

FDA CASE STUDY

FDA MedWatch Adverse Event Reporting Curriculum Case Study

DRUGS, DEVICES, & BIOLOGICS: Health professionals encounter adverse events with medical products and learn about reporting to FDA MedWatch

This fictionalized case study is part of an educational series published by the U.S. Food and Drug Administration.

A Patch of a Different Color

Dr. Jim Bean was excited as he reached examination room 4, where his last patient of the day was waiting for him. The family practice physician would be on a plane heading to Miami for a national medical conference later that evening. Old colleagues he hadn't seen since his residency, workshops and presentations on the latest advances in medicine and, most importantly, the remaining continuing education credits he needed for his licensure were a few short hours away. Pulling a chart out of the file holder on the wooden door, Jim knocked and let himself in after the voice on the other side said he could enter.

"Hello, Chris! How are you today?" Jim asked, shaking the young man's hand before sitting on a low stool in a corner of the room. Jim had joined the family practice of six physicians 2 years earlier. He had just finished his residency at the time, and Chris had become one of his first regular patients.

"I'm doing well, Dr. Bean," Chris smiled.

"That's what I like to hear," Jim said as he looked down at Chris' charts. The 24-year-old had been successfully treated for years with medication



for Attention Deficit Hyperactivity Disorder (ADHD). In the 2 years that Jim had been treating Chris, he had switched his patient from oral ADHD medications to a patch worn on the skin. He noted the last prescription date in charts and said, "I'll need to refill your prescription. Let's get you checked out first and then I'll have the nurses send the prescription to your pharmacy before you leave."

After a routine checkup, Jim turned his attention to Chris' patch. Peeling it off, he noticed that some of Chris's skin at the application site was discolored. "Chris," he said, eyebrows pinched with concern, "I'm noticing some depigmentation underneath your patch that wasn't here the last time I saw you. Can you tell me when this first started happening?"

"I'm not sure," Chris replied. He took a few moments to think. "I noticed my skin was getting lighter there, but didn't think anything of it since I tend to put the patch in the same place and that area isn't exposed much to light."

"Well, discoloration like this is sometimes a sign of leukoderma, or loss of color pigment in the skin, but I'm not sure if that's the case here," Jim said. "To be safe, I'd like you to come back in 30 days so that I take another look. If I don't see any improvements, I'll give you a referral to see a dermatologist."

Chris agreed to check back in and Jim noted the developments in his chart before walking his patient to the appointment window. An hour later, he was off to the airport.

It seemed like a hot, wet blanket had been thrown across Miami, but the lobby of the hotel where the medical conference was being held, and where Jim had luckily reserved a room, was dry and cool. After a quick rest, he met up with Dr. Carol Ratner for dinner. Carol was a friend from medical school who was currently employed as an obstetrician in a practice affiliated with a hospital in Miami. In med school, the two had bonded over their enthusiasm for cutting-edge medicine, and it was not rare to see one dragging the other to a seminar or lecture. While they no longer lived in the same city, the friends still regularly shared interesting articles over email.

After dinner, Jim remembered his examination of Chris earlier that day and he mentioned the case to his friend, thinking she might have some insight.

"Is discoloration of the skin from a medicinal patch possible?" Jim asked.

"I'm not positive," Carol replied, "But I think I read somewhere recently that it could be." Pulling her phone out of her bag, she swiped and tapped the touch screen before handing it to Jim. "Look at this."

"What is it?"

"It's a MedWatch Safety Alert," she replied. "The Food and Drug Administration has a reporting program called MedWatch. You can sign up to receive alerts whenever there is a major recall or new safety information about things like drugs or medical devices. A pharmacist at my hospital recommended I sign up, and it's been really useful. When you mentioned the name of the patch, I remembered reading that the FDA added a new warning to the product's drug label because it can cause chemical leukoderma—skin discoloration caused by repeated exposure to certain chemical compounds. It might not be reversible."

Shocked, Jim read the rest of the alert. "I need to call my patient back in for an appointment much sooner than

I thought. Thank you for telling me about this!"

"No problem! I'm happy I remembered reading about it. Actually, a representative from the FDA will present on the MedWatch program tomorrow. Since this alert was so useful to you, maybe you'd want to attend?"

"Absolutely," Jim agreed. Receiving safety information about the products he regularly prescribed to his patients would be incredibly helpful. After making plans to meet the next day, the two settled their bills and left the restaurant.

When he returned to his room, Jim left a message on Chris's phone asking him to come back to the practice for a follow-up next week. He needed to investigate the issue further to find out if the patch was really the cause of the discoloration on Chris' skin. But first, he needed some sleep.

An Expert Presentation

The next day, Jim and Carol chatted as empty seats around the room reserved for the MedWatch session

were steadily claimed. After a brief wait, the projector at the front was turned on, the FDA speaker introduced, and the presentation was underway.

"Good Morning, my name is Maria Miller. I am a health care professional working for the Office of the Commissioner at the United States Food and Drug Administration. I'm happy to be here, and I'm excited to talk to you about the MedWatch

FDA is an agency within the Department of Health and Human Services. It is made up of nine different Centers and Offices. The Office of Health and Constituent Affairs where Maria works is located in the Office of the Commissioner.

