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Considerations for Developing the INDICATIONS AND USAGE Section of Prescription Drug Labeling

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- The labeling examples in this presentation are provided only to demonstrate current labeling development challenges and should not be considered FDA recommended templates.
- Reference to any marketed products is for illustrative purposes only and does not constitute endorsement by the FDA.



Outline

- Background Basics
- The Indication
- Limitations of Use
- Examples
- Challenges
- Summary



INDICATIONS AND USAGE (I&U) Section

- Statute: Food, Drug, & Cosmetic Act (FD&C Act)
- Regulations: 21 CFR 201.57(c)(2)
- Guidance (under development):

"Indications and Usage Section of Labeling for Human Prescription Drug and Biological Products— Content and Format"



Federal Food, Drug, and Cosmetic Act

Section 502 [21 U.S.C. 352]

A drug or device **shall be deemed to be misbranded**—

(a)(1) If its labeling is false or misleading in any particular...

(f) Unless its labeling bears (1) adequate directions for use; and (2) such adequate warnings against use in those pathological conditions or by children where its use may be dangerous to health, or against unsafe dosage or methods or duration of administration or application, in such manner and form, as are necessary for the protection of users...



INDICATIONS AND USAGE Section

- 1st step in providing directions for use, but...
- Labeling should be considered in total for full conditions of use to inform individual patient use
 - (Whole) labeling provides "summary of the essential scientific information needed for the safe and effective use of the drug" ¹
 - I&U section: what / when / in whom
 - Reflects regulatory determination/FDA-approved usage
 - Other sections: how / when / why



I&U Section Also Sets Bounds for Other Sections of the PI:

 Section 1 limits what may be implied or suggested about drug use within the PI

Indications or uses must not be implied or suggested in other sections of the labeling if not included in this section. (§ 201.57(c)(2)(iv) and $(v))^1$

Exception: when there are important risks to convey

A specific warning relating to a use not provided for under the I&U section may be required by FDA in accordance with sections 201(n) and 502(a) of the FD&C Act if the drug is commonly prescribed for a disease or condition and such usage is associated with a clinically significant risk or hazard. (§ 201.57(c)(6)(i))

Features of a Good I&U Section



- Concise but clear; no ambiguity (specificity when needed)
- Allows ready identification of approved indication(s)
- Reflects scientific evidence accurately (review issue)
- Uses current terminology that is clinically relevant, scientifically valid, understandable
- Consistent within/across drug and therapeutic class, where possible
 - Aids the indexing of indications in electronic drug databases, medical information systems

Supports prescribing decisions

The Indication



Basic structure and required elements: 1

DRUG-X is indicated

- for the treatment, prevention, mitigation, cure, or diagnosis (or relief of symptoms)
- of a disease or condition (or manifestation thereof)
- in {age group, e.g., adults and pediatric patients age Y years and older}.

Include:

- Age group
- Other information necessary to describe appropriate use
 - **Descriptors identifying indicated population** (patient/disease subgroup)²
 - Adjunctive or concomitant therapy, if part of indicated use³
 - Specific tests needed for patient selection for therapy⁴

Examples of Including Descriptors –



Required Adjunctive or Concomitant Therapy and Patient/Disease Subgroup

1 INDICATIONS AND USAGE

DRUG-X is indicated in combination with an aromatase inhibitor as initial endocrine-based therapy for the treatment of postmenopausal women with hormone receptor (HR)-positive, human epidermal growth factor receptor 2 (HER2)-negative advanced or metastatic breast cancer.

1 INDICATIONS AND USAGE

DRUG-X is indicated for the treatment of carcinoid syndrome diarrhea in combination with somatostatin analog (SSA) therapy in adults inadequately controlled by SSA therapy.

Example of Including Descriptors –



Patient/Disease Subgroup; and Tests Needed for Patient Selection

1 INDICATIONS AND USAGE

1.1 Acute Myeloid Leukemia

DRUG-X is indicated for the treatment of adult patients with relapsed or refractory acute myeloid leukemia (AML) with an isocitrate dehydrogenase-2 (IDH2) mutation as detected by an FDA-approved test.

