards Pharma, Richards Services, Warwick Healthcare Solutions, BDMI, or any other foreign or unlicensed U.S. sources until further notice. Please do not return any product(s) to the place

- Sent to medical practices in the U.S. that purchased unapproved products
- Warned against the use of the unapproved products, which may have included counterfeits of Avastin or Altuzan
- Risks of purchasing from foreign sources
- Report adverse events to MedWatch

# Global Collaborations – tackling internet

- **Operation Pangea IV**
  - INTERPOL led global operation targeting internet websites supplying illegal and dangerous drugs;
  - 81 countries participated
  - 13,500 websites shutdown
  - Approximately 8,000 packages seized
  - 2.4 million illicit counterfeit pills confiscated



# Health Care Professional's Role

**To Minimize the risk of exposure to counterfeit & other substandard drugs**

- Know who you are doing business with (ask questions about source, licensure, FDA-approved; educate those that are making the decisions about drug purchases)
- Drug products obtained from foreign or unlicensed suppliers may be from **unknown sources**, have **unknown ingredients**, may be **counterfeit**, or **may not have been manufactured, transported, or stored under proper conditions** as required by U.S. law, regulations, and standards
- In virtually all cases, causing the importation of unapproved prescription drugs from foreign sources violates the Federal Food, Drug, and Cosmetic Act and is illegal

# Health Care Professional's Role (cont'd)

**To Minimize the risk of exposure to counterfeit & other substandard drugs**

- Be vigilant: Carefully inspect the product and packaging
  **Be alert for signs the product may not be FDA-approved**
  - Packaging looks different
  - Labeling is not in English
  - Dosing recommendations are unfamiliar
  - Dosage form or route of administration is different (e.g., ampule instead of pre-filled syringe)
- Determine if the medication you received is FDA-approved by checking the Orange Book: (http://www.accessdata.fda.gov/scripts/cder/ob/default.cfm) or Drugs@FDA (http://www.accessdata.fda.gov/scripts/cder/drugsatfda/ )

# Health Care Professional's Role (cont'd)

**To Minimize the risk of exposure to counterfeit & other substandard drugs**

- Question whether a price sounds too good to be true. Deep discounts may be offered because the product is stolen, counterfeit, or unapproved.
- Consider counterfeits or product quality issues if patient complains of:
  - *New/unusual side effects; lack of therapeutic effect; abnormal taste or smell; pain, burning, or redness at injection site*
- Report suspicious activity (e.g., marketing/distribution of unapproved Rx medications) to FDA's Office of Criminal Investigations at www.fda.gov/oci under "Report Suspected Criminal Activity"

# Health Care Professional's Role (cont'd)

- **Counseling patients about counterfeit medical products**
  - Encourage patients to shop only at pharmacies licensed by their state board of pharmacy
  - Tell patients if you dispense a drug that may look different from their previously dispensed drug
  - If cost is an issue, counsel on therapeutic alternatives, assistance programs and generics, rather than buying online

- **Report suspect counterfeit medical products or other product quality issues to** MedWatch

# MedWatch

http://www.fda.gov/Safety/MedWatch/default.htm

Report adverse events related to the use of suspect medications to the FDA's MedWatch Safety Information and Adverse Event Reporting

Heath care providers and patients can either:

- Complete and submit the report online: www.fda.gov/MedWatch/report.htm
- Download form at: http://www.fda.gov/downloads/Safety/MedWatch/HowToReport/DownloadForms/ucm082725.pdf
- Call 1-800-332-1088 to request a reporting form, then complete and return to the address on the pre-addressed form, or submit by fax to 1-800-FDA-0178.

FDA | BeSafeRx

Know Your Online Pharmacy

FDA | BeSafeRx
Know Your Online Pharmacy

# Know the Risks

You could receive counterfeit or substandard drugs.

Slight differences in your medicine can make a big difference.

You could put your personal and financial information at risk.



29

FDA | BeSafeRx
Know Your Online Pharmacy

# Know of the Signs

**WARNING! Beware of online pharmacies that:**

- X Allow you to buy drugs without a prescription from your doctor
- X Offer deep discounts or cheap prices that seem too good to be true
- X Send spam or unsolicited email offering cheap drugs
- X Are located outside of the United States
- X Are not licensed in the United States

**Tips for finding a safe, legal online pharmacies:**

- ✓ Always require a doctor's prescription
- ✓ Provide a physical address and telephone number in the United States
- ✓ Offer a pharmacist to answer your questions
- ✓ Have a license with your state board of pharmacy

FDA | BeSafeRx
Know Your Online Pharmacy

# Know Your Online Pharmacy

## Know Your Online Pharmacy


Fake online pharmacies can manipulate their websites to appear legitimate, so checking the pharmacy's license through your state board of pharmacy (or equivalent state agency) is an important step to know whether you are using a safe and legal online pharmacy

Choose your state from the list below to go to your state board of pharmacy's license database. The links to databases provided below are maintained by your state agency

If you cannot confirm that an online pharmacy is licensed in the United States, you should not use that online pharmacy.

Once you have identified a state-licensed online pharmacy, also make sure the pharmacy:

1. Requires a valid prescription from your doctor;
2. Provides a physical address and telephone number in the United States; and
3. Has a licensed pharmacist to answer your questions.

Northeast | Central | Southeast | Southwest | Pacific

# Resources

**ODSIR Drug Integrity and Supply Chain Security**
www.fda.gov/Drugs/DrugSafety/DrugIntegrityandSupplyChainSecurity/default.htm

**Counterfeit Medicine**

www.fda.gov/counterfeit

**BeSafeRx: Know Your Online Pharmacy**

www.fda.gov/BeSafeRx

# Thank You!

Connie Jung, RPh, PhD
Acting Associate Director for Policy and Communications
Connie.jung@fda.hhs.gov

Jean McCue, Regulatory Counsel
Division of Supply Chain Integrity
Jean.McCue@fda.hhs.gov

*Office of Drug Security, Integrity & Recalls*
*Center for Drug Evaluation and Research*
*U.S. Food and Drug Administration*