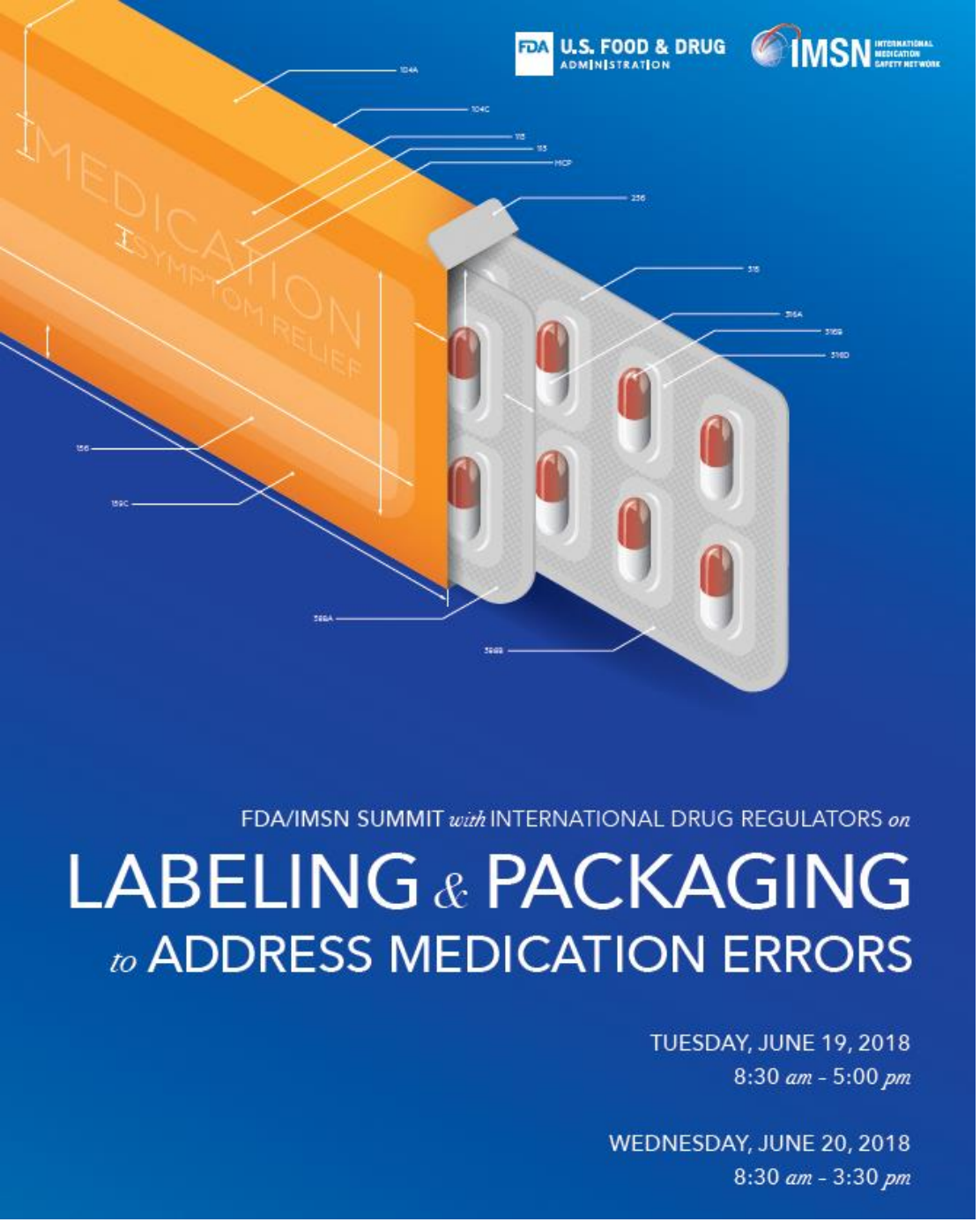


FDA U.S. FOOD & DRUG ADMINISTRATION

# Strategies for Reducing Medication Errors Related to Labeling

## IMSN Annual Meeting
## October, 2018

**Lubna Merchant, M.S., PharmD**

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# List of labeling recommendations discussed at the FDA/IMSN summit