FDA MedWatch: Staying Informed

MedWatch Safety Alerts provide timely new safety information on human drugs, medical devices, vaccines and other biologics, dietary supplements, and cosmetics that can affect treatment and diagnostic choices for health care professionals and patients. Clicking the green "Stay Informed" icon on the FDA MedWatch home page will lead you to a subscription area where you can :

- Subscribe to MedWatch Safety Alerts
- Join the MedWatch E-list
- Follow MedWatch on Twitter
- Subscribe to MedWatch Safety Alerts via RSS feed

 **Stay Informed**

program and the work FDA is doing to protect the public's health.

"Our mission at FDA is to assure the safety, effectiveness, and security of human and veterinary drugs, biological products, medical devices, our nation's food supply, cosmetics, and products that produce radiation. One of the ways we do this is by working with people like you: physicians, nurses, pharmacists, and other health care providers. Health care professionals are often the first ones to witness and identify the negative effects of multi-drug interactions and drug usage errors, or encounter malfunctions and flaws in medical devices. So it is important for you to be aware of any news about adverse events like these that could

MedWatch, the FDA Safety Information and Adverse Event Reporting Program was created with the goal of emphasizing the importance of health care providers in identifying and reporting adverse events that might be related to FDA-regulated products.

possibly affect your patients' health.

Reports help FDA and manufacturers recognize product risks and find ways to prevent and manage those risks.

When MedWatch was introduced over 20 years ago, the focus of the program was primarily about reporting *in*. We are now also focused on reporting safety *out* to the public."

Why Report to FDA?

When developing new drugs and devices, manufacturers go through many steps to ensure the products they make are safe for people to use. But because these products are tested in small populations of patients over a certain period of time, it is impossible to know how they will affect a bigger, more diverse group of patients until after they have been approved for sale to the general public and used for much longer periods of time. MedWatch provides a way to capture information about any problems that might emerge with these products.

What Should You Report to FDA?

Now that you understand the purpose of MedWatch, let's talk about the kinds of problems should you report to FDA.

You can submit reports about prescription drugs, non-vaccine biologicals, medical devices, special nutritional products (infant formulas and medical foods), cosmetics, and over-the-counter (OTC) drug products through the MedWatch system. FDA is particularly interested in receiving

reports about the following types of issues:

- **Adverse Effects:** Any time use of a medical product is thought to have caused a negative experience for a patient.
- **Product Use Errors:** Report any medication or medical product error, regardless of a patient's involvement and even if the outcome of the situation was okay. You should also report anything you notice might cause an error, such as different medications having similar label designs that can cause confusion.
- **Medical Device Use Errors:** Health care professionals, caregivers, and patients sometimes make errors when using medical devices and accidentally cause harm to others or to themselves. These types of errors can happen for several reasons:
 - o There are problems with the medical device's design.
 - o There are problems with the way someone uses the device: a user may expect the device to work in a way it actually doesn't, or they do not have the skills, knowledge, or physical ability needed to use the device properly.
 - o The device was used in a way that the manufacturer did not expect it to be used.
 - o The device's labeling or packaging is confusing or does not include enough information.

- o The environment the device is used in affects or influences it in a negative way: a device alarm that might be easy to hear in a quiet room might go unnoticed in a noisy environment. Having too many devices in an operating room with similar alarms could make it difficult for an anesthetist to determine which alarm belongs to which device, thus increasing the time needed to find the source of the problem and the risk to the patient.

Sometimes use errors are noticed and corrected before they can do harm—this is called a "close call." However, you should always report medical device use errors regardless of patient involvement or the outcome of the situation. You should also report details about how the device was used and any items the device could have or can interact with that could cause or lead to use errors.

- **Product Problems:** Report any concerns you might have about the quality, authenticity, performance, or safety of any medication or device. Some examples of product problems are:
 - o Suspected counterfeit products
 - o Suspected contamination of products
 - o Questionable stability (for example, if unusual particles formed after mixing a powdered drug with a liquid to perform an injection)
 - o Physical defects (the product is not the right color or chipped)
 - o Parts of the device or drug product are defective (for example, a patch that has a backing that is very hard to peel off)

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- o Product confusion caused by naming, labeling, design, or packaging
 - o Medication that is too powerful or not powerful enough
 - o Labeling problems caused by printing errors or missing information
 - o Medical devices that do not perform as intended or meet their performance specifications or label claims.
- **Problems with medications that are the same, but manufactured by different companies:** Report any differences in a patient's therapeutic responses to a medication after switching from one manufacturer to another.

How to Report to FDA

While there are a few instances when FDA requires mandatory reporting to MedWatch, the system mostly relies on voluntary reports from health care professionals, patients, caregivers, and the public. Voluntary reports can be submitted by mail, fax, or online. FDA encourages online reporting because it is the quickest and most direct route, but mail and fax are also acceptable.

FDA requires drug and medical device manufacturers, importers, and distributors; investigational new drug (IND) reporters; and user facilities (i.e., hospitals, ambulatory surgical facilities, nursing homes, outpatient diagnostic facilities, or any outpatient treatment facility that is not a physician's office) to submit reports about certain device and drug-related adverse events and product problems. This mandatory reporting is submitted to MedWatch using FDA Form 3500A or a comparable electronic format that FDA can process, review, and archive.

