



**U.S. FOOD & DRUG**  
ADMINISTRATION

# Food and Drug Administration Overview

21<sup>st</sup> Century Cures Act

Section 2041, PRGLAC Task Force

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**FDA EFFORTS  
RELATING TO  
PREGNANT AND  
LACTATING  
WOMEN**

**Communication**

**Collaboration**

**Research**



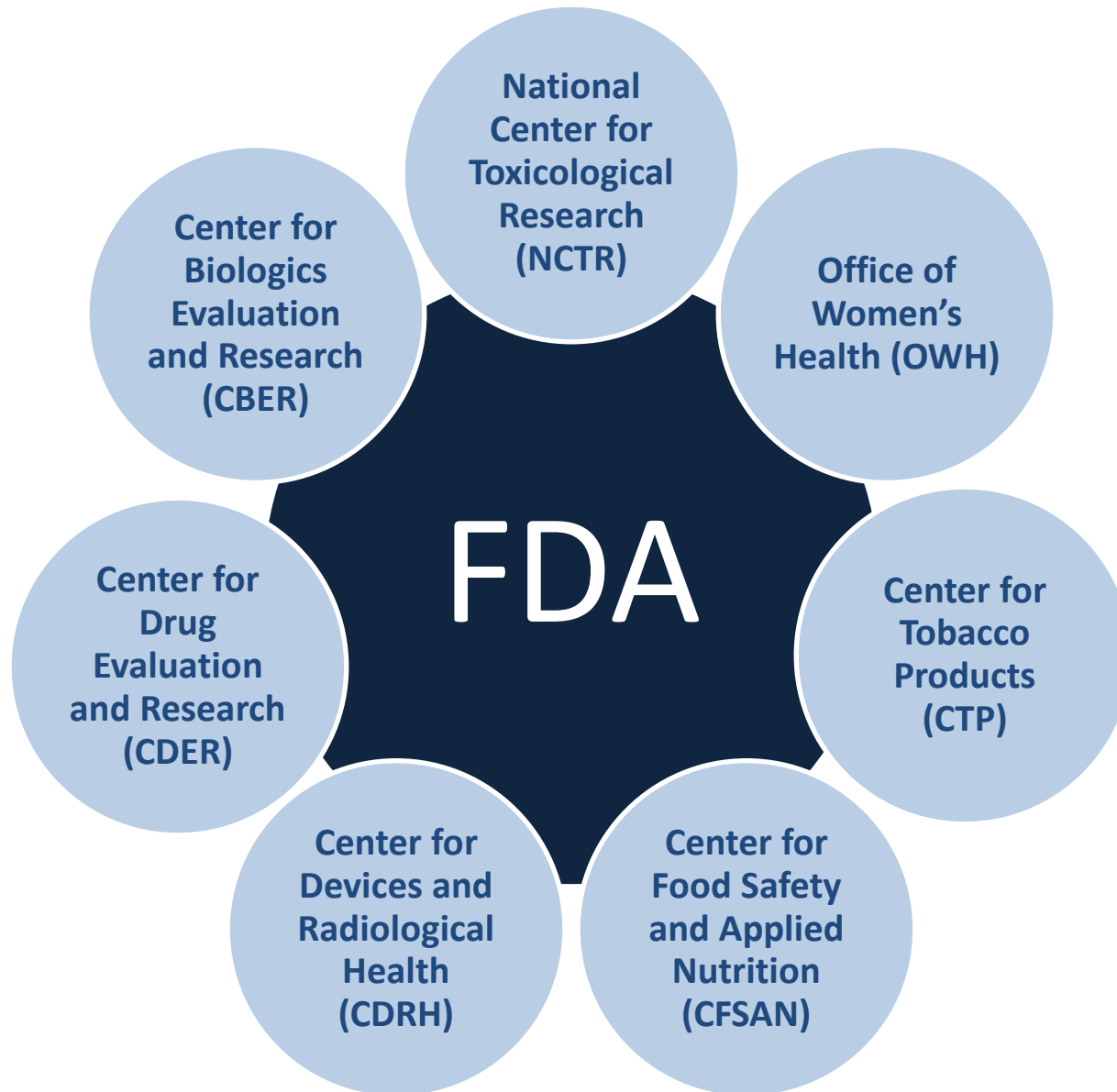
# **Pregnancy and Lactation Research Programs at FDA Evaluate a Broad Array of Issues Including:**