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1. Increase the adoption of ready-to-use/ready-to-administer syringes, premixed IV solutions, unit-dose packaging, and other more efficient, safer packaging, while considering the overall cost of implementation
2. Develop product-specific world safety standards; for example, standard packaging for non-oncologic methotrexate to prevent accidental daily use and overdoses
3. Include barcodes on packages so they can be scanned at the bedside or other locations where medications are dispensed or administered by healthcare providers

# How Drugs are Stored

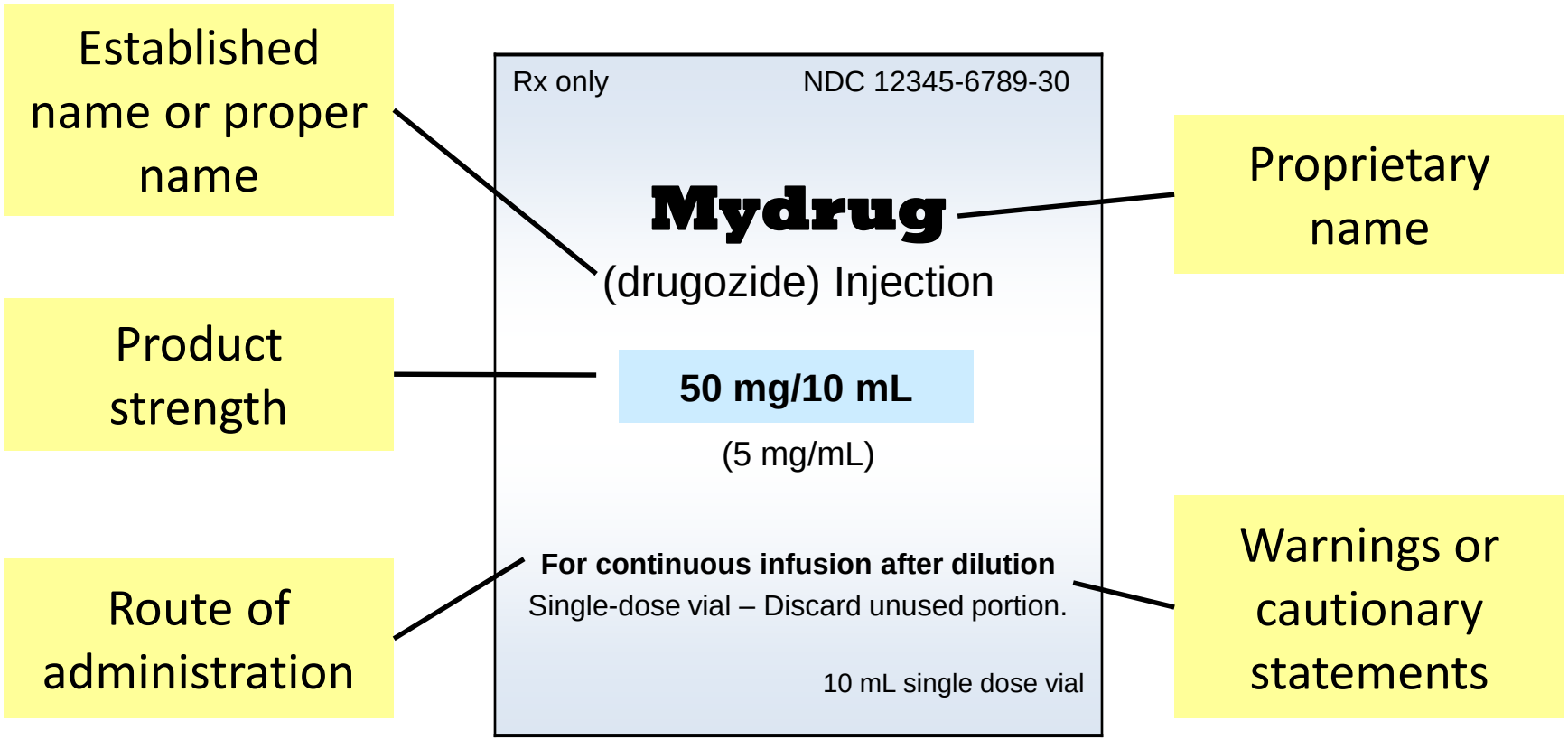
# Things to consider when designing a label