2 DOSAGE AND ADMINISTRATION

2.1 Patient Selection

Select patients for the treatment of AML with DRUG-X based on the presence of IDH2 mutations in the blood or bone marrow [see Indications and Usage (1.1) and Clinical Studies (14.1)]. Information on FDA-approved tests for the detection of IDH2 mutations in AML is available at http://www.fda.gov/CompanionDiagnostics.

The Indication



Study Data

Indication is narrower than the studied population

Study Data

Indication mirrors studied population

The indication should reflect the approved use (regulatory determination)

Indication

Indication is broader than studied population

Study Data

Supported by substantial evidence¹

Limitations of Use (LOU) -



When to Use this Heading?

- Circumstances in which drug use inadvisable; reasonable concern or uncertainty about risk-benefit profile
- Only certain non-recommended use(s). LOU generally based on (some) evidence suggesting that drug use in a population would be:
 - Unsafe; and/or
 - Ineffective

Limitations of Use:

DRUG-X is not recommended in subpopulation A or clinical setting B because of increased risk of toxicity X and/or decreased therapeutic effect in these patients.

LOU vs. Contraindication – How Do They Differ?



Limitation of	Use ((LOU)	
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- Drug use inadvisable (not recommended, but not contraindicated either)
- May derive from safety and/or efficacy concern
- Suggestive data on the subgroup often was part of planned investigations/drug development

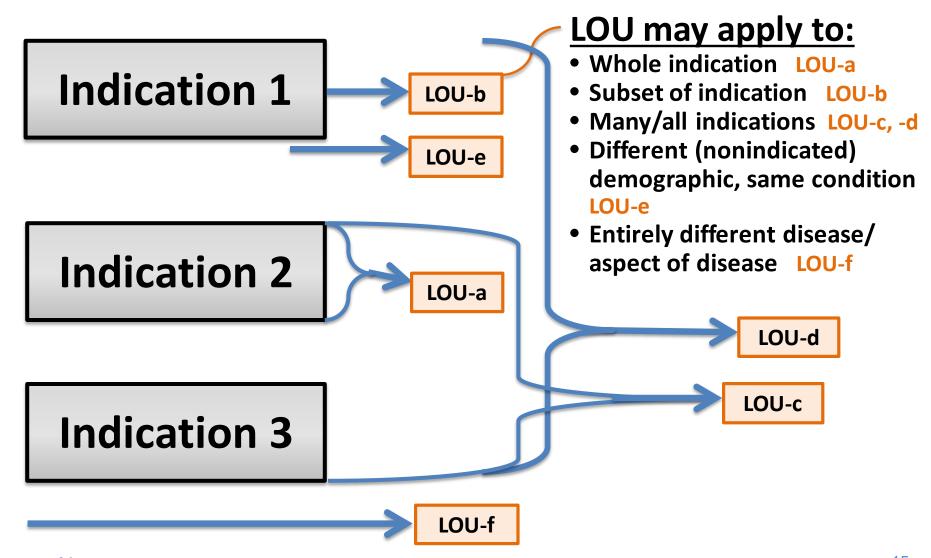
Contraindication

- Never use (risk of use clearly outweighs any possible benefit; no potential benefit makes the risk acceptable)¹
- Typically harm-based (have substantial risk of being harmed by drug)¹
- Dataset typically very small (e.g., fatal ARs² would preclude further study in a contraindicated population)

Scope of Limitations of Use (LOU)

(Drug Use Inadvisable)





Some Situations to Include LOU



- Concern about effectiveness or safety in a clinical setting
- If there is a common belief that drug may be effective for a certain use, but preponderance of evidence related to the use or condition suggests otherwise (shows drug is ineffective or that the therapeutic benefits do not generally outweigh its risks) (201.57(c)(2)(ii))
- Drugs approved without evidence of long-term benefits known to occur with related drugs in same class
- Drugs with duration or long-term use considerations



Safety concern

LOU #1 is for different demographic, same condition

1 INDICATIONS AND USAGE

DRUG-X is indicated for the treatment of hypertension in adults and pediatric patients 1 year of age and older.