- ✓ **Mechanisms of therapies**
- ✓ **Nonclinical studies**
- ✓ **PK/PD studies**
- ✓ **Risk of exposure**
- ✓ **Impact of tobacco use**





# Pregnancy & Lactation Research



# OUR CENTERS

# Center for Biologics Evaluation and Research (CBER)

Mission: Protect and enhance the public health through the regulation of biological and related products

## EXAMPLES OF PRGLAC RESEARCH: BIOLOGICS

- Safety and Efficacy of Vaccines<sup>7</sup>
- Maternal Immunization<sup>7</sup>
- Zika infection in pregnant women<sup>6</sup>
- Zika Blood Safety Risk Assessment
- Sentinel Program (Surveillance Activities Related to the Safety of Vaccines in Pregnant Women)

# Center for Devices and Radiologic Health (CDRH)



Mission: To protect and promote public health through access to safe, effective products, and to provide accessible information to consumers

## EXAMPLES OF PRGLAC RESEARCH: DEVICES

Electromagnetic Exposure<sup>9,10,11</sup>

- Hand-held metal detectors
- MRI
- RF Exposure and Temperature Increases in pregnant women from MRI
- RF Exposure





# Center for Drug Evaluation and Research (CDER)

Mission: To ensure sure that safe and effective drugs are available to improve the health of people in the United States



## **Division of Pediatric and Maternal Health (DPMH)**

Mission: To develop clinically relevant, evidence-based labeling and other communications that facilitate informed use of medicines in children and women of childbearing potential

## **Division of Bone, Reproductive and Urologic Products (DBRUP)**

Mission: To assure the safety and efficacy of drugs and therapeutic biologics aimed at improving bone, reproductive, and urologic health

# Center for Drug Evaluation and Research (DPMH, DBRUP, OSE)

## EXAMPLES OF PRGLAC RESEARCH: DRUGS

- Medication in Pregnancy Risk Evaluation Program (MEPREP)<sup>35</sup>
- Pregnancy Registries<sup>3</sup>
- Collaborative research<sup>29</sup>
  - Mechanisms of therapies
  - Utilization of medication
  - Identification of therapy for use during pregnancy
  - PK/PD studies of therapies during pregnancy and/or lactation

# Center for Food Safety and Applied Nutrition (CFSAN)

Mission: To promote and protect the public's health by ensuring that the nation's food and cosmetic products are safe, sanitary, and honestly labeled

## EXAMPLES OF PRGLAC RESEARCH: FOOD & NUTRITION SAFETY

- Infant Feeding Practices Study<sup>13</sup>
- Funded by OWH<sup>4,5</sup>
  - Nervous system dysfunction and contaminant exposure
  - Contaminants in dietary supplements
  - Birth Defect potential of cosmetic products containing retinol

# Center for Tobacco Products (CTP)

Mission: To protect Americans from tobacco-related death and disease by regulation of tobacco products and education of the public

## EXAMPLES OF PRGLAC RESEARCH: TOBACCO

- CTP Funded Questions Pregnancy Risk Assessment Monitoring System (PRAMS)<sup>20</sup>
- Perceptions of Health Risk from Smokeless Tobacco and Nicotine Products<sup>22</sup>
- Population Assessment of Tobacco and Health (PATH)<sup>21</sup>

- Ultrasound Markers of Maternal Smoking<sup>8</sup>
- Flavors and Design Features Impacting Waterpipe Use and Toxicity<sup>8</sup>
- Low Nicotine Cigarettes<sup>8</sup>



# National Center for Toxicology Research (NCTR)

Mission: To function as a major research arm to support FDA's ability to make science-based decisions