- Considering end users and environments of use during drug development can allow identification of risks that can lead to error
- Sponsors should assess and minimize the risk for medication errors due to labels and labeling
- Develop drug products using analytical methods to investigate, understand, and correct identified risks

# How we can address information Crowding and Visual Clutter on Labels

- When labels are crowded, important information may be difficult to read or easily overlooked
- Therefore, we ensure that
  - lines or blocks of text are separated by sufficient white space
  - Text is not superimposed by images or logos
  - Less important information is located on back panels, side panels, or in prescribing information
- Participants at the meeting agreed that guidelines are needed regarding the presentation of critical label information to deal with look-alike labels, noting that logos and highly stylized graphics detract from readability of the label

# How important information can be displayed on the Principal Display Panel (PDP)



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# How product strength should be presented on labels

- **Small Volume Parenteral Products**
  - USP General Chapter <7> *Labeling*

    Total quantity per total volume followed by concentration per milliliter (mL)

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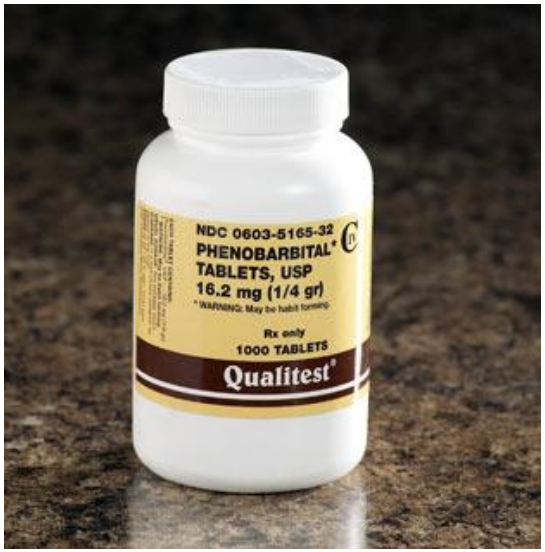
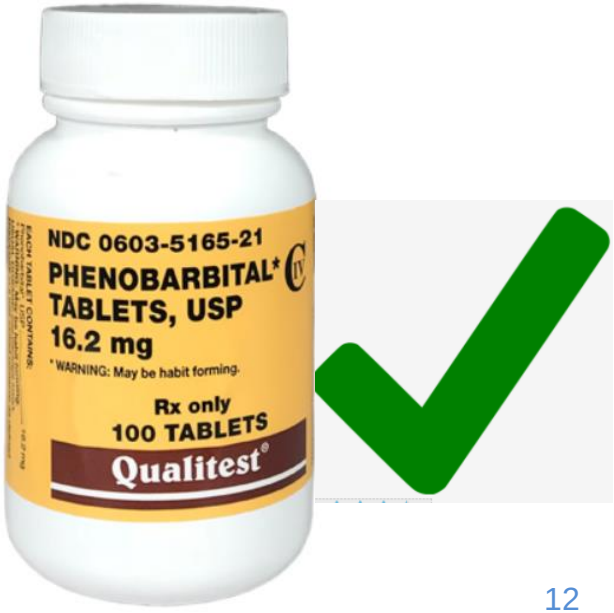
# Express product strength in metric measurements

Dose or strength expression should appear in metric units of measure such as mL, mg, and mcg




1/4 gr?



