CENTER FOR DRUG EVALUATION AND RESEARCH

APPLICATION NUMBER:

761362Orig1s000

PROPRIETARY NAME REVIEW(S)

SUFFIX REVIEW FOR NONPROPRIETARY NAME

Division of Medication Error Prevention and Analysis 1 (DMEPA 1)

Office of Medication Error Prevention and Risk Management (OMEPRM)

Office of Surveillance and Epidemiology (OSE)

Center for Drug Evaluation and Research (CDER)

***** This document contains proprietary information that cannot be released to the public*****

Date of This Review:	10/2/2023
Responsible OND Division:	select Division
Application Type and Number:	BLA 761362
Product Name and Strength:	Jubbonti (denosumab-bbdz) injection, 60 mg/mL Wyost (denosumab-bbdz) injection, 120 mg/1.7 mL (70 mg/mL)
Product Type:	Combination Product (Biologic-Device)
Applicant/Sponsor Name:	Sandoz Inc. (Sandoz)
FDA Received Date:	December 5, 2022
Nexus NPNS ID #:	2022-145
DMAMES Biologics Suffix Specialist:	Carlos M Mena-Grillasca, BS Pharm
DMEPA 1 Director:	Mishale Mistry, PharmD, MPH

1 PURPOSE OF REVIEW

This review summarizes our evaluation of the four-letter suffixes proposed by Sandoz for inclusion in the nonproprietary name and communicates our recommendation for the nonproprietary name for BLA 761362.

We note that the applicant is following the dual proprietary naming convention of the Reference Product (Xgeva/Prolia) and proposing different proprietary names for the oncology and bone indications. Therefore, the nonproprietary name suffix designation will be applicable to both proprietary names.

2 ASSESSMENT OF THE NONPROPRIETARY NAME

On December 5, 2022, Sandoz submitted a list of 10 suffixes, in their order of preference, to be used in the nonproprietary name of their product. Sandoz also provided findings from an external study conducted by the (b) (4), evaluating the proposed four-letter suffixes in conjunction with the nonproprietary name, for our consideration. Table 1 presents a list of suffixes submitted by Sandoz:

Table 1. Suffixes submitted by Sandoz***

1.	bbdz
2.	(b) (4)
3.	
4.	
5.	
6.	
7.	

[a] Proposed Suffixes for Prolia Biosimilar. (b) (4); 2022 Dec 05. Available from: \\CDSESUB1\EVSPROD\bla761362\0001\m1\us\118-proprietary-names\proposed-suffixes-prolia-biosimilar.pdf

[b] Proposed Suffixes for Xgeva Biosimilar. (b) (4); 2022 Dec 05. Available from: \\CDSESUB1\EVSPROD\bla761362\0001\m1\us\118-proprietary-names\proposed-suffixes-xgeva-biosimilar.pdf

8.	(b) (4)
9.	
10.	

We reviewed Sandoz's proposed suffixes in the order of preference listed by Sandoz, along with the supporting data they submitted, using the principles described in the applicable guidance.[a]

2.1 denosumab-bbdz

Sandoz's first proposed suffix, -bbdz, is comprised of three distinct letters (b, d, z).

We determined that the proposed suffix -bbdz, is not too similar to any other products' suffix designation, does not look similar to the names of other currently marketed products, that the suffix is devoid of meaning, does not include any abbreviations that could be misinterpreted, and does not make any misrepresentations with respect to safety or efficacy of this product.

3 COMMUNICATION OF DMEPA 1 ANALYSIS

These findings were shared with OPDP. On September 7, 2023, OPDP did not identify any concerns that would render this proposed suffix unacceptable. DMEPA 1 also communicated our findings to the select Division on September 10, 2023.

4 CONCLUSION

We find Sandoz's proposed suffix -bbdz acceptable and recommend the nonproprietary name be revised throughout the draft labels and labeling to denosumab-bbdz. DMEPA 1 will communicate our findings to the Applicant via letter.

4.1 Recommendations for Sandoz Inc.

We find the nonproprietary name, denosumab-bbdz, conditionally acceptable for your proposed product. Should your 351(k) BLA be approved during this review cycle, denosumab-bbdz will be the proper name designated in the license. You should revise your proposed labels and labeling accordingly and submit the revised labels and labeling to your BLA for our review. However, please

[a] Guidance for Industry: Nonproprietary Naming of Biological Products. 2017. Available from: http://www.fda.gov/downloads/Drugs/GuidanceComplianceRegulatoryInformation/Guidances/UCM459987.pdf

be advised that if your application receives a complete response, the acceptability of your proposed suffix will be re-evaluated when you respond to the deficiencies. If we find your suffix unacceptable upon our re-evaluation, we will inform you of our findings.

This is a representation of an electronic record that was signed electronically. Following this are manifestations of any and all electronic signatures for this electronic record.

/s/

CARLOS M MENA-GRILLASCA
10/02/2023 04:54:04 PM

MISHALE P MISTRY
10/02/2023 10:16:11 PM

PROPRIETARY NAME REVIEW

Division of Medication Error Prevention and Analysis 1 (DMEPA 1)
Office of Medication Error Prevention and Risk Management (OMEPRM)
Office of Surveillance and Epidemiology (OSE)
Center for Drug Evaluation and Research (CDER)

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Date of This Review:	February 27, 2023
Application Type and Number:	IND 135707 and BLA 761362
Product Name and Strength:	Jubbonti (denosumab-xxxx) [a] injection, 60 mg/mL
Product Type:	Combination Product (Biologic-Device)
Rx or OTC:	Prescription (Rx)
Applicant/Sponsor Name:	Sandoz Inc. (Sandoz)
PNR ID #:	2022-1044724336 (IND 135707) and 2022-1044724869 (BLA 761362)
DMEPA 1 Safety Evaluator:	Peggy Rahbani, PharmD, BCPS
DMEPA 1 Acting Team Leader:	Madhuri R. Patel, PharmD
DMEPA 1 Director:	Mishale Mistry, PharmD, MPH

[a] Since the nonproprietary name for this BLA has not yet been determined, the nonproprietary name placeholder, denosumab-xxxx, is used throughout this review.

Contents

1 INTRODUCTION

This review evaluates the proposed proprietary name, Jubbonti, from a safety and misbranding perspective. The sources and methods used to evaluate the proposed proprietary name are outlined in the reference section and Appendix A, respectively. Sandoz Inc. (Sandoz) submitted an external name study, conducted by [redacted] (b) (4) for this proposed proprietary name.

1.1 PRODUCT INFORMATION

Jubbonti (denosumab-xxxx) is a proposed biosimilar to US-licensed Reference Listed Drug: Prolia (denosumab) BLA 125320. The following product information is provided in the proprietary name submission received on December 14, 2021 (IND 135707) and December 5, 2022 (BLA 761362):

- Intended Pronunciation: joo bon' tee
- Active Ingredient: denosumab-xxxx
- Indication of Use:
    - Treatment of postmenopausal women with osteoporosis at high risk for fracture
    - Treatment to increase bone mass in men with osteoporosis at high risk for fracture
    - Treatment of glucocorticoid-induced osteoporosis in men and women at high risk for fracture
    - Treatment to increase bone mass in men at high risk for fracture receiving androgen deprivation therapy for nonmetastatic prostate cancer
    - Treatment to increase bone mass in women at high risk for fracture receiving adjuvant aromatase inhibitor therapy for breast cancer
- Route of Administration: Subcutaneous
- Dosage Form: injection
- Strength: 60 mg/mL
- Dose and Frequency: 60 mg subcutaneous injection once every 6 months
- How Supplied: single-dose prefilled syringe, 1 syringe per carton
- Storage: Store in a refrigerator at 2°C to 8°C (36°F to 46°F) in the original carton. Do not freeze. Prior to administration, Jubbonti may be allowed to reach room temperature (up to 25°C/77°F) in the original container. Once removed from the refrigerator, Jubbonti must not be exposed to temperatures above 25°C (77°F) and must be used within 30 days. If not used within the 30 days, it should be discarded. Protect from light.
- Reference Listed Drug/Reference Product: Prolia (denosumab) BLA 125320

2 RESULTS

The following sections provide information obtained and considered in the overall evaluation of the proposed proprietary name, Jubbonti.

2.1 MISBRANDING ASSESSMENT

The Office of Prescription Drug Promotion (OPDP) determined that Jubbonti would not misbrand the proposed product. The Division of Medication Error Prevention and Analysis 1 (DMEPA 1) concurred with the findings of OPDP's assessment for Jubbonti. The Division of General Endocrinology (DGE) concurred with the findings of OPDP's assessment for Jubbonti.

2.2 SAFETY ASSESSMENT

The following aspects were considered in the safety evaluation of the proposed proprietary name, Jubbonti.

2.2.1 United States Adopted Names (USAN) Search

There is no USAN stem present in the proposed proprietary name[b].

2.2.2 Components of the Proposed Proprietary Name

Sandoz Inc. (Sandoz) did not provide a derivation or intended meaning for the proposed proprietary name, Jubbonti, in their submission. This proprietary name is comprised of a single word that does not contain any components (i.e., a modifier, route of administration, dosage form, etc.) that can contribute to medication error.