Limitations of Use

DRUG-X is not indicated for the treatment of hypertension in pediatric patients less than 1 year of age because its direct activity on the renin-angiotensin system can adversely affect kidney development [see Warnings and Precautions (5.X) and Use in Specific Populations (8.4)]



Reasonable uncertainty about drug's benefit-risk LOU #2 is a subset of one indication

1 INDICATIONS AND USAGE

DRUG-X is indicated for the treatment of patients with multicentric Castleman's disease (MCD) who are human immunodeficiency virus (HIV) negative and human herpesvirus-8 (HHV-8) negative.

<u>Limitations of Use</u>

DRUG-X was not studied and is not recommended in patients with MCD who are HIV positive or HHV-8 positive because DRUG-X did not bind to virally produced IL-6 in a nonclinical study.





1 INDICATIONS AND USAGE

DRUG-X is **indicated**, in combination with gemcitabine and cisplatin, for first-line treatment of patients with metastatic squamous non-small cell lung cancer (NSCLC).

Limitations of Use

DRUG-X is **not recommended** for treatment of patients with **non-squamous NSCLC**Increased toxicity and lack of efficacy were observed in these patients receiving DRUG-X in a clinical trial [see Warnings and Precautions (5.6) and Clinical Studies (14.2)].

5.6 Non-Squamous NSCLC - Increased Toxicity and Increased Mortality

DRUG-X is not recommended in patients with non-squamous NSCLC. In a study of DRUG-X plus pemetrexed and cisplatin (PC) versus PC alone, patients treated with DRUG-X + PC experienced more serious (51% vs. 41%) and fatal toxicities (16% vs. 10%) and cardiopulmonary arrest/sudden death (3.3% vs. 1.3%) within 30 days of the last study drug compared to patients who received PC alone [see Clinical Studies (14.2)].

14.2 Non-Squamous NSCLC - Lack of Efficacy

Lack of efficacy of DRUG-X in combination with pemetrexed and cisplatin for the treatment of patients with metastatic non-squamous NSCLC was determined in one randomized, open-label, multicenter trial. The study was closed prematurely after 633 patients were enrolled due to increased incidence of death due to any cause and of thromboembolic events in the DRUG-X arm.

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Without evidence of long-term benefits of related drugs LOU #4 pertains to entire indication

1 INDICATIONS AND USAGE

DRUG-X is indicated as an adjunct to diet and maximally tolerated statin therapy for the treatment of adults with heterozygous familial hypercholesterolemia or clinical atherosclerotic cardiovascular disease (CVD), who require additional lowering of LDL cholesterol.

Limitations of Use

The effect of DRUG-X on cardiovascular morbidity and mortality has not been determined.



Duration or long-term use considerations (e.g., efficacy) LOU #5 pertains to entire indication

1 INDICATIONS AND USAGE

DRUG-X is indicated for the management of elevated plasma uric acid levels in adult patients with tumor lysis syndrome.

<u>Limitations of Use</u>

The activity of DRUG-X may be neutralized by the development of anti-drug antibodies if more than a single course of treatment is administered [see Dosage and Administration (2.X) and Warnings and Precautions (5.X)].



Duration or long-term use considerations (e.g., safety) LOU #6 pertains to entire indication

1 INDICATIONS AND USAGE

DRUG-X is indicated for the treatment of postmenopausal women with osteoporosis at high risk for fracture.....

Limitations of Use

Because of the unknown relevance of the **rodent osteosarcoma findings** to humans, **cumulative use** of DRUG-X and parathyroid hormone analogs (e.g., teriparatide) **for more than 2 years during a patient's lifetime is not recommended** [see Warnings and Precautions (5.1)].