Where to Find the Reporting Forms

- Online: Use the interactive form at <https://www.accessdata.fda.gov/scripts/medwatch/index.cfm?action=reporting.home>
- Mail: Download the pre-addressed, postage-paid form (FDA Form 3500) at www.fda.gov/medwatch/getforms.htm. You can also call 1-800-FDA-1088 to request the form.
- Fax: Fax your completed form to 1-800-FDA-0178.

Health Care Professionals Can Submit to MedWatch:

- Online: Select the "Health Professional" pathway in the interactive form.
- By fax or mail: use FDA Form 3500.

Non-health care professionals and patients (also called "consumers") can submit to MedWatch:

- Online: Select the "Consumer" pathway when reporting via the interactive form.
- By fax or mail: Use FDA Form 3500B (a plain-language version of Form 3500 created especially for consumers)

Sample Portion of the Consumer Form 3500B

Did any of the following happen? *(Check all that apply)*

- ☐ Hospitalization – admitted or stayed longer
- ☐ Required help to prevent permanent harm *(for medical devices only)*
- ☐ Disability or health problem
- ☐ Birth defect
- ☐ Life-threatening
- ☐ Death *(include date)(dd-mmm-yyyy):* __ - ____ - ____
- ☐ Other serious/important medical incident *(Please describe below)*

Sample Portion of the Health Professional Form 3500

2. Outcome Attributed to Adverse Event:

(Check all that apply)

- | | |
|---|---|
| <input type="checkbox"/> Death <i>(include date)</i> | <input type="checkbox"/> Disability or Permanent Damage |
| <input type="checkbox"/> Life-threatening | <input type="checkbox"/> Congenital Anomaly/Birth Defects |
| <input type="checkbox"/> Hospitalization - initial or prolonged | <input type="checkbox"/> Other Serious (Important Medical Events) |
| <input type="checkbox"/> Required Intervention to Prevent Permanent Impairment/Damage (Devices) | |

As Maria paused to take a sip of water and organize her notes, Carol leaned over to Jim and whispered, “Maybe you should submit a report to the FDA about your patient with the discoloration from the patch.”

“I could, but I’m not sure the medication was the exact cause of the adverse reaction,” Jim whispered back. “Anyway, it’s good to know there is a consumer form. I think I’ll mention this to my patient; he may want to submit his experience with the patch to the FDA.” He redirected his attention to the front of the room, where Maria had resumed her presentation.

Other FDA Reporting Systems

Safety Reporting Portal (SRP):

While MedWatch primarily supports reporting for drugs, non-vaccine biologicals, medical devices, special nutritional products, cosmetics, and over-the-counter (OTC) human drug products, the paper version of Form 3500 may also be used to submit reports about tobacco products and dietary supplements. However, electronic reports for tobacco products and dietary supplements should be submitted to FDA through the Safety Reporting Portal (<http://www.safetyreporting.hhs.gov/>).

Vaccine Adverse Event Reporting System (VAERS): Reports for vaccines should not be submitted to MedWatch. Submit all vaccine reports to the Vaccine Adverse Event Reporting System (<http://vaers.hhs.gov/>), which is managed by the FDA and the Centers for Disease Control and Prevention.

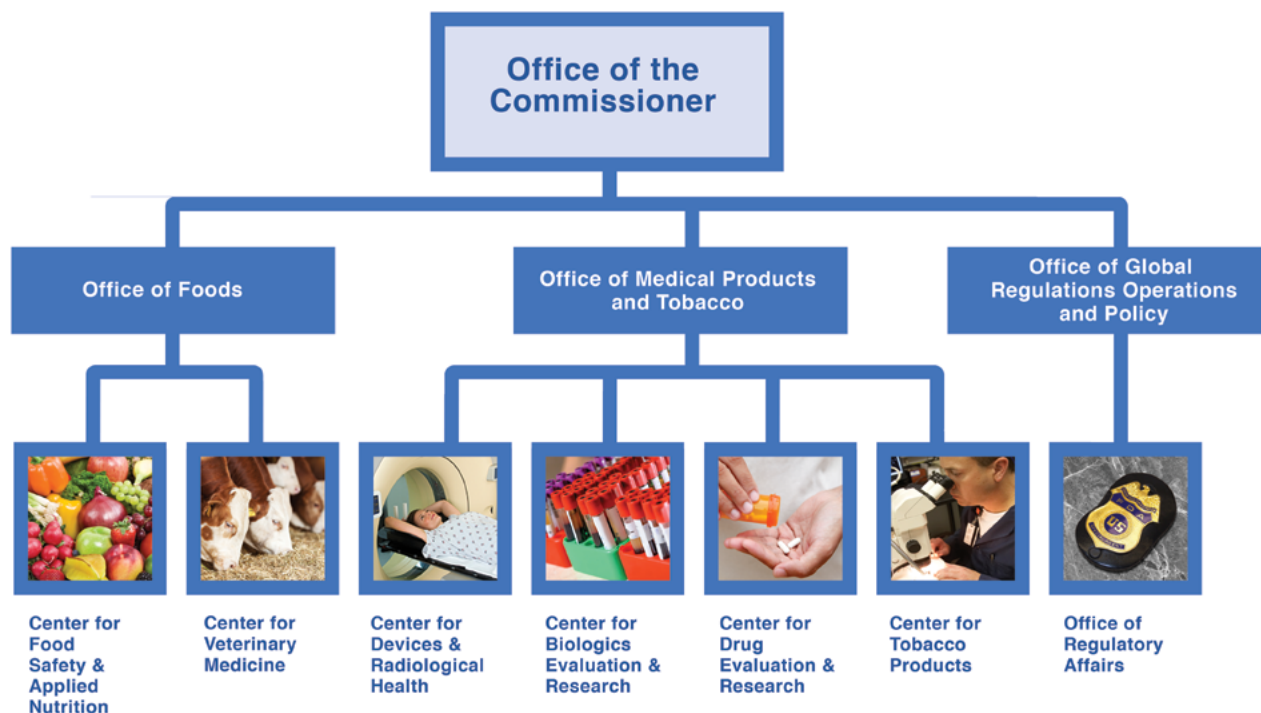
What Happens to Your Reports?