## EXAMPLES OF PRGLAC RESEARCH

- Preclinical Exposure Impact on Fertility, Prenatal and Post-natal Development<sup>30</sup>
- Pharmacokinetics of Drugs and Chemicals<sup>23</sup>
- Biology and Metabolism of BPA<sup>25</sup>
- Exposure of Thyroid-Disruptor Risk Evaluation<sup>2</sup>
- Modeling and Simulation of Physiology of Pregnancy in order to Test Drug Metabolism<sup>30</sup>



# Office of Women's Health (OWH)

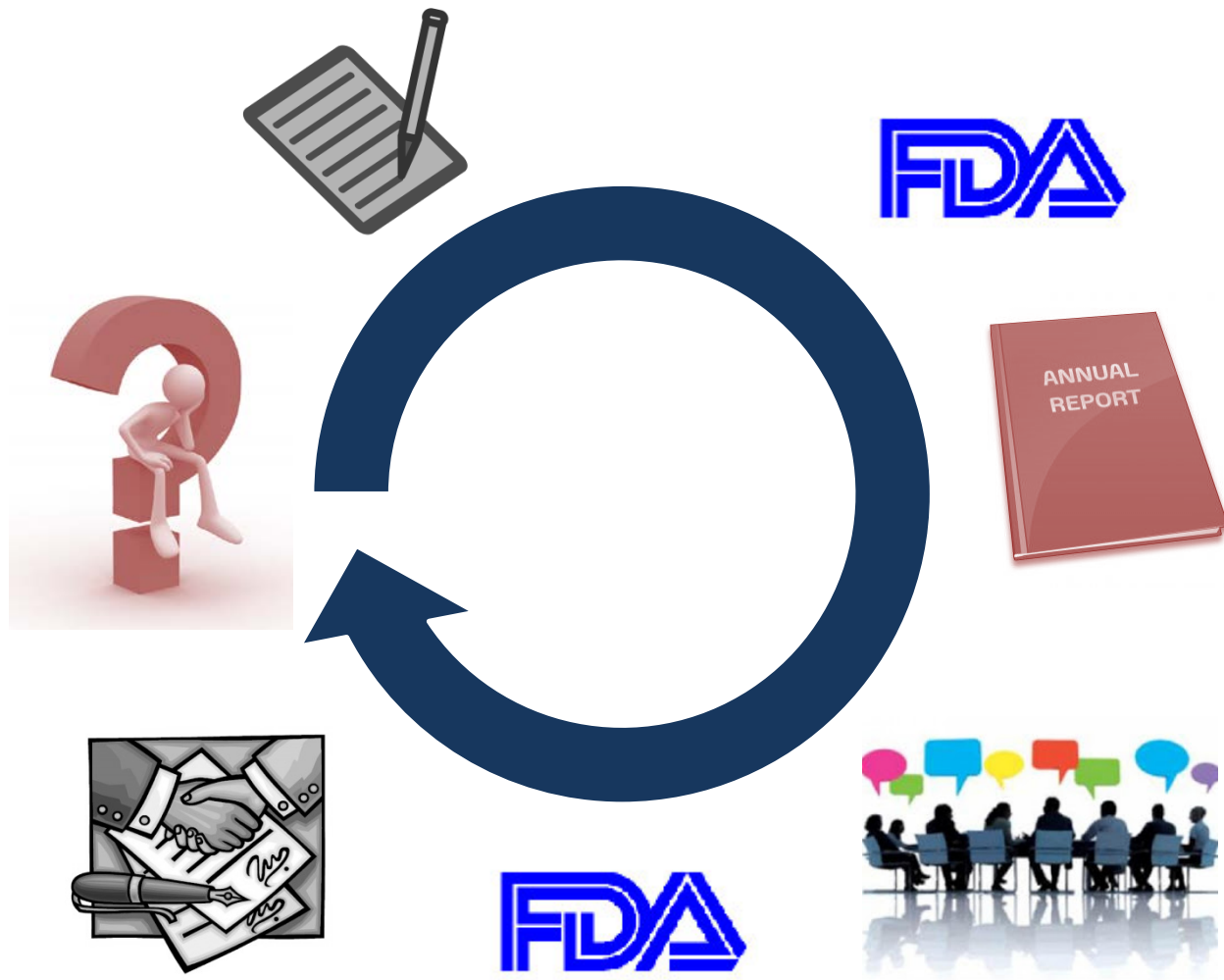
Mission: Protect and advance the health of women through policy, science and outreach