2.2.3 Comments from Other Review Disciplines at Initial Review

On December 16, 2022, the Division of General Endocrinology (DGE) did not forward any comments or concerns relating to Jubbonti at the initial phase of the review

2.2.4 FDA Name Simulation Studies

Ninety-six (n=96) practitioners participated in DMEPA's prescription studies #1 for Jubbonti conducted January 10, 2022 under IND 135707 and 66 practitioners participated in DMEPA's prescription study, conducted on February 3, 2023 under BLA761362 [c]. The responses did not overlap with any currently marketed products nor did the responses sound or look similar to any currently marketed products or any products in the pipeline.

Appendix B contains the results from the prescription simulation studies.

2.2.5 Phonetic and Orthographic Computer Analysis (POCA) Search Results

Our POCA search[d] identified 45 names with a combined phonetic and orthographic score of ≥55% or an individual phonetic or orthographic score ≥70%. These names are included in Table 1 below.

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[b] USAN stem search conducted on January 30, 2023.

[c] A second Simulation Study was conducted for the BLA submission.

[d] POCA search conducted on January 30, 2023 in version 5.2.

2.2.6 Names Retrieved for Review Organized by Name Pair Similarity

Table 1 lists the number of names retrieved from our POCA search, FDA Prescription Simulation Study, and (b) (4) external study. These name pairs are organized as highly similar, moderately similar or low similarity for further evaluation.

Table 1. Names Retrieved for Review Organized by Name Pair Similarity	
Similarity Category	**Number of Names**
Highly similar name pair: combined match percentage score ≥70%	1
Moderately similar name pair: combined match percentage score ≥55% to ≤ 69%	41
Low similarity name pair: combined match percentage score ≤54%	4

2.2.7 Safety Analysis of Names with Potential Orthographic, Spelling, and Phonetic Similarities

Our analysis of the 46 names contained in Table 1 determined none of the names will pose a risk for confusion with Jubbonti as described in Appendices C through H.

2.2.8 Discussion of Dual Proprietary Name

Sandoz Inc. intends to market denosumab under two different proprietary names: Wyost*** (IND 135707 and BLA 761362) and Jubbonti (IND 135707 and BLA 761362).

Table 2 compares the two proposed proprietary names and their respective product characteristics.

Table 2. Relevant Product Information for Wyost* and Jubbonti**		
Product Name	**Wyost*** **	**Jubbonti**
Initial Approval Date	N/A	N/A
Intended Pronunciation	wye' ost	joo bon' tee
Nonproprietary Name	denosumab-xxxx	
Indication	Prevention of skeletal-related events in patients with multiple myeloma and in patients with bone metastases from solid tumors. Treatment of adults and skeletally mature adolescents with giant cell tumor of bone that is unresectable or where	Treatment of postmenopausal women with osteoporosis at high risk for fracture. Treatment to increase bone mass in men with osteoporosis at high risk for fracture. Treatment of glucocorticoid-induced osteoporosis in men and women at high risk for fracture.

Table 2. Relevant Product Information for Wyost*** and Jubbonti		
Product Name	**Wyost*** **	**Jubbonti**
	surgical resection is likely to result in severe morbidity. Treatment of hypercalcemia of malignancy refractory to bisphosphonate therapy.	Treatment to increase bone mass in men at high risk for fracture receiving androgen deprivation therapy for nonmetastatic prostate cancer. Treatment to increase bone mass in women at high risk for fracture receiving adjuvant aromatase inhibitor therapy for breast cancer.
Route of Administration	subcutaneous	
Dosage Form	injection	
Strength	120 mg/1.7 mL (70 mg/mL)	60 mg/mL
Dose and Frequency	For multiple myeloma and bone metastasis from solid tumors: 120 mg every 4 weeks. For giant cell tumor of bone and hypercalcemia of malignancy: Administer 120 mg every 4 weeks with additional 120 mg doses on Days 8 and 15 of the first month of therapy.	60 mg subcutaneous injection once every 6 months
How Supplied	120 mg/1.7 mL single-dose vial, 1 vial per carton	Single-dose prefilled syringe, 1 syringe per carton

Although both products contain the same active ingredients, they have different indications of use, strengths, doses/frequency of administration, and are supplied in different presentations (see Table 2). We note that the Applicant did not provide a discussion of the proposal to use a dual proprietary name for this product nor did the external name study include such a discussion.

We evaluated the risks associated with this naming strategy and note that there is a potential for concomitant therapy since postmarketing experience with other drug products has shown concomitant therapy to be a common type of error when an active ingredient is marketed under two or more names [e] . However, given these products will have different indications, doses, and strengths, managing them under separate names may decrease the likelihood of confusion.

[e] The Institute for Safe Medication Practices. "Revatio=Sildenafil=Viagra". January 2009

Therefore, we do not object to the use of a dual proprietary name in this case. Any residual risk may be managed through labels and labeling mitigations.

2.2.9 Communication of DMEPA's Determination

On February 27, 2023, DMEPA 1 communicated our determination to the Division of General Endocrinology (DGE).

3 CONCLUSION

The proposed proprietary name, Jubbonti, is acceptable.

If you have any questions or need clarifications, please contact Deveonne Hamilton-Stokes, OSE project manager, at 301-796-2253.

3.1 COMMENTS TO SANDOZ INC. (SANDOZ)

We have completed our review of the proposed proprietary name, Jubbonti, and have concluded that this name is acceptable.

REFERENCES

1. USAN Stems (https://www.ama-assn.org/about/united-states-adopted-names-approved-stems)

USAN Stems List contains all the recognized USAN stems.

2. Phonetic and Orthographic Computer Analysis (POCA)

POCA is a system that FDA designed. As part of the name similarity assessment, POCA is used to evaluate proposed names via a phonetic and orthographic algorithm. The proposed proprietary name is converted into its phonemic representation before it runs through the phonetic algorithm. Likewise, an orthographic algorithm exists that operates in a similar fashion. POCA is publicly accessible.

Drugs@FDA

Drugs@FDA is an FDA Web site that contains most of the drug products approved in the United States since 1939. The majority of labels, approval letters, reviews, and other information are available for drug products approved from 1998 to the present. Drugs@FDA contains official information about FDA-approved *brand name* and *generic drugs*; *therapeutic biological products*, *prescription* and *over-the-counter* human drugs; and *discontinued drugs* (see Drugs @ FDA Glossary of Terms, available at http://www.fda.gov/Drugs/InformationOnDrugs/ucm079436.htm#ther_biological).

RxNorm

RxNorm contains the names of prescription and many OTC drugs available in the United States. RxNorm includes generic and branded:

- Clinical drugs – pharmaceutical products given to (or taken by) a patient with therapeutic or diagnostic intent
- Drug packs – packs that contain multiple drugs, or drugs designed to be administered in a specified sequence

Radiopharmaceuticals, contrast media, food, dietary supplements, and medical devices, such as bandages and crutches, are all out of scope for RxNorm (http://www.nlm.nih.gov/research/umls/rxnorm/overview.html).

Division of Medication Errors Prevention and Analysis proprietary name consultation requests

This is a list of proposed and pending names that is generated by the Division of Medication Error Prevention and Analysis from the Access database/tracking system.

APPENDICES

Appendix A

FDA's Proprietary Name Risk Assessment evaluates proposed proprietary names for misbranding and safety concerns.

1. **Misbranding Assessment**: For prescription drug products, OPDP assesses the name for misbranding concerns. For over-the-counter (OTC) drug products, the misbranding assessment of the proposed name is conducted by DNDP. OPDP or DNDP evaluates proposed proprietary names to determine if the name is false or misleading, such as by making misrepresentations with respect to safety or efficacy. For example, a fanciful proprietary name may misbrand a product by suggesting that it has some unique

effectiveness or composition when it does not (21 CFR 201.10(c)(3)). OPDP or DNDP provides their opinion to DMEPA for consideration in the overall acceptability of the proposed proprietary name.

2. **Safety Assessment**: The safety assessment is conducted by DMEPA, and includes the following:

a. Preliminary Assessment: We consider inclusion of USAN stems or other characteristics that when incorporated into a proprietary name may cause or contribute to medication errors (i.e., dosing interval, dosage form/route of administration, medical or product name abbreviations, names that include or suggest the composition of the drug product, etc.) See prescreening checklist below in Table 2*. DMEPA defines a medication error as any preventable event that may cause or lead to inappropriate medication use or patient harm while the medication is in the control of the health care professional, patient, or consumer. [f]

***Table 2- Prescreening Checklist for Proposed Proprietary Name**

	Answer the questions in the checklist below. Affirmative answers to any of these questions indicate a potential area of concern that should be carefully evaluated as described in this guidance.
Y/N	**Is the proposed name obviously similar in spelling and pronunciation to other names?**
	Proprietary names should not be similar in spelling or pronunciation to proprietary names, established names, or ingredients of other products.

[f] National Coordinating Council for Medication Error Reporting and Prevention. https://www.nccmerp.org/about-medication-errors Last accessed 10/05/2020.