I want to spend some time explaining what happens to your report once you submit it to FDA.

First, you should know that FDA is a large organization with various Centers, authorities, and mandates. Safety reporting is one of many things the Centers collaborate on, and my job is to coordinate these efforts so things run smoothly

All voluntary reports received from the public are assessed and routed, or triaged, through the appropriate Centers within FDA for review. These include the Center for Biologics Evaluation and Research (CBER), Center for Devices and Radiological Health (CDRH), Center for Drug Evaluation and Research (CDER), Center for Food Safety and Applied Nutrition (CFSAN), and the Center for Tobacco (CTP) Products.

FDA Organizational Chart



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Some of the newer centers, like the Center for Tobacco Products, have separate electronic reporting capabilities and encourage use of the Safety Reporting Portal (SRP). However, if you submit a tobacco report to MedWatch instead of the SRP, rest assured that your report will be triaged through the correct Centers within FDA.

Drug Reports

Now, I'll go over the specifics of what happens at FDA when you submit a report to MedWatch. Because FDA receives a lot of information about these types of cases, let's use a drug report as our example.

FDA employs safety evaluators—pharmacists, physicians, or other health professionals—to monitor and review reports submitted to MedWatch for safety signals. A safety signal is a collection of reports submitted to the FDA that describe a similar adverse event happening with a particular drug. A few examples of safety signals are:

- A new serious adverse event that is not found in the drug's package insert
- A new multi-drug interaction
- An increase in the reporting of an event already known to occur with a drug
- Confusion with a product's name, packaging, or labeling leading to an adverse event

Evaluators will review the safety signals to determine if there is a relationship between the drug that was administered and event that occurred. The FDA may also seek additional follow-up information from submitters and will review published literature, pre-clinical studies, clinical trials, pharmacoepidemiologic studies, and other available FDA databases to support the information found in the MedWatch report.

Depending on the information found during FDA's review of the safety

signal and severity of the adverse event, the Agency might:

- Update the drug's package insert or labeling
- Require the drug to be distributed with a Medication Guide (Paper handouts that come with many prescription medicines. The guides address issues specific to particular drugs and drug classes and contain FDA-approved information that can help patients avoid serious adverse events.)
- Restrict distribution of the drug
- Release a safety communication through MedWatch Alerts to inform the public
- Recall the drug

Let me clarify that not all reports sent in to MedWatch or FDA's additional reporting systems require action. The FDA considers the following factors when determining if additional action and investigation is necessary:

- **Novelty of the event (is the event completely new and unanticipated?):** The initial triage typically focuses on whether the reported event is already known to occur with the suspect drug and if the event is already listed in the drug's package insert. If the suspected drug-related adverse event is assessed as "unknown" (not in the package insert), additional

FORM: 3500

U.S. Department of Health and Human Services
MEDWATCH
The FDA Safety Information and
Adverse Event Reporting Program

For VOLUNTARY reporting of
adverse events, product problems and
product use errors

Form Approved: OMB No. 0910-0291, Expires: 9/30/2011
See FRA statement on reverse

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FDA USE ONLY
Triage unit sequence #
FDA Rec. Date

Note: For date prompts of "dd-mm-yyyy" please use 2-digit day, 3-letter month abbreviation, and 4-digit year; for example, 01-Jul-2015.

A. PATIENT INFORMATION

1. Patient Identifier
In Confidence

2. Age
Year(s) Month(s) Week(s) Days(s)
or Date of Birth (e.g., 08-Feb-1925)

3. Sex
Male Female

4. Weight
lb kg

5a. Ethnicity (Check single best answer)
Hispanic/Latino Not Hispanic/Latino

5b. Race (Check all that apply)
Asian American Indian or Alaskan Native Black or African American White Native Hawaiian or Other Pacific Islander

B. ADVERSE EVENT, PRODUCT PROBLEM

1. Check all that apply
Adverse Event Product Problem (e.g., defects/malfunctions)
Product Use Error Problem with Different Manufacturer or Same Medicine

2. Outcome Attributed to Adverse Event (Check all that apply)
Death include date (dd-mm-yyyy):
Life-threatening Disability or Permanent Damage
Hospitalization – initial or prolonged Congenital Anomaly/Birth Defects
Other Serious (important Medical Events)
Required Intervention to Prevent Permanent Impairment/Damage (Devices)