## PRGLAC RESEARCH FUNDING

- Annual intramural research program provides funding across FDA Centers and Offices<sup>4,19</sup>
- Collaborative efforts with Centers on guidance development and pregnancy and lactation projects



# Creation of Policies and Guidances



# FDA Guidances:

## Pregnancy and Lactation

*Submission of Premarket Notifications for Magnetic Resonance Diagnostic Devices<sup>34</sup>*

*Revised Recommendations for Reducing the Risk of Zika Virus Transmission by Blood and Blood Components<sup>6</sup>*

*Considerations for Developmental Toxicity Studies for Preventive and Therapeutic Vaccines for Infectious Disease Indications<sup>33</sup>*

*Reproductive and Developmental Toxicities —Integrating Study Results to Assess Concerns<sup>32</sup>*

*Evaluating the risks of drug exposure in human pregnancies<sup>36</sup>*

*Establishing Pregnancy Exposure Registries<sup>31</sup>*





# Draft Guidances

- Pregnancy, Lactation, and Reproductive Potential: Labeling for Human Prescription Drug and Biological Products-Content and Format
- Pharmacokinetics in Pregnancy - Study Design, Data Analysis, and Impact on Dosing and Labeling
- Clinical Lactation Studies-Study Design, Data Analysis and Recommendations for Labeling

Source:  
[Pregnancy, Lactation and Reproductive Potential Guidance](#)  
[Guidance for Industry: Pharmacokinetics in Pregnancy](#)  
[Guidance for Industry: Clinical Lactation Studies](#)

# Collaboration Efforts

FDA collaborates internally and externally with federal, academic and other organizations to develop a variety of programs to benefit pregnant and lactating women





# Clinical Practice Information and Recommendations

- FDA does not provide direct clinical care
- FDA does
  - Regulate prescription drugs, biologics and devices
  - Communicate through a variety of mechanisms such as product labelings

# Communication

FDA utilizes various forms of print, digital, and web-based communications related to pregnancy and lactation.

Website

Publications

Social Media

Conferences,  
meetings,  
workshops

Press  
releases/News  
media

Outreach  
Activities

# Advice About Eating Fish

## What Pregnant Women & Parents Should Know

Fish and other protein-rich foods have nutrients that can help your child's growth and development.

For women of childbearing age (about 16-49 years old), especially pregnant and breastfeeding women, and for parents and caregivers of young children.

- Eat 2 to 3 servings of fish a week from the "Best Choices" list OR 1 serving from the "Good Choices" list.
- Eat a variety of fish.
- Serve 1 to 2 servings of fish a week to children, starting at age 2.
- If you eat fish caught by family or friends, check for fish advisories. If there is no advisory, eat only one serving and no other fish that week.\*

## Use this chart!

You can use this chart to help you choose which fish to eat, and how often to eat them, based on their mercury levels. The "Best Choices" have the lowest levels of mercury.

## What Is a serving?

To find out, use the palm of your hand!



For an adult  
4 ounces



For children,  
ages 4 to 7  
2 ounces

## Best Choices EAT 2 TO 3 SERVINGS A WEEK

Anchovy	Herring	Scallop
Atlantic croaker	Lobster,	Shad
Atlantic mackerel	American and spiny	Shrimp
Black sea bass	Mullet	Skate
Butterfish	Oyster	Smelt
Catfish	Pacific chub	Sole
Clam	mackerel	Squid
Cod	Perch, freshwater	Tilapia
Crab	and ocean	Trout, freshwater
Crawfish	Pickering	Tuna, canned light
Flounder	Plaice	(includes skipjack)
Haddock	Pollock	Whitefish
Hake	Salmon	Whiting
	Sardine	