Y/N	**Are there inert or inactive ingredients referenced in the proprietary name?**
	Proprietary names should not incorporate any reference to an inert or inactive ingredient in a way that might create an impression that the ingredient's value is greater than its true functional role in the formulation (21 CFR 201.10(c)(4)).
Y/N	**Does the proprietary name include combinations of active ingredients?**
	Proprietary names of fixed combination drug products should not include or suggest the name of one or more, but not all, of its active ingredients (see 21 CFR 201.6(b)).
Y/N	**Is there a United States Adopted Name (USAN) stem in the proprietary name?**
	Proprietary names should not incorporate a USAN stem in the position that USAN designates for the stem.
Y/N	**Is this proprietary name used for another product that does not share at least one common active ingredient?**
	Drug products that do not contain at least one common active ingredient should not use the same (root) proprietary name.
Y/N	**Is this a proprietary name of a discontinued product?**
	Proprietary names should not use the proprietary name of a discontinued product if that discontinued drug product does not contain the same active ingredients.

b. Phonetic and Orthographic Computer Analysis (POCA): Following the preliminary screening of the proposed proprietary name, DMEPA staff evaluates the proposed name against potentially similar names. In order to identify names with potential similarity to the proposed proprietary name, DMEPA enters the proposed proprietary name in POCA and queries the name against the following drug reference databases, Drugs@FDA, Cerner RxNorm, and names in the review pipeline using a 55% threshold in POCA. DMEPA reviews the combined orthographic and phonetic matches and group the names into one of the following three categories:

- Highly similar pair: combined match percentage score ≥70%.
- Moderately similar pair: combined match percentage score ≥55% to ≤ 69%.
- Low similarity: combined match percentage score ≤54%.

Using the criteria outlined in the check list (Table 3-5) that corresponds to each of the three categories (highly similar pair, moderately similar pair, and low similarity), DMEPA evaluates the name pairs to determine the acceptability or non-acceptability of a proposed proprietary name. The intent of these checklists is to increase the transparency and predictability of the safety determination of whether a proposed name is vulnerable to confusion from a look-alike or sound-alike perspective. Each bullet below corresponds to the name similarity category cross-references the respective table that addresses criteria that DMEPA uses to determine whether a name presents a safety concern from a look-alike or sound-alike perspective.

- For highly similar names, differences in product characteristics often cannot mitigate the risk of a medication error, including product differences such as strength and dose. Thus, proposed proprietary names that have a combined score of ≥ 70 percent are at risk for a look-alike sound-alike confusion which is an area of concern (See Table 3).
- Moderately similar names are further evaluated to identify the presence of attributes that are known to cause name confusion.
    - Name attributes: We note that the beginning of the drug name plays a significant role in contributing to confusion. Additionally, drug name pairs that start with the same first letter and contain a shared letter string of at least 3 letters in both names are major contributing factor in the confusion of drug names[g]. We evaluate all moderately similar names retrieved from POCA to identify the above attributes. These names are further evaluated to identify overlapping or similar strengths or doses.
    - Product attributes: Moderately similar names of products that have overlapping or similar strengths or doses represent an area for concern for FDA. The dose and strength information is often located in close proximity to the drug name itself on prescriptions and medication orders, and the information can be an important factor that either increases or decreases the potential for confusion between similarly named drug pairs. The ability of other product characteristics to mitigate confusion (e.g., route, frequency, dosage form) may be limited when the strength or dose overlaps. DMEPA reviews such names further, to determine whether sufficient differences exist to prevent confusion. (See Table 4).

- Names with low similarity that have no overlap or similarity in strength and dose are generally acceptable (See Table 5) unless there are data to suggest that the name might be vulnerable to confusion (e.g., prescription simulation study suggests that the name is likely to be misinterpreted as a marketed product). In these instances, we would reassign a low similarity name to the moderate similarity category and review according to the moderately similar name pair checklist.

c. FDA Prescription Simulation Studies: DMEPA staff also conducts a prescription simulation studies using FDA health care professionals.

   Four separate studies are conducted within the Centers of the FDA for the proposed proprietary name to determine the degree of confusion of the proposed proprietary name with marketed U.S. drug names (proprietary and established) due to similarity in visual appearance with handwritten prescriptions, verbal pronunciation of the drug name or during computerized provider order entry. The studies employ healthcare professionals

[g] Shah, M, Merchant, L, Characteristics That May Help in the Identification of Potentially Confusing Proprietary Drug Names. Therapeutic Innovation & Regulatory Science, September 2016

(pharmacists, physicians, and nurses), and attempts to simulate the prescription ordering process. The primary Safety Evaluator uses the results to identify vulnerability of the proposed name to be misinterpreted by healthcare practitioners during written, verbal, or electronic prescribing.

In order to evaluate the potential for misinterpretation of the proposed proprietary name during written, verbal, or electronic prescribing of the name, written inpatient medication orders, written outpatient prescriptions, verbal orders, and electronic orders are simulated, each consisting of a combination of marketed and unapproved drug products, including the proposed name.

d. Comments from Other Review Disciplines: DMEPA requests the Office of New Drugs (OND) and/or Office of Generic Drugs (OGD), ONDQA or OBP for their comments or concerns with the proposed proprietary name, ask for any clinical issues that may impact the DMEPA review during the initial phase of the name review. Additionally, when applicable, at the same time DMEPA requests concurrence/non-concurrence with OPDP's decision on the name. The primary Safety Evaluator addresses any comments or concerns in the safety evaluator's assessment.

   The OND/OGD Regulatory Division is contacted a second time following our analysis of the proposed proprietary name. At this point, DMEPA conveys their decision to accept or reject the name.

   Additionally, other review disciplines opinions such as ONDQA or OBP may be considered depending on the proposed proprietary name.

   When provided, DMEPA considers external proprietary name studies conducted by or for the Applicant/Sponsor and incorporates the findings of these studies into the overall risk assessment.

The DMEPA primary reviewer assigned to evaluate the proposed proprietary name is responsible for considering the collective findings, and provides an overall risk assessment of the proposed proprietary name.

Table 3. Highly Similar Name Pair Checklist (i.e., combined Orthographic and Phonetic score is ≥ 70%).

Answer the questions in the checklist below. Affirmative answers to some of these questions suggest that the pattern of orthographic or phonetic differences in the names may render the names less likely to confusion, provided that the pair does not share a common strength or dose.	
Orthographic Checklist	Phonetic Checklist

Y/N	Do the names begin with different first letters? *Note that even when names begin with different first letters, certain letters may be confused with each other when scripted.*	**Y/N**	Do the names have different number of syllables?
Y/N	Are the lengths of the names dissimilar* when scripted? **FDA considers the length of names different if the names differ by two or more letters.*	**Y/N**	Do the names have different syllabic stresses?
Y/N	Considering variations in scripting of some letters (such as *z* and *f*), is there a different number or placement of upstroke/downstroke letters present in the names?	**Y/N**	Do the syllables have different phonologic processes, such vowel reduction, assimilation, or deletion?
Y/N	Is there different number or placement of cross-stroke or dotted letters present in the names?	**Y/N**	Across a range of dialects, are the names consistently pronounced differently?
Y/N	Do the infixes of the name appear dissimilar when scripted?		
Y/N	Do the suffixes of the names appear dissimilar when scripted?		

Table 4: Moderately Similar Name Pair Checklist (i.e., combined score is ≥55% to ≤69%).

Step 1	Review the DOSAGE AND ADMINISTRATION and HOW SUPPLIED/STORAGE AND HANDLING sections of the prescribing information (or for OTC drugs refer to the Drug Facts label) to determine if strengths and doses of the name pair overlap or are very similar. Different strengths and doses for products whose names are moderately similar may decrease the risk of confusion between the moderately similar name pairs. Name pairs that have overlapping or similar strengths or doses have a higher potential for confusion and should be evaluated further (see Step 2). Because the strength or dose could be used to express an order or prescription for a particular drug product, overlap in one or both of these components would be reason for further evaluation. For single strength products, also consider circumstances where the strength may not be expressed. For any i.e., drug products comprised of more than one active ingredient, consider whether the strength or dose may be expressed using only one of the components. To determine whether the strengths or doses are similar to your proposed product, consider the following list of factors that may increase confusion: • Alternative expressions of dose: 5 mL may be listed in the prescribing information, but the dose may be expressed in metric weight (e.g., 500 mg) or in non-metric units (e.g., 1 tsp, 1 tablet/capsule). Similarly, a strength or dose of 1000 mg may be expressed, in practice, as 1 g, or vice versa. • Trailing or deleting zeros: 10 mg is similar in appearance to 100 mg which may potentiate confusion between a name pair with moderate similarity. • Similar sounding doses: 15 mg is similar in sound to 50 mg
Step 2	Answer the questions in the checklist below. Affirmative answers to some of these questions suggest that the pattern of orthographic or phonetic differences in the names may reduce the likelihood of confusion for moderately similar names **with** overlapping or similar strengths or doses.