# Use consistent unit of measure across all elements of labels and labeling


*Dosing for Perioperative Hypotension*

Intravenous bolus administration:
50 mcg to 250 mcg

Inconsistent use of units

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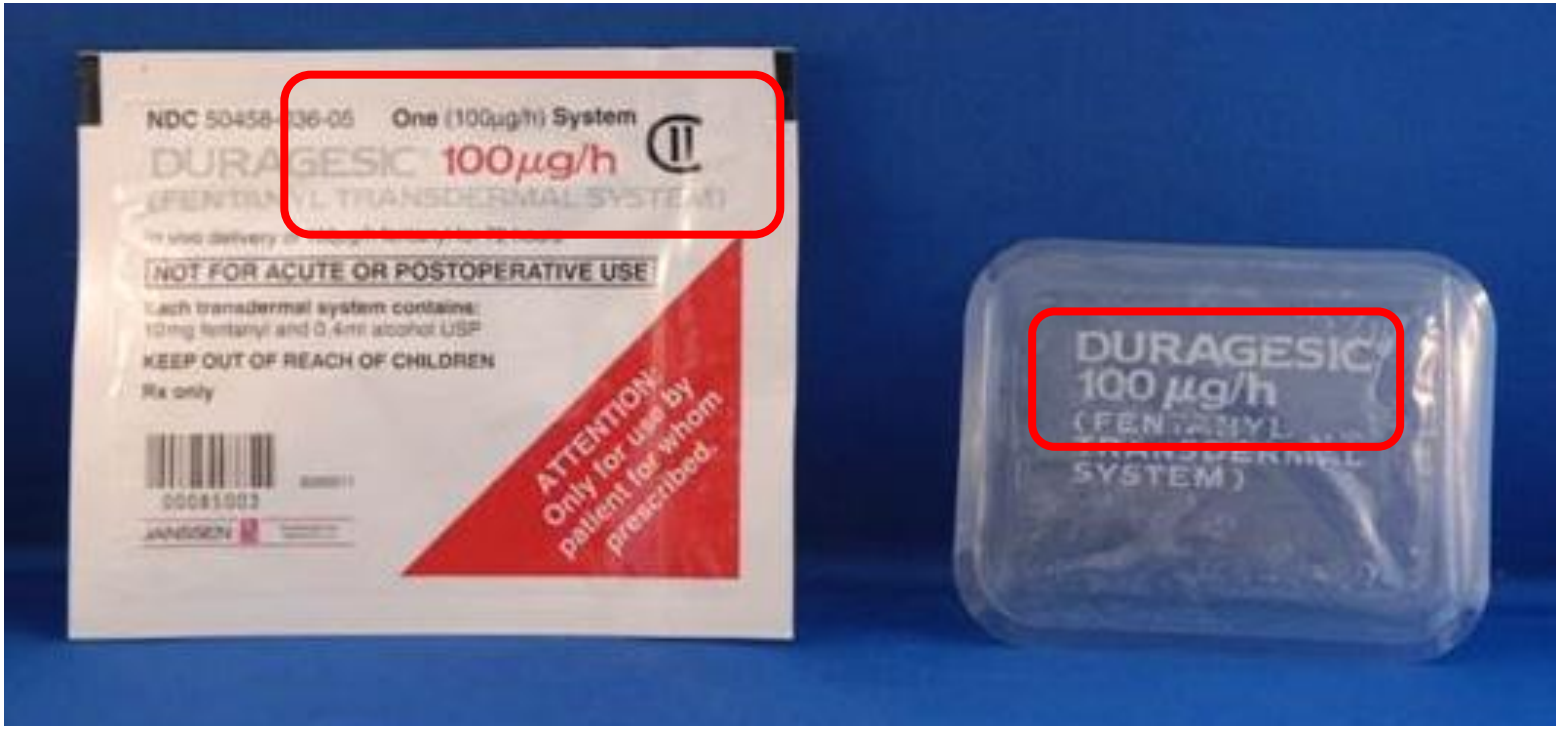
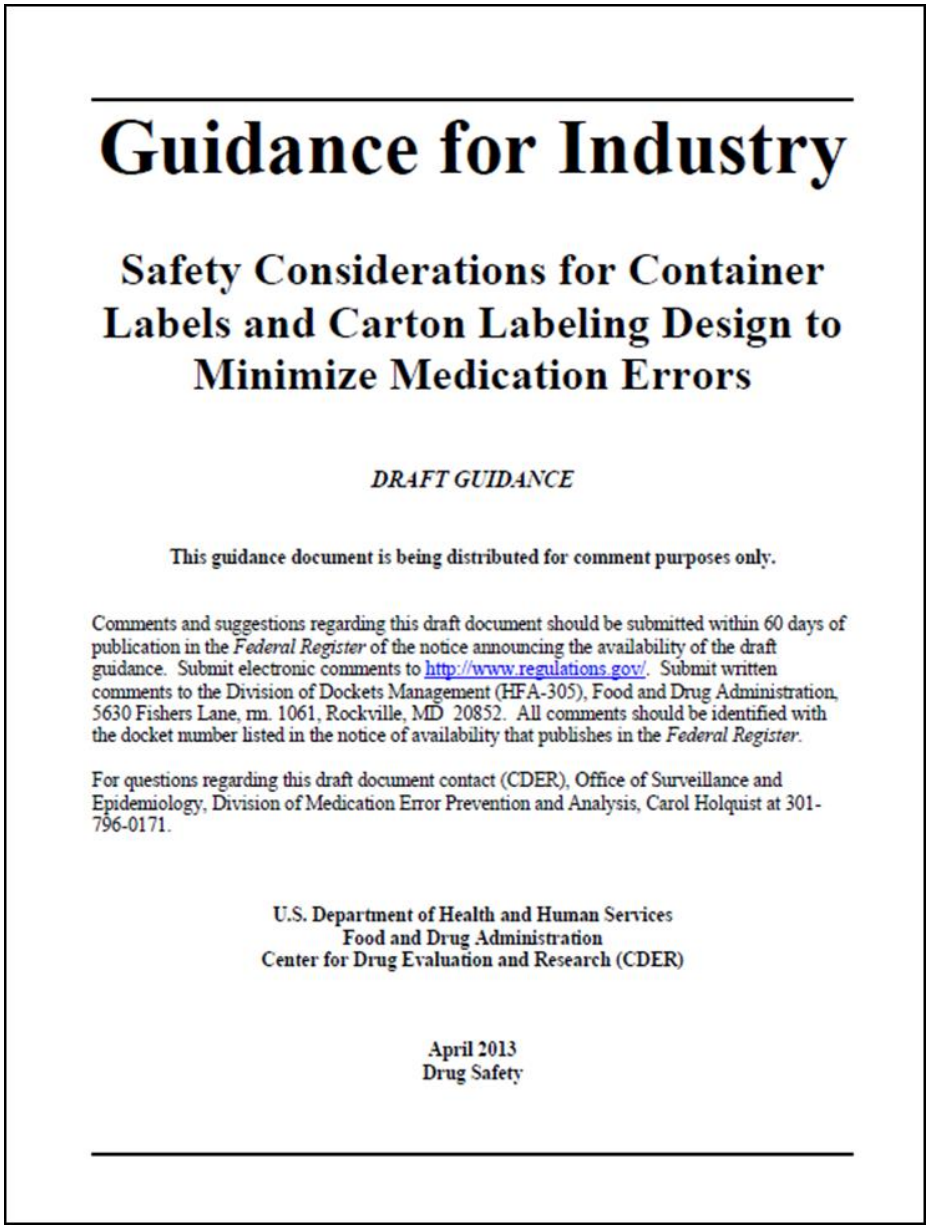
# Use of non-standardized abbreviations, symbols, and dose designations can lead to mistakes