3. Date of Event (dd-mm-yyyy) 4. Date of this Report (dd-mm-yyyy)

5. Describe Event, Problem or Product Use Error
(Continue on page 3)

6. Relevant Tests/Laboratory Data, Including Dates
(Continue on page 3)

7. Other Relevant History, including Preexisting Medical Conditions (e.g., allergies, pregnancy, smoking and alcohol use, liver/kidney problems, etc.)
(Continue on page 3)

C. PRODUCT AVAILABILITY

2. Product Available for Evaluation? (Do not send product to FDA)
Yes No Returned to Manufacturer on (dd-mm-yyyy)

D. SUSPECT PRODUCTS

1. Name, Manufacturer/Compounder, Strength (from product label)

#1 – Name and Strength #1 – NDC # or Unique ID
#1 – Manufacturer/Compounder #1 – Lot #

#2 – Name and Strength #2 – NDC # or Unique ID
#2 – Manufacturer/Compounder #2 – Lot #

E. SUSPECT MEDICAL DEVICE

1. Brand Name

2. Common Device Name 2b. Procide

3. Manufacturer Name, City and State

4. Model # Lot #

Catalog # Expiration Date (dd-mm-yyyy)

Serial # Unique Identifier (UDI) #

6. If Implanted, Give Date (dd-mm-yyyy) 7. If Explanted, Give Date (dd-mm-yyyy)

8. Is this a single-use device that was reprocessed and reused on a patient? Yes No

9. If Yes to Item 8, Enter Name and Address of Reprocessor

F. OTHER (CONCOMITANT) MEDICAL PRODUCTS

Product names and therapy dates (Exclude treatment of event)
(Continue on page 3)

G. REPORTER (See confidentiality section on back)


1. Name and Address
Last Name: First Name:
Address:
City: State/Province/Region:
Country: ZIP/Postal Code:
Phone #: Email:

2. Health Professional? Yes No 3. Occupation

4. Also Reported to:
Manufacturer/Compounder
User Facility
Distributor/Importer

5. If you do NOT want your identity disclosed to the manufacturer, please mark this box: ☐

FORM: 3500B



DEPARTMENT OF HEALTH AND HUMAN SERVICES
Food and Drug Administration

Form Approved: OMB No. 0910-0291
Expiration Date: 9/30/2018
(See PRA Statement on preceding
general information page)

MEDWATCH Consumer Voluntary Reporting
(FORM FDA 3500B)

Note: For date prompts of "dd-mmm-yyyy" please use 2-digit day, 3-letter month abbreviation, and 4-digit year; for example, 01-Jul-2015.

Section A – About the Problem

What kind of problem was it? (Check all that apply)

☐ Were hurt or had a bad side effect (including new or worsening symptoms)
☐ Used a product incorrectly which could have or led to a problem
☐ Noticed a problem with the quality of the product
☐ Had problems after switching from one product maker to another maker

Did any of the following happen? (Check all that apply)

☐ Hospitalization – admitted or stayed longer
☐ Required help to prevent permanent harm (for medical devices only)
☐ Disability or health problem
☐ Birth defect
☐ Life-threatening
☐ Death (include date)(dd-mmm-yyyy): ____ * ____ * ____
☐ Other serious/important medical incident (Please describe below)

Date the problem occurred (dd-mmm-yyyy)

Tell us what happened and how it happened. (Include as many details as possible)

List any relevant tests or laboratory data if you know them. (Include dates)

For a problem with a product, including

- prescription or over-the-counter medicine
- biologics, such as human cells and tissues used for transplantation (for example, tendons, ligaments, and bone) and gene therapies
- nutrition products, such as vitamins and minerals, herbal remedies, infant formulas, and medical foods
- cosmetics or make-up products
- foods (including beverages and ingredients added to foods)

Go to Section B

For a problem with a medical device, including

- any health-related test, tool, or piece of equipment
- health-related kits, such as glucose monitoring kits or blood pressure cuffs
- implants, such as breast implants, pacemakers, or catheters
- other consumer health products, such as contact lenses, hearing aids, and breast pumps

Go to Section C (Skip Section B)

For more information, visit <http://www.fda.gov/MedWatch>

Submission of a report does not constitute an admission that medical personnel or the product caused or contributed to the event.

FORM FDA 3500B (10/15)

MEDWATCH Consumer Voluntary Reporting

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sections in every MedWatch report that must be filled out so that the report can be properly filed into the FDA databases: patient identifier, event or problem that occurred, reporter information, and product information. An event can be very serious, but if the report does not provide patient, medical, and drug information, the FDA cannot properly assess the report to determine if the drug was responsible and what action may be necessary.

“That is the end of my presentation,” Maria smiled at the audience. Indicating the current slide on the projector screen, she said, “If you have any questions about the MedWatch system and reporting, please visit FDA online at www.fda.gov/Safety/MedWatch. I’ve also included my contact information if you have any questions you’d like to ask me personally. Thank you.”

The audience applauded before shifting and thinning as people left to attend their next sessions. Carol turned to Jim and said, “That was really great! It never occurred to me to submit a report to the FDA, but it makes perfect sense. They could make changes to a label or product package based on my report or send out a MedWatch Safety Alert.”

“Makes you feel pretty powerful, eh?” Jim smiled. Carol grinned, about to respond when she was interrupted by a strange noise. Bending to search her belongings, she straightened a few moments later. In her hand, a small black pager buzzed angrily.