	Orthographic Checklist (Y/N to each question) • Do the names begin with different first letters? Note that even when names begin with different first letters, certain letters may be confused with each other when scripted. • Are the lengths of the names dissimilar* when scripted? *FDA considers the length of names different if the names differ by two or more letters. • Considering variations in scripting of some letters (such as *z* and *f*), is there a different number or placement of upstroke/downstroke letters present in the names? • Is there different number or placement of cross-stroke or dotted letters present in the names? • Do the infixes of the name appear dissimilar when scripted? • Do the suffixes of the names appear dissimilar when scripted?	Phonetic Checklist (Y/N to each question) • Do the names have different number of syllables? • Do the names have different syllabic stresses? • Do the syllables have different phonologic processes, such vowel reduction, assimilation, or deletion? • Across a range of dialects, are the names consistently pronounced differently?

Table 5: Low Similarity Name Pair Checklist (i.e., combined score is ≤54%).

Names with low similarity are generally acceptable unless there are data to suggest that the name might be vulnerable to confusion (e.g., prescription simulation study suggests that the name is likely to be misinterpreted as a marketed product). In these instances, we would reassign a low similarity name to the moderate similarity category and review according to the moderately similar name pair checklist.

http://www.fda.gov/Drugs/GuidanceComplianceRegulatoryInformation/Surveillance/AdverseDrugEffects/default.htm.

Appendix B: Prescription Simulation Samples and Results

Figure 1. Jubbonti Study (Conducted on January 10, 2022)

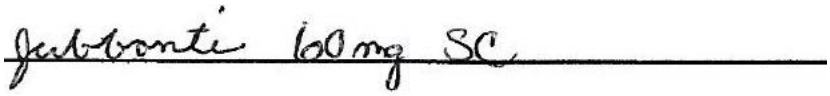
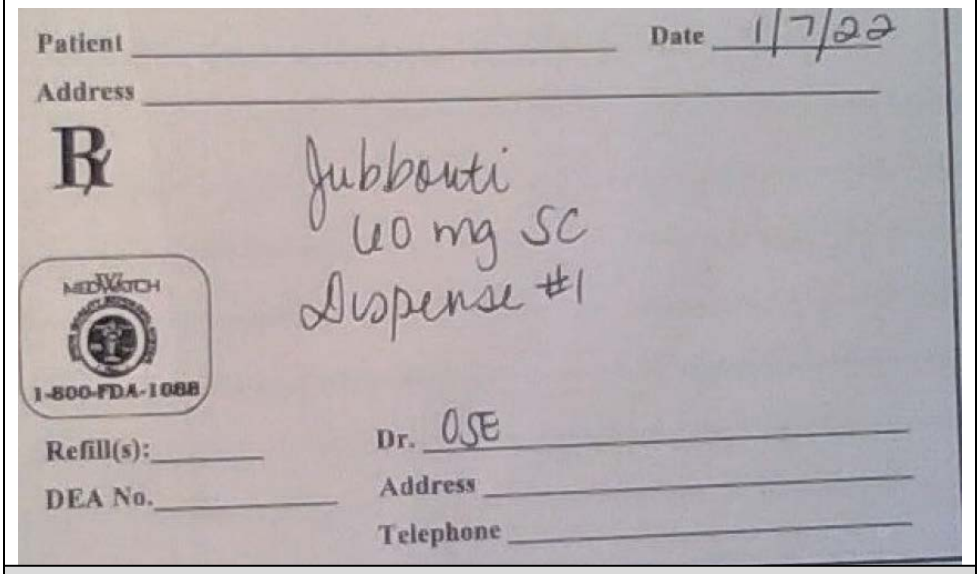
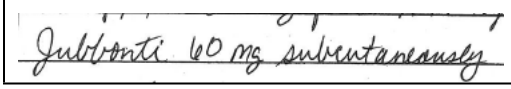
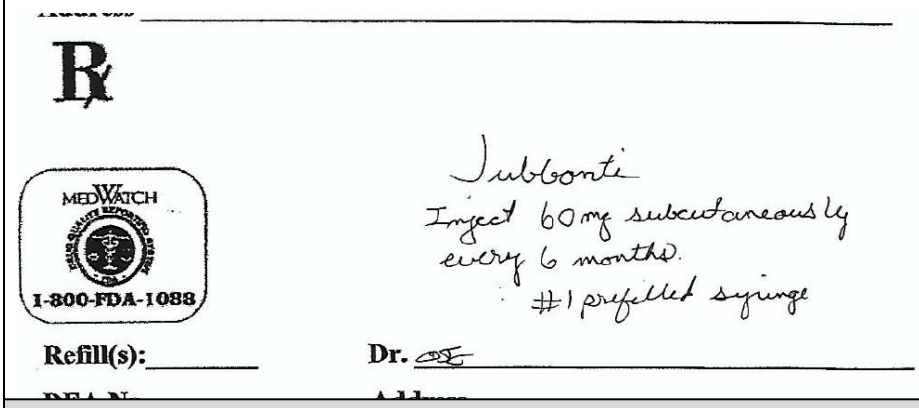
Medication Order:  	Jubbonti 60 mg subcutaneously # 1
Outpatient Prescription:  	
CPOE Study Sample (displayed as sans-serif, 12-point, bold font)	
Jubbonti	

Figure 2. Jubbonti Study (Conducted on February 3, 2023)

Handwritten Medication Order/Prescription	**Verbal Prescription**
Medication Order:  	Jubbonti 60 mg

Outpatient Prescription:  Rx MEDWATCH 1-800-FDA-1088 Jubbonti Inject 60 mg subcutaneously every 6 months. #1 prefilled syringe Refill(s): _____ Dr. _____ **CPOE Study Sample (displayed as sans-serif, 12-point, bold font)** **Jubbonti**	subcutaneously every 6 months # 1 prefilled syringe

FDA Prescription Simulation Responses (Aggregate Report)

B.1 Rx Study IND 135707 (January 10, 2022) FDA Prescription Simulation Responses (Aggregate 1 Rx Studies Report)

262 People Received Study

96 People Responded

Study Name: Jubbonti

Total	23	32	20	21	
INTERPRETATION	**INPATIENT**	**CPOE**	**VOICE**	**OUTPATIENT**	**TOTAL**
DUBANTI	0	0	1	0	1
DUPONTY	0	0	1	0	1
JABBONTI	2	0	0	0	2
JUBANTEE	0	0	1	0	1
JUBANTI	0	0	8	0	8
JUBANTY	0	0	1	0	1
JUBBONTI	20	32	0	1	53
JUBBOUTI	0	0	0	18	18
JUBBOUTI INJECTION	0	0	0	1	1

JUBBTONTI	0	0	0	1	1
JUBONTI	0	0	5	0	5
JUBONTY	0	0	2	0	2
JULBRONTI	1	0	0	0	1
UBONTY	0	0	1	0	1

B.2 Rx Study BLA 761362 (February 3, 2023) FDA Prescription Simulation Responses (Aggregate 1 Rx Studies Report)

Study Name: Jubbonti

As of Date 2/7/2023

258 People Received Study

66 People Responded

Study Name: Jubbonti

Total	18	13	17	18	
INTERPRETATION	**INPATIENT**	**CPOE**	**VOICE**	**OUTPATIENT**	**TOTAL**
DJUBONTI	0	0	1	0	1
DUBANTI	0	0	1	0	1
DUBONTE	0	0	1	0	1
DUBONTI	0	0	2	0	2
JUBAMTI	0	0	1	0	1
JUBANTI	0	0	3	0	3
JUBANTI INJECTION	0	0	1	0	1
JUBANTY	0	0	2	0	2
JUBBONTI	15	13	0	18	46
JUBLONTI	1	0	0	0	1
JUBONTEE	0	0	1	0	1
JUBONTI	0	0	2	0	2

JUBONTY	0	0	1	0	1
JULBONTI	1	0	0	0	1
JULBRONTI	1	0	0	0	1
JUVANTI	0	0	1	0	1

APPEARS THIS WAY ON ORIGINAL

Appendix C: Highly Similar Names (e.g., combined POCA score is ≥70%)

No.	**Proposed name:** Jubbonti **Established name:** denosumab-xxxx **Dosage form:** injection **Strength(s):** 60 mg/mL **Usual Dose:** 60 mg subcutaneous injection once every 6 months	**POCA Score (%)**	**Orthographic and/or phonetic differences in the names sufficient to prevent confusion** **Other prevention of failure mode expected to minimize the risk of confusion between these two names.**
1.	Jubbonti	100	Name subject of this review.

Appendix D: Moderately Similar Names (e.g., combined POCA score is ≥55% to ≤69%) with no overlap or numerical similarity in Strength and/or Dose

No.	Name	POCA Score (%)
1.	Movantik	59
2.	Zarontin	58

Appendix E: Moderately Similar Names (e.g., combined POCA score is ≥55% to ≤69%) with overlap or numerical similarity in Strength and/or Dose

No.	**Proposed name:** Jubbonti **Established name:** denosumab-xxxx **Dosage form:** injection **Strength(s):** 60 mg/mL **Usual Dose:** 60 mg subcutaneous injection once every 6 months	**POCA Score (%)**	**Prevention of Failure Mode** **In the conditions outlined below, the following combination of factors, are expected to minimize the risk of confusion between these two names**
1.	Neurontin	64	This name pair has sufficient orthographic and phonetic differences.
2.	Dibent	62	This name pair has sufficient orthographic and phonetic differences.
3.	Surmontil	62	This name pair has sufficient orthographic and phonetic differences.
4.	Bontril	60	This name pair has sufficient orthographic and phonetic differences
5.	(b) (4)***	60	This name pair has sufficient orthographic and phonetic differences.
6.	Omlonti	60	This name pair has sufficient orthographic and phonetic differences.
7.	(b) (4)***	59	This name pair has sufficient orthographic and phonetic differences.
8.	(b) (4)***	59	This name pair has sufficient orthographic and phonetic differences.