Limitations of Use (LOU) Heading



- Not for identifying contraindications
- Not for listing all settings with absence of data
- Not a wastebasket for all possible disclaimers
- Generally not for explaining why an indication wasn't granted (e.g., regulatory standard for approval not met) if otherwise no suggested significant safety/efficacy concern
- Limitations of Use ≠ discussion of "limitations of data"
- Generally not for further defining an intended use (not a substitute for sufficient detail within the indication)
- Generally not for describing benefit differences between subgroups if overall safety/effectiveness determination (i.e., approval) applies to all of those subgroups

Consider if information better placed elsewhere

Some Non-Recommended Uses Typically **NOT Identified as LOU**



Example Scenarios	Recommended Language
 PK/PD differences in a subgroup (e.g., increased exposures in severe renal/hepatic impairment); clinical data limited 	Describe risk in other sections (e.g., sections 5, 8); state recommendation, e.g., Use of Drug-X in these subgroups
	is "not recommended"; or
 No data (e.g., ESRD ± dialysis); exposure could be higher 	 "No recommendation can be made"
 Drug interaction- significantly increased exposures but clinical implication uncertain 	Describe risk in other sections (e.g., sections 5, 7); state recommendation, e.g., "Concomitant use is "Not recommended" or "avoid"
Pediatric assessments pending	State in section 8.4:
	"Safety and effectiveness in pediatric patients have not been established"
Other diseases (or disease subtypes) or patient populations not studied	No statement (silent), in the absence of concern

LOU Exceptions – Rarer Uses



Critical Clarifications

- In rare circumstances, LOU language may help prevent misunderstanding of usage where such misunderstanding would have significant consequences
 - E.g., sufficient doubt about drug's benefit in clinical situation requiring immediate, effective treatment
- LOU should not substitute for clearly defined indication

1 INDICATIONS AND USAGE

DRUG-X is indicated for the treatment of adults with hyperkalemia.

Limitations of Use

DRUG-X should not be used as an emergency treatment for lifethreatening hyperkalemia because of its delayed onset of action [see Clinical Pharmacology (12.2)].

LOU Exceptions – Rarer Uses

FDA

Example LOU not about inadvisable use – Presents criteria for further indicated use (long-term use)

1 INDICATIONS AND USAGE

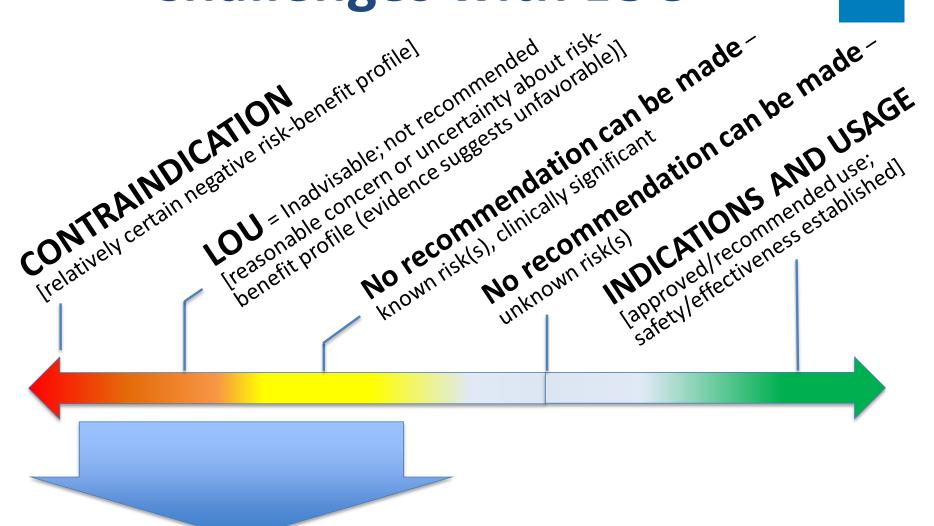
DRUG-X is indicated for the treatment of severe spasticity in adult patients with spinal cord injury, brain injury, or multiple sclerosis.

Limitations of Use

Prior to implantation of a device for chronic intrathecal infusion of DRUG-X, **confirm a positive clinical response** to DRUG-X in a screening phase [see Dosage and Administration (2.X)].