“It’s the hospital,” she said, frowning as she noted the code on the screen. “I’m on call this weekend and it looks like a patient of mine has gone into early labor. I’ll have to leave for the day, but let me know how the rest of the sessions go,” she said as she gathered her bags and stood up.

action and investigation will depend on the clinical importance and seriousness of the event.

• **Seriousness of the event:** If the reported event results in a life-threatening situation or a patient’s death, safety evaluators will investigate further and determine what action is needed. FDA also pays close attention to historically severe adverse events such as drug-induced liver injury, Stevens-Johnson’s syndrome, anaphylaxis, and aplastic anemia. Although usually rare, events like these have a strong public health impact and

will likely result in regulatory action (e.g., changing the package insert and communicating messages about the event to the public) if the agency finds the events are associated with the drug after a thorough investigation.

• **Quality of the report submitted:** After assessing the seriousness of the reported event, the next factor that decides if FDA will take action is the quality of the reports and the strength of the relationship between the use of the drug and the detailed adverse event. There are four required

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"Absolutely," Jim replied, standing beside her. "Good luck. I hope everything goes well with your patient."

"Thanks! Same to you and yours," Carol replied as she hurried through the crowd to get to the parking garage. When he could no longer see her, Jim turned and headed towards the next presentation.

Breakout Question: Should Jim report the side effect that his patient experienced? Which method to report should Jim use?

A Medical Malfunction

When she arrived at the hospital, Carol went straight to the nurse's station on her patient's floor to get updated.

Lane was a 31-year-old mother whose previous two pregnancies had been uneventful. When Carol entered Lane's room with the night shift nurse, she smiled at her patient, serene as she lay on the hospital bed with her husband in a chair beside her. "I guess this little one couldn't wait any longer, huh?" Carol chuckled. The couple agreed with tired eyes and smiles.

After examining Lane to see how she and the baby were doing, Carol explained that she'd like to start giving the mother a drug to induce labor. She described the process to the couple, then asked the nurse to page her if there were any issues with the inducement.

"I'll check in with you and the nurse from time to time as I make my rounds," Carol told them before leaving. After preparing an XYZ Devices IV pump, the nurse started the delivery of the medication at 2 mL/hour.

Carol checked in on Lane as the night progressed, but there was no news to report. After the 7 AM shift change, the day nurse, Jack, quietly let himself

in to the room to start a new round of the labor inducement drug. He hung a bag of 500 mL Lactated Ringers (LR) containing 30 units of the drug. Using the same pump and tubing set as the night before, he set it to flow at 2 mL/hour at approximately 7:44 AM. Jack stayed with Lane for the first few minutes to make sure she was okay, and then left the room to check on the other patients on the floor.

About 15 minutes later, Jack heard a cry for help. He ran to the hallway and saw it was coming from Lane's husband. He ran into Lane's room, where the woman was curled in pain on the bed. Beside her, the IV bag of the labor-inducing drug was empty. Jack stopped the pump immediately and clamped the line, then pressed the emergency call button to page Carol. The doctor arrived in a hurry and after hearing the nurse's panicked story, quickly treated Lane. They had narrowly avoided having to perform an emergency caesarean section.

An hour later, Carol and Jack stood in an empty room watching the hospital's risk manager, Robert Harris, examine Lane's disconnected IV pump.

"The pump door is closed and the IV tubing is still in place," he said, still looking at the device. "Although the pump settings have been entered accurately, it looks like the total dose was delivered over about 15 minutes instead of 15 hours." He looked up at the tense pair. "I also met with the night nurse and learned that the infusion was stopped at 5 AM, as directed, and that the IV tubing was clamped off and left in the pump."

Jack spoke, "I didn't inspect the tubing behind the pump door. I turned on the pump, entered the correct infusion rate, and pushed the start button. No audible or display alarm went off to let me know that there could have been a problem with the tubing or the infusion!"

"It's okay, Jack," Carol replied soothingly. "We'll find out what went wrong. Thankfully, Lane is okay."

"I'm going to have the biomedical engineering staff examine the pump more closely," Robert said. "Can you both stick around the hospital in case we have questions?"

They both agreed before leaving the room to attend their duties. Sometime later, Robert paged them to his office.

"Well," he began after they sat in the chairs in front of his desk, "the biomedical engineering team also examined the pump. They didn't find any mechanical defects or physical problems, but they did notice that the tubing was not running through the designated track path in the pump. Despite the recent introduction of this pump to our hospital, this is the fourth documented case of a free-flow event with that brand of infusion pump. I'm not sure if you remember, but XYZ Devices' personnel trained our hospital staff on its use last year."

"That is cause for serious concern, Robert," Carol replied. Remembering the FDA presentation she asked, "Has anyone reported the incident to the FDA?"

"We haven't," he sighed, "but I think now is the perfect time." Looking at Carol and then turning to Jack he asked, "Have either of you ever submitted a report to FDA?"

"No," Jack replied. "Because of HIPAA (Health Insurance Portability and Accountability Act), I usually just inform the charge nurse when there is a problem. Is that not enough?"