No.	**Proposed name:** Jubbonti **Established name:** denosumab-xxxx **Dosage form:** injection **Strength(s):** 60 mg/mL **Usual Dose:** 60 mg subcutaneous injection once every 6 months	POCA Score (%)	**Prevention of Failure Mode** **In the conditions outlined below, the following combination of factors, are expected to minimize the risk of confusion between these two names**
9.	Cogentin	57	This name pair has sufficient orthographic and phonetic differences.
10.	(b) (4) ***	56	This name pair has sufficient orthographic and phonetic differences.
11.	Celontin	56	This name pair has sufficient orthographic and phonetic differences.
12.	Cinvanti	56	This name pair has sufficient orthographic and phonetic differences.
13.	Kanjinti	56	This name pair has sufficient orthographic and phonetic differences.
14.	Zynlonta	55	This name pair has sufficient orthographic and phonetic differences.

Appendix F: Low Similarity Names (e.g., combined POCA score is ≤54%)

No.	Name	POCA Score (%)
1.	(b) (4) ***	54
2.	Utibron	53
3.	Biotin	52
4.	Jublia	48

Appendix G: Names not likely to be confused or not used in usual practice settings for the reasons described**.**

No.	Name	POCA Score (%)	Failure preventions
1.	Quibron-T	67	Product is deactivated with no generic equivalents available. ANDA 088656 withdrawn FR effective 06/18/2009.
2.	Bronitin	60	Brand discontinued with no generic equivalents available. NDA 016126 withdrawn FR effective 06/18/2009.

No.	Name	POCA Score (%)	Failure preventions
3.	(b) (4) ***	61	(b) (4)
4.	Timentin	58	Brand discontinued with no generic equivalents available. NDA 050590 and ANDA 062691 withdrawn FR effective 07/21/2017.
5.	Milontin	56	Brand discontinued with no generic equivalents available. NDA 008855 withdrawn FR effective 09/04/1996.
6.	Lomont	55	International product formerly marketed in the United Kingdom
7.	(b) (4) ***	56	Proposed proprietary name for BLA 761148 found unacceptable by DMEPA (OSE# 2020-35315339-1 dated 11/15/2021). BLA 761148 approved under the proprietary name Rolvedon on March 11, 2022.
8.	(b) (4) ***	53	Proposed proprietary name withdrawn by the Applicant. NDA 209483 approved under the proprietary name, Impoyz.

Appendix H: Names not likely to be confused due to absence of attributes that are known to cause name confusion[h].

No.	Name	POCA Score (%)
1.	Bosentan	59
2.	Binosto	58
3.	Dibunate	58
4.	Betoptic	56
5.	(b) (4) ***	56
6.	Bonsity	56
7.	Cibinqo	56
8.	D-Biotin	56

[h] Shah, M, Merchant, L, Chan, I, and Taylor, K. Characteristics That May Help in the Identification of Potentially Confusing Proprietary Drug Names. Therapeutic Innovation & Regulatory Science, September 2016

No.	Name	POCA Score (%)
9.	Deponit	56
10.	Gimoti	56
11.	Ibumetin	56
12.	Quibron T-Sr	56
13.	Quibron-T/Sr	56
14.	Biloptin	55
15.	Duoplant	55
16.	Febantel	55
17.	Vonvendi	55

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/s/

MADHURI R PATEL
03/03/2023 05:24:52 PM

MISHALE P MISTRY
03/03/2023 06:18:37 PM

PROPRIETARY NAME REVIEW

Division of Medication Error Prevention and Analysis 1 (DMEPA 1)
Office of Medication Error Prevention and Risk Management (OMEPRM)
Office of Surveillance and Epidemiology (OSE)
Center for Drug Evaluation and Research (CDER)

***** This document contains proprietary information that cannot be released to the public*****

Date of This Review:	March 1, 2023
Application Type and Number:	IND 135707 and BLA 761362
Product Name and Strength:	Wyost (denosumab-xxxx)[a] Injection, 120 mg/1.7 mL (70 mg/mL)
Product Type:	Combination Product (Biologic-Device)
Rx or OTC:	Prescription (Rx)
Applicant/Sponsor Name:	Sandoz Inc. (Sandoz)
PNR ID #:	2022-1044724374 (IND 135707) and 2022-1044724883 (BLA 761362)
DMEPA 1 Safety Evaluator:	Peggy Rahbani, PharmD, BCPS
DMEPA 1 Acting Team Leader:	Madhuri R. Patel, PharmD
DMEPA 1 Director:	Mishale Mistry, PharmD, MPH

[a] Since the nonproprietary name for this BLA has not yet been determined, the nonproprietary name placeholder, denosumab-xxxx, is used throughout this review.

Contents

1 INTRODUCTION

This review evaluates the proposed proprietary name, Wyost, from a safety and misbranding perspective. The sources and methods used to evaluate the proposed proprietary name are outlined in the reference section and Appendix A, respectively. Sandoz Inc. (Sandoz) submitted an external name study, conducted by [redacted] (b) (4) for this proposed proprietary name.

1.1 PRODUCT INFORMATION

Wyost (denosumab-xxxx) is a proposed biosimilar to US-licensed Reference Listed Drug, Xgeva (denosumab) BLA 125320. The following product information is provided in the proprietary name submission received on January 4, 2022 (IND 135707) and December 5, 2022 (BLA 761362).

- Intended Pronunciation: wye' ost
- Active Ingredient: denosumab-xxxx
- Indication of Use:
    - Prevention of skeletal-related events in patients with multiple myeloma and in patients with bone metastases from solid tumors.
    - Treatment of adults and skeletally mature adolescents with giant cell tumor of bone that is unresectable or where surgical resection is likely to result in severe morbidity.
    - Treatment of hypercalcemia of malignancy refractory to bisphosphonate therapy.
- Route of Administration: subcutaneous
- Dosage Form: Injection
- Strength: 120 mg/1.7 mL (70 mg/mL)
- Dose and Frequency:
    - For multiple myeloma and bone metastasis from solid tumors: 120 mg every 4 weeks.
    - For giant cell tumor of bone and hypercalcemia of malignancy: 120 mg every 4 weeks with additional 120 mg doses on Days 8 and 15 of the first month of therapy.
- How Supplied: 120 mg/1.7 mL single-dose vial, 1 vial per carton
- Storage: Store in a refrigerator at 2°C to 8°C (36°F to 46°F) in the original carton. Do not freeze. Once removed from the refrigerator, must not be exposed to temperatures above 25°C/77°F or direct light and must be used within 30 days. Discard WYOST if not used within the 30 days.
- Reference Listed Drug/Reference Product: Xgeva (denosumab) BLA 125320

2 RESULTS

The following sections provide information obtained and considered in the overall evaluation of the proposed proprietary name, Wyost.

2.1 MISBRANDING ASSESSMENT

The Office of Prescription Drug Promotion (OPDP) determined that Wyost would not misbrand the proposed product. The Division of Medication Error Prevention and Analysis 1 (DMEPA 1) and the Division of General Endocrinology (DGE) concurred with the findings of OPDP's assessment for Wyost.

2.2 SAFETY ASSESSMENT

The following aspects were considered in the safety evaluation of the proposed proprietary name Wyost.

2.2.1 United States Adopted Names (USAN) Search

There is no USAN stem present in the proposed proprietary name[b].

2.2.2 Components of the Proposed Proprietary Name

Sandoz Inc. (Sandoz) did not provide a derivation or intended meaning for the proposed name, Wyost in their submission. The proposed name is comprised of a single word that contains the letters 'os', which is the abbreviation for left ear route of administration. Although we typically discourage the inclusion of medical abbreviations in proprietary names, we determined that the location of this abbreviation in the middle of the name, and the lack of prominence of this abbreviation makes it unlikely that the letters 'os' within the proposed proprietary name, Wyost, could lead to confusion in this case.

2.2.3 Comments from Other Review Disciplines at Initial Review

On December 22, 2022, the Division of General Endocrinology (DGE) did not forward any comments or concerns relating to Wyost at the initial phase of the review.

2.2.4 FDA Name Simulation Studies

One hundred and seven (n=107) practitioners participated in DMEPA's prescription study for Wyost conducted January 14, 2022, under IND 135707 and seventy-nine (n=79) practitioners participated in DMEPA's prescription study, conducted on January 31, 2023, under BLA 761362. The responses did not overlap with any currently marketed products, nor did the responses sound or look similar to any currently marketed products or any products in the pipeline. Appendix B contains the results from the prescription simulation studies.

[b] USAN stem search conducted on January 23, 2023.

2.2.5 Phonetic and Orthographic Computer Analysis (POCA) Search Results

Our POCA search[c] identified nine names with a combined phonetic and orthographic score of ≥55% or an individual phonetic or orthographic score ≥70%. These names are included in Table 1 below.

