

# DRUG SHORTAGES OVERVIEW

**CDR Emily Thakur R.Ph.**

Team Leader, Drug Shortage Staff  
CDER | US FDA

Manufacturing, Supply Chain, and Inspections  
during the COVID19 Public Health Emergency- August 25, 2021

# Drug Shortage Mission

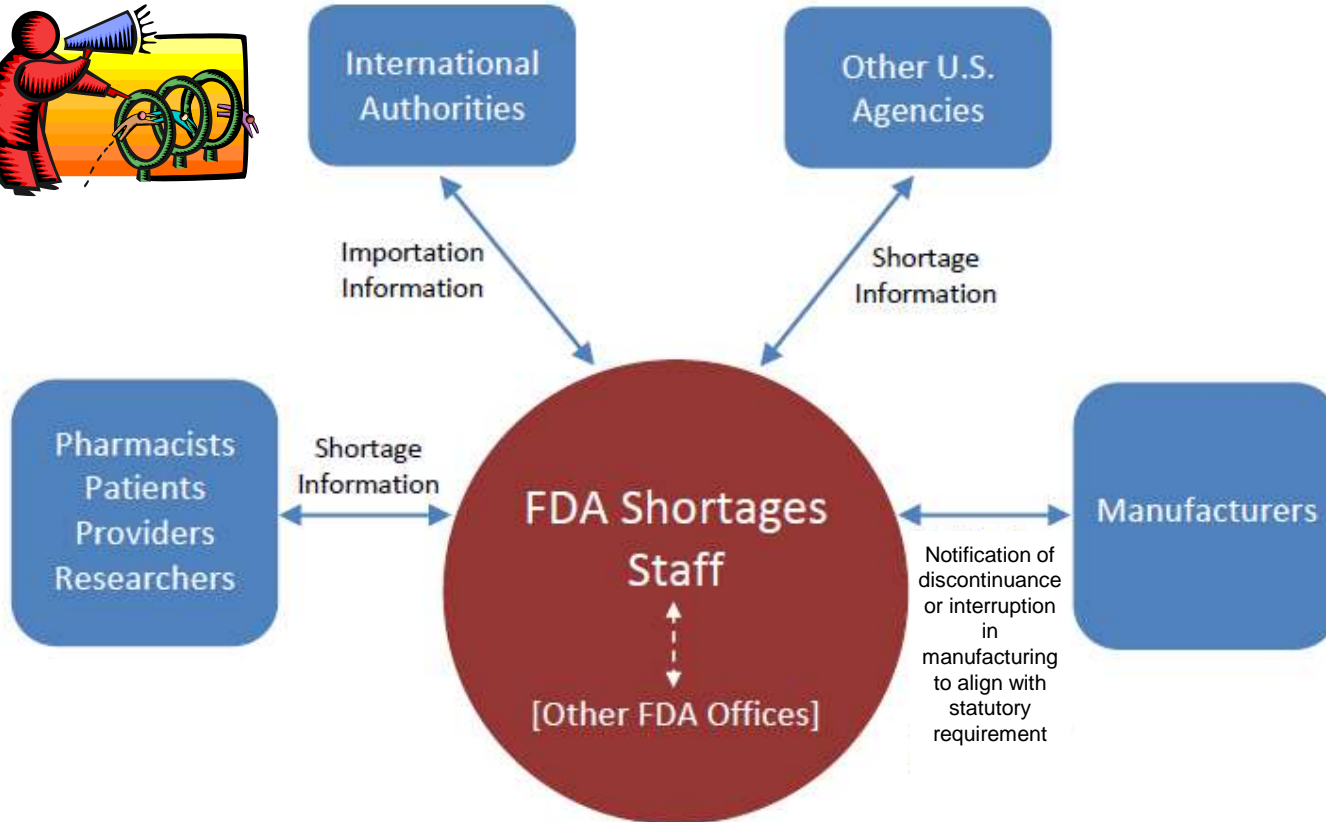
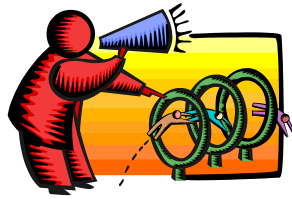


- Our mission is to prevent, mitigate and alleviate drug shortages
- Patient and practitioner access to life-saving medication is our #1 priority
- Drug Shortage Staff works with professional organizations, patient groups, clinicians and other stakeholders (DEA, CMS, EMA ..etc.)