"Well, your experience could be a signal," Robert replied. "It's possible that others around the hospital and elsewhere have had the same experience, so it is always a good idea to report an adverse event to FDA. Don't worry, Jack," he said, noticing that the nurse looked worried, "this is

standard procedure when events like this happen. You are not going to face any disciplinary action. What I would like to do now is work with you and Dr. Ratner to submit a report to the FDA MedWatch Adverse Event Reporting System. If we do that, there's a chance FDA will investigate XYZ Device's IV pumps and take action so that incidents like this can be avoided."

Jack leaned back in his chair and sighed relief as Carol leaned forward with excitement. "I just attended a session on reporting to MedWatch, but I've never filled out a report. I'm very interested in seeing how this works."

"Excited over paperwork?" Robert laughed as he motioned for Carol and Jack to shift their chairs around the desk so they could see his computer monitor. On the screen was the MedWatch interactive reporting form. "Well, today is your lucky day."

Conclusion

Carol

That afternoon, Robert helped Jack and Carol complete a MedWatch report about the XYZ Devices IV Pump. Two months later, a MedWatch Safety Alert about the problem with the pump's track path was released to the public. The manufacturer recalled the device.

Jim

When he returned from the conference, Jim signed up to receive alerts from MedWatch. He also researched different ADHD treatments and known side effects of use before meeting with Chris. During their appointment, Jim shared FDA's warning about how the brand of patch Chris was using might lead to chemical leukoderma. He offered to switch Chris to a different treatment and helped his patient submit a report to FDA about his experience.

Some Tips for Completing a MedWatch Report (Form 3500)

- There are four sections of the MedWatch report that must be completed in order for FDA to properly file it into their databases: patient identifier, event or problem that occurred, reporter information, and product information.
- The quality of the reports FDA receives is very important. When reporting, provide as much information as possible. FDA will use this information to figure out the possible cause and effect of the incident.
- Section A, Patient Identifier:
 - o Do not use the patient's name or social security number in a report. Instead, use the patient's initials, patient number, or some other type of identifier that will allow you to easily locate the case if you are contacted for more information. The patient's identity is held in strict confidence by FDA and protected to the fullest extent of the law. The FDA will not disclose the reporter's identity in response to a request from the public per the Freedom of Information Act. If no patient was involved, as may be the case with a quality problem or a product use error, enter "none" under "patient identifier."
 - o The HIPAA Privacy Rule allows pharmacists, physicians, nurses, or hospitals (i.e., covered entities) to report adverse events and other information related to the quality, effectiveness, and safety of FDA-regulated products to the product manufacturers and directly to FDA.

A. PATIENT INFORMATION			
1. Patient Identifier	2. Age	3. Sex	4. Weight
In Confidence	<input type="checkbox"/> Year(s) <input type="checkbox"/> Month(s) <input type="checkbox"/> Week(s) <input type="checkbox"/> Days(s)	<input type="checkbox"/> Female <input type="checkbox"/> Male	<input type="text"/> lb <input type="text"/> kg
	or Date of Birth (e.g., 08 Feb 1925)		
	<input type="text"/> - <input type="text"/> - <input type="text"/>		

- Section B, Adverse Event, Product Problem, or Error:
 - o A good adverse event report includes the following elements:
 - clinical outcome and actions taken with the suspected product(s)
 - time it took the event to occur
 - detailed description(s) of the adverse event(s)
 - results of any laboratory diagnostic medical imaging
 - medical history
 - date administration of the suspected product and/or accompanying drugs or devices was started and the stopped. If dates are not known, estimated dates are acceptable.
 - patient demographics
 - o Include a description of the device use error:
 - What type of person used the device? A nurse, physician, technician?
 - What work environment did the error occur in?
 - Was the user helping multiple patients at the time?
 - Was it the first time the user operated the device?
 - What were the circumstances or events that led to or contributed to the use errors?

GLOSSARY

Biologic: any virus, therapeutic serum, toxin, antitoxin, or similar product used in the prevention, treatment, or cure of diseases or injuries of humans:

- A virus is a product containing the minute living cause of an infectious disease and includes but is not limited to filterable viruses, bacteria, rickettsia, fungi, and protozoa.
- A therapeutic serum is a product obtained from blood by removing a clot or clot components and the blood cells.
- A toxin is a product containing a dissolvable substance poisonous to laboratory animals or to man in doses of 1 milliliter or less (or equivalent in weight) of the product. Following the injection of non-fatal doses into an animal, toxins cause another dissolvable substance that neutralizes the poisonous substance to be produced in the body. This serum makes the animal immune to the toxin.
- An antitoxin is a product containing a dissolvable substance in serum or another body fluid of an immunized animal that neutralizes the toxin.

Cosmetic: The Federal Food, Drug, and Cosmetic Act (FD&C Act) defines cosmetics by their intended use as “articles intended to be rubbed, poured, sprinkled, or sprayed on, introduced into, or otherwise applied to the human body...for cleansing, beautifying, promoting attractiveness, or altering the appearance, and articles intended for use as a component of any such articles.” [FD&C Act, sec. 201(i)] This definition does not include soap as defined in 21 CFR 701.20.

- Examples of cosmetics include skin moisturizers, perfumes, lipsticks, fingernail polishes, eye and facial makeup, cleansing shampoos, permanent waves, hair colors, and deodorants, as well as any substance intended for use as a component of a cosmetic product.