2.2.6 Names Retrieved for Review Organized by Name Pair Similarity

Table 1 lists the number of names retrieved from our POCA search, FDA Prescription Simulation Study, and (b) (4). external study. These name pairs are organized as highly similar, moderately similar or low similarity for further evaluation.

Table 1. Names Retrieved for Review Organized by Name Pair Similarity

Similarity Category	Number of Names
Highly similar name pair: combined match percentage score ≥70%	1
Moderately similar name pair: combined match percentage score ≥55% to ≤ 69%	8
Low similarity name pair: combined match percentage score ≤54%	1

2.2.7 Safety Analysis of Names with Potential Orthographic, Spelling, and Phonetic Similarities

Our analysis of the 10 names contained in Table 1 determined none of the names will pose a risk for confusion with as described in Appendices C through H.

2.2.8 Discussion of Dual Proprietary Name

Sandoz Inc. intends to market denosumab under two different proprietary names: Wyost (IND 135707 and BLA 761362) and Jubbonti*** (IND 135707 and BLA 761362).

Table 2 compares the two proposed proprietary names and their respective product characteristics.

Table 2. Relevant Product Information for Wyost and Jubbonti*

Product Name	**Wyost**	**Jubbonti*** **
Initial Approval Date	N/A	N/A
Intended Pronunciation	wye' ost	joo bon' tee
Nonproprietary Name	denosumab-xxxx	

[c] POCA search conducted on January 23, 2023 in version 5.2.

Table 2. Relevant Product Information for Wyost and Jubbonti***		
Product Name	**Wyost**	**Jubbonti*** **
Indication	Prevention of skeletal-related events in patients with multiple myeloma and in patients with bone metastases from solid tumors. Treatment of adults and skeletally mature adolescents with giant cell tumor of bone that is unresectable or where surgical resection is likely to result in severe morbidity. Treatment of hypercalcemia of malignancy refractory to bisphosphonate therapy.	Treatment of postmenopausal women with osteoporosis at high risk for fracture. Treatment to increase bone mass in men with osteoporosis at high risk for fracture. Treatment of glucocorticoid-induced osteoporosis in men and women at high risk for fracture. Treatment to increase bone mass in men at high risk for fracture receiving androgen deprivation therapy for nonmetastatic prostate cancer. Treatment to increase bone mass in women at high risk for fracture receiving adjuvant aromatase inhibitor therapy for breast cancer.
Route of Administration	subcutaneous	
Dosage Form	injection	
Strength	120 mg/1.7 mL (70 mg/mL)	60 mg/mL
Dose and Frequency	For multiple myeloma and bone metastasis from solid tumors: 120 mg every 4 weeks. For giant cell tumor of bone and hypercalcemia of malignancy: Administer 120 mg every 4 weeks with additional 120 mg doses on Days 8 and 15 of the first month of therapy.	60 mg subcutaneous injection once every 6 months
How Supplied	120 mg/1.7 mL single-dose vial, 1 vial per carton	Single-dose prefilled syringe, 1 syringe per carton

Although both products contain the same active ingredients, they have different indications of use, strengths, dose/frequency of administration, and are supplied in different presentations (see

Table 2). We note that the Applicant did not provide a discussion of the proposal to use a dual proprietary name for this product nor did the external name study include such a discussion.

We evaluated the risks associated with this naming strategy and note that there is a potential for concomitant therapy since postmarketing experience with other drug products has shown concomitant therapy to be a common type of error when an active ingredient is marketed under two or more names.[d] However, given these products will have different indications, doses, and strengths, managing them under separate names may decrease the likelihood of confusion. Therefore, we do not object to the use of a dual proprietary name in this case. Any residual risk may be managed through labels and labeling mitigations.

2.2.9 Communication of DMEPA's Determination

On March 1, 2023, DMEPA 1 communicated our determination to the Division of General Endocrinology (DGE).

3 CONCLUSION

The proposed proprietary name Wyost is acceptable.

If you have any questions or need clarifications, please contact Deveonne Hamilton-Stokes, OSE project manager, at 301-796-2253.

3.1 COMMENTS TO SANDOZ INC. (SANDOZ)

We have completed our review of the proposed proprietary name Wyost and have concluded that this name is acceptable.

A request for proprietary name review for Wyost should be submitted once your marketing application is submitted.

[d] The Institute for Safe Medication Practices. "Revatio=Sildenafil=Viagra". January 2009

4 REFERENCES

1. USAN Stems (https://www.ama-assn.org/about/united-states-adopted-names-approved-stems)

USAN Stems List contains all the recognized USAN stems.

2. Phonetic and Orthographic Computer Analysis (POCA)

POCA is a system that FDA designed. As part of the name similarity assessment, POCA is used to evaluate proposed names via a phonetic and orthographic algorithm. The proposed proprietary name is converted into its phonemic representation before it runs through the phonetic algorithm. Likewise, an orthographic algorithm exists that operates in a similar fashion. POCA is publicly accessible.

Drugs@FDA

Drugs@FDA is an FDA Web site that contains most of the drug products approved in the United States since 1939. The majority of labels, approval letters, reviews, and other information are available for drug products approved from 1998 to the present. Drugs@FDA contains official information about FDA-approved *brand name* and *generic drugs*; *therapeutic biological products*, *prescription* and *over-the-counter* human drugs; and *discontinued drugs* (see Drugs @ FDA Glossary of Terms, available at http://www.fda.gov/Drugs/InformationOnDrugs/ucm079436.htm#ther_biological).

RxNorm

RxNorm contains the names of prescription and many OTC drugs available in the United States. RxNorm includes generic and branded:

- Clinical drugs – pharmaceutical products given to (or taken by) a patient with therapeutic or diagnostic intent
- Drug packs – packs that contain multiple drugs, or drugs designed to be administered in a specified sequence

Radiopharmaceuticals, contrast media, food, dietary supplements, and medical devices, such as bandages and crutches, are all out of scope for RxNorm (http://www.nlm.nih.gov/research/umls/rxnorm/overview.html).

Division of Medication Errors Prevention and Analysis proprietary name consultation requests

This is a list of proposed and pending names that is generated by the Division of Medication Error Prevention and Analysis from the Access database/tracking system.

APPENDICES

Appendix A

FDA's Proprietary Name Risk Assessment evaluates proposed proprietary names for misbranding and safety concerns.

1. **Misbranding Assessment**: For prescription drug products, OPDP assesses the name for misbranding concerns. For over-the-counter (OTC) drug products, the misbranding assessment of the proposed name is conducted by DNDP. OPDP or DNDP evaluates proposed proprietary names to determine if the name is false or misleading, such as by making misrepresentations with respect to safety or efficacy. For example, a fanciful proprietary name may misbrand a product by suggesting that it has some unique effectiveness or composition when it does not (21 CFR 201.10(c)(3)). OPDP or DNDP provides their opinion to DMEPA for consideration in the overall acceptability of the proposed proprietary name.
2. **Safety Assessment**: The safety assessment is conducted by DMEPA, and includes the following:

a. Preliminary Assessment: We consider inclusion of USAN stems or other characteristics that when incorporated into a proprietary name may cause or contribute to medication errors (i.e., dosing interval, dosage form/route of administration, medical or product name abbreviations, names that include or suggest the composition of the drug product, etc.) See prescreening checklist below in Table 2*. DMEPA defines a medication error as any preventable event that may cause or lead to inappropriate medication use or patient harm while the medication is in the control of the health care professional, patient, or consumer. [e]

[e] National Coordinating Council for Medication Error Reporting and Prevention. https://www.nccmerp.org/about-medication-errors Last accessed 10/05/2020.

***Table 2- Prescreening Checklist for Proposed Proprietary Name**

	Answer the questions in the checklist below. Affirmative answers to any of these questions indicate a potential area of concern that should be carefully evaluated as described in this guidance.
Y/N	**Is the proposed name obviously similar in spelling and pronunciation to other names?**
	Proprietary names should not be similar in spelling or pronunciation to proprietary names, established names, or ingredients of other products.
Y/N	**Are there inert or inactive ingredients referenced in the proprietary name?**
	Proprietary names should not incorporate any reference to an inert or inactive ingredient in a way that might create an impression that the ingredient's value is greater than its true functional role in the formulation (21 CFR 201.10(c)(4)).
Y/N	**Does the proprietary name include combinations of active ingredients?**
	Proprietary names of fixed combination drug products should not include or suggest the name of one or more, but not all, of its active ingredients (see 21 CFR 201.6(b)).
Y/N	**Is there a United States Adopted Name (USAN) stem in the proprietary name?**
	Proprietary names should not incorporate a USAN stem in the position that USAN designates for the stem.
Y/N	**Is this proprietary name used for another product that does not share at least one common active ingredient?**
	Drug products that do not contain at least one common active ingredient should not use the same (root) proprietary name.
Y/N	**Is this a proprietary name of a discontinued product?**
	Proprietary names should not use the proprietary name of a discontinued product if that discontinued drug product does not contain the same active ingredients.

b. Phonetic and Orthographic Computer Analysis (POCA): Following the preliminary screening of the proposed proprietary name, DMEPA staff evaluates the proposed name against potentially similar names. In order to identify names with potential similarity to the proposed proprietary name, DMEPA enters the proposed proprietary name in POCA and queries the name against the following drug reference databases, Drugs@FDA, Cerner RxNorm, and names in the review pipeline using a 55% threshold in POCA. DMEPA reviews the combined orthographic and phonetic matches and group the names into one of the following three categories:

- Highly similar pair: combined match percentage score ≥70%.
- Moderately similar pair: combined match percentage score ≥55% to ≤ 69%.