Challenges with LOU





WARNINGS AND PRECAUTIONS

(± Boxed Warning)

Challenges with LOU



- Data falls on a spectrum; clinical recommendations more distinct (review issues)
- Limited data-- How large a safety signal/concern or trend of reduced efficacy to justify recommendations? (review issues)
- LOU heading sometimes overused/underutilized
 - → Consider if information better placed under different section:
 - WARNINGS AND PRECAUTIONS
 - USE IN SPECIFIC POPULATIONS
 - CLINICAL STUDIES
- LOU (e.g., in Highlights) sometimes unclearly associated with respective indication(s) → Address with format/language

Challenges of Writing the Indication When to Elaborate?



Specificity

Generality

Exclusive (narrow)

Inclusive (broad)



Specificity vs. generality on each of the following:

- Population (demographic)
- Disease or condition
- Circumstance/clinical setting
- Description of effect/outcomes

Challenges of Writing the Indication – When to Elaborate?



Disease or condition

- Drug targets specific aspect of disease (specify which), e.g.,
 - Acute vs. chronic disease
 - Relapsing vs. primary progressive multiple sclerosis
 - Sleep onset vs. sleep maintenance (for insomnia)
- Disease criteria are unclear/varied/poorly understood and there is concern about inappropriate therapy (not commonly encountered; consider defining, if appropriate)

Challenges of Writing the Indication – When to Elaborate?



Population (demographic)

- When evidence cannot be generalized to broader population (use necessary descriptors to identify indicated population)
 - Populations with different risk-benefit considerations

Circumstance/clinical setting

- When drug should be reserved for specific situations due to safety¹ and/or efficacy considerations (specify circumstances), e.g.,
 - Refractory to standard therapies
 - Intolerant to, or inappropriate for, other earlier-line therapy
- **Drug as adjuvant or concomitant therapy** (in combination regimen or in conjunction w/other treatment modalities)

Challenges of Writing the Indication – When to Elaborate?



Description of effect/outcomes

- Endpoint is a specific major outcome
 - e.g., cardiovascular death, myocardial infarction, stroke
- Effect on only some component(s) of composite primary endpoint (specify component(s) which had effect)
- Endpoints not standardized (describe specific benefit)
 - e.g., heart failure
- Different drugs have different effects on disease manifestations
- Drug effect on disease not well understood

Example – When to Elaborate



Drug Use Should Be Reserved for Specific Situation/Population

1 INDICATIONS AND USAGE

DRUG-X is indicated for the treatment of adult patients with relapsing forms of multiple sclerosis (MS). Because of its safety profile, the use of DRUG-X should generally be reserved for patients who have had an inadequate response to two or more drugs indicated for the treatment of MS.

Example¹ – Disease Definition in I&U Section? FDA



1 INDICATIONS AND USAGE

DRUG-X is indicated for the treatment of premenopausal women with acquired, generalized hypoactive sexual desire disorder (HSDD), as characterized by low sexual desire that causes marked distress or interpersonal difficulty and is **NOT** due to:

- A co-existing medical or psychiatric condition,
- Problems within the relationship, or
- The effects of a medication or other drug substance.

Acquired HSDD refers to HSDD that develops in a patient who previously had no problems with sexual desire. Generalized HSDD refers to HSDD that occurs regardless of the type of stimulation, situation or partner.

Example — Composite Endpoint Components Sometimes But Not Always Named in Indication



1 INDICATIONS AND USAGE

1.1 Reduction of Risk of Stroke and Systemic Embolism in Nonvalvular Atrial Fibrillation

DRUG-X is indicated to reduce the risk of stroke and systemic embolism in patients with nonvalvular atrial fibrillation.

1.2 Prophylaxis of Deep Vein Thrombosis Following Hip or Knee Replacement Surgery

DRUG-X is indicated for the prophylaxis of deep vein thrombosis (DVT), which may lead to pulmonary embolism (PE), in patients who have undergone hip or knee replacement surgery.