| Abbreviations | Intended Meaning | Misinterpretation | Correction |
|---|---|---|---|
| µg | Microgram | Mistaken as "mg" | Use "mcg" |

*ISMP's List of Error-Prone Abbreviations, Symbols, and Dose Designations [Internet]. Horsham (PA): Institute for Safe Medication Practices. 2015. Available from: http://www.ismp.org/tools/errorproneabbreviations.pdf.



# Guidance for Industry

## Safety Considerations for Container Labels and Carton Labeling Design to Minimize Medication Errors

*DRAFT GUIDANCE*

**This guidance document is being distributed for comment purposes only.**

Comments and suggestions regarding this draft document should be submitted within 60 days of publication in the *Federal Register* of the notice announcing the availability of the draft guidance. Submit electronic comments to http://www.regulations.gov/. Submit written comments to the Division of Dockets Management (HFA-305), Food and Drug Administration, 5630 Fishers Lane, rm. 1061, Rockville, MD 20852. All comments should be identified with the docket number listed in the notice of availability that publishes in the *Federal Register*.

For questions regarding this draft document contact (CDER), Office of Surveillance and Epidemiology, Division of Medication Error Prevention and Analysis, Carol Holquist at 301-796-0171.

**U.S. Department of Health and Human Services**
**Food and Drug Administration**
**Center for Drug Evaluation and Research (CDER)**

**April 2013**
**Drug Safety**

FDA U.S. FOOD & DRUG ADMINISTRATION

- FDA has a draft guidance that focuses on safety aspects of the container label and carton labeling design
- Released April 2013
- Accessible online at https://www.fda.gov/downloads/drugs/guidancecomplianceregulatoryinformation/guidances/ucm349009.pdf

| FDA Guidance | EMA Guidance | HC guidance |
| --- | --- | --- |
| A product's strength or concentration is critically important information for the end user.<br><br>It should be expressed in units of measure that are congruent with those used in the dosing instructions<br><br>For small volume parenteral products, the product strength should be expressed as total quantity per total volume followed by the concentration per milliliter (mL)<br><br>The abbreviation *IU* for international unit should not be used because it has been confused for the intravenous route of administration. | ..the purpose of the strength in the name of a product is to give the most relevant information regarding the content of the product in view of its use..<br><br>The total quantity per total volume can be particularly important for safety reasons for injectable products<br><br>Where the concentration is included as the 'strength' in the name of the medicinal product, the total content per total volume must also be prominently displayed on the packaging. | Expression of strength is a key piece of information on a health product label.<br><br>Express the dose strength of a health product in an appropriate metric system unit.<br><br>To the extent possible, ensure consistency between the units expressing the product strength and the units used for dosing instructions<br><br>The total amount per total volume should be the primary expression followed by the strength per mL presented in close proximity<br><br>Use "mcg" rather than "µg" for "micrograms |

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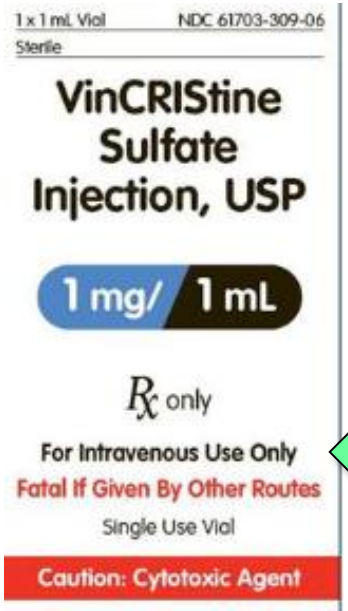
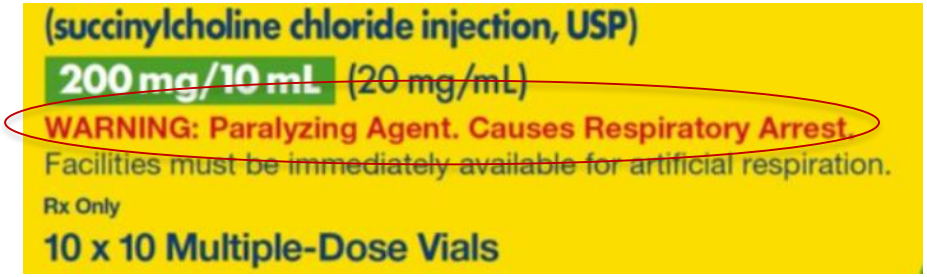
# Prominently display cautionary statements on carton and immediate container labels

- Avoid use of abbreviations
- Use positive statements instead of negative statements
  - E.g., May overlook the word “not” in **NOT FOR INTRATHECAL USE**
  - Affirmative statements help to ensure readers understand the intended route of administration, even if they do not read every word

# Prominently display cautionary statements on carton and immediate container labels

- Use affirmative statements
  - For intravenous infusion
  - Fatal if given by any other route
  - Must dilute before use


| FDA Guidance | EMA Guidance | HC guidance |
| --- | --- | --- |
| Warnings (if any) or cautionary statements (if any) should be the most prominent information on the PDP.<br><br>When warning statements are added to the container label or carton labeling, they should be written affirmatively.<br><br>Non-affirmative warning statements have been confused. For example, the warning “Not for intrathecal use” has been confused as “For intrathecal use.”<br><br>Affirmative statements such as “For Intravenous Use Only,” “Fatal if given by any other route,” or “Must Dilute Before Use” are more easily understood. | Negative statements should not be used: for example “Not for intravenous use” | A critical warning is one that must be highlighted and conveyed to every user before product administration, to facilitate correct product use and to prevent an error that may result in serious harm or death<br><br>Use statements that are as brief as possible, with words that are as explicit as possible<br><br>Use affirmative statements, such as “For Intravenous Use Only—Fatal if Given by Any Other Route.”<br><br>Use of a signal word (e.g., “WARNING” or “ALERT”) is one component of an effective warning that can help to draw attention to important information |