Device: The FD&C Act defines devices as articles “intended for use in the diagnosis of disease or other conditions, or in the cure, mitigation, treatment, or prevention of disease, in man or other animals, or ... intended to affect the structure or any function of the body of man or other animals,” which does not achieve its primary intended purposes through chemical action or metabolism within the body. [FD&C Act, sec. 201(h)]

- Medical devices cover a range of products: from simple items in your medicine cabinet like adhesive bandages and thermometers, to more complicated equipment such as X-ray machines, stethoscopes, ventilators, infusion pumps, pregnancy test kits, endoscopes, replacement heart valves, implantable pacemakers, and breast implants.

Functions: Devices such as syringes and asthma inhalers help with the delivery of a drug or vaccine. Devices may be disposable, reusable, or even implantable, such as cochlear

implants (for severe hearing loss) and joint replacements. They can also be used to monitor a child’s breathing, oxygen level, blood sugar level, or blood pressure.

Dietary Supplement: Under the Dietary Supplement Health and Education Act of 1994 (DSHEA), Congress defined the term “dietary supplement” as a product taken by mouth that contains a “dietary ingredient” intended to supplement the diet.

- The “dietary ingredients” in these products may include vitamins, minerals, herbs or other botanicals, amino acids, and substances such as enzymes, organ tissues, glandulars, and metabolites. Dietary supplements can also be extracts or concentrates, and may be found in many forms such as tablets, capsules, softgels, gelcaps, liquids, or powders.
- Dietary supplements can also be in other forms like a bar, but if they are, information on their label must not represent the product as conventional food or a sole item of a meal or diet. Whatever their form may be, DSHEA places dietary supplements in a special category under the general umbrella of “foods,” not drugs, and requires that every supplement be labeled a dietary supplement.

Drug: The FD&C Act defines “drug” as including an “article intended for use in the diagnosis, cure, mitigation, treatment, or prevention of disease in man or other animals;” and an article (other than food) intended to affect the structure or any function of the body of man or other animals.”

- As part of the FDA, the Center for Drug Evaluation and Research regulates over-the-counter and prescription drugs, including biological therapeutics and generic drugs. This work covers more than just medicines. For example, fluoride toothpaste, antiperspirants, dandruff shampoos, and sunscreens are all considered “drugs.”

OTC drugs: Drugs that have been found to be safe and appropriate for use without the supervision of a health care professional such as a physician, and they can be purchased by consumers without a prescription. These drugs are sometimes approved under applications like new prescription drugs, but more often they are legally marketed without an application by following a regulation called an OTC drug monograph.

- An OTC drug monograph tells what kind of ingredients may be used to treat certain diseases or conditions without a prescription, and the appropriate dose and instructions for use. OTC products that meet a monograph’s requirements may be marketed without FDA review. OTC products that do not fit under an existing monograph must be approved under an application like the applications for prescription products.

STUDENT ACTIVITIES

Before Class

I. Review the following materials before class:

1. MedWatch Homepage
<http://www.fda.gov/Safety/MedWatch/default.htm>
2. Print hard copies of Form 3500B and Form 3500 and bring them to class.
<http://www.fda.gov/Safety/MedWatch/HowToReport/DownloadForms/default.htm>

II. Answer the following questions before class:

1. How are reporting forms 3500, 3500B, and 3500A different?
2. True or False: Vaccine product problems should be reported to MedWatch.
3. Good case reports include the following elements:
 - a. Description of the adverse events or disease experience, including time to the beginning of signs or symptoms
 - b. Clinical course of the event and patient outcomes (e.g., hospitalization or death)
 - c. Relevant therapeutic measures and laboratory data at baseline, during therapy, and subsequent to therapy, including blood levels, as appropriate
 - d. All of the above
4. FDA's MedWatch program offers several ways to help you stay informed about the medical products including:
 - a. E-mail
 - b. Twitter
 - c. RSS feed
 - d. Facebook
 - e. a, b, and c
 - f. All of the above
5. What gets reported to FDA MedWatch and what gets reported to the Safety Reporting Portal?

In Class

I. Questions for in-class group discussion:

1. Discuss what happens to a MedWatch report after it is received. What could constitute a safety signal?
2. How can MedWatch reports result in product changes?
3. Break into smaller groups. Use Jim Bean or Carol Ratner's scenario from the case study to complete a MedWatch form and present to the class.

After Class

- I. Sign up to receive MedWatch safety alerts.
<http://www.fda.gov/Safety/MedWatch/ucm228488.htm>
- II. Practice completing a case-report on the MedWatchLearn system. Print and submit it to your instructor.
<http://www.accessdata.fda.gov/scripts/MedWatchLearn/>

Additional References

1. Webinar: Introduction to FDA's MedWatch Adverse Reporting Program
<http://www.fda.gov/aboutfda/workingatfda/fellowshipinternshipgraduatefacultyprograms/pharmacystudentexperientialprogramcder/ucm413340.htm>
2. Your Guide to Reporting Problems to FDA
<http://www.fda.gov/ForConsumers/ConsumerUpdates/ucm095859.htm>
3. FDA Basics: Drugs
<http://www.fda.gov/AboutFDA/Transparency/Basics/ucm192696.htm>
4. FDA Basics: Biological Products
<http://www.fda.gov/AboutFDA/Transparency/Basics/ucm355978.htm>
5. FDA Basics: Medical Devices
<http://www.fda.gov/AboutFDA/Transparency/Basics/ucm193731.htm>