Primary endpoints in studies supporting indications 1.1 and 1.2 in above example were:

- 1.1 = composite of stroke and systemic embolism
- 1.2 = composite of total venous thromboembolism (asymptomatic and symptomatic DVT, nonfatal PE) and all-cause death

Challenges of Writing the Indication When NOT to Elaborate



- Indication is intentionally broadened based on generalizability of the evidence
- Disease entity is straightforward (most cases)
 - Use high-level terms
- Drug has broad effect on the disease manifestations and endpoints are well-established/recognized
 - Consider if appropriate to state more generally:
 DRUG-X is indicated for the treatment of Disease A (without details of how benefit was measured)
- In most cases, do not include details of studies that describe the basis of approval → goes in CLINICAL STUDIES section¹

Example – Not Defining Disease in I&U (Enrollment Criteria in CLINICAL STUDIES Section)



1 INDICATIONS AND USAGE

DRUG-X is indicated for the treatment of amyotrophic lateral sclerosis (ALS).

14 CLINICAL STUDIES

The efficacy of DRUG-X for the treatment of ALS was established in a 6-month, randomized, placebo-controlled, double-blind study conducted in Japanese patients with ALS who were living independently and met the following criteria at screening:

- 1. Functionality retained most activities of daily living (defined as scores of 2 points or better on each individual item of the ALS Functional Rating Scale Revised [ALSFRS-R; described below])
- 2. Normal respiratory function (defined as percent-predicted forced vital capacity values of [%FVC] ≥ 80%)
- 3. Definite or Probable ALS based on El Escorial revised criteria

4. Disease duration of 2 years or less



I&U Section – Other Challenges

Location of "Disclaimers" or Qualifying Statements

- Distinguish between consequences of
 - Including qualifier/disclaimer within indication statement
 - Stating qualifier/disclaimer <u>separately as an LOU</u> or <u>under CONTRAINDICATIONS section</u>
 - Placing disclaimer with data description in CLINICAL STUDIES section
- Best location depends upon the clinical recommendation for use

Example — Disclaimers or Qualifying Statements (Data Disclaimer Not Influencing Usage Recommendation)

1 INDICATIONS AND USAGE

DRUG-X, a combination of drugozide-1 and drugozide-2, is indicated for the treatment of hyperuricemia associated with gout in patients who have not achieved target serum uric acid levels with a medically appropriate daily dose of drugozide-2 alone [see Clinical Studies (14)].

14 CLINICAL STUDIES

Phase 3 clinical trials have not been conducted with DRUG-X.

Drugozide-1 in combination with drugozide-2 has been studied, and effectiveness demonstrated, in hyperuricemic gout patients who have not achieved target serum uric acid levels with drugozide-2 alone.....

Example — Disclaimers or Qualifying Statements



(Information Important for Usage Considerations)

1 INDICATIONS AND USAGE

DRUG-X, a combination of drugozide-1, drugozide-2, and drugozide-3, is indicated for the treatment of adult patients with chronic hepatitis C virus (HCV) infection without cirrhosis or with compensated cirrhosis (Child-Pugh A) who have:

- genotype 1, 2, 3, 4, 5, or 6 infection and have previously been treated with an HCV regimen containing an NS5A inhibitor.
- genotype 1a or 3 infection and have previously been treated with an HCV regimen containing drugozide-1 without an NS5A inhibitor.

Additional benefit of DRUG-X over 2-drug combination therapy (drugozide-1/drugozide-2) was not shown in adults with genotype 1b, 2, 4, 5, or 6 infection previously treated with drugozide-1 without an NS5A inhibitor [see Clinical Studies (14.2)].

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Updating I&U Section Post-Market



In accordance with §§314.70 and 601.12 ... the labeling must be updated when new information becomes available that causes the labeling to become inaccurate, false, or misleading [§ 201.56(a)(2)]

- Ensure I&U reflects current science/understanding
- Consider updating I&U when there is change in current practices for writing indication, e.g.,
 - More information becomes available on drug/drug class or disease/condition

Endpoints become better established

Summary



- INDICATIONS AND USAGE section reflects the FDAapproved usage of a drug, including any limitations of use
- Indications are uses determined to be safe and effective and for which the regulatory standard of "substantial evidence of effectiveness" was met
- When developing the indication, weigh the merits of specificity against generality (use descriptors/ qualifiers as appropriate)
- Ensure that the I&U language is both clear and scientifically/clinically appropriate to support prescribing decisions