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# Use contrasting label backgrounds, font size and label orientation, to improve readability




| FDA Guidance | EMA Guidance | HC guidance |
| --- | --- | --- |
| Overlapping text printed on both sides of a clear, transparent, or translucent container label such as ampules may result in medication errors.<br><br>The color contrast between the text and the container label background color should be chosen to afford adequate legibility of the text.<br><br>Poor visual contrast between the container closure material and label information, or materials that have no affixed label have led to incorrect doses and wrong-drug errors | Colors should be chosen to ensure a good contrast between the text and the background to assure maximum legibility and accessibility of the information.<br><br>Contrast between the text and the background is important. Too little contrast between the text and the background adversely affects the accessibility of the information<br><br>Highly glossy, metallic or reflective packaging should be avoided, as this affects the legibility of the information | Label information must be legible to users in situations in which products will be used.<br><br>Use contrasting characteristics to help users distinguish one product from another, and to highlight important information.<br><br>To enhance legibility when using smaller type sizes, consider using a background color that is significantly different from the type color<br><br>The orientation of text should be the same as the field of view so that it is not limited by physical aspects of the small container, such as curvature. |

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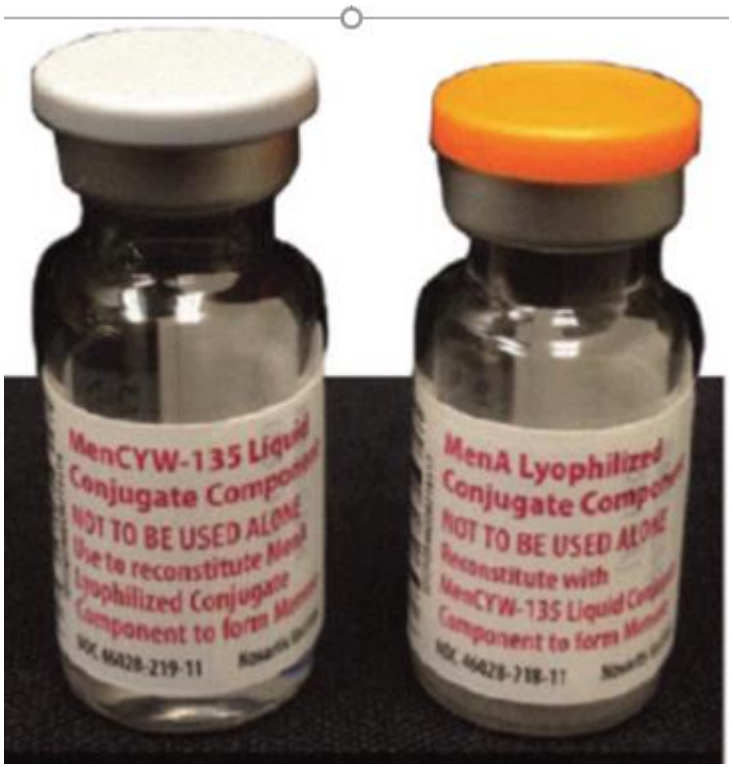


| FDA Guidance | HC guidance |
| --- | --- |
| Dry powder products packaged with a special diluent are often separated from the diluent during product storage.<br><br>This has resulted in preparation of the product with the wrong diluent or an incorrect amount of diluent. Even when not separated, the diluent has been administered instead of the drug.<br><br>When feasible, dry powder products requiring the use of special diluents should be packaged in a container closure system that allows for the drug and diluent to be physically linked or packaged in a ready-for-infusion solution. | Health products consisting of multiple items (e.g., a vaccine and its diluent) to be used together can be packaged such that all components are provided in one package; alternatively, the items may be packaged separately.<br><br>Errors can occur when the labelling or packaging does not support correct use of the separate components by the user poor visibility of one of the components (e.g., obscured or not clearly visible or accessible) in the combined package. |

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# Next steps for discussion

- What challenges or barriers exist in the development and implementation of best practices?
- What strategies have been most useful in overcoming these barriers?
- To what extent has the issuance of regulatory guidance related to best practice with labels and product design impacted the safe use of medications?
- Have regulatory requirements contributed to safety issues or tie your hands in addressing issues?
- Drug shortages-importation of foreign products-impact of global best practices
- What opportunities do you see for global implementation of best practices for labeling and what barriers exist?


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