## Brief History

- Part of FDA's Center for Drug Evaluation & Research (CDER)
- Drug Shortage Program began in 1999
- 2011- President Obama signed *Executive Order 13588-Reducing Prescription Drug Shortages*
- 2012- Food and Drug Administration Safety and Innovation Act (FDASIA): Requirements to industry for notifications and to FDA to create a task force and strategic plan
- CDER Drug Shortage Program (DSP) changed to Drug Shortage Staff (DSS) in 2012
- Moved under the CDER Office of the Center Director in 2014

# FDA Drug Shortage Staff – Key Communications



## Notification Requirements For Finished Products Under Section 506C of the FD&C Act AND FDA Regulations



Manufacturers are required to notify the FDA of a permanent discontinuance in the manufacture of certain finished products or an interruption of the manufacture of certain finished products that is likely to lead to a meaningful disruption in the supply of such products in the United States

“At least 6 months prior to the date of the permanent discontinuance or interruption in manufacturing; or ... if 6 months’ advance notice is not possible ... as soon as practicable thereafter, but in no case later than 5 business days after the permanent discontinuance or interruption in manufacturing occurs”

Not limited to medically necessary products

Regardless of market share, or number of companies marketing, or wholesaler volumes



# Drug Shortage Defined

## Drug Shortage:

A period of time when the demand or projected demand for the drug within the United States exceeds the supply of the drug.

In general, the DSS focuses on shortages of medically necessary products that have a significant effect on public health.





# Medical Necessity

“A medically necessary drug product is any drug product used to diagnose, treat, or prevent a serious disease or medical condition for which there is no other drug that is judged by CDER medical staff to be an appropriate substitute or there is an inadequate supply of an acceptable alternative as determined by the DSS.”

\*Although the agency focuses on medically necessary drugs, all potential shortages are evaluated to help determine the possible public health impact.

# Notification on Interruption in Manufacturing



**We encourage notification in advance of any change in manufacturing that may lead to a meaningful disruption in supply of a product\*, e.g.:**

- Plans for upgrade or remediation
- Manufacturing issues
- Raw material batch failures
- Particulate issues
- Sterility issues

\*Note, product refers to a specific strength, dosage form, and route of administration

# Notification on Interruption in Manufacturing



***We encourage manufacturers to notify FDA ahead, not as, or after, they are unable to fill orders or unable to meet expected demand***

## Best Practices

“We have placed the following product(s) on hold pending an investigation. Due to the investigation being in progress and the completion date being not estimated at this time, we wanted to inform Drug Shortage of this potential for a supply interruption.”



# Opportunities and Challenges to Assist with Shortages



## FDA will work closely with manufacturers to address problems

- We can advise, assist, and expedite inspections and reviews, but the manufacturer must fix the problem

### **What we CAN require:**

- With respect to certain finished products, notification by manufacturers of:
  - Permanent discontinuances
  - Certain interruptions in manufacturing
  - Reasons for such discontinuance or interruption (e.g., delays, disruptions in raw material supplies)

### **What we CANNOT require:**

- A company to make a drug
- A company to make more of a drug
- How much of a drug is distributed and which purchasers will be given priority

# The Agency's Approach to Prevention and Mitigation

## **Early notification is key!!**

- Prioritize products that are medically necessary
  - Risk/Benefit of the drug in question
- Maintain availability while minimizing risk to patients
- Work with firms to address problems
  - We can advise, assist, and expedite inspections and reviews, but the manufacturer must fix the problem

# The Agency's Approach to Prevention and Mitigation

- Drug shortages cannot always be prevented
  - Unanticipated events occur  
Manufacturing breakdown or natural disaster (hurricanes & floods)
  - Sometimes alternate supplier(s) may not make up production shortfall
  - If systemic issues present, the plant may have to close to repair
  - The FDA and the manufacturer can work together to encourage smart distribution (*allocation*)

# FDA Toolbox



- Communicate with other suppliers about possible shortage concerns and potential for increasing production
- Prompt firms to look at demand and supply
- Regulatory flexibility and discretion to ensure adequate supply:
  - Manufacture of medically necessary products during remediation
  - Use of additional safety controls
    - Filters with injectable products to remove particulate concerns
    - Extra testing at plant
    - 3<sup>rd</sup> party oversight of production
    - Special instructions for safe use



# FDA Toolbox

## **Expedited review of company proposals**

New manufacturing sites, extended expiry date, new raw material source, changes in specifications, etc.