Extra Slides (I&U Section Format and Other Considerations)

Indications Statement Format & Other Considerations



- Multiple indications-- 2 format options:
 - Subsection for each indication (1.1 Disease-A, 1.2 Disease-B)
 - Bullets:

DRUG-X is indicated for:

- Treatment of.....
- Treatment of.....
- Omit extraneous information to preserve focus on I&U
 - Omit: dosage form(s), strength(s), route(s) of administration, product quality descriptors (e.g., "USP"), FDA established pharmacologic class (except where required in Highlights), clinical trial and nonclinical study data
 - Omit: statements that describe regulatory basis for FDA-approval (except accelerated approval statement)
- Cross-reference use is for referencing additional detail.....

Not a substitute for developing the I&U section

(Include all I&U required elements within I&U section)

Considerations in Special Situations



Accelerated approval

"...if the indication is approved based on a surrogate endpoint under §314.510 or §601.41 of this chapter, a succinct description of the limitations of usefulness of the drug and any uncertainty about anticipated clinical benefits, with reference to the "Clinical Studies" section for a discussion of the available evidence" (§201.57(c)(2)(i)(B))

→ incorporated into indication statement

Systemic antibacterial drug products

Labeling must include a specific statement in the I&U section about strategies for reducing the development of drug-resistant bacteria and maintaining the effectiveness of the subject drug and other antibacterial drugs (21 CFR 201.24(b))

→ included within I&U section

Single enantiomer of a previously approved racemic drug

Labeling for certain products containing a single enantiomer of a previously approved racemic drug must include a statement that the non-racemic product is not approved, and has not been shown to be safe and effective, for any condition of use of the previously approved racemic drug (FD&C Act, Section 505(u)(2)(B))

presented as an LOU

LOU— Format & Other Considerations



- Present LOU separately from the main indication(s), under either:
 - Heading (e.g., <u>Limitations of Use</u>); OR
 - Subsection title (e.g., 1.X Limitations of Use)
- Keep the heading/title standardized ("Limitations of Use"), regardless of how many LOU are identified
 - Avoid creating variations such as: Limitation of Use; Important Limitations, etc.
- Begin LOU content on next line beneath heading (not trailing after, or sharing, the same line as LOU heading)
 i.e., not "<u>Limitations of Use:</u> DRUG-X is not indicated for..."
- Keep LOU concise
 - Identify the safety/efficacy concern
 - Cross-reference to greater detail elsewhere (e.g., WARNINGS AND PRECAUTIONS; CLINICAL STUDIES sections)

LOU Format Example (LOU as a heading)



1 INDICATIONS AND USAGE

1.1 Indication-A

DRUG-X is indicated for the treatment of adults with indication-A who have received at least two prior systemic therapies [see Clinical Studies (14.1)].

<u>Limitations of Use</u>

Because of the risk of serious toxicity, DRUG-X is not recommend as first-line therapy in patients with indication-A [see Warnings and Precautions (5.1)].

1.2 Indication-B

DRUG-X is indicated for the treatment of adults with indication-B who have received at least three prior systemic therapies [see Clinical Studies (14.2)].

<u>Limitations of Use</u>

Because of the risk of serious toxicity, DRUG-X is not recommend as first-line therapy in patients with indication-B [see Warnings and Precautions (5.1)].



LOU Format Example (LOU as a subsection)

1 INDICATIONS AND USAGE

1.1 Indication-A

DRUG-X is indicated for the treatment of adults with indication-A who have received at least two prior systemic therapies [see Clinical Studies (14.1)].

1.2 Indication-B

DRUG-X is indicated for the treatment of adults with indication-B who have received at least three prior systemic therapies [see Clinical Studies (14.2)].

1.3 Limitations of Use

Because of the risk of serious toxicity, DRUG-X is not recommend as first-line therapy in patients with indication-A or with indication-B [see Warnings and Precautions (5.1)].