- Low similarity: combined match percentage score ≤54%.

Using the criteria outlined in the check list (Table 3-5) that corresponds to each of the three categories (highly similar pair, moderately similar pair, and low similarity), DMEPA evaluates the name pairs to determine the acceptability or non-acceptability of a proposed proprietary name. The intent of these checklists is to increase the transparency and predictability of the safety determination of whether a proposed name is vulnerable to confusion from a look-alike or sound-alike perspective. Each bullet below corresponds to the name similarity category cross-references the respective table that addresses criteria that DMEPA uses to determine whether a name presents a safety concern from a look-alike or sound-alike perspective.

- For highly similar names, differences in product characteristics often cannot mitigate the risk of a medication error, including product differences such as strength and dose. Thus, proposed proprietary names that have a combined score of ≥ 70 percent are at risk for a look-alike sound-alike confusion which is an area of concern (See Table 3).
- Moderately similar names are further evaluated to identify the presence of attributes that are known to cause name confusion.
    - Name attributes: We note that the beginning of the drug name plays a significant role in contributing to confusion. Additionally, drug name pairs that start with the same first letter and contain a shared letter string of at least 3 letters in both names are major contributing factor in the confusion of drug names[f]. We evaluate all moderately similar names retrieved from POCA to identify the above attributes. These names are further evaluated to identify overlapping or similar strengths or doses.
    - Product attributes: Moderately similar names of products that have overlapping or similar strengths or doses represent an area for concern for FDA. The dose and strength information is often located in close proximity to the drug name itself on prescriptions and medication orders, and the information can be an important factor that either increases or decreases the potential for confusion between similarly named drug pairs. The ability of other product characteristics to mitigate confusion (e.g., route, frequency, dosage form) may be limited when the strength or dose overlaps. DMEPA reviews such names further, to determine whether sufficient differences exist to prevent confusion. (See Table 4).

- Names with low similarity that have no overlap or similarity in strength and dose are generally acceptable (See Table 5) unless there are data to suggest that the name might be vulnerable to confusion (e.g., prescription simulation study suggests that the name is likely to be misinterpreted as a marketed product). In these instances, we would reassign

[f] Shah, M, Merchant, L, Characteristics That May Help in the Identification of Potentially Confusing Proprietary Drug Names. Therapeutic Innovation & Regulatory Science, September 2016

a low similarity name to the moderate similarity category and review according to the moderately similar name pair checklist.

c. FDA Prescription Simulation Studies: DMEPA staff also conducts a prescription simulation studies using FDA health care professionals.

   Four separate studies are conducted within the Centers of the FDA for the proposed proprietary name to determine the degree of confusion of the proposed proprietary name with marketed U.S. drug names (proprietary and established) due to similarity in visual appearance with handwritten prescriptions, verbal pronunciation of the drug name or during computerized provider order entry. The studies employ healthcare professionals (pharmacists, physicians, and nurses), and attempts to simulate the prescription ordering process. The primary Safety Evaluator uses the results to identify vulnerability of the proposed name to be misinterpreted by healthcare practitioners during written, verbal, or electronic prescribing.

   In order to evaluate the potential for misinterpretation of the proposed proprietary name during written, verbal, or electronic prescribing of the name, written inpatient medication orders, written outpatient prescriptions, verbal orders, and electronic orders are simulated, each consisting of a combination of marketed and unapproved drug products, including the proposed name.

d. Comments from Other Review Disciplines: DMEPA requests the Office of New Drugs (OND) and/or Office of Generic Drugs (OGD), ONDQA or OBP for their comments or concerns with the proposed proprietary name, ask for any clinical issues that may impact the DMEPA review during the initial phase of the name review. Additionally, when applicable, at the same time DMEPA requests concurrence/non-concurrence with OPDP's decision on the name. The primary Safety Evaluator addresses any comments or concerns in the safety evaluator's assessment.

   The OND/OGD Regulatory Division is contacted a second time following our analysis of the proposed proprietary name. At this point, DMEPA conveys their decision to accept or reject the name.

   Additionally, other review disciplines opinions such as ONDQA or OBP may be considered depending on the proposed proprietary name.

   When provided, DMEPA considers external proprietary name studies conducted by or for the Applicant/Sponsor and incorporates the findings of these studies into the overall risk assessment.

The DMEPA primary reviewer assigned to evaluate the proposed proprietary name is responsible for considering the collective findings, and provides an overall risk assessment of the proposed proprietary name.

Table 3. Highly Similar Name Pair Checklist (i.e., combined Orthographic and Phonetic score is ≥ 70%).

Answer the questions in the checklist below. Affirmative answers to some of these questions suggest that the pattern of orthographic or phonetic differences in the names may render the names less likely to confusion, provided that the pair does not share a common strength or dose.			
Orthographic Checklist		Phonetic Checklist	
Y/N	Do the names begin with different first letters? *Note that even when names begin with different first letters, certain letters may be confused with each other when scripted.*	**Y/N**	Do the names have different number of syllables?
Y/N	Are the lengths of the names dissimilar* when scripted? **FDA considers the length of names different if the names differ by two or more letters.*	**Y/N**	Do the names have different syllabic stresses?
Y/N	Considering variations in scripting of some letters (such as *z* and *f*), is there a different number or placement of upstroke/downstroke letters present in the names?	**Y/N**	Do the syllables have different phonologic processes, such vowel reduction, assimilation, or deletion?
Y/N	Is there different number or placement of cross-stroke or dotted letters present in the names?	**Y/N**	Across a range of dialects, are the names consistently pronounced differently?
Y/N	Do the infixes of the name appear dissimilar when scripted?		
Y/N	Do the suffixes of the names appear dissimilar when scripted?		

Table 4: Moderately Similar Name Pair Checklist (i.e., combined score is ≥55% to ≤69%).

Step 1	Review the DOSAGE AND ADMINISTRATION and HOW SUPPLIED/STORAGE AND HANDLING sections of the prescribing information (or for OTC drugs refer to the Drug Facts label) to determine if strengths and doses of the name pair overlap or are very similar. Different strengths and doses for products whose names are moderately similar may decrease the risk of confusion between the moderately similar name pairs. Name pairs that have overlapping or similar strengths or doses have a higher potential for confusion and should be evaluated further (see Step 2). Because the strength or dose could be used to express an order or prescription for a particular drug product, overlap in one or both of these components would be reason for further evaluation. For single strength products, also consider circumstances where the strength may not be expressed. For any i.e., drug products comprised of more than one active ingredient, consider whether the strength or dose may be expressed using only one of the components. To determine whether the strengths or doses are similar to your proposed product, consider the following list of factors that may increase confusion: • Alternative expressions of dose: 5 mL may be listed in the prescribing information, but the dose may be expressed in metric weight (e.g., 500 mg) or in non-metric units (e.g., 1 tsp, 1 tablet/capsule). Similarly, a strength or dose of 1000 mg may be expressed, in practice, as 1 g, or vice versa. • Trailing or deleting zeros: 10 mg is similar in appearance to 100 mg which may potentiate confusion between a name pair with moderate similarity. • Similar sounding doses: 15 mg is similar in sound to 50 mg
Step 2	Answer the questions in the checklist below. Affirmative answers to some of these questions suggest that the pattern of orthographic or phonetic differences in the names may reduce the likelihood of confusion for moderately similar names **with** overlapping or similar strengths or doses.

	Orthographic Checklist (Y/N to each question) • Do the names begin with different first letters? Note that even when names begin with different first letters, certain letters may be confused with each other when scripted. • Are the lengths of the names dissimilar* when scripted? *FDA considers the length of names different if the names differ by two or more letters. • Considering variations in scripting of some letters (such as *z* and *f*), is there a different number or placement of upstroke/downstroke letters present in the names? • Is there different number or placement of cross-stroke or dotted letters present in the names? • Do the infixes of the name appear dissimilar when scripted? • Do the suffixes of the names appear dissimilar when scripted?	Phonetic Checklist (Y/N to each question) • Do the names have different number of syllables? • Do the names have different syllabic stresses? • Do the syllables have different phonologic processes, such vowel reduction, assimilation, or deletion? • Across a range of dialects, are the names consistently pronounced differently?

Table 5: Low Similarity Name Pair Checklist (i.e., combined score is ≤54%).

Names with low similarity are generally acceptable unless there are data to suggest that the name might be vulnerable to confusion (e.g., prescription simulation study suggests that the name is likely to be misinterpreted as a marketed product). In these instances, we would reassign a low similarity name to the moderate similarity category and review according to the moderately similar name pair checklist.