OR

## Good Choices EAT 1 SERVING A WEEK

Bluefish	Monkfish	Tilefish (Atlantic Ocean)
Buffalofish	Rockfish	Tuna, albacore/white tuna, canned and fresh/frozen
Carp	Sablefish	Tuna, yellowfin
Chilean sea bass/Patagonian toothfish	Sheepshead	Weakfish/seatrout
Grouper	Snapper	White croaker/Pacific croaker
Halibut	Spanish mackerel	
Mahi mahi/dolphinfish	Striped bass (ocean)	

## Choices to Avoid HIGHEST MERCURY LEVELS

King mackerel	Shark	Tilefish (Gulf of Mexico)
Marlin	Swordfish	Tuna, bigeye
Orange roughy		

\*Some fish caught by family and friends, such as larger carp, catfish, trout and perch, are more likely to have fish advisories due to mercury or other contaminants. State advisories will tell you how often you can safely eat those fish.

[www.FDA.gov/fishadvice](http://www.FDA.gov/fishadvice)

[www.EPA.gov/fishadvice](http://www.EPA.gov/fishadvice)



THIS ADVICE REFERS TO FISH AND SHELLFISH COLLECTIVELY AS "FISH." / ADVICE UPDATED JANUARY 2017



CENTER FOR TOBACCO PRODUCTS

**Babies** whose **mothers**  
**smoked** during pregnancy  
are more likely to be born  
with **birth defects.**



Babies and children  
who breathe  
**secondhand smoke**  
are sick more often with

**bronchitis,**  
**pneumonia,**  
**ear infections.**

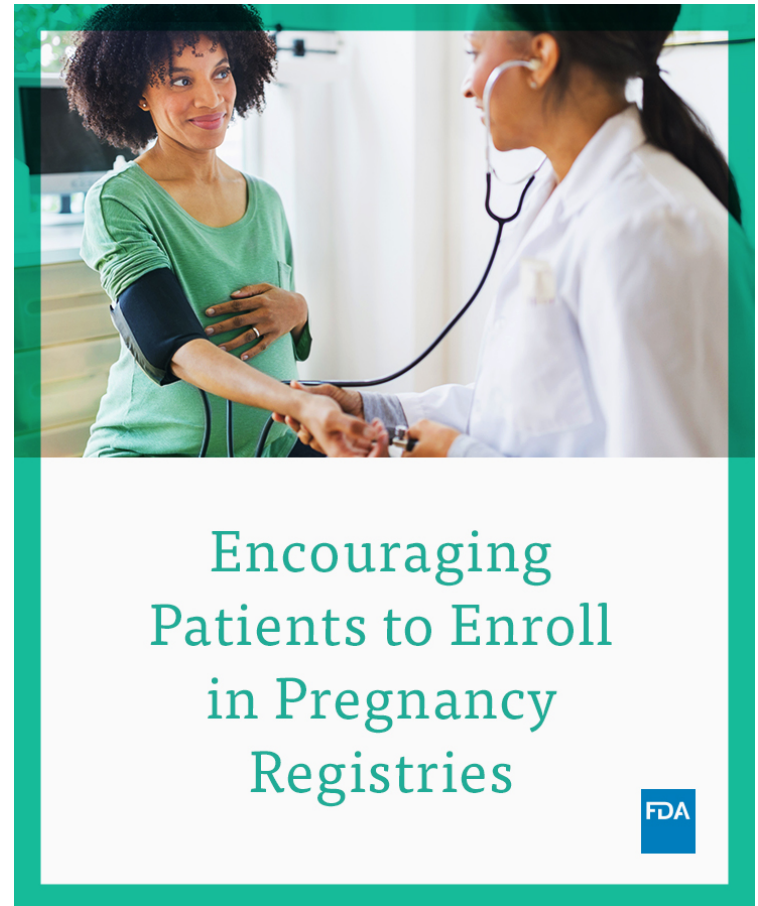
Source: USDHHS, *The Health Consequences of Smoking—50  
Years of Progress: A Report of the Surgeon General*, 2014.