**In rare cases, FDA may consider not objecting to an FDA-registered firm's temporary importation of a product that is not approved for distribution in the U.S.**

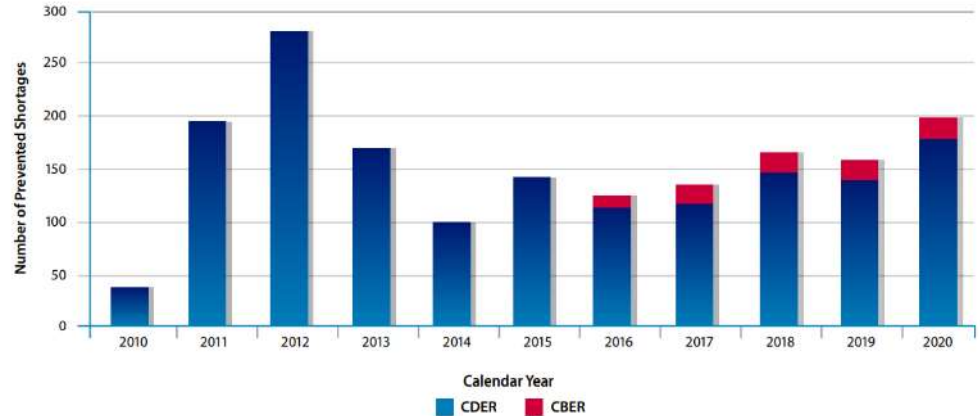
2017-2018: Dextrose 5% in Water, SWFI, Technetium injection, IV Saline Solution, Hydromorphone Injection, Potassium Chloride injection, Sodium Bicarbonate injection.

Past importation of Thiotepa led to new FDA approvals

# Impact of Early Notifications to the FDA



- Ongoing dialogue/work with industry – high numbers of prevented shortages continue
- Depending on the precipitating events, some drug shortages can endure for months to years. (E.g.: Plant remediations and agency approvals)



**Total Prevented US Drug Shortages Per Year**

# COVID-19 Pandemic: Ensuring Ongoing Supply



## FDA efforts include:

- Drug Shortage Staff early outreach to manufacturers (Jan. 2020)
- Intra- and interagency coordination (HHS, CDC, NIH, FEMA)
- Guidance posted to [Coronavirus Disease 2019 \(COVID-19\)](#)
- Emergency Use Authorizations

## Regulatory agility to assist manufacturers during a shortage:

- Expedited approvals to help increase production
- Temporary exercise of regulatory flexibility and discretion with respect to expiration dates of drugs, such as hand sanitizers
  - <https://www.fda.gov/drugs/drug-shortages/search-list-extended-use-dates-assist-drug-shortages>
- Solicitation for additional supply streams for critical products (Propofol & CRRT)
- Vecuronium and Rocuronium market stabilization through mitigation efforts (temporary packaging and communication-ISMP)

# Role of Industry to Help Prevent and Mitigate Drug Shortages



- Understand the frailties of their supply chain
- Communicate early about potential shortages
- Provide information for posting on FDA website when a shortage is unavoidable
- Provide short-term and long-term plans for preventing and addressing shortages while maintaining and improving quality
- Work with FDA to minimize shutdowns or slowdowns that may lead to shortages



# Contacts:

Current shortage information updated daily at:

<https://www.accessdata.fda.gov/scripts/drugshortages/default.cfm>

To contact DSS:

Email: [drugshortages@fda.hhs.gov](mailto:drugshortages@fda.hhs.gov)

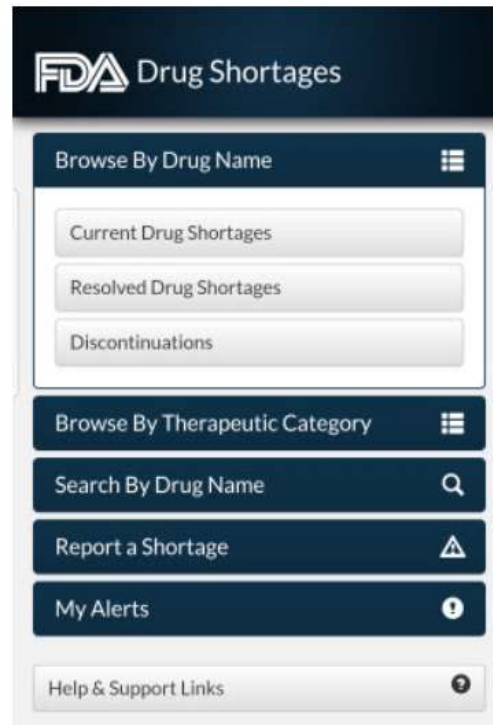
FDA Drug Shortages Homepage:

<https://www.fda.gov/Drugs/DrugSafety/DrugShortages/default.htm>

Drug Shortage Mobile APP



## FDA Drug Shortages Mobile App



Receive notifications when there is about a drug product shortage or a therapeutic categories.

[FDA Drug Shortages RSS Feed](#)