Appendix B: Prescription Simulation Samples and Results

Figure 1. Wyost Study (Conducted on January 14, 2022)

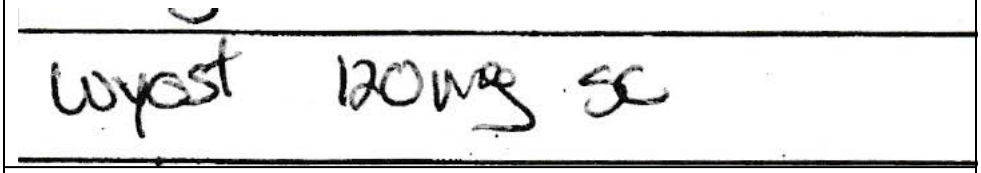
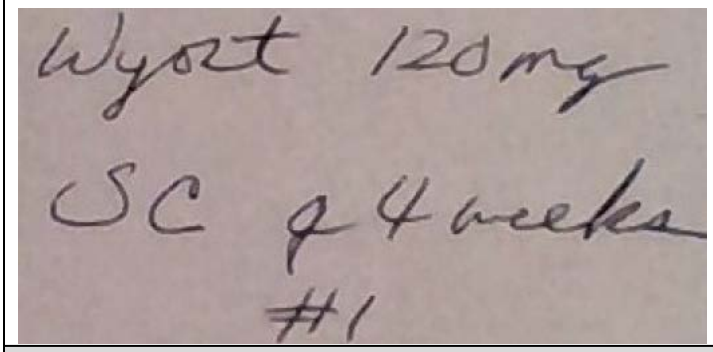
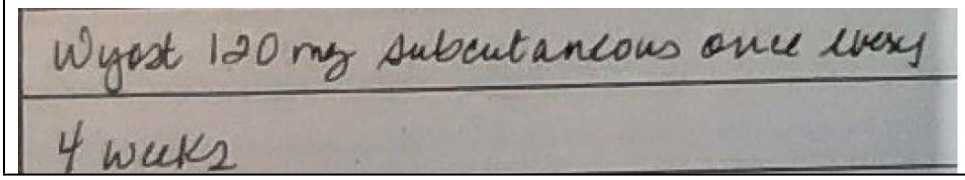
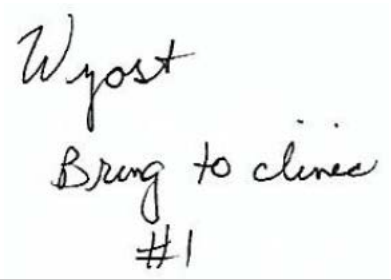
Handwritten Medication Order/Prescription	Verbal Prescription
Medication Order:  	120 mg subcutaneously every 4 weeks #1
Outpatient Prescription:  	
CPOE Study Sample (displayed as sans-serif, 12-point, bold font)	
Wyost	

Figure 2. Wyost Study (Conducted on January 31, 2023)

Handwritten Medication Order/Prescription	Verbal Prescription
Medication Order:  	Bring to clinic #1

Outpatient Prescription:  	
CPOE Study Sample (displayed as sans-serif, 12-point, bold font)	
Wyost	

FDA Prescription Simulation Responses (Aggregate Report)

B.1 Rx Study IND 135707 (January 14, 2022) FDA Prescription Simulation Responses (Aggregate 1 Rx Studies Report)

262 People Received Study

107 People Responded

Study Name: Wyost

Total	22	25	31	29	
INTERPRETATION	**INPATIENT**	**CPOE**	**VOICE**	**OUTPATIENT**	**TOTAL**
LOYEST	1	0	0	0	1
LOYOST	1	0	0	0	1
LUYOST	2	0	0	0	2
LYOSE	0	0	1	0	1
VYOST	0	0	1	0	1
WHYOAST	0	0	1	0	1
WHYOST	0	0	2	0	2
WYAST	2	0	0	0	2
WYORT	0	0	0	19	19
WYOST	16	25	20	5	66

WYOZ	0	0	1	0	1
WYOZT	0	0	0	5	5
YEOST	0	0	1	0	1
YOST	0	0	1	0	1
Y-OST	0	0	3	0	3

B.2 Rx Study BLA 761362 (January 31, 2023) FDA Prescription Simulation Responses (Aggregate 1 Rx Studies Report)

As of Date 2/7/2023

258 People Received Study

79 People Responded

Study Name: Wyost

Total	**17**	**25**	**16**	**21**	
INTERPRETATION	**INPATIENT**	**CPOE**	**VOICE**	**OUTPATIENT**	**TOTAL**
WHYOST	0	0	3	0	3
WYAST	3	0	0	0	3
WYEST	2	0	0	0	2
WYEST 120 MG	1	0	0	0	1
WYOST	11	25	10	20	66
WYYOST	0	0	1	0	1
WZOST	0	0	0	1	1
YIOST	0	0	1	0	1
YYOST	0	0	1	0	1

Appendix C: Highly Similar Names (e.g., combined POCA score is ≥70%)

No.	**Proposed name:** Wyost **Established name:** denosumab-xxxx **Dosage form:** Injection **Strength(s):** 120 mg/1.7 mL (70 mg/mL) **Usual Dose:** 120 mg as a single subcutaneous injection once every 4 weeks	**POCA Score (%)**	**Orthographic and/or phonetic differences in the names sufficient to prevent confusion** **Other prevention of failure mode expected to minimize the risk of confusion between these two names.**
1.	Wyost	100	Name subject of this review.

Appendix D: Moderately Similar Names (e.g., combined POCA score is ≥55% to ≤69%) with no overlap or numerical similarity in Strength and/or Dose

No.	Name	POCA Score (%)
1.	Iosat	62
2.	Yeasts	58

Appendix E: Moderately Similar Names (e.g., combined POCA score is ≥55% to ≤69%) with overlap or numerical similarity in Strength and/or Dose

No.	**Proposed name:** Wyost **Established name:** denosumab-xxxx **Dosage form:** Injection **Strength(s):** 120 mg/1.7 mL (70 mg/mL) **Usual Dose:** 120 mg as a single subcutaneous injection once every 4 weeks	**POCA Score (%)**	**Prevention of Failure Mode** **In the conditions outlined below, the following combination of factors, are expected to minimize the risk of confusion between these two names**
1.	(b) (4) ***	69	(b) (4)

No.	**Proposed name:** Wyost **Established name:** denosumab-xxxx **Dosage form:** Injection **Strength(s):** 120 mg/1.7 mL (70 mg/mL) **Usual Dose:** 120 mg as a single subcutaneous injection once every 4 weeks	**POCA Score (%)**	**Prevention of Failure Mode** **In the conditions outlined below, the following combination of factors, are expected to minimize the risk of confusion between these two names**
			(b) (4)
2.	Tybost	64	Orthographically, the first letters (‘T’ vs ‘W’) of this name pair and the presence of the upstroke letter ‘b’ in the third position in Tybost provides sufficient orthographic differences. Phonetically, the onset of the first syllable (‘w’ vs. ‘t’) and the onset sounds of the second syllable (‘o’ vs. ‘b’) of this name pair sound different. The following differences in product characteristics may also help to minimize the risk of errors:

No.	**Proposed name:** Wyost **Established name:** denosumab-xxxx **Dosage form:** Injection **Strength(s):** 120 mg/1.7 mL (70 mg/mL) **Usual Dose:** 120 mg as a single subcutaneous injection once every 4 weeks	**POCA Score (%)**	**Prevention of Failure Mode** **In the conditions outlined below, the following combination of factors, are expected to minimize the risk of confusion between these two names**
			• The products have different doses/frequency of administration: 120 mg every 4 weeks vs 150 mg once daily. • If dosage form (injection vs. tablet) and route of administration (subcutaneous vs. oral) are included on the medication order/prescription, there is no overlap between the products. When all of the aforementioned mitigations are considered in totality, we find the risk of confusion is adequately minimized in this case.
3.	Xyosted	58	This name pair has sufficient orthographic and phonetic differences.
4.	Wymox	57	This name pair has sufficient orthographic and phonetic differences.

Appendix F: Low Similarity Names (e.g., combined POCA score is ≤54%)

No.	Name	POCA Score (%)
1.	Twynsta	54

Appendix G: Names not likely to be confused or not used in usual practice settings for the reasons described**.**

No.	Name	POCA Score (%)	Failure preventions
1.	(b) (4) ***	68	Proposed proprietary name for IND 047857 found to be unacceptable (b) (4) Alternative proposed proprietary name Lucemyra was found to be acceptable (RCM 2017-13576754 dated 7/26/2017). NDA 209229 was approved under the proprietary name Lucemyra.
2.	Oysk	60	This is not a drug. It is the nonproprietary name suffix in the proper name of Herceptin Hylecta (trastuzumab and hyaluronidase-oysk). We do not anticipate that the suffix would be used alone (without the associated proper name) in any stage of the medication use process.

Appendix H: Names not likely to be confused due to absence of attributes that are known to cause name confusion[g]. N/A

[g] Shah, M, Merchant, L, Chan, I, and Taylor, K. Characteristics That May Help in the Identification of Potentially Confusing Proprietary Drug Names. Therapeutic Innovation & Regulatory Science, September 2016

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03/02/2023 11:23:21 AM