CENTER FOR TOBACCO PRODUCTS



# FDA Pregnancy Registry List

- Connects consumers and health professionals to over 40 pregnancy registries
- Provides links to drug information and educational resources for pregnant women



# **PREGNANCY AND LACTATION LABELING**



# Pregnancy and Medication Use

- Only a small percentage of drugs are contraindicated for use in pregnancy.
  - e.g., isotretinoin, mycophenolates
- For the majority of drugs, labeling should provide what is known in a way that enables decisions for treatment.

**The question is HOW?**



**Half of Pregnant Women  
take at least one medicine**

# The Problem with Letters

A B C D X

- Overly simplistic
- Misinterpreted as a grading system
- A drug with adverse information in animals could be labeled as the same category as a drug with no animal information

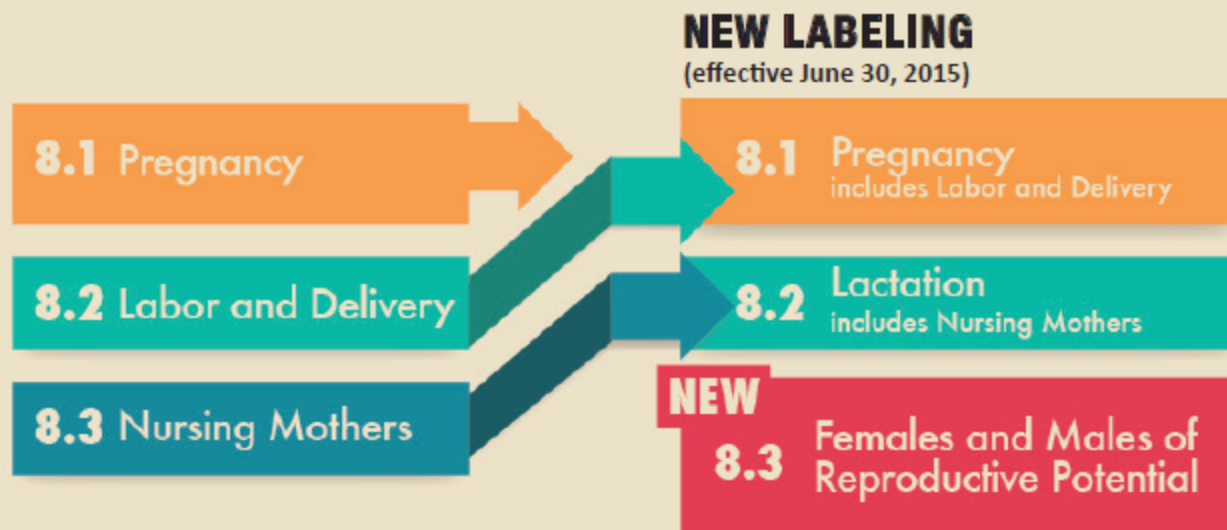
# FDA Solution

## Replace Pregnancy Letter Categories with an integrated Risk Summary

- More complete assessment of the known risks
- Considerations of medical/disease factors
- Animal data put in context of human exposure
- Human data added when available
- Explicitly states when no data are available

# Prescription Drug Labeling is Changing For Pregnant and Lactating Women

Prescription Drug Labeling Sections 8.1 - 8.3 USE IN SPECIFIC POPULATIONS



# Pregnancy and Lactation Labeling Rule

- Took effect on June 30, 2015, immediately applicable for drugs approved after that date
- **ALL** prescription drugs to remove pregnancy letter categories by June 2020, gradual process
- Prescription drugs approved on or after June 30, 2001 must revise content and format of the Pregnancy and Lactation sections of labeling

# Summary

1

- FDA **designs and performs research** which will assist in advancing knowledge regarding the safety and efficacy of drugs, devices, biologics, cosmetics, food, and tobacco

2

- FDA's role as a regulatory agency includes **development of guidances and collaborations to develop health policy** and compliance with federal mandates as appropriate

3

- FDA utilizes a myriad of different forms of print, digital, and web-based communications related to pregnancy and lactation.

4

- FDA collaborates internally across centers and offices and externally with federal, academic and other organizations to develop a variety of programs that will benefit pregnant and lactating women.

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